

Objective necessity of formation of digital education and organizational and economic mechanisms of its introduction

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Abstract: *This article deals with the issues related to analyzing the objective necessity of the formation of digital education at a time of rapid development of the digital economy and the main directions of organizational and economic mechanisms of its introduction. Also it highlights the pros and cons of traditional and digital education. The result of the research, creating national education platforms for the introduction of digital education, and the necessary requirements are developed for it.*

Keywords: *digital education, intellectual government, educational platforms, information environment, electronic resource, distance learning, digital pedagogy.*

INTRODUCTION

The work on the introduction of the digital economy in our country is carried out. The introduction of the digital economy requires digital management, the implementation of which requires the introduction of digital education. To prioritize the implementation of further improvement of the public administration system of the President of the Republic of Uzbekistan, introduction of digital economy and creating conditions for development, improving the investment climate, moreover, the Action Strategy on the five priority areas of development of the Republic of Uzbekistan for 2017-2021 require renewal in all areas. For fulfilling these tasks, the Resolution of the President of the Republic of Uzbekistan dated July 3, 2018 No PD-3832 “On measures to develop the digital economy in the Republic of Uzbekistan”, November 21, 2018 the Resolution PD-4022 “On measures to further modernize the digital infrastructure to develop the digital economy” was developed. Because of these decisions cannot be made separately, for implementing it, attention was paid to the issue of adapting public administration to it. For this purpose, on December 13, 2018, the Decree “On additional measures for the introduction of digital economy, e-government and information systems in public administration of the Republic of Uzbekistan” was issued. Nowadays all this requires the formation of a digital country. For this purpose, the task was set to develop a concept of development “Digital Uzbekistan” until 2030. This task is stated in the Address of the President of the Republic of Uzbekistan Shavkat Mirziyoyev to the Oliy Majlis on January 24, 2020: “Till this date, more than 7,000 health care, preschools and schools are connected to high-speed Internet, and in the next 2 years another 12,000”. Taking into account these tasks, the task “Development of the program “Digital Uzbekistan – 2030”¹ was assigned. Relevant work is being done in our country in this regard. In particular, scientists of our country are conducting research.

The analysis of the literature on the subject

¹ The address of the President of the Republic of Uzbekistan Shavkat Mirziyoyev to the Oliy Majlis on January 24, 2020. // Newspaper. People's Word. January 25, 2020. No. 19. Pages 1-4.

With this or that aspect of educational services, K.X.Abduraxmanov, A.Sh.Berdimuradov², S.S.Gulomov, M.Q.Pardaev³, Q.J.Mirzaev, O.M.Pardaev, Z.Adilova, B.Xonturaev⁴, B.I.Isroilov, E.F.Gadoev⁵ M.Saidov⁶, A.Xaliqov⁷, Ya. Mamatova, S. Sulaymanova⁸ and others are engaged. The works of these scholars cover general aspects of the service sector, in particular, educational services. However, Insufficient attention is paid to the issue of digitization of the education system, in particularly the digitization and improvement of the education system in the work of these scientists.

The methodology of Research. The objective necessity of the formation of digital education and the use of methods of logical analysis, analysis and synthesis as a methodological basis in the process of improving the organizational and economic mechanisms of its introduction. Indeed, to ensure the rapid development of the economy, highly qualified personnel are needed and, accordingly, the education system needs to be improved to train them. This is achieved through the digitization of the education system. Due to this, the main issues of the work and their directions were covered using the methods of logical analysis.

Analysis and results

In order to fulfill the tasks set out in the development concept “Digital Uzbekistan – 2030” until 2030, the issue of including a number of measures in this Concept is also identified⁹. These include:

The first, a priority task was considered further development of telecommunications infrastructure, providing the population with access to high-quality mobile communications and broadband Internet.

The second, the issues of introduction of modern information systems, software products and databases in the fields of health, social protection, education, utilities, tourism, as well as the creation of "smart" and "safe" cities and regions were clearly defined.

The third, the implementation of innovative projects in the field of digital economy on the basis of public-private partnership, the supporting the production of modern software products are emphasized.

