

## Impacto de COVID-19 en la educación superior. Un estudio de caso de Uzbekistán

### Impact of COVID-19 on Higher Education. A case study of Uzbekistan

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**Resumen:**

El objetivo del artículo es identificar los principales desafíos experimentados en las instituciones de educación superior locales por los estudiantes mientras estudian en línea durante la pandemia. Solo alrededor del 11% de los solicitantes han sido aceptados en instituciones de educación superior en Uzbekistán durante los últimos dos años (Research by UniRank, 2020). La integración y el desarrollo de la educación a distancia creará oportunidades para más jóvenes y personas de mediana edad que no cuentan con los recursos suficientes para estudiar de manera tradicional. Debido a la pandemia, todas las instituciones educativas tuvieron que trasladarse al sistema de enseñanza en línea. Esta situación inesperada hizo que tanto los profesores como los estudiantes de Uzbekistán se enfrentaran a los desafíos. Al mismo tiempo, creó una oportunidad para experimentar la enseñanza y el aprendizaje a distancia, lo que puede convertirse en una base para la aprobación y aplicación de la educación a distancia en Uzbekistán.

**Palabras clave:** Educación a distancia, E-learning, Educación superior, COVID-19, Uzbekistán,

**Abstract:**

The aim of the article is to identify the main challenges experienced at local Higher Educational Institutions by students while studying online during the pandemic. Only about 11% of applicants have been accepted to High Educational Institutions in Uzbekistan for the last two years (Research by UniRank , 2020). The integration and development of distance learning will create opportunities for more young and middle-aged people who do not have enough resources to study in a traditional way. Due to the pandemic, all the educational institutions had to transfer into the online teaching system. This unexpected situation made both teachers and students of Uzbekistan face the challenges. At the same time, it created an opportunity to experience remote teaching and learning, which can become a groundwork on approval and application of distance education in Uzbekistan.

**Key Words:** Distance learning, E-learning, Higher Education, COVID-19, Uzbekistan,

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## 1. INTRODUCTION

Breakout of COVID-19 has transformed our lives in many ways: starting from the way we communicate, socialize, entertain, and spend leisure time together with the way we study and work. We had to accomplish all our responsibilities and other main activities through internet. It became challenging to cope with the circumstances for professionals in various fields, especially education system was influenced much all over the world.

Although most of us do not approve the distance or online mode of studying, many researchers started conducting investigations in this field. The hot topics are “How to make distance learning more effective?”, “What are the challenges in teaching online?”, “How to start teaching online?” etc. The current pandemic situation may be of particular importance to emerging educational systems. Following the logic of the exception - that extraordinary times call for extraordinary measures - one common trend in education systems around the world has been to respond to the pandemic with “emergency eLearning” protocols, marking the rapid transition of face-to-face classes to online learning systems (Liguori, Winkler, 2020). In order to better understand the opportunities offered by remote education for the education system in Uzbekistan, it is worth to point the main determinants (e.g. More applicants may become students of higher institutions, Remote mode of education can be appropriate for those people who work, Distance education can be offered in lower price so that more applicants can benefit from them).

Taking into account the above mentioned problems and the experience received during the pandemic time, this research can contribute to the adoption of new policy in the implementation of distance education in Uzbekistan. Due to the fact that high level of self-motivation and discipline are essential for students to possess, online learning is more beneficial and achievable for students of high educational institutions. The main aim of this paper is to identify the main obstacles experienced by students of universities while studying online in Uzbekistan.

Therefore, the focus of this research is on the Bachelor’s degree students at local universities and institutions in Uzbekistan. Having explored in various literatures and articles, the students will be surveyed to learn about the challenges they faced during the online learning. After that, the ways of solutions to those problems will be discussed. Overall, this study will give broad view on how to improve the education system if the distance-learning mode is implemented and what need to be prepared and learnt from the experience in the times of pandemic.

## 2. DEVELOPMENT OF THE INNOVATION EXPERIENCE

This article aims to assess the remote education opportunities for shaping the quality of life of students in Uzbekistan. One of the earliest definitions of “distance education” was from Germany in 1967, read: “*Distance education (Fernstudium) ...is made possible at a distance by means of media which can cover long distances. The opposite of ‘distance education’ is ‘direct education’ or ‘face-to-face education’: a type of education that takes place with direct contact between lecturers and students.*” (Dohmen, as cited in Keegan, 1994, p.41). Later Keegan (1980) explained distance education more clearly, bringing up the ideas from the past and looking into a growing future of distance education. Keegan used six factors to define remote learning:

1. *“Separation of teacher and student;*
2. *Influence of an educational organization;*
3. *Use of technical media;*
4. *Two-way communication;*
5. *Possibility of occasional seminars; and*
6. *Participation in the most industrial form of education.”* (Johnson, 2020, p. 33).

