

# Consequences of Overall Transition to Distance Learning: First Results

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## ABSTRACT

The article presents an analytical review of the COVID-19 pandemic impact on the education system subjects. The results of analytical reviews, surveys and research of leading universities, sociological agencies and research foundations of Russia and other countries of the world are summarized. Both positive and negative aspects of the influence of distance learning are considered. It is noted that, in general, the Russian pedagogical community has coped with the abrupt closure of schools and the transition to remote formats. Despite some difficulties, teachers managed to finish the school year, did not allow disruptions in passing the unified state exams and achieved satisfactory results. An analytical review of open sources shows that students and parents have overcome the difficulties of switching to distance learning in different ways: from experiencing joy to objective feelings about the quality of education received. However, in general, the results obtained prove that Russian education is focused on the future, capable of implementing the strategic tasks set by the government and overcoming difficulties.

**Keywords:** *pandemic, education, distance formats, digitalization of education, impact of the pandemic on education, subjects of education*

## 1. INTRODUCTION

The global COVID-19 pandemic has accelerated a number of processes, the implementation of which was still under discussion, reflection and critical analysis some time ago. In almost all countries, there was a complete or partial closure of schools and universities, accompanied by the transition to distance learning. For example, distance learning, which had been discussed in Russia for 20 years, became a reality in April 2020. As some researchers emphasize: distance and digital learning have become drivers of the educational revolution. Meanwhile, any revolution has serious consequences. Just a few months of distance learning provided rich material for analyzing the consequences of the total transition from classical to innovative forms of education.

## 2. RESEARCH METHODS

The scientific analysis of the consequences of the global transition to distance learning is still waiting for in-depth analysis. So far, we can rely on statistical studies of foreign and domestic universities, various sociological agencies, public foundations, as well as works by scientists who were able to analyze the advantages and disadvantages of digital education and its impact on the higher education system before the coronavirus pandemic. Thus, among many studies there are works by V.V.

Gorshkova, E.A. Dyakova, E.Yu. Zarechkin, A.A. Klimov, V.P. Kupriyanovsky, N.R. Kruglov, I.V. Sartakov, V.L. Tulchinsky, N.Sh. Kozlova, etc. of interest [5; 8; 12; 13; 14; 22; 23]. Attempts to create a didactic concept of digital education are considered in works by M.E. Vayndorf-Sysoeva, M.L. Subochevo, P.N. Bilenko, V. I. Blinov, M.V. Dulinov, E. Yu. Esenin, A. M. Kondakov, I.S. Sergeev, M.A. Choshanov [2; 3; 8; 9; 13; 14; 25]. It is worth noting that to a greater extent, the research is devoted to describing the advantages and positive features of distance and digital learning. Thus, researchers most often refer to the general advantages of distance learning: accessibility and flexibility (as a choice of time) of learning, educational service availability to those who for various reasons can't physically be present in the classroom, increasing the interactivity of learning, etc. [5; 8; 12; 13; 14; 22].

Meanwhile, some scientists have pointed out problems and risks that may arise as a result of the transition to digital learning (A. A. Verbitsky, N. S. Ilyushenko, N. G. Strekalova, etc.). Thus, A. A. Verbitsky notes as there is actually no clear and understandable "psychological and pedagogical concept" or "psychological and pedagogical theory of digital learning", it is difficult for teachers to design and use it [4]. The complexity of learning considered by many researchers as a process of communication between the teacher and students in which

not only knowledge and skills set are given but also meaning and sense, does not allow us to say with confidence that electronic and/or digital learning is capable of such meaning-making [Ibid]. To the most serious consequences of the transition to digital learning, A. A. Verbitsky also refers "the risk of speech and thinking degradation since it linked to speech, which in digital learning is replaced by the user's clicking on computer keyboard", as well as the inability of digital communication to perform the function of upbringing, which is an inherent part of teaching and makes up the unity and integrity of this process [Ibid].