The fourth, based on the principles of “intellectual government”, the issue of further expanding the system of e-government services to the population and businesses is also paid to attention¹⁰. This Concept cannot be realized by the production of simple measures. To do this, the condition of development of information technology in government agencies and other organizations, the existing information systems, databases and other software products

² Human development. Textbook. Edited by E.S.d., Professor Q.H.Abdurahmanov. - T.: “Science and Technology” Publishing House, 2013. - 476 p.

³ Pardaev M.Q. The digital economy is the future of the country's development. // “Service” scientific-practical journal. 2019. Number 3. Page 7, Pardaev, M.Q., Mirzaev Q.J., Pardaev O.M. Service sector economics textbook. - T.: “Economy and Finance”, 2014. - 384 p.

⁴ Adilova Z., Xonto'raev B. The role of science and education in the development of the digital economy. // Problems of development of the service sector in the conditions of innovative and digital economy. (February 21-22, 2020) Materials of the International IAC, Samarkand-Tambov, 2020. - Pages 16-19.

⁵ Isroilov B.I., Gadoev E.F. An Explanatory Dictionary of the Concept of Anti-Corruption and Anti-Corruption Terms. - T.: “Tafakkur” publishing house, 2019. - 168 page. Isroilov B.I. Issues of preventing corruption in the education system. // Problems of development of the service sector in the conditions of innovative and digital economy. (February 21-22, 2020) Materials of the International IAC, Samarkand-Tambov, 2020. - pp. 183-186.

⁶ Saidov M.X. Uzbekistan: investments and human capital, partnership in the field of education. - M.: Newspaper A Book House «Labour», 2008, - 362 p.

⁷ A.Xoliqov. Pedagogical skills. Study guide. Tashkent “Economy and Finance”. 2010. p.8.

⁸ Ya. Mamatova, S. Sulaymanova, Uzbekistan on the way to the development of media education. Study guide. – T.: «Extremum-press», 2015. - 94 p.

⁹ https://www.norma.uz/en/nhh_projects/development_of_digital_economy

¹⁰ https://www.norma.uz/en/nhh_projects/development_of_digital_economy

must meet modern requirements. In addition, human resources in the economic and social spheres must be formed in accordance with modern requirements. These processes are brought to the level of demand, it will be necessary to address confidently the issue of the introduction of the digital economy and digital education which is an integral part of digital economy.

The education system has existed since ancient times, and this system will continue to evolve with the development of society. Community development and the education system are related inextricably. This relationship can be expressed as follows (Figure 1).

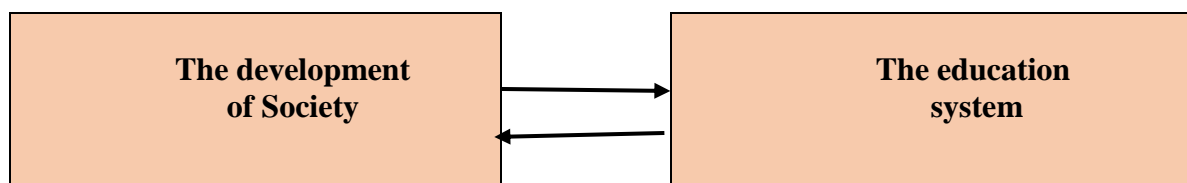


Figure 1. The interdependence of the development of society and the education system

Society is bound to evolve over time, but the quality and intensity of this development depends directly on the level of development of education. The development of society creates the need to develop education. The development of education is a key factor in the development of a society. The education shows **today's generation the state of society yesterday, its current level, and what it will be like in the future**. In this sense, the development of society cannot be imagined without education.

The current state of development of society consists of traditions. Yesterday's situation constitutes its past. Education must not only pass these situations on to the next generation, but also guarantee what they will be like tomorrow. Given the important point, it should be noted that the development of the education system depends directly on the economic situation in the country. The fact that the quality and efficiency of educational services play a key role in the development of the economy, also it is indicated that these processes are dialectically interconnected.

As new ideas, innovations which are based on the development of the economy and investments are connected to each other, also the development of the education system is directly related to these factors. Over time, the development of society has increased to such an extent that it is also necessary to increase the speed of information for understanding, comprehending and managing effectively them. This, in turn, leads to increase in the role of information in ensuring the development of society and the interdependence of education. It should be noted that the information content reflects both the elements of education and the development of society in such an environment. Thus, its shape changes somewhat to accelerate the connection shown in Figure 1 above (Figure 2).

