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The impact of the pandemic of COVID-19 on the education system

Abstract. *The article is devoted to the relevant issue of modern education - online learning. The main purpose of the article is to justify online and distance learning as a new form of Education. The article analyzes the forms of education and outlines the main directions of distance learning. It is shown that the effectiveness of online education is determined using pedagogical technologies that underlie the design and implementation of courses. During the global pandemic of COVID-19, the processes caused by forced restrictive measures in accordance with the requirements of the Information Society of all industries were accelerated. Almost all sectors of the economy have faced the need to switch to remote online work, but the education system has suffered the most. The mass transition to the format of distance learning has identified a few problems and contradictions in the distance format of higher education programs.*
Keywords: *COVID-19, online education, distance learning, traditional education, educational process.*

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Introduction

Digitalization of society requires changes and additions to several functions of all social institutions. Discussions on the introduction of distance learning technologies in the educational process have long been a dispute between experts, the teaching community, rectors, representatives of the relevant authorities and the public. The need for the using distance learning technologies in education is not particularly problematic. This is a universal trend that is reflected in the digitalization of many social institutions and structures. However, the relationship between offline and online forms of education reflects the contradictions of society. Though, the development of online learning is already an objective process.

Alvin Toffler's "Shock of the future" suddenly appeared and required all spheres of society and social institutions, to adapt to an accelerated, stressful regime.

So, among the many works of Talcott Parsons, it was appropriate to consider two of his main works, i.e. social action, movement and structural-functional analysis.

Summary and essence of these: there are some necessary conditions for the existence of any social action, i.e. an action requires, firstly, the person who conducts it, secondly, a specific situation, and thirdly conditional situations based on certain legal norms (rules) with a goal.

Distance learning system before the pandemic

Distance learning is a style of teaching in which teachers and students are physically separated from each other and use different technologies for effective communication. Initially, it was aimed at full-time employees and employees from remote areas.

Before the Covid-19 epidemic, distance learning showed modest but steady growth. According to the National Center for Educational Statistics, 34.7 percent of college students took at least one online course in 2017, compared to 33.1 percent in 2018. This is less than the 2 percent increase from 2016 to 2017, but it is an upward trend [5.9].

With the advent of COVID-19, distance learning has evolved from an attractive optimal option to a necessity. The time is at least short, and no one knows how long it will last. In the United States, when the virus began to spread in March, many schools were closed for the spring semester. While several states have allowed traditional classes in the summer and some plan to open in the fall, medical experts are urging caution as uncertainty escalates. Many schools use periodic schedules and hybrid face-to-face and distance learning programs to adhere to the principles of social distance.

COVID-19 has made distance learning a much wider audience. As a result, schools have been forced to create or accelerate online education plans for teachers and students to accelerate with new technology. There is already a set of software and platforms designed to facilitate online learning, but these tools need to be further improved to make it easier to learn and use.

The education system at school, college, and university will never be the same again. Lecturers predict that there will be a «loss of knowledge», a «loss of interest in knowledge» among the students who have not been able to successfully switch from traditional teaching to online. Inequality in access to high-speed Internet, home computers, and direct education leads to an increase in the number of students who lag far behind their peers. According to the study of the National Center of Educational Statistics, the students who are from low-income families and rural areas may be one year behind curriculum due to COVID-19.

Even before COVID-19, educational technologies were rapidly growing and coming into use, global investment in educational technologies reached $18.66 billion in 2019, and the general education market is expected to reach $350 billion by 2025. Whether it is language application, virtual learning, video conferencing, or online learning software, there has been a significant increase in usage since COVID-19 [6.12].

It creates the need for distance education, both to prepare for emergencies and to bridge the socio-economic gap in education.

- COVID-19 has led to the closure of schools around the world. Today, more than 1.7 billion children worldwide are unable to attend school.
- As a result of the significant growth of online learning in distance learning and e-learning implemented on digital platforms, the educational methodology has dramatically changed.
- A study conducted on online education shows that information retention increases and takes less time, which means that changes caused by coronavirus remain the same.

The rapid transition to distance learning during the COVID-19 pandemic has significantly changed the process of introducing new information technologies into the traditional system of full-time education of universities. This requires an in-depth analysis of the specifics of the post-pandemic distance learning format, the readiness of participants in the educational process, the availability of material, technical, methodological, software, as well as prospects for the development of Kazakhstan's education system. In May 2020, to study the experience of Russian universities in the transition to a remote format, the Center of the strategy of education development of Moscow State University, the Department of sociology of RUDN University (Peoples' Friendship University of Russia) and the Russian assembly of professors conducted a

survey of the teaching staff of universities on the problems of working in a remote format during COVID-19.

