

Distance learning in a pandemic: the experience of sociological monitoring of students in Russia and Kazakhstan

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Abstract. The article is analysing the experience of using distance learning technologies in higher educational institutions of Russia and Kazakhstan in the context of a coronavirus pandemic. Before the start of the pandemic, in both Russian and Kazakhstan systems of higher education, the practice of using distance learning was limited despite the digitalization trend. The challenges of supporting the continuity of the educational process have led to the fact that, in record time, teachers and students have mastered a number of platforms that ensure their online interaction. Several months of a full-scale distance learning allowed students to form a stable opinion on the new form of education. Today we have empirical material for the period of the coronavirus pandemic and we may assess the possibilities of distance learning. The authors refer to specific case studies in which students from Ufa (Russian Federation) and Karaganda (Republic of Kazakhstan) took part. In general, it can be stated that the majority of students in both Ufa and Karaganda, at the beginning of the pandemic, were not satisfied with distance learning. However, the data from 2021 revealed the opposite trend and indicated an increase in respondents' satisfaction with distance learning. The complete transition to distance education is not a pertinent question, since the potential of the traditional form of education will remain in demand. The use of proven teaching technologies will guarantee the quality and efficiency of the educational process as a whole. It doesn't matter if we're talking about digital classes or traditional ones.

In the 2000s, there were trends all over the world in the transformation of public institutions and spheres of human activity under the influence of information and communication technologies. Progress has become noticeable in the production and implementation of modern technologies, an advanced information environment has been formed, corresponding to the tasks of socio-economic development. States sought to provide all citizens with access to information resources. Preparing and ensuring the effective implementation of the transition to the digital economy also presupposed significant changes at all levels of the education system, it required expanding the information skills, increasing computer literacy, and forming critical thinking. New educational standards have emerged that secured the formation of modern competencies, including in the field of working with information, as expected learning outcomes.

In connection with the development of information and communication technologies, distance learning has become an object of increased attention among researchers. In par-

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ticular, an article by Gagarina and Koldaeva [1] is devoted to innovative educational technologies of distance learning. The use of distance e-learning courses in the educational process of higher education is studied by Leontyeva and Rebrina [2], and so on. Over the course of years, the goal of creating an electronic information educational environment was set before the universities of the Russian Federation and the Republic of Kazakhstan, steps were taken in this direction on the part of both teachers and students. However, the transition to distance learning became the agenda in 2020 due to the total spread of the coronavirus pandemic. Internet resources made it possible not only to ensure the operation of educational process, but also transferred it to a more intensive and effective level. All those advantages of digital technologies that researchers have been writing about for a long time have been actualized. Thus, according to Shurygin and Krasnova, e-education enables students to develop the skills of independent work, and, consequently, to increase its effectiveness [3]. Developing this position, Shabanov asserts that e-education stimulates the student to form individual system of knowledge, skills and abilities [4]. Several researchers have pointed to the great potential of distance learning in specific academic disciplines. For instance, Seregina argued the high efficiency of distance learning in relation to mastering foreign languages [5]. A broader, comprehensive approach to the analysis of distance learning was proposed by Orlova and Koshkina [6]. Having conducted an insight into the practice of using distance education in European countries, the United States and Canada, authors analysed in detail the Russian experience before the start of the coronavirus pandemic, in which the strengths and weaknesses of this technology were tied to the financial, technical, personnel and psychological characteristics of its application. To the peculiarities of the Russian system of distance education the researchers attributed, firstly, students' habit of using printed publications, teachers relying only on their own courses, the lack of equipment for creating high-quality distance learning systems, etc. They stated that digital technologies were used as a "mediocre surrogate" of traditional education.

Indeed, the pandemic has made a significant contribution to both Russian and Kazakhstan higher education systems, as distance learning was not properly set up before. The tasks of keeping educational process operational led to the fact that teachers and students mastered a number—Zoom, BigBlueButton, Discord. The preparation of distance courses and Power-Point presentations was also carried out intensively. There were other technical problems as well. In March 2020, when secondary school, college and university students in most countries of the world, including Russia and Kazakhstan, switched to distance learning due to the COVID-19 pandemic, almost immediately problems arose with the population's access to high-quality Internet. It was especially difficult for those who live in rural areas and remote villages to adapt to the new reality. It was necessary to take emergency measures, which, in particular, was reported by Bagdat Musin, the Minister of Digital Development, Innovation and Aerospace Industry of the Republic of Kazakhstan. From March to September 2020, Kazakhstan telecom operators invested about 60 billion tenge on a fiber-optic network in 1200 settlements of the republic. In total, according to the Ministry's Telecommunications Committee, there are 6,459 rural settlements in Kazakhstan, 4,646 of which already had the Internet in September 2020. No less ambitious processes for providing students with Internet communication resources took place in Russia.

