

To the Topic of the Possibilities of Developing the Vocational Education System During a Pandemic

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ABSTRACT

The situation with the emergence of COVID-19 has made significant changes in the globalization process. The pandemic has caused problems of social and economic nature in most countries of the world, where the introduction of restrictive measures leads to more negative consequences in various sectors of the economy. In the current conditions, an important task for the government is to identify new opportunities for social and economic development, the choice of strategy and tactics for promising directions of the national economy. The current situation, when the countries' economies become similar to a closed system, makes it possible to check the stability of the economic system and its subsystems, to identify new ones or to reconsider the attitude towards the available development resources. One such resource is the vocational education system. The article examines the possibilities of social and economic development of Russia in the context of a pandemic based on the accumulated human potential, which has particular importance for the functioning society. During a pandemic, the innovations in the vocational education system have great importance: digitalization of the educational system, the use of innovative learning technologies such as distance learning technologies, e-learning, etc. The article provides statistics and the place of Russia in world rankings demonstrating the state of accumulated human capital, the existing opportunities identified for the future development of the vocational education system as one of the development drivers. Innovations in the vocational education system require careful study, analysis, adaptation since any innovations have a different impact (both negative and positive).

Keywords: *vocational education system, development conditions and factors, economy digitalization, the impact of the pandemic*

1. INTRODUCTION

Nowadays, globalization processes take on different nature of the impact on various areas of economic activity in different countries. As a result of the pandemic situation, most countries are forced to limit external (as well as internal) interactions. In such conditions, an important task for the country is to determine its new capabilities, the choice of strategy and tactics for the functioning of the national economy, the timely adoption of effective ways to solve problems at the federal, regional and municipal levels. The basis for the effective social and economic development of the country and regions is competent strategizing [1; 2].

We can say that as a result of the pandemic, national economies are forced to become similar to a closed system when ones should rely, first of all, on their own efforts, capabilities, and resources. The pandemic "tests" the stability of the economic system characterized as its ability to withstand adverse external and internal influences [3].

The education system is in the area of the most important state interests, one of the life values of society [4], acts as the basis for "dynamic economic growth and social

development of society, a factor of the well-being of citizens and security of the country" [5, p. 5], the formation of competitiveness and sustainability of the national economy. By right, "a prerequisite for the stable economic development of the country and its individual regions is the presence of a modern and powerful educational potential, which is directly involved in the creation and reproduction of human capital" [6, p. 45].

2. RESEARCH METHODS

To study the possibilities of developing the vocational education system, the methods of scientific abstraction, induction and deduction, systemic, economic analysis were used, including the analysis of statistical data and world rankings of digitalization in Russia.

3. RESULTS RESEARCH

3.1. *The place of Russia in Global Innovation Index*

The availability of sufficient internal conditions and resources (potential) for education in Russia is confirmed by statistics at the world level. Scientists from the HSE National Research University have collected indicators and ratings of the economy digitalization, among which, according to the Global Innovation Index, Russia ranked 45th in 2017, and its sub-indices in the rating were distributed as follows: institutions - 73rd, *human capital, and science* - 23, infrastructure - 62, development of the internal market - 60, business development - 33, development of technology and knowledge economy - 45, development of creative activities - 62, *graduates of scientific and engineering specialties* - 13, software costs - 35, availability and the use of ICT - 44th and 40th place, respectively. 127 countries took part in the rating (according to Cornell University, INSEAD Business School, and the World Intellectual Property Organization (WIPO) [7, p. 12-13].

The rating of Russia testifies to the preservation and accumulation of its human capital, which in the present conditions is the driver of the country's innovative development. The preservation and accumulation of human capital are facilitated by the vocational education system, which is the foundation for the formation of labour potential for the economy, knowledge society and knowledge economy [8]. The importance of the development of the vocational education system is reflected in the strategy of the country's long-term social and economic development, including the issues of its modernization that are of great importance at the legislative and regulatory level, in the documents of federal and regional policy.

3.1. *The place of Russia in Global Innovation Index*

The transformation of the vocational education system in Russia has been carried out since 2013, as a result of which its quantitative and qualitative changes are taking place. In the new conditions complicated by the pandemic, it is possible to single out the internal factors of its modernization, which have close interrelationships (Figure 1).

The modernization of the education system is associated with the digitalization processes of the economy and society. The development of the digital environment contributes to obtaining equal access to education for all, the possibility of building an individual trajectory for obtaining education and other issues of socialization of the individual.