Almost the same is said by N. S. Ilyushenko [9]. He notes that there is great doubt about the benefits of education transition "to digital" one for younger pupils and emphasizes the need for a balance "between digital and traditional technologies based on real (face-to-face) communication and the interaction of participants in the educational process" [Ibid]. There are risks that using a large number of tools to solve pedagogical tasks will create additional training load and workload for students and teachers, as it will force them to spend some time searching, installing, and mastering new software and hardware, which is usually not provided for in educational programs. It is also noted that there is a risk of much time spent on creating a digital educational product and its rapid obsolescence, leading to the content quality loss [Ibid].

N. B. Strelakova, considering the consequences of the transition from information education to digital one, notes that its negative results include students' losing basic cognitive competencies, their overall level of competence decreasing, and leaving the fundamental nature of education behind [22].

The analysis of open and official sources: expert reviews conducted by specialists of the NAFI Research Centre of Human Capital, research by the Institute of Education of the Higher School of Economics, RANEPa during the pandemic in Russia, and others, shows which forecast and fears related to the transition to distance learning were justified, and which were not.

The School Barometer project is of particular interest. It was initiated by the World Education Leadership Symposium consortium and participants in the World School Leadership Study (WSLS) international project, and implemented by employees of the School Management Laboratory of the Institute of Education (the Higher School of Economics). The project was launched in March 2020. The first participants were citizens of Germany, Austria and Switzerland. In April, several other countries including Russia joined the project [1]. As noted by the participants: "The School Barometer is a platform for sharing experiences, opinions, achievements that have been implemented, as well as challenges (difficulties, needs) that school education participants around the world are facing today due to the epidemic and the total transition to distance learning" [Ibid]. The research in this project confirms the data from other research [6; 7;10;11;17;23;24].

### 3. RESEARCH RESULTS

The past months which students spent outside of school allow us to sum up the first results.

In almost all countries, the complete or partial closure of schools was accompanied by the transition to distance learning. Some researchers have called this situation "a worldwide natural experiment in the intensive implementation of distance learning technologies." [17].

It is noted that the abrupt transition of the education system to distance and digital formats was a real shock for all participants in the educational process [1; 7; 10; 17; 18; 25; 31]. About 1.5 million Russian school and university teachers, as well as 16 million schoolchildren and 7 million students, found themselves outside the boundaries of the usual intramural attendance in the face of uncertainty.

However, all research of the pandemic impact on education can be divided into three groups: consequences for teachers, for children and for parents.

Consequences for teachers.

According to the NAFI research centre, despite the unexpected transition from traditional to digital education, Russian teachers' level of digital literacy turned out to be quite high and amounted to 88 points out of 100. That means that in general, teachers understand and know current technological trends, already have the skills to work with modern gadgets and applications and understand the benefits of technological innovations. Teachers demonstrated the highest level of information and computer literacy, the indicators are 93 pp and 92 pp respectively. The digital literacy index of higher education teachers was 88 out of 100 possible points [24].

Among the difficulties of switching to distance learning, researchers note an increased workload for teachers (74 per cent), and "more than a quarter (26%) complained about the poor arrangement of the transition from traditional education to an online one. 60% described the transition as "satisfactory" and only 14% called it "well-organized", - NAFI states based on the results of the survey, respondents of which were both school and university teachers [Ibid].

Despite the fact that the Ministry of Education of Russia promptly developed recommendations for selecting digital platforms and tools for teacher work [19], teachers gave low ratings to the quality of e-learning materials offered to students for distance learning. Only 40% described the quality as "excellent" or "good", 43% – only as "satisfactory", 9% – as "bad". More often, university teachers gave poor ratings to the quality of materials [18].

The subjects of the artistic and aesthetic cycle: (fine arts (drawing), music), technology, physical culture were most difficult in implementation in the remote format. Teachers noted that it is difficult to hold classes without personal contact with children. It is especially difficult for teachers with long teaching experience to adapt. The problem is not only in the arrangement of distance learning but also in the fact that these subjects are not available on the offered educational platforms [18].