According to the Cambridge dictionary, distance learning is a studying method when you do not attend an educational institution but study from where you live, usually over the internet connection. Distance education is provided in two ways: synchronous and asynchronous. In synchronous distance education, the student and the teacher keep are in contact during the learning process. In asynchronous distance education, on the other hand, the teacher delivers the information via electronic setting) and the student has access into the material any time and place. There is no interaction between the student and the educator (Cambridge Dictionary, 2020).

## **2.1 Traditional learning or online education?**

There are many studies in the literature that compare distance and traditional education. Jahng et al. evaluated online education and face-to-face education, and learnt that the difference between the two is quite insignificant in relations to student success (Jahng, Krug, & Zhang, 2007).

Another investigation carried out by Bender et al. showed that besides administrative procedures such as student registration and student evaluation, less time was spent on distance education (Bender, Wood, & Vredevoogd, 2004). On the other hand, if this is the first experience of the distance education for both educator and student, it takes more time. Transmission of materials into electronic form, preparation of video materials, technological skills of both teachers and students can become reasons for time consumption.

Croft Dalton and Grant (2010) studied the problems along with obstacles related to online education at the University of the West of England (UWE). The result of the research demonstrated that there are several motives for choosing distance education such as flexibility, convenience, time and cost. Besides, students have opportunity to handle both family, business and education responsibilities all together (Croft, Dalton, & Grant, 2010). The disadvantages of distance education can be motivation and self-discipline, material delivery, contact with a tutor, connectivity, interaction with peers, and student expectations. According to the results of study conducted by Beqiri and Chase (2009), it was found that married male students who live far from the campus are more satisfied with the distance education and familiarity of the students with the subject is also important. Therefore, it is suggested that elective courses are delivered online rather than core or pre-requisite ones (Yilmaz et al., 2013).

At this point, it is also worth mentioning the risk of giving up studying (studying) remotely. This phenomenon, which is gaining momentum in the current situation, was emphasized earlier in his analyzes Street (2010). This author well summarizes the major factors in student drop-out from online programmes as: time pressure for part-time students; the skills of self-management; the support of family, who are losing time the student has hitherto dedicated to its members; logistics and support from the institution, provided in timely and high quality ways that actively intervene to support the learner in her or his progress; and curriculum relevance, where the course of study including its assessment strategies provide a compelling and engaging experience for the learner (Street, 2010).

## **2.2 Key factors in effective online delivery**

### *Effectiveness*

The early studies in distance education conducted by Dillon and Gunawardena (1995) and Leidner and Jarvenpaa (1993) put forward that there are three dimensions which

indicate the effectiveness of online education: 1- technology; 2- instructor characteristics; and 3- student characteristics.

*Technology.* Key aspects to be considered are reliability, quality as well as medium richness of technology (Sanders, & Nagelhout, 1995). Particularly, the system arrangements should permit students employ both synchronous and asynchronous style of learning; students should have convenient access; and the network should require minimal time for document exchange. The quality of the interface also plays a crucial role (Trevitt, 1995). Reeves and Harmon identified important dimensions in the user interface of e-learning: "ease of use, navigation, cognitive load, mapping, screen design, information presentation, aesthetics, and overall functionality" (Reeves, & Harmon, 1993). The richness of the technology also impacts the effectiveness of remote learning. According to Daft and Lengel (1986), a rich technology is one that supports both synchronous and asynchronous types of learning and supports a variety of didactic materials (text, graphics, audio and video messages). A most essential segment of the medium richness is associated with interaction of students. An engaged student is a motivated student (Norman, & Spohrer, 1996).

*Instructor characteristics.* Collis stated that instructors have been characterized as the central players in online delivered programs: "*It is not the technology but the instructional implementation of the technology that determines the effects on learning*" (Collis, 1995, p.146).

Instructors with positive attitude towards teaching online effect students' experience positively. In distance learning students already feel isolated, because they have limited interaction with peers and teachers. The feeling of isolation in limited environment can be overcome by the positive attitude of instructors who promote technology and provide various forms of office hours and methods to interact with students (Serwatka, 1999). It is significant that instructors use different teaching styles in order to maintain satisfactory student engagement. Therefore, it is suggested for teachers to be able to possess appropriate technical skills. Haynes et al. mentioned in his study that due to the fact that developing an online course requires tremendous amount of work, resources should be classified and both faculty and that a designed instructor is essential for overall coordination and that, as the development of an online course is labor intensive, both faculty and technical resources must be identified and designed in advance at early stages (Haynes, Pouraghabagher, Seu, 1997).

*Student characteristics.* One of the earliest studies on the investigation of characteristics, which influence online delivery, was conducted in 1994 by Colley et al. The variables such as gender of the student, prior experience of computer usage, having a PC, personality traits play role in distance education effectiveness. Besides technical skills and experience, students' background, i.e. their countries of origin along with selected program of study will also stimulate the effectiveness of their study. Leidner and Jarvenpaa also mentioned that students, who need to improve their basic computer skills and discipline, might perform better results in conventional way of education. In the same way, talented and self-motivated students may select an individual learning environment (Volery, & Lord, 2000).

