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Distance education practices at universities in Turkey: a case study during covid-19 pandemic

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Abstract

After the World Health Organization declared Covid-19 a pandemic, universities in Turkey, like many other countries, began compulsory distance education in March. Most of the courses are conducted by distance education. Millions of students and academics have been involved in distance education through technologies enabled by the existing infrastructure of their own universities. The difference in distance education infrastructure and readiness among universities has been seen more clearly in applications. The variety of course materials shared with students, synchronous and asynchronous processing of courses, teaching practice and internships, examinations, varied from university to university. In addition, in this process, universities have tried to continue education without disruption and have had to tackle some problems. Technological, pedagogical, psychological, administrative, ethical and security issues concerning students, academics and other employees have been faced. Some problems have remained on the agenda for a longer time, especially for universities that do not have a distance education background and do not have the opportunity to complete distance education. While some of these problems were resolved by the decisions of the Higher Education Council (YÖK), some were tried to be solved by the internal dynamics of the universities or by inter-university solidarity. In this study; YÖK resolutions announced between March - June, guiding the distance education practices of the universities in Turkey and university educations conducted in line with these resolutions were discussed. In this research, which is a case study, the official websites of the relevant institutions and field literature were used to collect data. Descriptive analysis was made by dividing the obtained data into themes and sub-themes. In addition, taking into account the data obtained, recommendations were made by the researcher on the distance education operations of universities.

Keywords: Covid-19; pandemic; distance education; distance education in turkey; distance education in universities.

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1. Introduction

In approximately 40 years since Anadolu University was granted the authority to provide open education service in the early 1980s, open and distance education applications have developed day by day in Turkey. While many universities are giving some courses through distance education to support their formal education, it is seen that there are active programs, departments, associate degree, undergraduate completion, master, certificate programs that are provided wholly by distance education as well as hybrid programs. These programs are administrated in universities by Distance Education Application and Research Centre (UZEM), Open and Distance Education Faculty, Faculty of Open University (AOF), Continuing Education Centre, Life Long Learning Centre and similar units (Fidan, 2018). As reported in the press statement of the President of the Council of Higher Education (YÖK) on 18 March 2020, of 207 universities in Turkey, 123 of these have UZEM departments (YÖK, 2020a). The universities having experience on distance education continued their education by a complete distance education format in 2019-2020 spring term with different methods and tools in line with their opportunities, and a total of 7 million 940 thousand 133 enrolled students (Yüksek Öğretim Bilgi Sistemi, 2020) were included in distance education. However, universities started to provide distance education with only 3 weeks of preparation due to the unexpected and suddenly developing pandemic. After the World Health Organization had declared Covid-19 as a pandemic, the Turkish universities were closed and then started distance education as in many countries across the world. YÖK made some legal regulations to achieve a standard in distance education performed urgently and compulsorily among universities, to overcome problems of students, to facilitate education and training activities. In a statement made by T.R. Presidential Spokesperson on 12 March 2020, it was expressed that in addition to all other schools, universities were also vacationed and educational activities would be planned in this period (TCBB, 2020).

In the press statement of the President of the Council of Higher Education on 18 March 2020, it was stated that universities could use synchronous or asynchronous distance education methods, it was predicted that universities would mostly implement asynchronous applications especially in associate degree and undergraduate programs considering the difficulty of synchronous applications in that environment, and the synchronous applications with more communication would be encouraged by YÖK. It was indicated in the same statement regarding the applied course that the theoretical parts would be given by distance education while a proper compressed calendar was planned for application studies. The assessment and evaluation of the courses to be given by distance education would be carried out by universities provided that they would comply with a calendar specified at a macro level. It was also expressed in this statement that qualifying examinations, thesis monitoring committees and thesis defences in graduate programs could be performed in digital environment provided that universities had to

establish required infrastructure and "record and enable to control these activities". What is more, Turkish universities officially started their distance education processes with this statement on 23 March 2020 (YÖK, 2020a).

The purpose of this study is to provide information on the transition process of YÖK and universities to urgent and compulsory distance education, to offer suggestions in order to minimise possible problems in transition to urgent and compulsory distance education in upcoming periods. In this regard, following questions were sought answers:

1. Which studies were carried out by YÖK to coordinate and facilitate the transition of Turkish universities to urgent and compulsory distance education due to pandemics?

