yönetim ve ekonomi araştırmaları dergisi
journal of management and economics research

Cilt/Volume: 20 Sayı/Issue: 4 Aralık/December 2022 ss. /pp. 308-334
N. Arslan, Y. Yılmaz http://dx.doi.org/10.11611/yead.1143348

DISTANCE EDUCATION AND ITS EFFECT ON STUDENT SATISFACTION

Asst. Prof. (Ph.D.) Neslihan ARSLAN*

Assoc. Prof. (Ph.D.) Yasin YILMAZ**

Covid-19 pandemic globally affected many sectors including health, economy and transportation. Distance education practice was widely preferred in many stages during this period. Non-stop distance education also continued in universities within the education sector. The subject of this study was to measure the student satisfaction from education within the course of distance education during pandemic period. The aim of the study on Bandırma Onyedi Eylül University graduate and postgraduate students was to understand whether distance education process had a positive effect on the satisfaction of the students from education. Survey technique among quantative research methods was used in the study. The results of the study showed a significant effect of "instructor support", "personal relevance and authentic learning" and "student autonomy and active learning" among the sub-dimensions of distance education on student satisfaction. Permanence of distance education in higher education institutions at certain rates may provide successful results.

Keywords: *Covid-19, Distance Education, Student Satisfaction, Education Sector, Universities.*

Jel Codes: *J01, J08, I23.*

1. INTRODUCTION

Covid-19 pandemic has caused fundamental changes in our country as in the whole world and important transformations have been witnessed at economic, social and cultural levels. Education has certainly been one of these fields of change and the effects of the transformation process still continue. Not having experienced such a restriction neither in Turkey nor the whole world before, the countries suddenly faced a global isolation period. Just like the embracing of neoliberal policies in 1980s regarded as the starting phase of globalization, this pandemic can also be regarded as a new turning point in globalization. Although flexible working models had emerged and the flexible working system had been outlined due to the effects of globalization and neoliberal economy, the practicability of telecommuting methods in particular were not tested in a comprehensive and compulsory manner as in Covid-19

* Bandırma Onyedi Eylül University, F.E.A.S., Department of Labor Economics and Industrial Relations, narslan@bandirma.edu.tr

** Bandırma Onyedi Eylül University, F.E.A.S., Department of Labor Economics and Industrial Relations, yasinyilmaz@bandirma.edu.tr.

Makale Geçmişi/Article History

Başvuru Tarihi / Date of Application : 20 Temmuz/ July 2022
Düzeltme Tarihi / Revision Date : 17 Ekim / October 2022
Kabul Tarihi / Acceptance Date : 1 Aralık / December 2022

Araştırma Makalesi/Research Article

pandemic period. This process directly affected all sectors but education sector with demanders (students) mostly covering children and young people was affected more.

The study primarily covered distance education concept and its historical development and shortly mentioned the reflections of Covid-19 pandemic period on education. Then the theoretical dimension of satisfaction and student satisfaction concepts was covered. Studies on distance education and student satisfaction were covered under Literature topic. The conclusion section contained the results of the study covering a field research.

2. THEORETICAL FRAMEWORK

Globalizing world is witnessing transformations in all fields covering economics, trade, culture, population and education. Considering that we are living in the digital age, as a result of transformation taking place so quickly, adaptation to this process should be quick. Digitalization brings along fundamental changes in many fields ranging from the consumption habits to the daily routines of the individuals and from their working methods to public regulations (Yaprak and Ercan, 2021: 93). Reconfigured by digitalization, education adapts itself to different and new applications to raise qualified individuals.

As this condition requires, individual education becomes more important every day. In this regard, not evaluating education only within the context of children and young students and the effort to extend education to all age groups to meet the high-qualified workforce requirement of the digital age make distance or online education model compulsory. Pandemic conditions also bring along different developments in education methods and make distance education compulsory in many stages ranging between elementary and postgraduate education.

Also embodying the logic of life-long education, *distance education* is an education opportunity giving the individuals the chance to be educated without concerning space and time. Parallel to increasing digital means, education needs of individuals not limited to school age increase the demand for education today. (Özbay, 2015: 378). The global start of distance education was through correspondence in 1700s while it started as an idea of Ministry of National Education in 1860 to give public classes also through[1] newspaper in Turkish history (Bircan et al, 2018: 93). Distance education had four breaking points including (i) Education through correspondence in 1700s, (ii) Use of electronic course materials in 1920s, (iii) Practice of distance education universities in 1960s, (iv) Internet use becoming common[2] (Özbay, 2015: 378). Distance education theories were established in[3] 1970s and the

[1] The ministry in charge of education services in Ottoman Empire.
[2] Considering its compulsive effect, Covid 19 pandemic period can be named as the fifth breaking point.
[3] Theory of Independent Study, Autonomy Theory, Industrialization Theory, Communication and Interaction Theory, A Theoretical Framework Theory for Distance Education, Androgogia/Adult Education Theory, Theory for the Synthesis of Existing Theories, Transactional Distance Theory, Equity Theory, Cooperative Freedom Theory, Community of Inquiry Theory, Self-directed Learning Theory.

number of these theories increased and their nature changed in time. Distance education theories are stated with the following titles in literature (Gökmen et al, 2016: 31-37).