The development of a digital educational environment in state programs [9, 10] is a promising task for "creating a

fruitful educational and research environment ..." [8, p. 22] in the new conditions.

During the pandemic, the digitalization of the educational environment (and other areas of the national economy) seems to be a strategic task. In the Digital Economy of the Russian Federation program 2017, "... digital data is a key factor of producing social and economic activity in all areas...", effective interaction between business, the scientific and educational community, the state, and citizens [9, p. 2]. The development of the digital economy is represented by three levels in the program, each of them introduces digital technologies into the economy and society. Some issues of the possibilities for the development of these levels are analyzed in one of the author's works [11], where some problems that hinder the process of digitalization of Russian society are emphasized: for example, digital illiteracy of the population, uneven informatization of the educational system, inconsistencies at the legislative level, etc. During the pandemic, according to the author, the identified problems can be solved in a shorter period of time, which makes it possible to fulfil the indicators of the digitalization of the economy indicated in the state program. The execution of the indicators can be ensured by reassessing the internal conditions and factors of the economy emphasizing the most significant "points of growth" at the moment for the social and economic area of Russia.

The Digital Economy of the Russian Federation program states that each of the areas of development of the digital environment both supports existing conditions and creates new ones to form digital platforms and technologies, which requires the creation of a "new technological basis for the social and economic area" [9, p. 5].

The education area is the basis for innovative development, but it needs to constantly be in the trend of innovative transformations (both in the country and the world). Innovations in the modern vocational education system (including the country's education system) include: distance learning technologies, online education, E-Learning, etc. The use of these forms of education is recommended at the legislative level: for example, in the Federal Law dated December 29, 2012 "On Education in the Russian Federation" (as amended on August 3, 2018), etc. Moreover, in this law, obtaining a professional education has become a requirement for the level of knowledge, skills, and abilities (competence, qualifications) of a specialist in the process of performing their labour function.

It is obvious that an innovative way of developing the national economy is impossible without the development of education and science, training personnel in demand by the economy, new industrialization, etc. One cannot but agree with the experts that the solution to personnel problems should be purposeful [12], which means that it should contribute to the supply and demand balance in the labour market. For the development of the Russian economy, the process of new industrialization is currently relevant, the goals of which, as scientists say, "... are in line with global trends, and the logic of its implementation

turns out to be true for individual regions as well” [13, p.15]. The vocational training of specialists has a crucial significance for the implementation of the new industrialization of the country, where innovations in the field of vocational education must not only follow the new requirements of the economy and society [14] but also slightly outstrip them, since the training of specialists in demand on the labour market has a certain time lag (4 -5 years - time for training a specialist), as a result of which there is a mismatch between supply and demand in the labour market.

During the pandemic, the structural and territorial modernization of the vocational education system has the potential to accelerate the transition to innovative development through the use of these innovations.

3.3 The state of society informatization and the educational environment of the Russian Federation

One of the problems of the educational process digitalization is the insufficient informatization of the education system. The informatization process can be assessed by the availability of personal computers in organizations and among the population. For the use of the Internet by the population of the Russian Federation, HSE scientists give the values for the age groups presented in Table 1.