2. How did Turkish universities continue their formal education by distance education during the pandemic period?

3. What can be done to minimize problems in transition from formal education to distance education compulsorily in pandemic and similar extraordinary situations and for an efficient distance education?

2. Method

In this study, case study from qualitative research methods was utilised. Davey (2009) argues that the case study is a method in which a single case or event is investigated in detail and in longitudinal respect, data are gathered systematically and cases are examined. In addition, the case study discusses why events have occurred in the existing manner and the subjects to be focused in the future. In this research, the effect of Covid 19 pandemic period on the university education in Turkey and the distance education practices in Turkey have been discussed as a case. In this context, the resolutions of the c in the pandemic process, practices in universities and future recommendations were discussed.

2.1. Data collection

Related literature review was conducted, and official internet sites of institutions were used in data collecting.

2.2. Data analysis

Within the scope of the research, during the distance teaching activities carried out in universities due to the pandemic, resolutions by YÖK between March-June 2020, in particular, in order to minimize student inconvenience and to facilitate the operation of universities by standardizing them and data related to the practices by universities in Turkey in line with these resolutions have been evaluated. In line with these data, recommendations were made to universities in the context of distance education for the

upcoming academic terms. Descriptive analysis was made on the obtained data under themes and sub-themes.

3. Findings

YÖK resolutions announced between March – June 2020, guiding the distance education practices of the universities in Turkey and the findings on the practices of universities were discussed under this section. In addition, the researcher's recommendations based on the result of the assessment of these practices are also included in this section.

The themes obtained by analysis of research data are shown in Table 1:

Table 1. Higher Education During the Pandemic Period in Turkey (March -June 2020)

Themes	Sub-themes
YÖK Resolutions on Distance Education	Associate Degree
	Undergraduate
	Post-Graduate
	Internships and Teaching Practice
	Students With Disabilities
	Abroad Lateral Transfer
Urgent and Compulsory Transition to Distance Education and Practices in Universities	
Recommendations For Distance Learning Practices Of Universities	Encouraging Distance Education
	Pedagogical Support and Communication
	Psychological Support
	Legal Regulations and Restructuring
	Strengthening Technical Infrastructure
	Determining Cyber Security Strategies
	Ensuring Competence of Specialist Personnel

3.1. YÖK resolutions on distance education

YÖK has made some legal arrangements in order to achieve the standard in the functioning of universities, especially to eliminate student victimization and to facilitate education and training activities in the distance education process, which has been passed urgently and compulsively. Following the statement made by the Presidency of the Council of Higher Education on 23 March 2020, the digital course contents produced by universities under the project of YÖK courses were offered to the open access of university students on the web interface called YÖK Courses Platform (Higher Education Institutions Courses). The digital course materials (books) of 27 undergraduate, 47 associate degrees, 7 undergraduate completion programs are available on the platform (YÖK, 2020b). As of 31 March 2020, approximately 400.000 students gained access to the

platform providing students with the opportunity to meet different academic cultures. It was stated that the platform was gained access mostly by mobile phones (68%), Istanbul was the province with the most access, it was gained access to the platform from different countries such as TRNC, Germany, USA, Azerbaijan, Netherlands, Kyrgyzstan, England and Greece (YÖK, 2020c).

With a decision taken on 1 April 2020, the students enrolled at associate degree, undergraduate and graduate were allowed to freeze their registrations in the spring term of 2019-2020 academic year and to perform qualifying examinations and thesis defences by digital medias such as video conference provided that "they would be recorded and become controllable" (YÖK, 2020d).

Another important decision taken in this period was on the course of Teaching Practice given at the final year of education faculties and implemented by the final year university students at the schools affiliated to the Ministry of National Education (MEB). According to the press statement made on 7 April 2020, considering that the students had participated in teaching practice studies at schools for 5-6 six weeks, it was decided to compensate missing points in teaching practices by "course, homework and file preparation" in a coordinated manner with MEB only for the spring term of 2019-2020 academic year (YÖK, 2020e).

A similar decision was taken for the final year students enrolled at Science and Engineering Faculties and some programs of Vocational High Schools on 9 April 2020. In this regard, the universities would consider that students had taken applied education at enterprises for 5-6 weeks for the programs in which applied education model was implemented, and the missing applied education and period of students for 2019-2020 academic year would be completed by "course, homework, project, application file and similar activities or summer education" by means of distance education (YÖK, 2020f).