Tait (2015) sees the potential success in remote education in a broader perspective. This author points a report on Student Success from the International Council for Open and Distance Education summarizes a framework for optimizing student success in open, distance and online programs with an eight-point agenda. It is as relevant to campus-based institutions as to distance and online programmes of study and represents a contribution to the management practice for education for development for inclusion.

*1. Learning design as a framework:* by this is meant that the fragmented approach of pre-digital distance education where student support and curriculum design were separated, and had few links is replaced by a total view of a course or module. There are a range of programmatic approaches to Learning Design that can be easily adopted and adapted. The core principle, however, is to build a holistic and integrated approach

where the boundaries of a range of professional disciplines are lowered and their working methods coordinated in particular by the affordances of digital technologies.

2. *Pre-study information, advice, guidance and admission*: the phase 'learner support before study' has been long recognized as a crucial contributor to learner success. There are challenging relationships with marketing and sales, and the extent to which demand is illegitimately created on the basis of over-promising student outcomes especially with regard to career and earning potential. While understanding who represent potential market sectors in a society is essential, the values and ethics of the admission process in a responsible educational institution are not those of commercial sales, where in principle at least the customer is regarded as having enough knowledge to manage the decision to study as an equal. While the potential student must be the decision maker, as in the health sector she or he must be transparently supported by experts, not regarded as a primary source of income for the advisor. An ethical process must allow for a decision not to study to be a good outcome if it seems the right one. So, in summary, student success will be optimally supported where the admission process and the activities of advice and guidance that support it are framed in an educational context of values and practice, not in a context of sales. They are learner centred not commercially driven, and represent the value-laden character of education for development rather than the profit motive of commerce. The major recent scandals of online-for-profit colleges in the USA and elsewhere, who chose to overlook this distinction, are the inheritors of a long tradition of profit-focused rather than learner-centred correspondence and distance education colleges, and their practices are as damaging to the field of online and open education as to the individuals who are exploited.

3. *Curriculum or programme for student success*: the quality of curriculum is crucial to learner success. One of the most frequent causes of failure given by students is that the course 'did not seem to be what I thought it would be and did not interest me'. While the term curriculum has been discussed in school level education for decades it has only been in the last 25 years or so that what is taught in universities has been conceived in a framework of curriculum theory: that is, to acknowledge that how fields of knowledge and practice are defined and how paths organised through them represent choices that are open to contestation. In curriculum design the worlds collide of academics, adult learners in all their heterogeneity, employers inasmuch as they are able to articulate what is needed by the world of work in the future, professional bodies where relevant, and big issues as promoted by government, NGOs, and the media, such as sustainability, gender equity, and health. Managing this range of conflicting demands as well as admitting learners as co-constructors of knowledge with a wealth of learning resources outside the university is a complex challenge. Managing it well is crucial to student success.

4. *Assessment*: in lockstep with curriculum design is the contribution that assessment can make to student success. It is still not universally the case that assessment is conceived as important to student learning as it is to the judgement of student performance in gaining knowledge and skills, and the award of qualification. Where learning outcomes are integral to curriculum design then it is easier to frame assessment as the rational response to supporting students to achieve those outcomes and to judge whether or not they have done so. This approach drives both continuous and final assessment in an integrated way, as well as formative and summative assessment, and overall makes an essential and central contribution to the opening up of educational opportunity.

5. *Intervention at key points and in response to student need*: central to the practice of student support is the long-established notion in distance learning contexts of intervention. This identifies the importance not only of waiting to hear from students but making contact both routinely at recognised points that create barriers to progress, such as the submission of the first assignment, and in response to signals that indicate a need for support, such as the failure to submit an assignment on time. Opening channels of communication in this way supports the opening up of pathways to success. The recent developments in collecting, analysing and using data that make up learning analytics support the collection at scale of the signals that trigger interventions, and in patterns much closer to real time than were available in the pre-digital distance education systems. In online systems the absence of a student's log in to a learning management system can trigger a response as to the student's progress or lack of it. However, significant concerns about the ethics of learning analytics have been raised, in particular about data privacy and the use of learning analytics to police or effectively discipline learners (Slade, Prinsloo, 2013). While these legitimate concerns are still to be fully worked through in terms of the boundaries for intervention, the long-established practice of teachers observing their students' progress and seeking to support them when they seem to hesitate or falter is surely in its core a supportive and caring practice, of great importance in mass higher education systems that bring students in from outside the elites.

6. *Personalised support*: in related ways to the principle of intervention, it is supportive of students in distance and online systems that they feel recognized as individuals, despite the remoteness, size and complexity that such systems often represent in part or in full. It is to be noted that students' feelings are highlighted here, which are as important to opening up opportunity as the cognitive challenge of learning in a field of study, and the organisational challenges of time management, amongst other things. This, however, advanced the practices of automation, AI, and online quizzes and games, and human interaction delivered through tutors and study advisors remains a core framework of activity to assure the delivery of personalised support at a distance.