The object of research is the system of higher education in the transition to the format of distance learning, the peculiarities of the organization of the educational process and its assessment by lecturers. Members of the All-Russian public organization «Assembly of Russian professors» professors and university teachers took part in the survey. Data collection was performed using a standardized survey on the Google Forms platform. The survey was accessed by reference to a letter sent to universities: The number of participants in the survey from all types of universities - 3467. So, 99% of respondents noted that their university has switched to the format of remote work (1% indicates that the university has not switched to this format of work, so they did not participate in the survey), i.e. the number of teachers who answered the survey was 3431 people. Two-thirds of universities (69.6%) reported switching to distance learning in one week, 24.1% in two weeks, and the rest (about 6%) in three weeks. About 70% of respondents have prior experience working on the online platform, of which 31.9% regularly used their opportunities in the learning process, and 36.7% worked in passive mode to meet the requirements. Assessing the overall organization of distance work, the professors' association was divided as follows: half (51%) believe that teaching is carried out in full, but argue that the quality may decrease, and (31.3%) say that teaching is not detrimental to quality, 17,7% said that the work was formal, as there was no distance learning at the university. The analysis of pedagogical activity showed that it practically does not differ from its work in a regular format: in the spring semester, 93.6% conducted classes on schedule, 52.3% worked with students on course and diploma projects, and 30.3% received experience in distance learning. Before the introduction of restrictive measures, less than half of respondents (44.7%). he had experience working remotely. Most of them indicated that they used this type of work as a supplement (72.7%), and one third of the respondents in this group worked as teachers of online courses (32.2%). 29.1% of the group work mainly on course and diploma projects. Only 16.5% of respondents with experience in working with the internet are indicated as specialists who work in the main online format. The most popular tool for working in a remote format is email. It was used by 85.8% of lecturers and students. 67% worked on the University platform, and almost half (46.7%) worked on online conference platforms (mainly ZOOM and MS Teams). 44.9% used the capabilities of instant messengers, and 41.6% organized their work through social networks. In other words, a significant number of lecturers have adapted teaching in their subjects to the basics of distance learning, based on an effective and accessible platform for teaching in their subjects. This is done based on traditional teaching methods of teachers [5.9].

The diversity of resources indicates that the system of distance learning of Russian universities was at the initial stage of formation on the eve of the introduction of restrictive measures, and it did not have a resource base, methodological developments, or trained staff. This is the reason why most respondents note that, regardless of the distance learning format, they work offline: for independent work of students, educational materials are posted on the internet resource in text format (78.6%) and 69.6% check documents sent by students by e-mail. Almost half of teachers (54.1%) noted active work in an online format: they conduct lectures and seminars in real time (56.2%). A significant group of respondents actively use the internet and the opportunities of open educational resources in their subject: they post materials for independent work of students in the format of video lectures on the LMS platform of the University (29%), 26.7% provided students with links to pass ready-made tests on open resources, and 16.2% passed by sending links to students using ready-made online courses [5.7].

The above statistics were conducted in Russia. If we analyze the results of the survey, the educational programs and problems of Russia

and Kazakhstan are similar. We notice that there was no preparation because the online education system was launched immediately. There are also some obstacles to the effective use of new technologies. Due to the lack of a clear stable education system and unsatisfactory internet speed, there were difficulties in communication between pupils, students, and lecturers. However, over time, we can see that the disadvantages begin to decrease with the use of practice. And in Kazakhstan, such a study has not yet been fully conducted. As universities in our country switched to distance learning in the context of the pandemic, the impetus for the introduction of technological additions to the higher education system was given. It showed the possibilities and prospects of online technologies in the educational process, identified the weakest links in the methodological, technological, and informational work of universities, and demonstrated the real potential for the development and stability of the education system in accordance with modern requirements. Distance learning is becoming increasingly common in our country and other countries based on the process of education and training of students based on modern information technologies in the context of spatial and time gaps. Distance education has relatively significant advantages. Distance Education First, the ability to study at a convenient time and in any place, regardless of the location of the educational institution, as well as the relatively low cost of tuition. In addition, distance learning has many disadvantages. Phenomenologically, the disadvantages of distance learning are reflected in the fact that many distance learners begin to study a certain course. First, due to the lack of direct face-to-face contact between the student and the teacher, the quality of knowledge obtained remotely is questionable. The low level of development of communication systems, the low level of computer literacy of most citizens of the country, as well as the problem of determining the student's identity, which is especially important for passing distance exams, can also hinder the development of distance learning. Distance education, like any innovation in the field of pedagogical practice, faces difficult challenges in its implementation. The main task in distance learning is to solve social and psychological problems. The remaining technical issues are a positive trend in the development of distance education, which indicates that these problems will be resolved shortly.