The decision taken by YÖK on allowing the final year nursing students to perform their internship/practice training at health units by taking protective measures or to complete it by activities such as simulation training, project, case analysis etc. through distance education only for the spring term of 2019-2020 academic year was shared with the public (YÖK, 2020g).

Another facilitator decision was announced by YÖK on 13 April 2020. This decision enabled the students who were about to graduate in Dentistry, Pharmacy and other health programs to perform their internship/practice training at health units and private pharmacies by taking protective measures in appropriate periods, including summer or Pharmacy students could complete it by activities such as simulation training, project, case analysis etc. while the students in both programs may complete their education by digital media through distance education (YÖK, 2020h).

The measures to be taken for disabled students receiving education at universities were sent by YÖK to universities on 7 May 2020. It was decided to provide the course contents as text for the students with impaired hearing and to provide lectures with

subtitles if possible, to send course contents to students beforehand, to enable the students with the ability of lip-reading to see instructors on the screen in addition to course presentations. Regarding the students with visually impaired, it was decided to pay attention to use rich text contents, in which reader systems may be used, in course materials, to use large font size and contrast colour in presentations, to describe visual content, graphics and tables during lectures, to describe graphics especially during exams. The measures such as providing extra time in line with disability status during online exams made under distance education were also reported to universities. Regarding a small number of students with mental disabilities and autism spectrum disorders, it was drawn attention that it should be shown special effort so that their relationship with higher education is not broken, that these students and their families should be contacted by regular intervals, that it should be provided to take support from academic members at psychology and other departments, if necessary (YÖK, 2020i).

The statement made by YÖK on 30 May 2020 brought novelties to some applications of higher education during the pandemic period. Some decisions were taken when the students, receiving education abroad but could not return their universities due to pandemic or not wishing to return to their universities due to the pandemic related risks in those countries, stated that they wanted to go on their education in Turkey. 50% restriction related to abroad transfer quota in higher education programs excluding Medicine, Dentistry, Pharmacy, Law, Teaching, Engineering and Architecture programs was removed, and it was allowed to allocate foreign quotas to these programs as much as the domestic undergraduate transfer quota. What is more, undergraduate transfer quota restriction was removed for the students enrolled in any program of universities ranked in the first 1000 of any of the world university rankings made by ranking institutions recognised by YÖK. Provided that it is limited to the fall term of 2020-2021 academic year, undergraduate transfer application will be made for all grades, including the first and final years. Thus, all students receiving education abroad can be included in the Turkish higher education system in line with certain conditions no matter what their grade is (YÖK, 2020j).

3.2. Urgent and compulsory transition to distance education and practices in universities

In order to make an evaluation on the distance education applications of universities, following findings were obtained as a result of the analysis of data taken from a total of 189 universities, 127 state and 62 foundation universities (YÖK, 2020k):

1. 121 of all universities (64%) started distance education on 23 March 2020 while 41 of them (21.6%) started this application on 30 March 2020 and 25 of them (13.2%) initiated distance education on 6 April 2020.

2. 90.1% of the courses given in the spring term were opened as to be given by distance education (663.808 of 736.341 courses).

3. While 99.2% of all universities started to give the theoretical parts of theoretical courses by distance education, this rate was 89% for applied courses. In addition, it is seen that 75% of the universities gave the applied courses, which could be given by distance education, through distance education in this term.

4. Live class application was administrated in 22% of the courses opened by distance education. While the foundation universities made the live class application compulsory in all course by the rate of 53.2%, this rate became 29.1% in the state universities. The live class application was administrated as 25.9% in master courses, 24.2% in PhD courses, 22.1% in undergraduate courses and 17.8% in associate degree courses.

5. In this process, while distance education applications were implemented most in Social Sciences (91%) by our universities, the same rate was 78% in Science and 77% in Engineering. The health sciences had the lowest rate in this respect.

6. It is seen that the universities finalised their mid-term exam applications under assessment and evaluation in distance education during global outbreak, and administrated different online assessment methods such as homework, project, online exam and quiz. Our universities made their mid-term assessment and evaluation mostly by “Homework” (90.5%) and “Project" (83.10%)

7. While 97% of the universities provided their instructors with “technical support” on distance education applications, 79% of them gave online training. What is more, 39% of the universities offered pedagogical support to their instructors.