Despite the fact that the above-mentioned level of Russian teachers' readiness for distance learning was quite good, it should be noted that there were still problems when switching to distance learning. To a greater extent, they occurred among teachers of the older age group. According to the Ministry of Education of the Russian Federation in 2019, the average age of teachers in Russia exceeds 50 years [21]. Analyzing the VCIOM (Russian Public Opinion Research Centre) data, to determine the proportion of teachers of all ages who rarely use or do not use the Internet at all, we can see that 2% of young (under 25) teachers do not use it, 5% of 25-34-year-olds, 10% of 35-44-year-olds, 27% of 45-59-year-olds, and 55% of 60-year-old teachers and older. Counting the number of teachers of these ages shows that 21.4% (that is, every fifth) of them do not have sufficient skills to work on the Internet and use network services and resources [6].

Given this, on the one hand, there is concern growing about the possibility of successful strategic digitalization of education in Russia, on the other hand, a number of researchers emphasize that in this regard, "new forms of discrimination may appear for teachers who, due to their age, find it difficult to adapt to the transforming digital reality, as well as for students who do not have the necessary tools (high-quality technical devices, expensive software, etc.)" [9].

Among the consequences of the pandemic impact on education for students, the following is noted: a certain part of students perceived distance learning as an adventure and a new interesting event (39.6%). As researchers of the Institute of Education (the Higher School of Economics) say: "Pupils of all ages have become "first-graders", ready to learn fundamentally new ways to acquire knowledge and skills, which generally stimulates their interest and educational motivation" [18]. On the one hand, children like to be at home, have more free time for hobbies and personal affairs, spend a lot of time with their family, but they miss school (60%) and socializing with friends and teachers, and complain about a sedentary lifestyle.

The results of the "School Barometer" research clearly show that Russian schoolchildren are not only ready to live in a situation of uncertainty but also more positive than all other groups of respondents. Meanwhile more than half (56.8%) of parents believe that their children are in stress in the current situation. The same opinion is shared by 45% of teachers and the same number of representatives of the school administration. At the same time, pupils themselves are happy with the opportunity to spend more time with their family (45.9%) and are ready to take care of their siblings (57.1%). At home, they have enough devices for distance learning (74.5%), every second student noted that interaction with teachers is well organized, they are ready to learn new things (see above), and, most importantly, more than two-thirds of them (69.9%) believe that in general, their family copes well with the current situation [18].

Meanwhile, 93% of students emphasize that their life has worsened due to the lack of communication with teachers and peers (friends, classmates) [18];

73% report difficulties in performing the educational process ("difficulties with learning the program") [Ibid]. Researchers are also very concerned about the negative effects of digital technologies on children's health (poor sleep, poor posture, poor vision, etc.) [25]. There is also concern about the close link between a child's emotional stability and the use of digital devices [Ibid]. In this regard, further serious research is needed on the impact of digitalization on children's health and evidence-based pedagogical expertise of the conditions for using digital technologies.

Thus, the transition to distance learning has not become absolutely painless for children.

Impact of the pandemic on education for parents.

According to parents, digital technologies can improve design training, online education of children with disabilities, the quality of education in village schools, the quality of exam preparation, the organization of face-to-face work with students, as well as the level of education in science. However, they can not significantly affect teaching semantic reading, the level of teaching humanities, training in goal setting and cognitive activity [25]. In that, parents express their solidarity with research teachers.

As the mentioned analytical reviews show, in the context of distance learning, parents play a key role in supporting their children, but even under the most favourable circumstances, most parents are poorly prepared to provide effective support [7]. Only 8% of parents rated positively the consequences of their children not attending school full-time, 42% said that there are no positive consequences from the current situation. This data shows that parents are not psychologically ready to share responsibility for the moral state of their children with the school, and are not capable of pedagogical cooperation and support.