7. *Information and logistical systems*: in the contexts of Technology Supported Learning systems the management of effective information and logistics is crucial to student success. Educational logistics – the management of complex services for learners at scale in timely and efficient ways – represents a field of innovative practice that is not yet adequately recognised and respected in educational contexts. The quality of work done in this field can make enormous difference to opportunity being real, and to student success.

8. *Managing for student success*: the final dimension of an institutional strategy for student success lies in its recognition as a core institutional objective, from the senior team through the range of units and subunits. Its existence as a whole institutional objective should lead to regular review of what student success is, how it is being achieved, and to the elaboration of strategies for its improvement across a range of dimensions. Rather than lurching from one student retention crisis to another, the institution has to focus on the recognition of who its students are and how they need to be supported, and to create a systemic practice that continuously seeks improvement (Tait, 2015).

### **2.3 Implementation of distance education during the COVID-19 breakout by different countries**

The table below shows the influence of distance education during the COVID-19 pandemic times. In order to prevent spread of the corona virus, the governments took necessary measurements in all spheres of life. Social distance should be kept and people had to work from home. Educational institutions transformed their activities into distance mode. It was a challenging situation for both academics and students, but not all the communities were ready for such a sudden change.

It can be noticed from the table that developed countries such as Canada, USA and Germany, which have been practicing distance education for many decades, do not report about poor internet connection and other technological problems compared to developing countries. Researchers are mainly concerned about the mental well-being of academics and students. High level of stress, anxiety, depression, fear of catching disease were the topics studied by different researchers in many fields nowadays.

On the other hand, developing countries with a better economy such as China and Turkey seem to be doing well in the times of pandemic compared to Pakistan and Ukraine. Obviously, the economic and technological infrastructures of a country affect overall performance in distance education during the pandemic times. Besides, the previous experience in online teaching and learning is also important. Nevertheless, we can still learn from the experience and take lessons based on the experience of the given countries.

Table 1.

*Distance education experience in developed and developing countries during the pandemic period.*

Country	Achievements	Difficulties
Canada	Opportunity to continue and complete studies.	Intensified negative attitude towards transformation by teachers; Shortage of resources (Socal, 2020). Struggles by not adjusted students to online learning because they learn better in person; Absence of suitable home environment; Coping with stress caused by COVID-19 pandemic (Doreleyers, & Knighton, 2020).
China	Development of an online teaching implementation plan covering components of teaching delivery, online classes management and supervision, and learning assessment;  Provision of technical support and training by IT professionals to academics; Notification of students about the changes and provision of two teaching assistants for each online class; Maintenance of students coming from poor regions and difficult family backgrounds; Selection of few classes for trial lessons at a variety of platforms with the aim to pilot online learning strategies before their large-scale implementation. As a result of given above, most courses seem successful; students seem to enjoy online learning, Organization of a series of webinars which created opportunities for academics within and beyond China to share their research regarding online education.	Poor internet access in some regions of China and overseas interrupted the education process; Demand in self-discipline and motivation for active learning by students. Need in professional trainings by academics. Lack of quality assurance systems for online teaching and learning. Social and emotional state of students (Zhu, & Liu, 2020).
Germany	Pressure to innovate and change as a result of the general digital transformation; Ability to use the developed materials in the near future; Investments in the technical infrastructure; Hope for the development of digital teaching by many university administrators (Zawacki-Richter, 2021)	A lot of effort to convert lectures and seminars into a digital format;

Table 1.

*Distance education experience in developed and developing countries during the pandemic period (continued).*

Country	Achievements	Difficulties
Pakistan	Gained new experience in online education.	Technical and monetary issues; Lack of interaction with the instructor, response time and absence of traditional classroom socialization. Difficulties for students to do group projects in distance learning mode. Absence of appropriate curriculum and content for online lectures (Adnan, Anwar, 2020).
Turkey	Provision of tutorials about synchronous and asynchronous course delivery for university lecturers. Provision of support to academics. Acknowledgements of distance education to be appropriate to continue educational activities. Gained experience and skills about online education and online resources by academics.	Technological and internet problems. Stress due to insufficient skills and experience in online delivery, assessment and grading; Increased workload for academics; Inefficient Learning Management System provided by university (Karademir, 2020).
Ukraine	Gained new experience in online education (Rebukha, Polishchuk, 2020).	Not readiness for transformation from conventional way of teaching into online mode. Demand of students' high motivation and self-discipline; Students' insufficient skills in independent learning. Lack of training courses of online education methods for lecturers (Stukalo, Simanhova, 2020).
USA	Becoming more organized and disciplined; Learning new technological tools such as Zoom. Students learning new skills and languages due to lockdowns. Students and academics focusing more on professional development. Increase in the use of technology.	Problems with concentration while being at home; Financial hardship during the pandemic. Lack of social interaction and sudden changes in their lives (death of family members, being pregnant). The major challenge reported was the online environment. "Staring at a screen made me tired." Moreover, students found difficulty understanding the material and some lost their internships or clinical practices. Lack of supporting resources to complete schoolwork. Difficulties in communicating with professors. The lack of internet connection was also a problem because many people were using the internet at once. Lack of motivation and negative emotions as the most prevalent emotional challenges. Emotional challenges such as stress, anxiety, being worried about getting sick (coronavirus), and changes in their mental health (Aguilera_Hermida, 2020).

