

Influence of the System of Additional Education on Sustainable Socio-Economic Development of the Region

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Abstract— Additional educational courses for children looked upon as “a navigator” in the field of general educational system have been recently considered to be a factor of influence on the sustainable socio-economic development of the region. These ones provide following the modern trends in science and technology, developing innovative activities, reinforcing investment attractiveness of the region by increasing the level of intellectual capital. Additional education contributes to saving and expanding the socio-cultural potential of the region.

Keywords— social and economic development of the region, additional education of children, intellectual capital, cluster analysis.

I. INTRODUCTION

The major task for the country at the current stage of developing innovative environment is to build the economy based on the national intellectual potential. Firstly, the relationship between innovation and production of goods and services in this type of economy implies continuous improvement of professional knowledge. Secondly, the effectiveness of further development of professional skills and knowledge can be achieved only in case of constant demand for human knowledge and skills in the country's economy. People should be aware of this demand at the very early stages of their education.

The connection between education and economy is not simple. On the one hand, education is largely determined by the economic situation in the country and its development. On the other hand, education as a social institution is based on, and thus reproduces, those economic principles of society which are characteristic of its current existence.

Education, including additional one and professional training, is very important for the growth and development of any industry in a country with developed economy. According to American experts, education was a major factor for the economic growth and increase of labor productivity throughout the twentieth century. This factor will determine the future economic prospect as well.

Governor of the Astrakhan Oblast A.A. Zhilkin said: «The quality of life depends on the quality of education».

II. MATERIALS AND METHODS (MODEL)

Education began to evolve particularly extensively when new stages of economic development started. Many scientists concerned with the relationship between economy and education note that the level of gained knowledge in any society is linked to economic indicators and well-being of people. For example, in countries with low and middle income, boys and girls receive only the practical knowledge they need to be engaged in agriculture and hard physical work.

The education system in the country and the region, including additional education institutions, contributes to the increase of labor productivity and regulation of the society members' behavior which results in reducing crime and corruption. Education also provides for the intellectual development of people. [1]

At the same time, it has been confirmed that social issues should be viewed as being of a pronounced regional character, so their comprehensive consideration is an important factor in the development of the regional economy. Thus the approach to studying regional social issues requires the identification of regional features of the economy, history, customs and traditions of people living in the area. The human potential

development index plays a major role in the system of indicators of social evolution of regions. This indicator reflects the state of labor resources which is one of the most important elements of productive forces of the region. From the regional perspective, education is an important factor for the economic development along with the public health service and the personal income level.

It is obvious that the issue of developing additional education of children (AEC) requires special attention in the conditions of sustainable economic growth of the region. Under current market situation the system of additional learning viewed as an initial level of education is constrained by a number of specific objective factors (Fig. 1) in many regions of the Russian Federation. These factors include a lack of staff resources due to low remuneration, poor resource base of additional training institutions caused by scarce funding, insufficiently developed network of free of charge supplementary education institutions of various types and kinds, the unavailability of social partners.

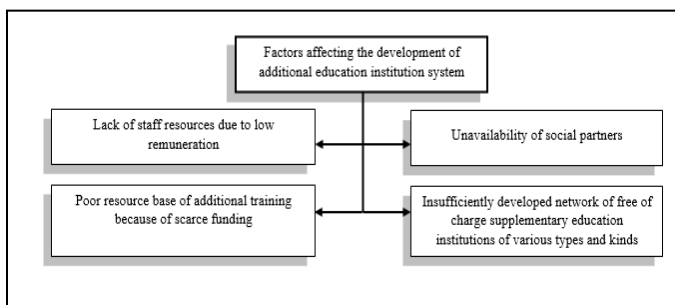


Fig. 1. Factors affecting the development of additional education institution system

The above-mentioned facts give grounds for further research of the additional education system situation in the regions and the impact of the system on their economic development. In recent years additional education of children in the Russian Federation has acquired a pronounced innovative character thanks to new models of training. In general, it serves «a navigator» in the system of education, providing for the development of the intellectual capital of society, which has a great impact on the innovative development of the community and the region. [2]

The implementation of the Russian government policy aimed at the innovative development of the regions requires introduction of new modern computer technologies, software, usage of new data carrier, as well as increase in the safety of information storage and usage. The development of general and additional education systems can contribute to the training of highly developed specialists that help to implement the government policy. In particular, the system of additional education of children should be viewed as an initial stage of highly intellectual personnel training in any region of the Russian Federation, including the Astrakhan region.

The assessment of the availability of supplementary education institutions for Russian children is difficult as the kids can take more than one additional educational course

simultaneously either at school or in different associations and agencies. Besides, the existing form of statistical accounting ensures keeping records of services, but not of individuals enrolled in additional educational courses.