8. While 95% of the universities provided information to their students on the process by “sms, e-mail", 91% of them provided "technical support service", 83% of them created "contact points", 70% of them made "new appointments".

Surveys conducted by YÖK and universities at the end of the process are important data sources. In line with these data, it will be more realistic to eliminate the deficiencies and make the necessary preparations for the success and effectiveness of the distance education practices to be conducted in the upcoming terms.

3.3. Recommendations for measures to be taken in universities before transition to urgent and compulsory distance education

Under this subheading; in line with the data obtained, the following recommendations were made by the researcher for universities in order to guide future distance education preparations:

3.3.1. Encouraging distance education

One of the most important elements that play a role in the success of distance education is to ensure that teachers and students have positive attitudes, behaviors and thoughts about distance education. There are up to date studies on this subject in the field literature (Ahmad, Al-Refai, Saqr AlMomani, & Abuhashesh, 2020; Colaceci et al., 2020; George et al., 2014). To this end, the panels joined by field experts may be held at universities to discuss the philosophy, structure, operation and contribution of distance education. Web pages of universities, official social media accounts, in-house boards can be used in order to give information to instructors and students about the current applications in distance education and to raise awareness. The instructors and students may be encouraged for distance learning by this information. Faster inclusion of more academics in the distance learning system sometimes occurs out of necessity and sometimes spontaneously. For example, in the SARS epidemic in 2003, although Hong Kong Chinese University academics were familiar with online education before the epidemic, the epidemic has encouraged them to discover and learn to use new applications such as e-exams to make the distance educations they carry out effective (Leung and Keing, 2003). Nevertheless, without leaving it to luck, it is considered more appropriate to encourage and involve academicians and students in distance education with planned and sustainable activities.

As is known, according to the clause (i) of the 5th article of the Higher Education Law numbered 2547, in higher education institutions, Atatürk's Principles and History of Revolution, Turkish Language and Foreign Language are common compulsory courses, while according to the Occupational Health and Safety Law No. 6331 dated 20/6/2012, Occupational Health and Safety courses are common compulsory courses in the faculties that train people who can be occupational safety experts. These courses are called 5i courses in due to the article and paragraph in which they exist. For these courses, if the infrastructure related to distance education is available within the university, it is allowed for these courses to be given through distance education or to be taken from other universities through distance education (ADUZEM, 2020). This article was updated at the YÖK General Assembly meeting dated 24.09.2020 as "Diploma programs at associate, undergraduate and graduate levels of higher education institutions, and if deemed appropriate by their senate, some courses in formal and evening education programs can be taught through distance education." (YÖK, 2020l). Opening the way for the courses other than 5i courses to be taught with distance education will accelerate the inclusion of more academicians and students in the distance education system and gaining experience.

In addition, after the pandemic, preferring the teaching model called hybrid or mixed learning or flipped learning in university-level courses may also be effective in encouraging and including academicians and students in distance education. MEF University, which has been continuing education with flipped learning since 2014, can be

shown as a successful example for universities that would like to take a step in this field (MEF, 2020).

3.3.2. Sustainable technical support

Instructors and students should be provided with periodical applied training on internet literacy, social network literacy, LMS, use of e-content and e-exam development tools, ethics and security in distance education and these training should be certified. Because, especially that the academicians learn new methods and technologies in content development and assessment in order to ensure that their students continue to learn in special situations such as a pandemic, will have positive effects in long term (Brammer and Clark, 2020). The most comprehensive one among the studies carried out in Turkey is the YÖK project called Digital Transformation in Higher Education, which started in 2018. In the first phase, "Learning and Teaching in the Digital Era" course was given online to 10,725 faculty members of 16 universities, mainly located in the Eastern and Southeastern Anatolia Regions, and "Digital Literacy" courses were given to 61,346 students for one-semester and with credit. In the second phase of the project, In addition to these 16 universities, on March 16, 2020, trainings on "Cyber Security and Network Management" started to be given to the lecturers of 5 newly established technical universities and 3 universities in Anatolia in cooperation with YÖK, CISCO and METU. The process is still ongoing. In addition, it is planned to give a one-semester credit course on Cyber Security to the students of the universities within the scope of the project (YÖK, 2020m).