Source: own research results

## Methodology

Solving research problems requires the use of appropriate methods, techniques and research tools, and their selection depends on the subject of research, the scope, but also on the researcher's capabilities. In the methodological literature, the most common quantitative strategies in pedagogical research are: a diagnostic survey, a pedagogical monograph, a method of individual cases and a pedagogical experiment. The diagnostic



survey is a way of gathering knowledge about structural and functional attributes and the dynamics of social phenomena. It includes such techniques as: interview, questionnaire, analysis of personal documents, statistical techniques, observation and others. Analyzes based on the diagnostic survey method were carried out using a questionnaire as a research technique.

The main research problem was formulated as follows: What are the main obstacles experienced by students of universities while studying online in Uzbekistan? This problem relates to the phenomenon widely analysed and verified on the basis of modern education sciences. It refers directly to the issue of the quality of adult education and internal and external conditions of this process. Thus, the main research question refers to both external and internal phenomena, as well as their interrelationships. The following specific problems were associated with this main problem:

1. Was higher educational system of Uzbekistan ready to implement distance education mode?
2. What were the obstacles in online learning?
3. What are the opportunities and threats for distance education in Uzbekistan?
4. How to prevent difficulties resulting from remote education?
5. What good practices can we implement on the ground of education in Uzbekistan?

The research problems listed do not exhaust the wide range of the phenomena and processes related to online education. The need to focus on selected aspects of the phenomena, has also a certain effect at the stage of constructing the tool - it forces the study and interpretation of only a specific section of the studied reality. Research subproblems, which are an extension of the research topic and at the same time constitute independent research issues, remain in this research in mutual relations and constitute the structure of research issues. The analysis of situation was performed among students of universities in the different regions of Uzbekistan to understand the circumstances from the students' perspective and take further steps of system development based on the results. The type of research was quantitative. Online tool – google forms was used to conduct the current survey, as it is safer and accessible to more participants during the time of pandemic. The proper examination was preceded by a pilot study (research) and consultations with competent judges. Due to the possible situation of exerting pressure on students participating in the survey and in order to ensure fully credible answers, it was decided to disseminate the survey through independent student organizations.

This study was conducted at the local universities and institutions in Uzbekistan, among northern, central and southern regions of the country that are Tashkent city, Tashkent region, Fergana, Samarkand, Khorasm, Surkhondarya regions from February 23 till March 03, 2021. The number of students surveyed at universities participating in the study: Tashkent State University of Economics – 3, Tashkent State University of Law – 27, Tashkent University of Information Technologies – 10, Samarkand State University – 27, Tashkent State University of Foreign Languages – 18, Tashkent Institute of Irrigation and Agricultural Mechanisation – 6, Uzbek State of Physical Education and Sport, Surkhondarya region – 3, Urgench branch of Tashkent Medical Academy - 2, Ferghana State Institute of Architecture and Construction – 25.

Students of higher educational institutions, who had at least one semester experience in distance learning during the quarantine, in the capital city and other five

regions, were asked to fill in the questionnaire. The participants came from various backgrounds, such as: the Faculty of Pedagogy, Foreign Languages and Literature, Agriculture, Engineering, Construction, Law, Mathematics and Physics, Sports, Finance, Journalism. Overall, 121 responses were collected and six of them were eliminated due to the incomplete answers and/or repetition. Thus, 115 responses were analyzed and discussed further. The participation in the research was voluntary and anonymous.

### 3. RESULTS

The survey included 61 (53%) male and 54 (47%) female respondents, whose age range differed from 17 to 40. However, it should be noted that majority of respondents were between the ages 20-25 (see the chart 1).

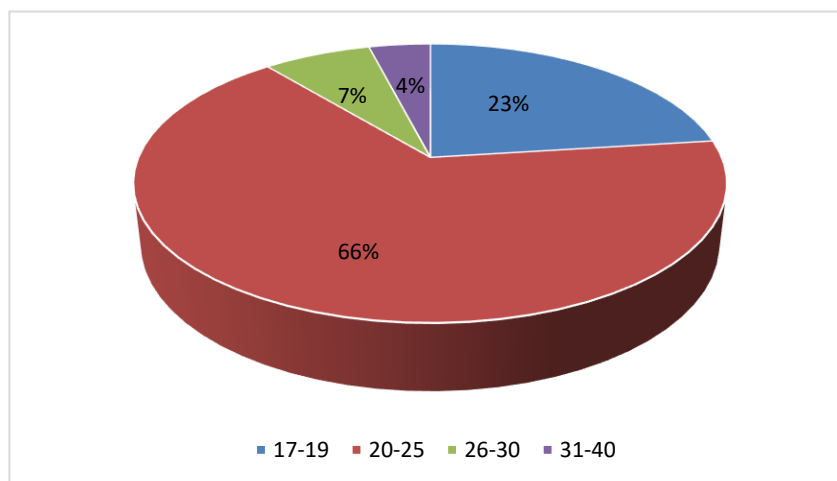


Chart 1. Age range of survey respondents.  
Source: own research results.