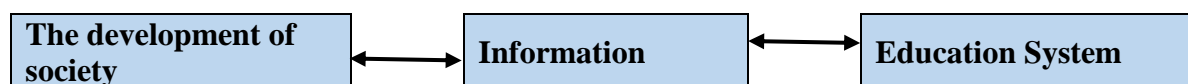


Figure 2. The role of information in the interdependence of society development and the education system

There are even greater positives to using information in this connection. The first, the information can accommodate a lot of the information available in the community. The second, it is also important that this information be up-to-date. Because a very good textbook will take some time to prepare and publish. Until then, much of the information in the

community may have been updated. But they cannot be included in the textbook quickly. But it will also be possible to place the latest information in the information. The third, it will be enjoyed by many at the same time. The fourth, that accelerated new information line includes new information in educational services.

Today, the need to create national platforms for educational services in the context of digital society is becoming clear to all of us. Because of this, it's time to add numbers and education to numbers. The first process of digitization of the education system in our country (moodle system) began in 2015, which was reflected in the activities of a number of educational institutions. In the current pandemic condition, there is a need to introduce this system in all universities. Because, it is admitted, we were far behind in this regard. When we look at reality with real thinking, there are pros and cons to every process. This can be clearly seen in the process of informatization of education. These are listed in the table below (Table 1).

Table 1: General aspects, pros and cons of traditional and digital education

Types of Education	General Aspects	Distinctive aspects	
		Positive	Negative
Traditional Education	Education, upbringing, skills development of young people.	There will be a live dialogue with the student in the direct studying process	If there are too many students in the whole class during the lesson, there will not be enough opportunities to engage.
Digital Education		Classes are online and involve individual, remote communication with each student, regardless of their number.	There will be interruptions in the studying process where the student is not provided with computer technology, communication tools, internet speed is not good

As the table shows, there are both pros and cons to digital education. The plus side is the classes are conducted online with students, allowing them to communicate remotely with each student, regardless of their number. The positive side of this is that the answers to the questions are also given in writing, that one answer can be sent to all students if they want, and that it is possible to communicate remotely in public. However, there is a downside to digital education, as some students live in rural areas, where they are not fully equipped with computer technology and communication tools, and if they are provided, they live in places where the Internet speed is not good. Another important aspect is that students have a great responsibility towards learning, and if there is not aspiration, they will be unsupervised. Also, it has a negative impact on work efficiency.

One of the factors that negatively affects the development of the education system is the presence of elements of corruption in education. Several publications have been published on the subject. In this regard, our scientists B.I Isroilov, E.F Gadoev¹¹ are working effectively.

¹¹ Isroilov B.I., Gadoev E.F. An Explanatory Dictionary of the Concepts of Corruption and Anti-Corruption Terms. - T.: "Tafakkur" publishing house, 2019. - 168 pages. Isroilov B.I. Issues of preventing corruption in the education system. // Problems of development of the service sector in the conditions of innovative and digital economy. (February 21-22, 2020) Materials of the International IAC, Samarkand-Tambov, 2020. - pp. 183-186.

Today, the digital education system has to meet a number of requirements in order to be implemented in all regions. They should also have staff in the area who own the information environment, electronic resources and process management systems. An explanation of this is given in the table below (Table 2).

Table 2: Requirements for the introduction of digital education in the education system

№	Name of required requirements	Explanation of necessary requirements
1	Information environment	Information environment Computers, laptops, tablets, mobile devices, networks, video systems, whiteboards, internet waves, etc.
2.	Electronic resource	Software, educational portals, distance learning systems, electronic libraries, websites, cloud systems, etc.
3.	Process management and staffing	Email, social network, form of training and professionals who are able to manage them

Digitization of education is not just about the electronicization of educational resources. Now educators must be well versed in information technology, that is, digital pedagogy is also entering the process. This is a good opportunity for the pupil and students to get a good quality education, to find the necessary information quickly. In this case, students should study for knowledge, not for assessment. At the same time, of course, the evaluation criteria must answer fully this requirement.