There may be some hardware needs that must be met by the academicians for distance education. The instructors should be provided with sufficient equipment support by which they can give online courses. It should be recorded whether they have computer, loudspeaker, microphone, camera, internet connection at home, and these should be updated by certain periods. The legal regulations should be issued so that missing equipment can be provided by universities in emergencies. Similarly, required technical preparation should be made so that students can participate in distance education in emergencies. State-universities-private sector should cooperate in hardware supply in special cases.

There is a need for support for software as well as hardware. LMSs, virtual classroom, collaborative learning, e-exam and cloud applications are some examples of such software. Depending on the content of the curriculum, the type and number of software needs may vary. Collective licence agreements of the required software should be made for free access of the instructors and students during distance education. Supportive materials should be prepared for using this software and they should be distributed to everybody.

Stakeholders should also be trained on the use of software through online activities. One of the good examples of inter-institutional cooperation, which is a solution that can be applied to meet software needs as well as meeting hardware needs has been implemented in the third phase of YÖK's Digital Transformation Project. Distance Education Platform, which is a completely domestic product developed by Sakarya University, will be available free of charge to 15 universities in the fall semester 2020-2021 (YÖK, 2020m). This and similar attempts are expected to increase; because, such attempts are important for ensuring sustainable technical support in universities.

After starting immediate and compulsory distance education, a 24/7 technical support line should be established for instructors and students. To this end, e-mail, sms, faq, informative videos, live phone calls, voice response system etc. may be used.

Internet is one of the main requirements for distance learning. The first step in this regard was taken at the initiative of YÖK. Course contents and online education of many universities were included in the 6 GB internet use provided to university students free of charge by mobile operators after the announcement made by YÖK on 29 April 2020 (YÖK, 2020n). Apart from this, universities seem to be taking some steps for their own students. For example, Boğaziçi University has added the internet support scholarship to the scholarships it provides for its students in financial need, in the last two months of the spring semester 2019-2020 (Hongur, 2020). 19 Mayıs University has also announced that it will provide 10 GB free internet support per month for students with insufficient financial condition (19 Mayıs Üniversitesi, 2020a). Although universities provide such support within the limits of their capabilities, internet service providers and GSM companies are expected to make legal regulations that will provide significant discounts in the internet usage fees of the instructors and students with insufficient financial condition in the process of urgent and compulsory transition to distance education.

The outright state/private sector/personal support to be provided to university students who need support in obtaining hardware, software and internet connection, which are the necessities of distance education, will put an end to the discussions on inequality of opportunity in education to some extent.

3.3.3. Sustainable academic support and communication

According to Schleicher (2020) although universities try to enrich and complement their learning environments by digitizing them, digitalization cannot replace the teacher-learner and learner-learner relationship in face-to-face education. On the other hand, according to Garrel (1997), regardless of the method used for distance teaching, promoting and facilitating the continuity of communication between teachers and learners is one of the keys to success in distance education. (As cited in Emami and Geraeili, 2015). It is important that communication channels between students - academics – administrators for pedagogical support are opened and functioning without interruption. In the distance learning process, where face-to-face communication occurs

only in a limited time with digital media and tools, this support is essential. Phone calls, SMS, e-mail, forums, discussion rooms, live lectures and social networks should be used to keep communication for pedagogical support at the highest possible level. Rules and procedures should be determined for the communication to be carried out with these tools, these should be shared with all academic staff and students, and they should be ensured to comply.

Mobile learning is another significant need during pandemic. Some students went out of the city or even abroad without their computers by supposing that holiday would last only for 3 weeks and formal education would continue. For this reason, they had difficulties in reaching course contents, homework and participating in exams by mobile phones. It should be prepared to provide mobile learning support by considering such possibilities.

Although it is difficult for many students to adapt to distance education, which starts unexpectedly, it is thought that the difficulty faced by students with disabilities may be even more. Even if the problem of going to campus has disappeared for some disabled students with the pandemic, the necessity of distance learning may have created different needs. It is inevitable for the academicians and technical staff responsible for content development and design to take special and different steps in this regard. According to the data of survey conducted by the National Student Association in England with 4000 university students, 18% of the students stated that they think that disabled students are very unlikely to receive counseling service or financial aid during the pandemic (James, 2020). Due to their special conditions, the university programs in which disabled students are enrolled should be determined, this information should be updated every semester, and preparations should be made for the use of course materials, exams and communication tools for these students in transition to distance education.