To determine Russian average indicators of additional educational courses content typology, we suggest applying a cluster analysis.

The cluster analysis applied to the contents of additional education of children in various regions of the Russian Federation resulted in the typology of regions which includes the following four groups:

- the first group of regions with prevailing fitness and sports programs;
- the second group with dominating arts programs;
- the third one with regions which are close to the national average;
- the fourth group of regions where the values of all three indicators are below the Russian average ones. [3]

Additional education of children is considered to be an attractive area for the investment of personal time and financial resources. Recently, the service market of non-formal (especially the so-called edutainment - «learning by playing») and informal education (online educational resources, mobile applications, etc.) has been intensively developing. This market is characterized by a high level of innovation activity. Thus, additional education of children most fully ensures the human right to development and free choice of various activities provides for self-enrichment and reasonable judgments as to future professional training. It also contributes to the improvement of social and economic situation in the region and the state.

The availability of additional education of children in the region speaks in favor of its social and economic potential and prospects of economic progress. Unfortunately, the Astrakhan region lacks a well-established, consistent, financially secure regional policy in the field of additional education of children.

III. RESULTS AND DISCUSSION

The problems of additional education of children were brought to discussion by President of the Russian Federation in spring 2015. The President set the goal to raise the number of children in supplementary education institutions to 75%. [4] We used the data provided by the Russian Statistics Committee and The Ministry of Education and Science of the Russian Federation to compile the following tables. These ones reflect the main characteristics of the system of additional education in the Russian Federation and in the Astrakhan region for the last several years.

According to the data of the Russian Statistics Committee for 2016, the number of children aged 5 to 17 that took additional educational courses made 67,7% of the total number of children of the same age (13,5 million children), as shown in Fig. 2. [5]

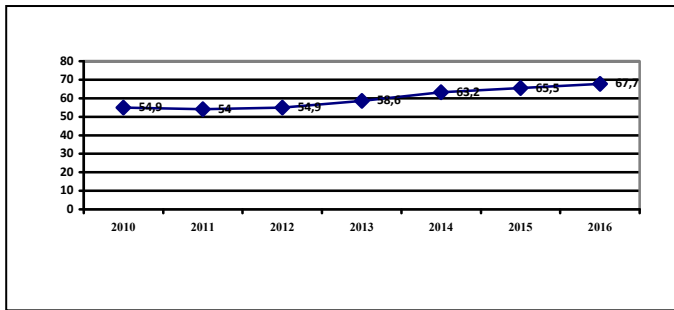


Fig. 2. The share of children aged 5 to 17 that took additional educational courses in the Russian Federation from 2010 to 2016, %

The share of children involved in additional educational programs increased from 54,9 % in 2010 to 67,7% in 2016 (Fig. 2). It should be noted that the general number of children aged 5 to 7 had been decreasing to 2012 and then had been growing till 2016.

The indicators of cluster analysis are shown in Table 1. The data on the share of children enrolled in additional educational courses in fitness and sports as well as arts in institutions of additional education were calculated on the basis of findings presented in the form № 1-DO of Federal Statistical Observation (FSO). The total number of learners and children enrolled in sports, technical and arts associations is given in the second section of this form.

The ratio of the number of children in associations of a certain profile (according to the programs of corresponding fields) to the total number of learners determines the first two indicators. [6]

TABLE 1. RUSSIAN AVERAGE INDICATORS ON THE STRUCTURE OF ADDITIONAL EDUCATION CONTENTS FOR 2014, 2016

The name of the subject	The share of children enrolled in additional educational courses on				The share of children aged 5 to 17 that are involved in additional education	
	fitness and sports		arts			
	in the total number of learners in institutions of additional education					
	2014	2016	2014	2016		
The Russian Federation	33.65	34.1	34.59	35.6	63.2	67.7
The Astrakhan region	30.15	97.3	42.93	43.8	73.92	76

From Table 1 one can see that the Astrakhan region belongs to the second group of regions. The share of art programs prevails in this group which has the following features: the share of children in sports and technical associations in the total number of learners in institutions of additional education is slightly lower than the Russian average value. The share of children in the arts associations is much higher than this one. The share of children aged 5 to 17 that are involved in additional education is higher than the national average.

Comparative analysis of socio-economic indicators is important for assessing the state of socio-economic development of the region. [7] Table 2 contains the results of comparative analysis of socio-economic indicators of the Russian Federation and the Astrakhan region from 2014 to 2016.