P. L. Pecker believes that the demand for distance learning has not yet formed [1.6], because it is a new format, the advantages and quality of which are difficult to assess due to insufficient statistics. At the same time, some universities use distance learning as an auxiliary element in the process of obtaining a correspondence diploma.

Distance education is at the forefront of communication initiatives and technological advances. However, the lack of reliable communication (mainly due to remote arbitrariness) limits the pedagogical opportunities offered to teachers and students living in urban areas. In other words, it is necessary to use the most advanced technologies to improve distance education, and the implementation of such an environment is now much more affordable in urban areas. Online and distance learning in the system of social and vocational education should be considered as a pedagogical process aimed at solving the didactic objectives of training in the social sphere, carried out in a certain sequence under the indirect control of the teacher (educator, consultant).

Modern education should be able to quickly adapt to the rapidly changing needs of the labor market. At the same time, the labor market not only generates demand for certain specialties, but also determines a specific set of competencies that students must master. Thus, the modern educational program should be a «constructor», consisting of separate mini-courses, each of which is aimed at revealing a specific topic (teaching a certain skill).

The improper Internet connection, the lack of equipment for some students, or the weakness of online educational platforms, as well as the difficulties encountered in our country, are common in other countries. For example, only 35% of Indonesian students have access to a

computer. And even in the United States, 25% of students come from low-income families, so they do not have the opportunity to get an online textbook. Getting an online education is easy if you have access to the necessary technologies. In online education, a student can remember 25-60% of the necessary information. And e-learning takes 40-60% less time compared to the traditional learning system [6.3]. Our country has faced such obstacles during emergencies. Our country ranks 122nd in the world in terms of Internet speed. This means that we have an Internet speed of 6.6 Mbps. This means that our country is still lagging in the era of globalization. Therefore, during the transition to online education, 20,000 students from remote villages and districts were left out of educational programs due to lack of timely access to information. Later, the Ministry of Education and Science of the Republic of Kazakhstan began to introduce effective forms of online learning, considering ways to solve them.

Conclusion

Summarizing the above, we can identify the following key areas for the development of modern online education:

1. Development of a system of legislative regulation and standardization in the field of online education to ensure high quality of educational products and create conditions for universal recognition of diplomas obtained during online education.

2. Development of the digital infrastructure of universities with the involvement of public funding and private investment, as well as mass training of lecturers with the necessary digital competencies.

3. Development of technologies in the field of online education to increase student participation in the educational process, the realization of their creative potential and the development of creativity.

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Covid-19 пандемиясының білім беру жүйесіне әсері

Аннотация. Мақала қазіргі білім берудегі өзекті мәселе – онлайн оқытуға арналған. Мақаланың басты мақсаты - білім берудің жаңа түрі ретінде онлайн және қашықтықтан оқытуды негіздеу. Мақалада білім беру формалары талданып, қашықтықтан оқытудың негізгі бағыттары көрсетілген. Онлайн білім берудің тиімділігі, курстарды жобалау мен жүзеге асырудың негізінде жатқан педагогикалық технологияларды қолдану арқылы анықталатыны көрсетілген. Әлемді жайлаған COVID-19 пандемиясы кезінде барлық салалардың ақпараттық қоғамның талаптарына сәйкес мәжбүрлі шектеу шараларынан туындаған процестер жеделдетілді. Экономиканың барлық дерлік салалары қашықтықтан онлайн жұмыс істеуге көшу қажеттілігіне тап болды, бірақ білім беру жүйесі ең ауыр соққыны алды. Қашықтан оқыту форматына жаппай көшу жоғары білім беру бағдарламаларының қашықтық форматындағы бірқатар мәселелер мен қайшылықтарды анықтады.

Түйінді сөздер: COVID-19, онлайн білім беру, қашықтықтан оқыту, дәстүрлі білім беру, білім беру үдерісі.

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Влияние пандемии COVID-19 на систему образования

Аннотация. Рассмотрены методологические, теоретические, концептуальные основы разработки и реализации моделей дистанционного обучения по направлениям социального образования. Приводятся принципы, дидактические требования к содержательно-технологическому базису программ дистанционного обучения специалистов социальной сферы. Особое внимание уделено характеристике различных групп педагогических условий, обеспечивающих эффективность дистанционного социально-профессионального обучения. Объективный запрос на соответствие всех сфер жизни требованиям информационного общества ускорил процессы, обусловленные вынужденными ограничительными мерами пандемии Covid-19. С необходимостью перехода на удаленный режим работы столкнулись практически все отрасли экономики, но самый сильный удар приняла система образования.

Ключевые слова: COVID-19, дистанционное обучение, цифровизация, онлайн обучение, технологии удаленного доступа.

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