It should be attached importance to develop virtual and augmented reality supported course contents in order to be used especially in applied lessons and teaching abstract subjects.

Free courses/lessons should be provided by MOOCs. The universities without a MOOC should direct their students to the MOOCs of other universities. The European Commission's Directorate-General for Education, Youth and Culture conducted a survey on the Effect of COVID-19 on European Universities with the participation of 114 higher education institutions in 17 European universities in May 2020. According to the data obtained from the survey, 59% of the universities have started to take steps to bring together online courses or MOOCs that students from all member universities can access/obtain starting the upcoming academic term (European Commission, 2020).

Swan and Al-Galil (2020) states that one of the biggest challenges faced by the students, whether they are disabled or not, in the pandemic process is learning environments not adapted to their needs. In the periods of transition to urgent and

compulsory distance education when lessons are not given face to face, live lesson hours are limited, preparations should be made in order to design learning environments created for increasing efficiency in teaching. Thus, a significant support is given to individual learning of students at different levels, with different learning speeds and styles.

3.3.4. Sustainable psychological support

Universities' rapid transition to distance education due to pandemic may have negative psychological effects on academics and students. Because academics were faced with learning, adaptation and work intensity in distance education, in which they were involved unexpectedly and quickly. Some academics, on the other hand, have found it difficult to balance between research and teaching roles (Brammer and Clark, 2020). All of these are factors are likely to put psychological pressure on academics.

In the study conducted by Wu, Zhao and Guo (2020) with students from 20 different universities in China, it is seen that 37.46% of the students are concerned about the effectiveness of online learning and the possibility of not completing the curriculum as it should be.

The fact that there are people infected with COVID-19 in their family and close environment, loss of life due to this reason, and even the fact that they have been infected/recovered from this disease are also factors that can affect academicians and students psychologically. For this reason, many universities have supported academicians, students and other staff with written and visual materials by adding Coronavirus Information links to their official websites. Atatürk, Boğaziçi, Bursa Uludağ, İstanbul Kültür, Nişantaşı, 19 Mayıs and Trakya universities are just a few of them (Atatürk Üniversitesi, 2020; Boğaziçi Üniversitesi, 2020; Bursa Uludağ Üniversitesi, 2020; İstanbul Kültür Üniversitesi, 2020; Nişantaşı Üniversitesi, 2020; 19 Mayıs Üniversitesi, 2020b; Trakya Üniversitesi, 2020).

At this point, it should be noted that environment-dependent students may experience learning difficulties and inability to plan their studies with distance education. Conducting live lessons within the framework of a certain program will also make positive contributions to the psychology, learning motivation and academic success of these students.

In order to support students psychologically, different practices can be preferred to keep the sense of corporate belonging and course motivation high. For example, according to the survey results of the Effect of COVID-19 on European Universities, all students and academic staff at these universities were provided institutional support by weekly news bulletins. In addition, methods such as dramatization or using collaborative learning environments can be tried during lessons (European Commission, 2020).

Organizing e-graduation ceremonies can also be an important factor in supporting students in a psychological dimension.

Universities should start live psychological support applications which can be accessed by instructors and students when they need. Information should be provided how to access these applications.

3.3.5. Legal regulations and restructuring

The legal procedures allowing the students enrolled at universities without sufficient technical infrastructure for distance education to take courses from the universities with adequate technical infrastructure and experience and to participate in live classes should be made.

Universities should prepare Education and Training Regulations, Exam Regulations, Internship Regulations, Teaching Practice Regulations, Excuse Regulations for Exams and Graduation Regulations in order to be used in immediate and compulsory transition to distance education. These regulations should be shared with all instructors and students.

The instructors should be encouraged to enrich open course material pool. After controlling the contents with a commission to be established for this purpose, they should be included in the pool, and royalty fees should be paid to the instructors for original materials.

A Commission On Immediate Transition To Distance Education should be established in national scale. This commission, covering stakeholder representatives such as universities, related software and hardware companies, Presidential Digital Transformation Office, Information Technology and Communication Authority, security software companies, should be responsible for taking measures, preparing solution alternatives, making plans related to the problems that may be seen at universities during transition to distance education and for monitoring universities during this process. The establishment of the YÖK Distance Education Policy Commission can be considered as an important and serious step taken in this regard. The commission consists of professors from different disciplines of universities specialized in distance education (YÖK, 2020o).