TABLE 2. THE RESULTS OF COMPARATIVE ANALYSIS OF SOCIO-ECONOMIC INDICATORS OF THE RUSSIAN FEDERATION AND THE ASTRAKHAN REGION FROM 2014 TO 2016

Indicators	2014	2015	2016	Changes, (+,-)			
				absolute		relative, %	
				2015 from 2014	2016 from 2015	2015 to 2014	2016 to 2015
1. Gross domestic product of the Russian Federation, %:	100.6	96.3	99.3	-4.3	+3.0	-	-
2. Gross regional product of the Astrakhan region, %:	102.4	100.3	102.6	-2.1	+2.3	-	-
3. Average monthly wage, rub.:	3260	33925	36703	+1325	+2778	+4.1	+8.2
- the Russian Federation	0	25455	26939	+986	+1484	+4.0	+5.8
- the Astrakhan region	2446			9			
4. Average monthly salary of employees of additional education in the Astrakhan region, rub.	1329	19473	20961	+6182	+1488	+46.5	+7.6
	1						

From Table 2 one can see that the growth rate of gross domestic product was higher in the Russian Federation than in the Astrakhan region in 2016 compared to the one in 2015, although in 2015 compared to 2014 the results were the opposite. During the last three years the growth rate of the average monthly wage and its absolute value were higher in the Russian Federation than in the Astrakhan region.

One can see that this resulted in a low level of employment for young teachers engaged in additional education programmes (Fig.3).

The largest share in the total number of teaching staff in the additional education institutions corresponds to the age group of 45-54 (27%). The same ratio is observed in the Astrakhan region.

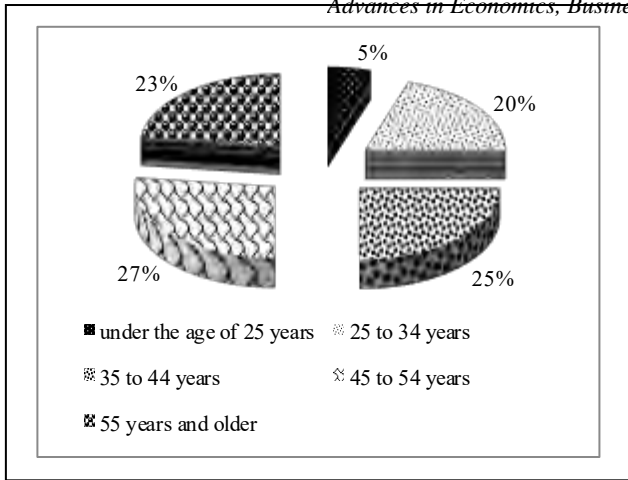


Fig.3. The shares of teachers engaged in additional educational programs in 2016 in the Russian Federation structured according to their age, %

The described situation was caused by an intensive activity within the working day and insufficient budget funding which resulted in teachers' low salary.

The largest share in finance support for additional education in the Russian Federation belonged to the budgetary sources which were reduced from 94% to 90,7% in the last years, as shown in Fig. 4.

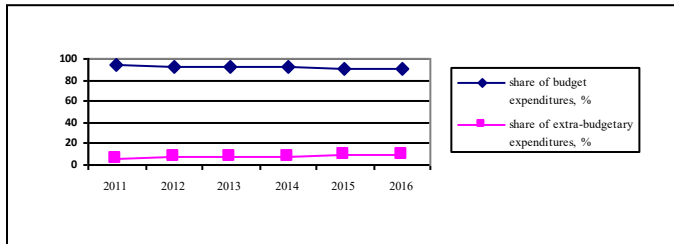


Fig. 4. The share of budget and extra-budgetary expenditures for additional education in total expenses for additional education of children in the Russian Federation, %

Labor costs comprise the main share of expenses in the structure of the system of additional education, which causes the impossibility of using modern innovative technologies in institutions of this type of education. As a result, the quality of additional education does not correspond to the latest achievements of science and technology, and, consequently, does not meet the growing need for intellectual labor force in the regions.

It also causes a «brain drain» from the region. The described dynamics can lead to the deterioration of social policy in the region and, eventually, to the aggravation of economic indicators of its development.

CONCLUSION

The achievement of required level of financial investment for education from primary to additional types can contribute to the increase of intellectual labor force in the regions and provide for the professional development of an individual [9]. The lack of funding for additional education institutions can be compensated by the introduction and development of public-private partnerships in most Russian regions. This form of partnership can contribute to the increase in the allocated expenditures for one child, to the possibility of improving the resource base and technical facilities of institutions in this field of education, and to the teachers' salary growth. It can also ensure the involvement of intellectual youth in solving the socio-economic problems of the region in the present and in the future.

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