When creating educational platforms, it is necessary to pay attention to the following:

- paid and free to use educational platforms, depending on their specialization;
- the need to create international educational platforms depending on the specialties (according to the level of demand for the specialty in the country and around the world).

The issue of digitization of education is also given attention by scientists in our country. In particular, Z. Adilova and B. Khanturaev are dedicated to the role of science and education in the development of the digital economy¹². According to these scientists, “The cost that spending for worldwide, Internet consists of \$ 750 billion Dollar in 2019, this figure is expected to reach \$ 1.6 trillion Dollar by 2025¹³.”

We have already mentioned the role of investment in the digitization of education in the development of the economy. Every investor who makes an investment put aims to multiply their money several times. Therefore, the need for qualified specialists for the efficient operation of the economy will continue to grow. Such a need can be met by students studying through the digital education system. This means that the demand for literate students in the economic sector is growing day by day. The effectiveness of digital education in staff development is also developing. Because this specialist can continue to improve his skills using the opportunities of information technology, without spending extra money, without going to the center or another country, without leaving work.

Until recently, people lived in the same city or neighborhood and they communicated by visiting each other. Nowadays, you can communicate verbally or pictorially with anyone you want from any point of the globe, at any time, at any distance. All you need only a

¹² Adilova Z., Khanturaev B. The role of science and education in the development of the digital economy. // Problems of development of the service sector in the conditions of innovative and digital economy. (February 21-22, 2020) Materials of the International IAC, Samarkand-Tambov, 2020. - Pages 16-19.

¹³ That place p17

mobile phone and the addresses of the clear numbers. “Currently, there are 7.5 billion people in the world, people have been able to communicate with each other”¹⁴. The fact that the digital economy has become not only a “long-distance approach”, but also a source of income and requires the rapid development of this economy.

According to Professor M.K. Pardaev, “Today, the main income-generating areas of the digital economy are:

- income from fixed telephone service;
- income from mobile phone services;
- income from SMS;
- income from the use of Internet services;
- income from the transmission of information by telegram;
- income from e-commerce;
- income from automatic money transfers;
- income from the provision of automatic banking services;
- income from other digital services”¹⁵.

Revenues from the digital economy are not limited to these areas. The scale of the digital economy continues to expand and the coverage of our entire socio-economic life ensures the sustainability of these issues. In our country, year by year, increasing attention is paid to the training of qualified competitive professionals. Also, we can know this from the fact that the annual admission quotas are increasing. This requires the introduction of additional material and technical base in the field of education. The introduction of distance learning in educational institutions will lead to a rapid return on investment in the field. In the process of digital education, efficiency in the field is constantly increasing due to the saving of labor resources, time and resources.

Conclusions and suggestions

From the need to create national platforms for educational services in the context of digitalization of society, it has become necessary to include numbers in education and education in numbers. The first process of digitization of the education system in our country began in 2015 and it was reflected in the activities of a number of educational institutions, but in the current pandemic, it was forced to introduce this system in all higher education institutions, and this was achieved. In this context, both the pros and cons of digital education have been revealed, as there are pros and cons to each process looking at reality through real thinking. The need to take this education into account in the informatization process is also emerging as one of the important directions today.

From given material that the digital education system should meet a number of requirements for implementation in all regions, the need to provide the existing information environment in the area, electronic resources and personnel are based with process management systems. At the same time, the content of these mechanisms is fully disclosed, it is indicated that **the information environment** includes computers, laptops, tablets, mobile devices, networks, video systems, electronic boards, internet waves, etc., **software for electronic resources** include educational portals, distance learning systems, electronic libraries, websites, cloud system, etc., **process management** includes e-mail that suitable for cadres, social networking, the form of training and access to professionals who are able to manage processes.

¹⁴ Pardaev M.Q. The digital economy is the future of the country's development. // “Service” scientific-practical journal. 2019. Number 3. Page 7

¹⁵ That place p 7

In conclusion, this article contains a number of noteworthy recommendations on the objective necessity of the formation of digital education in our country and the organizational and economic mechanisms for its introduction.

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