After several months, students and teachers already had a clear opinion about the new form of education. Today we have empirical material for the period of the coronavirus pandemic and we may assess the possibilities of distance learning. To record the prevailing opinion on the issue under consideration, questionnaires of students were conducted (May 2020, June 2021) using a single methodology and tools. In total, 290 (2020) and 215 (2021) university students in the Republic of Bashkortostan were interviewed. The data obtained make

it possible to establish the main trends in the understanding of distance learning by students in terms of its strengths and weaknesses.

The surveyed students were divided into the following social groups: young male—47%, young female—53%; age groups: 17–20 years old—71.4%, 21–23 years old—24.8%; 24–26 years old—3.8%; according to place of permanent residence: urban residents—65%, rural residents—35%. The survey involved students from the Bashkir State University—48.2%, Ufa State Petroleum Technological University—30.2%, Ufa State Aviation Technical University—13.9%, Bashkir State Agrarian University—3%; 4.7% of the surveyed students studied at the Bashkir State Pedagogical University and Bashkir State Medical University. According to academic “experience”, the respondents in 2020 were distributed as follows: 1 course—18%, 2 course—58%, 3 course—11%, 4 course—9%, 5 course (specialty)—4% [7]. The structure of respondents in 2021 does not differ significantly from the sample of 2020 and allows to ensure the validity of the study.

The qualitative self-assessment of students in terms of the success of their studies is as follows: 14.8% of the respondents consider themselves to be “A level students”, 66.8% define themselves as a “straight B student”, 16% are “low-performing”, and the last 2.4% are “weak students”. In terms of computer technology proficiency, 17% of the respondents rated themselves as “excellent”, 58.9% as “good”, 21.7% as “satisfactory”, and 2.4% as “poor”.

The question of the advantages of distance learning is key, in our opinion. The answers to this question made it possible to build a rating line of “advantages” of distance learning. It is presented in table 1.

Table 1. “Advantages” of distance learning from the perspective of students, in %

No.	Answer options	2020	2021
1	Saves time, travel money (and money for lunch meals)	67	80
2	More time and opportunities to communicate with family	42	54
3	Adaptation of the learning time for yourself	39	52
4	Immediate clarification of problematic or incomprehensible moments via Internet resources	32	43
5	Internal discipline, self-organization rises	26	48
6	Easier to learn compared to traditional education	21	49
7	Interest and motivation to learn increases	10	27
8	The efficiency of training sessions is higher than with face-to-face classes	10	19
9	The educational material is more informative than with the traditional form of education	8	26
10	There are no “advantages”	4	0

The above data show that students see the benefits of distance learning mainly in extracurricular infrastructure components. More than two thirds (67% and 80%) of the respondents note as the main advantage “saving time and money for travel and for meals during lunchtime”; half of the respondents (42% and 54%) found that they had more time to communicate with their families. Only a quarter of respondents in 2020 and already 48% in 2021 admitted that their self-organization has increased. One in five in 2020 and half of respondents (49%) in 2021 found it easier to study. However, only 10% in 2020 and 27% of respondents in 2021 noted that their interest in learning increased and the efficiency of training sessions became higher than with traditional education (19%). It is indicative that only 8% of respondents in 2020 and 26% in 2021 admitted that the educational material in

distance learning has enriched in content. It is also noteworthy that 4% of respondents (2020) do not see any “advantages” of distance learning at all.

Thus, the following conclusion suggests itself: the positive potential of distance learning in students’ perception in 2020 is very modest. This can be explained, in particular, by the fact that students (and teachers), due to the rapid spread of coronavirus pandemic and hasty transition to distance learning, did not have the opportunity to thoroughly prepare for the specifics of this educational format. However, the 2021 survey showed a sharp increase in the positive potential of distance learning in the eyes of students. For almost every question, the percentage of students who answered positively in 2021 exceeded the answers to a similar question in 2020.

