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**DIGITAL REALITY AS A SYNERGISTIC PARADIGM OF XXI  
CENTURY EDUCATION**

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**Abstract**

The article dwells on the problems of present-day education, particularly, the problem of digitalization, its strengths and weaknesses in the context of the economic crisis, as well as the analysis of its impact on the educational paradigm of the XXI century. Special attention is paid to the difficulties that the educational process participants are forced to face nowadays; various scenarios for overcoming existing contradictions are considered. Education generally promotes learning in the form of knowledge and skills transfer. It dates back to prehistoric times when knowledge was transferred through imitation. It is known that schools existed in ancient Egypt, and the education system was developed along with literacy, culture and science. As a rule, the educational process includes a teacher, a student and certain means to transmit knowledge from a teacher to a student. If you remove the real (not virtual) teacher from this process, there will be an abrupt transition to the system of self-education. This synergistic paradigm of present-day education is a reality reflection; however, it is worth noting that at this stage the education system still needs a teacher as a source of knowledge.

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*Keywords:* Digital reality, digitalization, education, paradigm



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## **1. Introduction**

Information technologies of the XXI century have penetrated into all spheres of human life, becoming an integral part of the new digital reality. In terms of education, the role of information technology was proclaimed in World Declaration on XXI Century Higher Education, which states that new technologies should contribute to the renewal of teaching methods and increase the accessibility of higher education. This idea was most clearly manifested in the introduction of distance education. The global Internet and the introduction of computer technologies to all areas of public life accelerated rapid digitalization, especially in the context of the COVID-19 pandemic (Agranovich, 2020). Along with the many advantages of using modern digital technologies, which helped to minimize the negative effect of forced self-isolation, significant technical, psychological and methodological problems were discovered.

## **2. Problem Statement**

The main research objectives are to analyze and pose problems related to the strengthening of the role of digitalization in education and the transition of the educational process to a distance format in developed and developing countries (Aktaruzzaman & Plunkett, 2016). Nowadays the digital reality of the XXI century is increasingly understood as a part of a new media reality. Media reality is a phenomenon of modern culture, one of its most important innovations. At the same time, it is also a specific product of a highly developed civilization, and its influence on life is so great that it is almost impossible to imagine the existence of a person outside this reality. Digital reality, as a component of media reality, is of great interest for different researchers - from philosophers, sociologists and political scientists to engineers, physicists and other representatives of contemporary science. That is why the question of the socio-philosophical analysis of the place and role of digital reality in the XXI century is extremely important and relevant, as well as its impact on social values and, first of all, on the education system, which, in many ways, is the very social institution that shapes these values. Of no less interest are issues related to the way certain technologies take root not only in large educational centers, but also in the regions, in this case the experience of some European countries should be considered (Balatsky & Yekimova, 2017). Equal relevance has the issue of educational institutions ratings (Bolgova & Kurnikova, 2018; Bolgova et al., 2018). In addition, it is necessary to take into account how quickly and effectively students develop digital literacy skills, including those students who continue their studies after receiving a diploma. (Burke et al., 2019; Curran et al., 2019).

## **3. Research Questions**

In connection with the coronavirus pandemic, WHO recommended the countries to transfer educational processes to a distance format. In the Russian Federation, for example, on March 14, 2020, all universities and other educational institutions were advised to switch to distance operation. For the first two or three weeks, all Russian universities without exception experienced significant difficulties. According to the Minister of Science and Higher Education, universities of technical, medical and creative profiles encountered the most serious difficulties, but thanks to the prompt organization of interaction between

universities and the Ministry, a search for new solutions started, there was a regular exchange of best practices, and, as a result, adaptation to new conditions succeeded. The majority of university teachers, not to mention school teachers and educators working in other educational institutions will share this opinion. However, some questions remain extremely relevant: should universities, schools, colleges and other educational institutions get ready for a complete transition to digital reality; what is the cost price of such processes; is it really necessary; and, finally, do high ratings really reflect the quality of educational services? (Garcia-Alvarez-Coque et al., 2019) In order to answer these questions, it is necessary to study and analyze various options and models which have already proved to be the most productive, as well as those models that consider various crisis scenarios for further development of events. According to UNESCO data, easily accessible on the official website of the organization, every fifth child in the world do not have a full access to education. Because of coronavirus pandemic, secondary and higher educational institutions are being quarantined. Problems arise with the introduction of quarantine measures. For example, vice-rectors of UK universities told the government that thousands of students simply have nowhere to go - many of them came to study from different cities and countries. In countries where schools are already under quarantine, authorities are trying to organize online education. Such democratic and, at the same time, up-to-date approach to the educational process is supported by many countries, the most ambitious system a few years ago was already deployed in China (Tang & Tsui, 2018; Wright & Horta, 2018).

However, at the very beginning of the pandemic, UNESCO warned that schoolchildren and parents are not psychologically ready for distance education, as well as that not everyone has the financial resources for this kind of education because of the problems with technology availability and access to specialized platforms.

The quality of education in Russia may suffer due to the transition to distance learning amid the coronavirus pandemic if it lasts more than three to six months. This conclusion was made by the specialists of the Research Center for Systems for Assessment and Management of the Quality of Education of the FIRO RANEPa, this information was posted on the organization website. There are also more radical points of view. However, along with obvious challenges and problems, the new format of education provides a wide range of opportunities and prospects for changing and improving educational systems for which a critical situation creates forced conditions. Particular attention should be paid to regions where the situation with the promotion of new technologies always differs from the federal centers (Hermannsson et al., 2019).