There are also objectively negative results. The findings of a survey conducted by the All-Russia People's Front (ONF) show that "80 per cent of respondents faced problems when switching to distance learning." According to school teachers, the most common problems are the lack of personal computers and mobile devices for children, as well as technical problems in schools and lack of experience on the Internet [11].

The Accounts Chamber of the Russian Federation has prepared a digest of materials from international organizations on the impact of the coronavirus epidemic on education, which shows that the transition of schools to a remote format or their closure, even temporary, has great social and economic consequences, especially for the poor. [7] According to Rosstat (Federal State Statistics Service), in 2018, the number of poor people in our country was 18.9 million. Approximately 22% of them are children and adolescents aged 7 to 16 years (schoolchildren). This is about a quarter (!) of all Russian schoolchildren [6].

According to Rosstat opinion polls, in 2019 in Russia, only 76.9% of households had access to the Internet. Only 73.6% of them had broadband Internet access [18].

Thus, the data shown indicate the need for state support for vulnerable population segments, strengthening work in the material and technical support for educational institutions.

The results of the Unified State Exam can be considered as surmountable consequences of coronavirus for all subjects of education. The deepest concern expressed by teachers, children, and parents is the inability to take the Unified State Exam during the coronavirus period. The dates of the Unified State Exam were shifted to July. The exam itself was held only for those graduates who were going to enter higher education institutions. Meanwhile, neither increased preventive measures, nor social distance, nor the reduction in the number of people on the premises affected the results of the procedure. According to the Ministry of Education, the Unified State Exam was held without serious organizational and technological failures in compliance with all the recommendations and requirements of Rospotrebnadzor (the Russian Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing) regarding epidemiological safety measures. According to preliminary analysis, the results in most subjects remained almost at the level of the previous year, while in some subjects they improved slightly [16].

#### 4. DISCUSSION OF FINDINGS

The findings obtained allow us to come to certain conclusions. Russian schools should take advantage of the current situation to improve the training programs and professional growth of teachers, including the readiness of teaching teams to discuss (reflect, analyze) the results of their work during this period. This is supported by the fact that teachers (71.1%), school administration (86.4%), and employees of education authorities (54.6%) observed a high level of mutual support, and noted that professional discussion was organized in teaching groups aimed at choosing a school behaviour strategy during this period (64.3% - teachers, 86.3% - school administration, 52.8% - employees of education authorities) [6; 18].

The main issue that the teaching community will have to solve after the pandemic is how to correlate the experience of distance education with the best practices of traditional schools, how to use digital platforms and include digital education opportunities in the classical system, how to expand the opportunities for live communication for all subjects of education.

The experience gained requires a more detailed research, but one thing is clear: it is necessary to change the content of teacher training. Young teachers should not only be acquainted with but also well-versed in digital educational tools, be ready to work in conditions of "indirect" communication with children to provide them with help and support [27; 28].

#### 5. CONCLUSION

The transition to digital and distance learning formats has generated a new wave of innovation that will have profound consequences for humanity by changing the relationship among citizens, government and business, as well as transforming the structure of society and the economy. The rate of economic growth, labour capacity, and human development will increasingly depend on the extent of integration into the digital economy. The Russian Federation faces a global challenge not just to keep up, but to lead in this area. We can already note the first steps in global leadership: since September 2020, a large-scale experiment has begun in Russia to introduce a digital educational environment in Russian schools and colleges. It is expected that the target DEE model will have been implemented throughout the country by 2024. It is also planned to introduce learning modern digital technologies in the educational programs of 25% of secondary schools in 75 regions of the Russian Federation, which will affect at least 500 thousand children. In addition, the project will have provided 100% of educational institutions with Internet access by 2024 [25]. Of course, all state measures to support modern schools are aimed at improving the quality of education and supporting and revealing the talents of each child.

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