Nevertheless, the potential of distance learning has been revealed to an insignificant extent, and its importance in the future, in our opinion, will grow rapidly, meeting the needs of a dynamic change in the entire education system in terms of its digitalization.

It should be noted that in comparison with the traditional form of education distance learning has its drawbacks. They are ranked in descending order and are presented in table 2.

Table 2. “Disadvantages” of distance learning from the perspective of students, in %

No.	Answer options	2020	2021
1	Lack of “live” educational communication, lack of feedback	67	43
2	The load on health increases (on vision and on the spine from constant sitting in front of a computer, etc.)	64	23
3	Less opportunity to discuss issues with the teacher or with other students	59	32
4	Dependence on the speed and quality of the Internet connection (connection freeze), on the technical capabilities of the computer (or other equipment)	57	46
5	Learning material is difficult to assimilate	54	21
6	The educational material is less informative than with the traditional form of education	42	21
7	Dependence on the household noises of neighbors (repair sounds, dog barking, screaming children, loud music, etc.)	41	28
8	Some teachers have a poor command of distance teaching technology	39	36
9	This form of study does not mobilize, but discourages	39	11
10	Teachers insist on high standards less, therefore the quality of teaching suffers	21	12

As follows from the above data, in 2020 more than half of the students surveyed expressed a negative attitude towards distance learning for a very important reason—a decrease in the quality of education. More than a third (67%) of those surveyed in 2020 and 43% in 2021 recognized the lack of “live” communication and feedback in the educational process as a disadvantage.

It is important to emphasize that 59% (32% in 2021) of respondents feel the need for face-to-face discussion of educational material with a teacher and fellow students. And this is not accidental, because university education is, first of all, a live communication between a teacher and a student, as well as between the students. The concept of live dialogue is the main component of learning, through which knowledge is acquired, rethought and renewed. According to a third of the students surveyed in 2021, the online format does not reproduce social experience, which is acquired only within the walls of the university.

In 2021, almost two-thirds of respondents (64%) noted the negative health impact of distance learning. They believed that the negative impact on vision and hearing increased (since they are using headphones in both online lectures and seminars), as well as on the spine from constant sitting in front of the computer. The psychological stress from new learning technologies was also significantly high. However, adaptation to the new realities led to the fact that in 2021 the percentage of those who complained of deteriorating health dropped to 23%.

More than half of the respondents in 2020 (57%) suffered from low-quality Internet connection and obsolete computer equipment, some of them experience discomfort from the household noises of neighbors (41%). Poor sound and image quality also negatively affected the overall psychological well-being of the students. For the above reasons, more than half of the students surveyed believed that learning material is more difficult to assimilate (54% in 2020) than with the traditional form of education. By 2021, the number of dissatisfied people dropped to 21%, largely due to the improvement in the technical provision of both students and teachers. According to the respondents (39% and 36%, respectively), some teachers have a poor command of computer technologies, which additionally complicates the assimilation of educational material. In 2020, more than a third of students (39%) admitted that online education demobilizes them, discourages them, and every fifth (21%) noted that teachers underestimate the level of exactingness, which affects the quality of control over material. In 2021, these indicators turned out to be significantly lower, which also indicates the effectiveness of work done in this direction.

The respondents' answers about the problems that have arisen in the implementation of distance learning, only complement the main question. Thus, 74% of respondents in 2020 and 41.7% in 2021 noted an increase in the volume of unsupervised activities. In our opinion, this is due to the very format of educational work, and the attempt of the teaching staff to play it safe against possible gaps in students competencies. According to students, in the traditional form of education, the volume of unsupervised tasks was noticeably lower. Nevertheless, students learned to cope with the growing volume of independent work, and the percentage of those concerned about this issue decreased. Among other problems, the following problems were named: health problem (55% in 2020 and 24% in 2021), mastering the material (49% and 13%), assessment of knowledge and accumulation of points (42% and 15%), technical issues (38.7% and 37%). All this also speaks of a high level of adaptation to digital educational technologies. At the same time, 8% of students in 2020 and 33% in 2021 note that "there were no special problems".

Comparing the digital indicators of answers to questions in 2020 and 2021, one can observe a sharp decrease in the number of students indicating the negative effects of distance learning. In this regard, it can be argued that during the year of study in distance learning mode, students have deeper understood its specifics and advantages and have shown a growing loyalty to the new format.