The survey respondents represented all four levels at Bachelor's degree and mainly who attended full-time studies (66%). Only 16 students were representatives of part-time forms of education, and only two students were from evening classes. Moreover, participants came from various backgrounds, such as the Faculty of Pedagogy, Foreign Languages and Literature, Agriculture, Engineering, Construction, Law, Mathematics and Physics, Sports, Finance, Journalism.

In total, the questionnaire contained 21 questions. There were multiple-choice questions as well as open-ended questions in the survey to understand the challenges in distance education that students faced while studying online during the period of pandemic.

The participants of the survey were asked to give their opinion based on their experience in online learning at universities during the pandemic, whether they had any experience in distance education earlier; whether the internet speed and their technical skills were enough to attend online classes.<sup>3</sup> Besides, technical aspects of the lessons, questions related to the overall delivery and quality of the classes were raised. Participants' personal motivation, engagement in classes were asked together with the availability of their instructors/professors outside the lessons. Then the students' opinion regarding the implementation of the distance education in Uzbekistan was questioned

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<sup>3</sup> The local universities used application ZOOM to conduct synchronous classes. Taking this into account the questions were related to their experience related to the usage of University webpages and ZOOM application.

and finally they were invited to share their general opinion about their experience during the lockdown period and future of online learning in Uzbekistan.

It has to be pointed that over 36% of students answered that they were involved in online learning before the pandemic. However, taking into account the speed and coverage of internet in Uzbekistan, especially in far regions, this is still a promising indicator for a developing country. Another important aspect was that 50% of respondents expressed the possession of appropriate technical equipment and skills to learn online, while another 31% believed they partly possessed such skills and equipment. At the same time, 53% of students argued the internet speed in Uzbekistan is not satisfactory to study remotely. Yet, 18% neither agreed nor disagreed to this statement. Also, participants of the survey explained the difficulties in the internet connections and there were some cases when the students failed the exam because of slow internet and/or technical problems in the university webpage; another case was when the student had to go out to get a better internet signal even though it was very cold outside. Regarding the questions related to the ZOOM application, some participants replied that due to slow internet connection, they could not attend the live sessions. Besides, another difficulty connected to the internet issues was the price of internet megabytes. "It is expensive and does not work well" wrote dissatisfied respondents.

The above two charts demonstrate the quality of classes themselves, how clear the instructions were and how the professors could present the materials in the live sessions (Charts 1 and 2). It can be seen that majority of students were not satisfied with the process of online education. The next question, which gave us a wider picture of related topic, was whether the professors could exploit the technical equipment efficiently to teach students provided us relatively positive results. Nearly 40% of the respondents agreed with the point, while 34% neither agreed nor disagreed. Then respondents were questioned regarding the attitude of their professors, if they were encouraging students to participate actively in online classes. Only 22% responded positively, while more than half of the survey participants expressed their dissatisfaction and disagreement to the statement. Moreover, we learnt that 36% of students had lessons in the form of active discussions, whereas another 36% expressed that they did not have such an experience. Another important factor to influence students' satisfaction in online studies was availability of professors/lecturers outside the classes, so when asked the same question, 25% of the respondents stated that they had trouble, though 28% said they did not. Another 28% faced some difficulties, and 19% articulated that they did not try to contact their professors/lecturers outside the class at all.