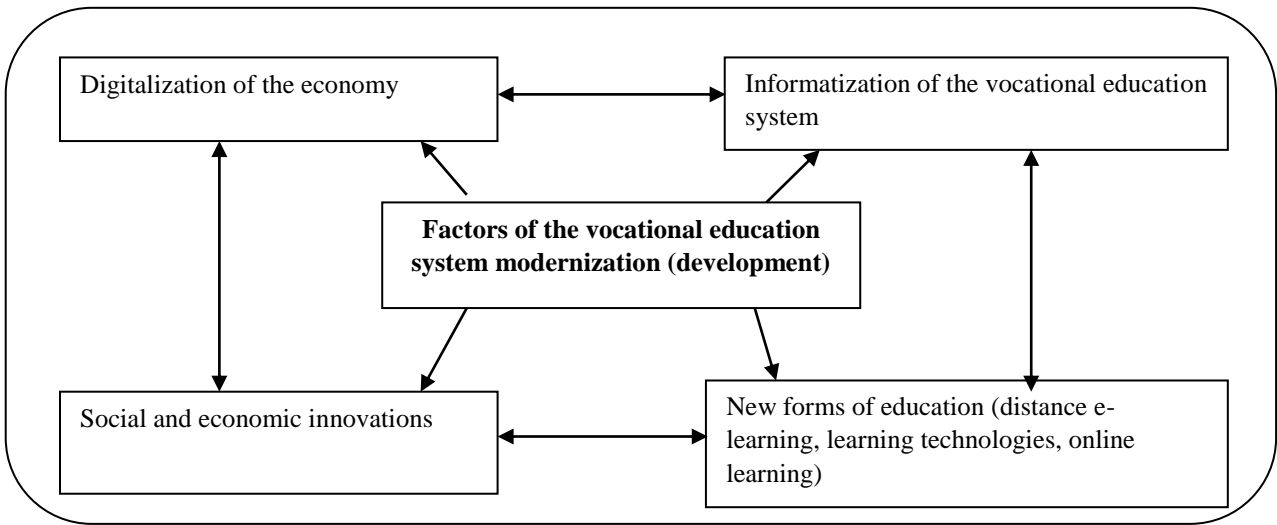


Figure 1 - Modernization factors of the vocational education system

Table 1 - Internet use among age groups of the population of the Russian Federation, 2016 *

Age groups (years) and percentage of users (%)						Generalized values	
15-24	25-34	35-44	45-54	55-64	65-72	15-44 years old	15-72 years old
98.1	96.1	91.8	79.0	32.9	32.9	98.1 %	80.8 %

*compiled by the author based on Digital economy: a short statistical collection / G. I. Abdrakhmanova, L. M. Gokhberg, A. V. Demyanova, and others; National Research University Higher School of Economics. - M.: NRU HSE, 2018 .-- 96 p. Pages 20-21.

The most active Internet users are people aged from 15 to 44; with increasing age, the percentage of users decreases. This indicator in contrast to the total population of Russia - 80.8% of the population aged 15-72 (see Table 1) - takes the country to 12th place, which is 73% among the other countries of the world (the first places are Great Britain, Finland, and Sweden) [7, p. 20-21]. Thus, before the pandemic, the percentage of users of personal computers is high but does not reach 100%, due to the low number of users in older age groups. Under the restrictions

(observance of social distance, transfer to work from home, organization of remote workplaces, etc.) an increase occurred in demand for laptops, personal computers, gadgets and, according to some experts: "... laptop sales in Russia at the first half of the year increased compared to the same period in 2019 by 38% in units and 46% in monetary terms" [15]. There are no official statistics yet on how the quantitative indicators of the availability of personal computers have changed during the pandemic, but, referring to the

opinions of experts, the number of personal computer users among the population has increased and their amount in various organizations has increased (mostly due to the transfer of workers to remote work).

New forms of education are a driver for the development of the education system as a whole and its individual levels: professional, school, etc., to accelerate the process of digitalization of the educational system, society, and economy [16; 17] and other areas of activity. Therefore, we can assume that the dynamics of the use of educational programs with the use of new forms of education is positive and this trend will continue in the near future, since it is in demand by society, especially during a pandemic.

4. CONCLUSION

The activation of the use of new forms of education (DLT, EL, E-Learning, etc.) - the attributes of the digitalization of the educational system - contributes to the acceleration of the vocational education system modernization, which is facilitated, among other things, by the positive dynamics of computerization and informatization of society.

Thus, we can make certain conclusions on the issues of the possibilities for the development of the Russian vocational education system during a pandemic and identify some advantages and disadvantages.

These are the advantages:

accumulated human potential, which creates opportunities for innovative development of the economy and society, including being a factor in the country's competitiveness in the world;

during a pandemic, the new forms of learning being introduced allow the Russian education system, including the vocational education, to function and develop;

new forms of learning, computerization and informatization will activate the process of digitalization of the educational environment and the entire social and economic space of Russia.

Among the disadvantages of the functioning of the vocational education system in the new conditions are the following:

issues in the area of education quality as a result of the introduction of new forms of education and the transformation of the learning process;

compliance of the qualifications of scientific and pedagogical personnel with the changing conditions of the educational environment (time lag in specialists training) and the requirements of society;

lack of informatization and computerization of the educational environment, economy and society despite the increase in demand for laptops, personal computers, gadgets, etc.

The issues presented in this article and some other issues require solution at the present time since they affect the promising social and economic development of Russia.

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