The above conclusion correlates with the students' answers to the question of their choice between online and traditional forms of education. In 2020 more than half (55.6%) of the surveyed students chose the traditional form of education, and almost every tenth (9.1%) respondent picked the distance education. In 2021 only 21.3% of respondents chose the traditional form, and 42.6% wanted to study via virtual teaching environment. Although a third of the respondents (35.3%) would prefer half of the educational process to take place in the traditional form, and half of it in the distance form.

Further, the students expressed their opinion on the effectiveness of distance learning. Almost half of the students surveyed (49% in 2020 and 44% in 2021) rated it as average, 25% of students (2020) and 8% (2021) rated it as low, 15.2% of respondents (2020) and 41% (2021) as high, and 9.7% (2020) and 5.3% (2021) found it difficult to answer this question.

Thus, in 2021, students of universities in the Republic of Bashkortostan began to rate distance learning higher.

As for the issue of the quality of education received in the distance format, only 9.4% in 2020 and 15% in 2021 considered that it is higher than with traditional education; 35.1% and 55% (respectively) of students believe that it is commensurate with traditional education, and more than half of the respondents (55.6%) in 2020 and only 19.4% in 2021 believe that the quality of distance learning training is lower than with traditional training.

Fully satisfied with distance learning in 2020 were 25% of the respondents, and in 2021—already 56% of them, partially satisfied—49% in 2020 and 36% in 2021, 20% of respondents were not satisfied in 2020 compared to 6.3% in 2021, about 6% and 2% (respectively) found it difficult to answer.

Of interest are the answers to the question, what determines the quality of education. According to students, it depends more on the professionalism of teachers than on the form of education. For example, in 2020, 31.4% of respondents agreed and 43.4% of them partially agreed with the statement that the effectiveness of the educational process mainly depends on the professionalism of teachers. At the same time, 17.2% of respondents did not agree with this statement, and the rest found it difficult to answer (8%). The students were quite critical of themselves, answering the question about the connection between effectiveness of the educational process and their personal motivation, their attitude to learning. 41% of the respondents fully agreed and 40% partially agreed with the statement that everything depends on the student's attitude to study, his or her motivation, diligence, rather than on the form of education, 12.4% of the respondents disagreed, and the rest found it difficult to answer (6.6%).

In general, it can be stated that the majority of students in 2020 were not satisfied with distance learning. However, a similar survey in 2021 revealed the opposite trend and indicated an increase in the satisfaction of distance learning among students. This phenomenon, in our opinion, can be explained by the fact that in 2020 students did not receive sufficient training in distance learning and experienced stress from a sharp and forced transition to a new learning technology. In 2021, this format turned out to be the only acceptable one in situation of total isolation. The forced transition to online learning made it possible to test new learning technologies not as an addition to traditional learning, but as the main tool capable of fully supporting the educational process.

Nevertheless, the experience of widespread introduction of distance learning into the educational process is still insignificant. The existing technical, methodological, communication and psychological barriers, which currently prevent teachers and students from improving the effectiveness of distance learning, are not of a fundamental nature. In our opinion, having eliminated the identified shortcomings, this form of education could become not only an important addition to traditional education, but it would be able to act as an independent form of education in some disciplines.

As for the students themselves, they identified as the priority areas for improving distance learning the following:

- facilitation of teacher–student and student–student communication (47%);
- provision of learning options (lecture recordings, basic, additional and reference literature, assignments for unsupervised work, etc.) (46%);
- elimination of technical interference (39%);
- adaptation of the teaching methodology for distance classes (37%);
- improvement in qualification and competence of teachers in the use of distance technologies (31%);
- ability to attend lectures by prominent lecturers from other universities inside the country and worldwide (28%) [2].

We now turn to the assessment of distance learning by students of Karaganda universities. We would consider the data from a study, in which the transition to distance learning was analysed. As part of the project, implemented in March–May 2021, interviews and focus groups were conducted, in which more than 110 students from Karaganda universities took part. Here’s an example from an interview with one of them.

Edil is 19-year-old, and he is currently a third-year sociology student at the Karaganda University. His tuition is free, as he is studying on a state educational grant. In order to attend lectures, participate in seminars and keep up with the educational program, Edil bought a laptop on credit and returned home—to the village of Zhairem, Karaganda region, since living in Karaganda is expensive. He was told that the Internet was installed in his home village. In fact, it turned out that the speed of the Internet does not allow to fully engage in online activities:

Connection freezes, sometimes I can’t connect, because of this I lag behind, teachers complain about me. Even when you watch a record, the speed is still not enough [...] Since the beginning of the online [classes], I have already connected mobile internet several times, as [the local Internet] does not really work. It takes a lot of money.