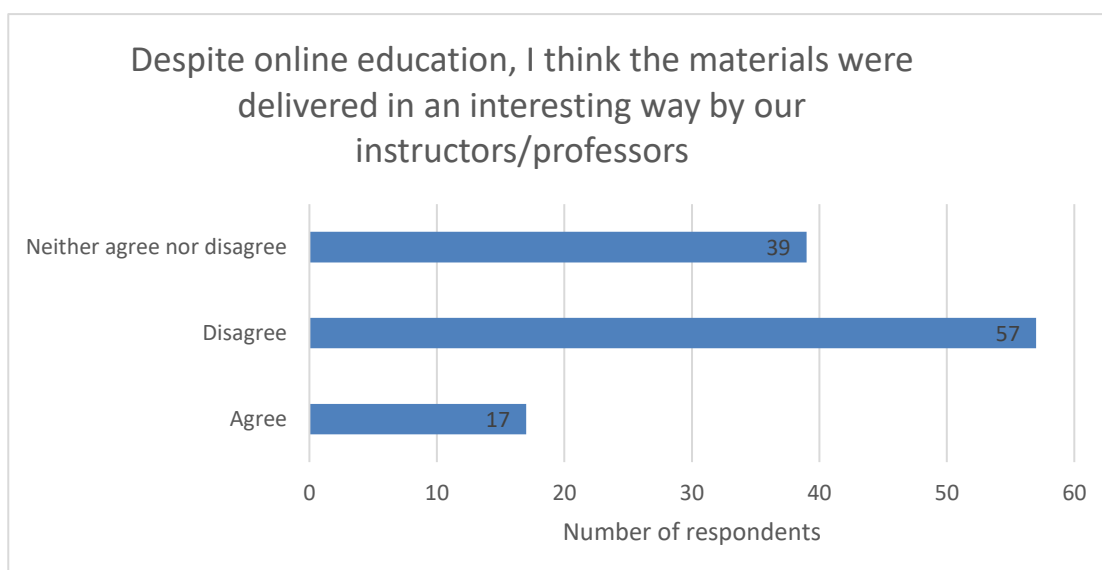


Chart 2. *The degree of interest of university students in presented materials while studying online.*

Source: own research results.

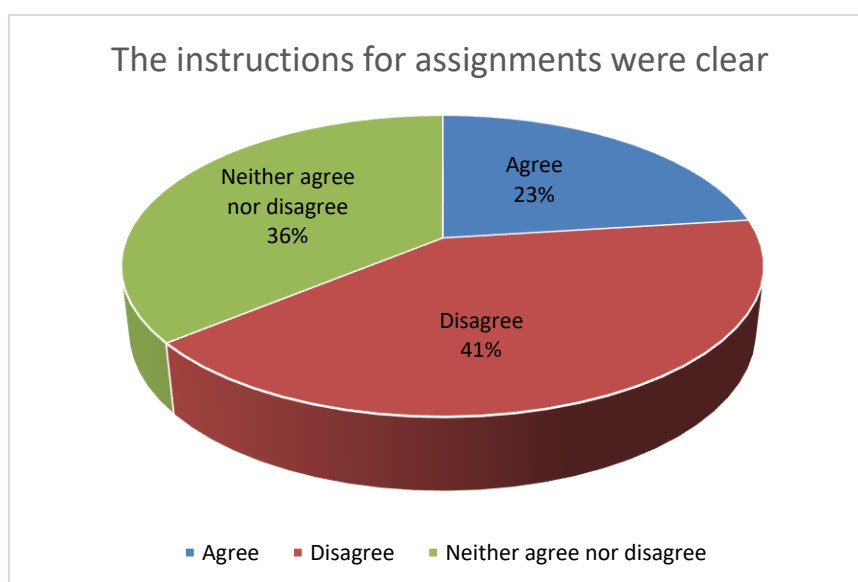


Chart 3. *The degree of clarity for instructions given by lecturers.*

Source: own research results.

At last, to the general statement, which was imposed to find out the overall satisfaction level of students in distance education, students replied as shown above in the chart 4. Unfortunately, over half of the students communicated their dissatisfaction of the distance education implemented during the pandemic.

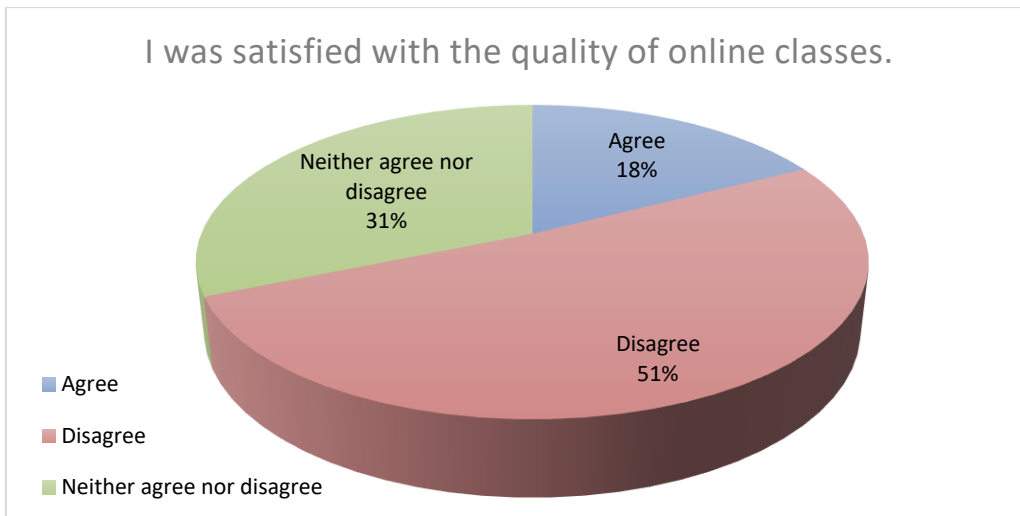


Chart 4. *The degree of satisfaction for the quality of online classes.*  
Source: own research results

Besides, we wished to know general opinion about students regarding the future of online education; and whether they would like to study online if there were no technical and/or internet issues. Despite the hardships students faced, 34% of partakers of the survey showed hope in the distance education in Uzbekistan in the future. However, 28% neither agreed nor disagreed, 38% disagreed with the statement. For the next question, 34% of the respondents showed willingness to get qualification online. In contrast, 56% answered that they would prefer traditional ways of learning and the rest 10% had difficulties to answer the question.