A Commission On Immediate Transition To Distance Education, which will work in coordination with distance education centres affiliated to rectorships at universities, should be established. This commission should consist of people with technical and pedagogical competence related to distance education at the university. This commission should follow, report the domestic and foreign developments related to distance education, and should generate solutions and suggestions for improving the existing system. In order to avoid any chaos in transition to immediate and compulsory education, a Distance Education Coordinator should be appointed in each departments of universities. These people should periodically be provided with updated information about LMS, e-course, e-exam, e-communication tools and procedures used by the university.

In Turkey, there is no state university without a distance education centre with the last regulations. However, some foundation universities still do not have a distance education center. In order to overcome these deficiencies, a certain amount of financial state support can be provided. What is more, service procurement may be made from private sector or the experienced and qualified universities.

3.3.6. Strengthening technical infrastructure

Universities should strengthen their technical infrastructures (internet bandwidth, servers, cloud technology, security systems, technical infrastructure sharing agreements with universities with stronger infrastructure etc.) considering that the number of students and instructors to be included in the system will increase in immediate and compulsory transition to distance education and thus, internet traffic will become heavy in this regard.

Another significant issue in this respect is LMS selection. As user number and shared content amount will increase in special cases, one or more LMS use strategy, which will meet such an increase, should be determined. For example, while commercial LMS may be used for some programs, courses and education-training activities, open-source LMS may be used for some others.

3.3.7. Determining cyber security strategies

Kaspersky's 2020 2nd Quarter DDoS Attacks Report reveals that DDoS attacks tripled compared to the same period last year. The reason shown for this is that due to the restrictions imposed by COVID-19, people tend to use online resources for both personal and business activities more (ITNetwork, 2020). According to research by security companies, between April and May 2020, there was a significant increase in Covid-19 themed phishing attacks (Bilgi Güvende, 2020a). Another common cyber threat during the pandemic period was the fake emails shown as sent by the World Health Organization. These e-mails are sent with attachments in zip file format, opening the files causes a Trojan horse to be installed on the device, thus showing all keyboard movements (Bilgi Güvende, 2020b). In addition, cybersecurity experts note that covid-19 tracking applications are extremely attractive to criminal organizations (Bilgi Güvende, 2020c). In order to take precautions against cyber threats due to the increasing internet use and intense information sharing during the pandemic process, it is seen that some institutions in Turkey have attempts. For example, the Personal Data Protection Board has underlined that the personal data processing activities for the measures taken against coronavirus should be at the required level, with a specific purpose and measured under the guidance of the relevant institutions and organizations, especially the Ministry of Health of the Republic of Turkey, and should be deleted or anonymized if the reasons for processing are eliminated. In addition, in order to take necessary administrative and technical measures to ensure the security of personal data, to minimize the risks that may arise from working remotely, it is highlighted that all kinds of measures should be

taken, especially ensuring that data traffic between systems is carried out with secure communication protocols, ensuring that it does not contain any weaknesses, and keeping anti-virus systems and firewalls up-to-date (Bilgi Güvende, 2020d). Another important step taken in order to raise awareness of cyber security for individuals during the pandemic process is the Information and Communication Security Guide prepared by the Presidency of the Republic of Turkey Digital Transformation Office. It is thought that the guide will increase the strength against cyber-attacks, play an important role in raising the level of the country in the international arena in information security and cyber security, and contribute to the sustainability of critical infrastructure and systems (CBDDO, 2020). In line with these and similar steps, universities should develop very robust security strategies in the urgent and compulsory distance education process. The strategies should be determined on personal data, corporate data, e-exam, e-course, academic document, server computers, physical and psychological security, and these should be shared with all instructors and students when necessary.