The introduction of information technology into the educational process does not make sense if electricity is cut off in rural areas. This is exactly what happens in Edil’s village, where electricity is often cut off. Although, how you can listen to lectures using a slow mobile connection is also a big question.

Last year I was unable to pass the entire session. Nowadays the light is not turned off so often, but before that it was off three or four times a week. Therefore, I warn teachers in advance. And when I send out my home assignments, I also worry that the light might be turned off.

Edil is worried that he was considered lately as a “low scorer”. Teachers are unhappy with his knowledge, although they understand that in rural areas there are problems with access to a high-quality Internet connection:

I may need to sit in Zoom classes for five hours. This program requires a good Internet, but it comes and goes. If the Internet is bad, then the Zoom does not load, every time I wait for 10–15 minutes and then I come late to classes. Loading tasks, it is generally better [to do that] after 12 at night, when the Internet works normally. Only after midnight I can download all the tasks.

Edil wants to return to the old format of education, and not only because of the poor Internet connection. He also complains about health problems, when he has to sit in front of the computer for hours, which causes problems with his back and vision.

I have vision problems. Now, due to the fact that I sit in front of the computer much longer than before I’ve noticed that my vision is deteriorating, although a little time has passed. Studying is from 8 am to 5 pm, and I study almost without getting up, I don’t even have time to dine. I want to study offline. When you sit in front of the teacher, you understand everything. So far I cannot say that I am fully acquiring knowledge.

The situation described is typical for students living in rural areas. Lucky considered those students who have relatives in the city that allow them to temporarily stay and study

properly. For example, Dilyara has been living in Karaganda with relatives since September. She comes from one of the small towns of the Karaganda region, which is located 40 kilometers from the city:

This is a temporary measure . . . I won't stay with [relatives] forever . . . If there was Internet at home, I would of course stay at home and study online. I get out of the situation by living with my aunt . . . We've been promised to have Internet in our house in the fall. Last year the money was collected and the Internet was supposed to be installed, but it didn't happen. Now we look forward to it this year.

As a positive side of the transition to online education, students of universities in Kazakhstan noted the possibility of combining studies with work. Working in the service economy, in the positions of waiters, salesmen, consultants, managers, students have the opportunity to be employed and progress in studies instead of taking an academic leave or spoiling their reputation as "good students" by skipping classes and constantly asking for time off in order to go to work. In addition, they retain the ability to independently pay for their education or make a certain contribution to the family budget. Here is a typical opinion of a working student:

It is convenient when you need to combine work with personal affairs. For example, I work from morning to evening. During online classes I just go to the break room, do the tasks. If the classes were offline, then I would have to leave work, spend time on the road, ask the superiors for time off and explain where I am going.

The interviewed students said that over the past year they got used to the distance learning format and adapted to its shortcomings:

I feel good about it, since we have been sitting at home for 1.5 years already, the lectures are in Zoom, and everyone is already used to it. We have already begun to understand how everything needs to be done.

When assessing the quality of teaching with distance learning, students said that most of the teachers quickly mastered the new software, although there were those who could not adapt to the online format:

The teachers got ready very quickly and got used to it . . . From the first classes we tried various platforms, where it was possible to work in pairs.

According to the results of the research carried out in Karaganda, it can be stated that the assessment of distance education from the point of view of students from Kazakhstan is ambiguous. On the one hand, students complain about the instability and high cost of the Internet, on the other hand, they like the fact that it is possible to save money on travel and combine study with work. Their comments on the future of distance education are also ambivalent: some believe that it is necessary to preserve the traditional format of education, others—that it should be a blended learning, and still others find that distance learning should prevail.

Thus, analysing the data from sociological monitoring of university students in the city of Ufa (Russian Federation) and Karaganda (Republic of Kazakhstan), we can conclude that distance learning has great potential, the implementation of which will significantly increase the efficiency of the educational process in general, especially in the system of higher education. However, the question of a complete transition to distance education is premature, if

not inappropriate. The potential of the traditional form of education will remain in demand due to the unique opportunities that distance education cannot provide. The use of proven teaching technologies will guarantee the quality and efficiency of the educational process as a whole. It doesn't matter if we're talking about digital classes or traditional ones.

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