Finally, survey participants provided some suggestions to overcome challenges they faced during the remote studies. These were to decrease the cost of internet packages; to increase the speed of the internet across the country; to develop a certain system in online education; to strengthen the transparency so that no corruption takes place; to increase awareness of people regarding online education in order to prepare for the further implementation of distance education; to design specific and appropriate assignments which fit into online education; to train senior professors on the effective application of technology during the classes.

Other findings of this study were that those students who had no experience in online education and who tried learning online for the first time, 47% of them wished to get some knowledge online in the future. This means if the obstacles are eliminated step by step, there is interest among young people to get qualification or develop their professional skills distantly at their comforts of their home.

When we analyzed the findings based on the genders, it was defined that nearly the same percentage of respondents of both male and female students had earlier experience in online education before the pandemic (38% and 35% respectively). Nevertheless, more female students (56%) expressed that they were active during the online sessions compared to male students (46%). On the other hand, female respondents who were among the ages of 17-30 answered that small number of them were motivated enough to continue their studies online (37%) and only 17% had

intentions to get online education. At the same time, number of male respondents who articulated that they had enough motivation indicated 51% and nearly half of the male participants desired for further online studies. This can be explained that females get married at earlier ages in Uzbekistan. Most of the time, they do start families while they are still studying at the Bachelor's degree. Many responsibilities at home (cleaning, cooking, etc), towards in-laws and husband during the pandemic should have made it impossible for female students to attend classes properly. Besides, even though if the female students were not married yet, they are the ones who should take care of house chores than males in the family. Therefore, there might have been such a discrepancy in the indicators of motivation and willingness to study online in the future between male and female students.

#### **4. CONCLUSIONS**

Uzbekistan's modern society lives and develops in a rapidly changing world. Continuous improvement of economic industries and the social sector has become a prerequisite for the country's progress. The Republic of Uzbekistan is confidently and dynamically moving towards achieving its main goal of joining the group of developed democratic states. A higher education system built on the processes of systematization, creative processing and using the experience of previous generations is the main mechanism for achieving such aspirations (Cytlak, & Mamadaminova, 2021). Although certain limitations exist in the conducted study, there are many applicable findings according to this research. As it was mentioned in the Introduction part of this paper, due to the limited resources in the sphere of High Education of Uzbekistan, many applicants do not have opportunity to get qualification. Among the applicants who passed exams, most of them are not able to study due to the high tuition fee or family circumstances.

Implementation of distance education can be a solution for a certain part of the population who are willing to study but in order to start developing the policies, the regulations and programs for online education the opportunities and challenges should be learnt. Quarantine measures taken worldwide made the government of Uzbekistan to shift to distance education as well. However, the result of the current survey also shows how much the education system was ready for such enormous and sudden change. So based on the analysis above, the following can be concluded:

- The issues related to the speed and cost of the internet services interfered the overall learning process during the pandemic. The biggest problem was not that students did not possess necessary skills and/or equipment to use to attend online classes. All the connection related problems such as joining the live sessions, opening the university webpages, and overall experience with the applications (ZOOM) originated from the speed of the internet.
- Students were not fully engaged in the process, they did not find the live sessions interesting enough, there was not enough discussions held, etc. So educational programs suitable for online education was not prepared. The results show that the problem was not in the disinclination of students to study online, but it stemmed from the pedagogical side.
- Although female students participated more actively during the online classes, they were not enough motivated to study at home compared to the male students. In order to increase the opportunity for females to get higher qualification, it is important to make sure that elder generation are aware of the importance of education in the future life of women even after they get married and become a parent.

In the current situation with the Covid-19 pandemic, we must certainly add other measures to the list of priorities for Uzbekistan's educational policy, such as measures to improve the quality of the remote education system: not only in its technological dimension, but also taking into account the human factor. The issues of the human factor in remote education require deeper analysis, because apart from the skills in the field of knowledge of new media, handling them and using them in everyday life, the aspect of psychological (and mental) functioning of a person in the remote reality is very important.

Thus, the discussed study shows the challenges faced in Higher Education system of Uzbekistan during the time of the pandemic. If the technical and internet obstacles are tackled, educational policies and new programs together with assignments are well designed, academic staff members are trained and the administrative support is maintained, then the implementation of the distance education would bring benefits and more young generation of Uzbekistan will have an opportunity to get higher qualification.

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