3.3.8. Ensuring sufficient number of qualified personnel

Various strategies may be developed to meet personnel need of distance education centres of universities. Examples of these strategies are to employ part-time students, to improve the competence of instructors to create e-content and e-exams, to carry out inter-university personnel exchange and training activities. In addition, there are initiatives of YÖK on these matters. Some steps, which will support universities in transition to distance education in extraordinary situations such as pandemic, have begun to be taken by the decisions of YÖK dated 4 June 2020. The rate of courses that can be given through distance education has been increased to 40% in formal programs at associate degree, undergraduate and graduate levels. This rate was 30% in current regulations. It was also decided to recommend and encourage universities to give at least 10% of courses in each program by distance education so that the competence of using digital opportunities may be increased in each program. The state universities taking senate decision and implementing this will be provided with extra staff to be appointed in distance education centres, and the universities starting to implement this application will be granted extra research assistants. Another decision to be deemed as a suggestion was taken for theoretical and crowded courses. It was recommended for the fall term of 2020-2021 academic year to give the theoretical courses in application-based programs by digital media as much as possible and to make crowded courses by diving into groups. It was stated that there was no state university without UZEM with the newly opened 20 UZEM units, and all foundation universities took decisions as a suggestion in this respect (YÖK, 2020p).

4. Conclusion And Suggestions

After the World Health Organization declared the pandemic, almost all countries made a rapid and urgent transition from face-to-face education to distance education. Universities provided different course materials to students through different virtual environments and applications and tried to ensure the continuity of education (Crawford vd., 2020). Similarly, due to the pandemic universities in Turkey have also made the transition to distance education in very short time, to the extent of their capability, have conducted the courses synchronously or asynchronously, and carried out internships and exams online or as homework/project presentations. Nearly all of the theoretical courses and most of the theoretical parts of applied courses were taught by distance education. In this process, instructors and students were provided with technical and academic support by various communication channels.

Universities are teaching-leading institutions with many missions. In addition to meeting the learning needs of the society, they are considered as information production centers for the development of the country and the world in every field, especially science, technology, art and literature. That's why societies rely on their universities. Among the

important factors that make the production of information qualified and reinforce trust can be counted the ability of the university to adapt quickly to new teaching methods and technologies, even to be a leader in this field, the ability of all personnel to use information technologies and teaching technologies efficiently and effectively, a management approach that is fair, ethical, compliant, able to manage the crisis and give importance to the opinions of stakeholders. Universities, which succeeded in this during the pandemic process, also successfully completed the transition test for urgent and compulsory distance education. Although Covid-19 has unfortunately caused the world trouble in many areas such as economy, transportation and health, it has accelerated the adoption and use of distance education and connected technologies by universities. It can be said that the pandemic has displaced many stones in the concepts of learning and teaching and has marked a new era in higher education. Nothing will ever be the same in universities as it was before March 2020. From now on, universities will not only be prepared for distance education in case of emergencies, but there will also be serious increases in the number of courses and MOOCs currently taught remotely, hybrid or flipped. In this way, negative discourses and prejudices about the concept of distance education will largely disappear. Academicians and administrators will have to be equipped with the knowledge and skills required by distance education, and universities will have to implement the components in the framework revealed by Khan (2001). Of course, in this process, receiving and evaluating the views of all stakeholders and the feedbacks of academicians and students regarding the teaching models implemented between March - May 2020, and preparing for the new academic terms are among the main duties of education administrators. Of course, along with all these, decision makers are also expected to make legal regulations without losing time.

The pandemic has created an opportunity for the universities in Turkey as well as all the universities worldwide to test themselves in effective education, management, communication, evaluation, leadership, ethics and cyber security, which are within the general scope of distance education. In order to eliminate the deficiencies and reveal the invisible problems and deficiencies, it can be recommended to research below topics in public and private universities in Turkey:

- How are the academicians' attitudes towards distance education?
- How are the students' attitudes towards distance education?
- What kind of problems students in Turkey have lived in this process?
- What kind of problems students abroad have lived in this process?
- What kind of problems disabled students have lived in this process?
- What kind of problems instructors have lived in this process?
- Do instructors have internet and social network literacy?
- Do students have internet and social network literacy?
- Do instructors have knowledge and skills about the LMS and distance education tools used by university?

- Do students have knowledge and skills about the LMS and distance education tools used by university?
- Have the required legal regulations been made at universities for transition to the immediate and compulsory distance education process? What kind of studies are being carried out?
- Do distance education centers have sufficient staff, hardware and software?
- Did universities in Turkey experience financial losses due to the pandemic? What can government officials do to tolerate these losses as much as possible?
- Are the cyber security measures taken by universities sufficient?
- Are academic and administrative staff and students aware of cyber security?

It is clear that more efficient and successfull distance education activities will be carried out with decisions and steps to be taken in line with the answers to these questions.

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