In this regard, one of the primary tasks in the field of education is the timely analysis of the current situation, the adoption of the most adequate measures with regards to the specifics of a particular country, and the support of all educational system participants - students, their parents, teachers and administration - at all levels.

#### **4. Purpose of the Study**

The purpose of this study is to analyze the advantages and disadvantages of the widespread implementation of digitalization in the educational process, as well as to identify the difficulties faced by teachers and students during distance interaction in the educational process. It is also necessary to properly

assess the development of digitalization in relatively large educational centers and regions. (Harrison & Turok, 2017).

## 5. Research Methods

Methodologically, the work is based on a socio-philosophical analysis of sources and current research literature. The main philosophical methods used in this work are the dialectical method, metaphysics, transcendental and phenomenological methods, since these methods are closely related to the methodology of science. With this approach, science and philosophy are practically indissoluble components, complementing each other and allowing a researcher to get the most complete picture of the objects under study. A synergistic approach is used to describe the mechanisms of self-development of the modern education system.

## 6. Findings

Measures that have been taken in the field of education in different countries in connection with the coronavirus pandemic are evident from Table 1 (Agranovich, 2020).

**Table 1.** Measures taken by some countries in the field of education during the coronavirus pandemic, which increased the role of digitalization in the educational process

Country	COVID-19 statistics on 13.04.2020	Date of first measures for full or partial schools lockdown (2020)	Measures taken in the field of education on 07.04.2020
China	82160	08.02	Most educational institutions are closed. Schools were reopened in some of the least affected cities on March, 16
Italy	156363	24.02	All educational institutions are closed from March, 4 to April, 14 (at least)
United Kingdom	84279	28.02	All educational institutions are closed from March, 16 to all children, except those whose parents work in key areas
USA	560433	28.02	Educational institutions are closed in 48 states
Germany	127854	03.03	Most schools and day care centers are closed until mid-April
France	132591	03.03	All educational institutions are closed. In kindergartens and schools, basic day care is provided for the children of medical personnel
Greece	2114	05.03	Schools and universities are closed from March, 10
Spain	169496	11.03	Educational institutions are closed from March, 12
Russian Federation	18328	11.03	All schools and higher education institutions are closed from March, 23 to April, 12.
Czech Republic	5991	11.03	All elementary, secondary schools and HEIs are closed from March, 13 until further notice
Switzerland	25503	12.03	All educational institutions are closed till April, 12
Belgium	30589	13.03	Schools are open, but school activities have been discontinued: the schools provide childcare for children whose

			parents work in health care and emergency government services
Canada	24383	13.03	Educational institutions are closed throughout the country
Brazil	22318	12.03	Schools closed in selected states and municipalities
Israel	11235	12.03	From March, 13, all educational institutions, including preschools and kindergartens, are closed until at least April, 17
Ireland	9655	12.03	All educational institutions are closed from March, 12

In almost all countries, complete or partial lockdown of educational institutions was accompanied by the transfer of students to distance learning. This situation can be considered as a global natural experiment on the intensive introduction of distance learning and digital technologies to education, which, in fact, started several years ago (Efimova, 2019; Hermannsson et al., 2016). This experiment, by all means, was accelerated in many countries by governmental official documents issued to prevent the spread of coronavirus infection and to organize a continuous educational process. According to the above studies, it really helped to reduce the spread of coronavirus infection; however, it could not but affect the educational process itself. At the moment, there are pronounced difficulties preventing effective education in a pandemic situation. Some of these difficulties appeared due to problems with a reliable Internet connection and access to digital devices.

Back in 2018, on average 9% of students across OECD countries did not have a comfortable place to study at home, and in Indonesia, the Philippines and Thailand, there were more than 30% of such students; as a rule, these are students from the most disadvantaged families. However, even in Southern Korea, where students demonstrated one of the highest levels of academic achievement in the PISA survey, one in five students from the lowest quartile of schools by socioeconomic status (SES) did not have a place to study at home (Agranovich, 2020).

## 7. Conclusion

Nowadays digitization is an inevitable process of changes. The coronavirus pandemic brought this process closer and accelerated the rapid development of digital reality, at the same time exposing a number of serious contradictions that society faced even before the pandemic started (Sadovnik, 2019). Educators and people actively involved in the educational process were among the first to experience these changes. It is too early for making unambiguous conclusions about the advantages and disadvantages of these processes; however, it is absolutely clear that researchers still have to give a proper assessment of the current trends and the contradictions that educational institutions have encountered. The contradictions are ranging from psychological difficulties to technical problems, the absence or limited availability of modern technologies necessary for successful distance learning, as well as the uneven distribution of resources between central and regional institutions (Hermannsson et al., 2019). However, even being within the walls of educational institutions, it is impossible to imagine education without modern information technologies, which means that digital reality, being an integral part of media reality, cannot be thought of as some separately existing phenomenon; it is the very reality with which teachers, students and others involved in

the educational process in one way or another must reckon, whereas, the process of active implementation of digitalization has a self-developing synergistic character.

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