Covid 19 pandemic brought along fundamental changes and started a global quarantine period for the first time in world history. This situation caused the countries to impose solid restrictions in all fields. Restrictions in the field of education certainly constitute one of the most striking of these restrictions. *Distance education* model partially applied in universities as in many education levels before the pandemic was compulsorily applied in all educational institutions in the whole country during the pandemic period due to the quarantine rules coming into force. Although distance education was started in all university departments in the first stage of the process, departments such as medicine and engineering which provide applied training were later observed to apply a mixed education model through continuing both face-to-face and distance education.

Satisfaction can be defined as the condition of meeting the expectations of the individual from a condition or environment while *student satisfaction* can be defined as "*satisfaction of the student by learning-teaching activities and student services*" (Korkmaz et al, 2015: 222). The fact of satisfaction can both be covered as *a result-oriented approach* expressing the reaction to a consumption event in literature and can also be expressed as a *process-oriented approach* expressing a gradually increasing pleasure based on experiences (Kantoğlu et al, 2013: 123). While investigating the distance education related processes experienced by a student, student satisfaction can be assessed through factors such as the success of instructors in lecturing and their interaction with their students, differences between socialization chance of the students in normal (face-to-face) education and their socialization capabilities in distance education, learning condition of the students within the course of the class, provision of the technical infrastructure and equipment which can provide student participant in distance education process and the student's freedom to choose suitable education method for him/herself (Eygü and Karaman, 2013: 44). Thus, disadvantages as well as advantages may emerge for distance education and this condition may affect student satisfaction positively or negatively.

Distance education can be classified under two groups as before (before 2020) and after (2020 and later) Covid-19. The main difference and issue that should be noticed here is the fact that the students take all their classes through distance education and have restricted participation in social life with the starting of the pandemic although they had a limited number of distance education and were not subjected any restriction in their participation in their social lives before the pandemic (Osmani, 2021, p.6). Distance (virtual) education before Covid pandemic was considered to present an effective learning chance to students through the use of *Learning Management System (LMS) (Franz et al, 2015).* Researches conducted before Covid pointed out the focusing problems of the students in distance education classes caused by the distance education model which was neither online nor live. Online education programs are among suggested solutions. These programs also ensure the students to focus on education and increase their satisfaction (Oliveira et al., 2017). It was stated that the student

satisfaction was at a high level in a blended[4] education model (Bennet and Lockyer, 2004) and the blended model should be preferred in practice-based educations to increase student satisfaction and also to cause the student to present optimal performance (Cohen and Davidovitch, 2020). However, the researches conducted before and during Covid pandemic showed similar distance education satisfaction results for the students.

Walker and Fraser, the developers of the scales used in this study, aimed to develop a new learning survey scale to be used in higher education to measure the enjoyment (satisfaction) of the students from distance education environments. To be able to develop this scale, related literature was scanned, previous learning environment tools were examined, new scales were tested through three psychosocial dimensions of Moos and scale drafts were developed to be examined by experts. Following all these stages, "*Instructor Support, Student Interaction and Collaboration, Personal Relevance, Authentic Learning, Active Learning and Student Autonomy" scales were acquired* (Walker and Fraser, 2005).

Instructor Support among the dimension of the scale used to test the hypotheses in this study is defined as the online or offline reachability of the instructors by their students. In this regard, in addition to the instant reachability of the instructors by their students, the chance to get a quick feedback through electronic environments states that the instructor support is carried to advanced levels for the student. *Student Interaction and Collaboration* provides the students the chance to form both online and offline advanced level of interaction and collaboration among themselves under the light of the advantages provided by digital platforms at communication port. This dimension provides important advantages for information sharing among students. (Jedege, Fraser and Curtin, 1995: 92-93) *Personal relevance* is the dimension of connection built between the extrascholastic talents and experiences and in-class and e-learning experiences of the individuals taking education as the instructors transcend the talents of the students (Taylor, Fraser and Fisher, 1997: 296). *Authentic Learning* is the dimension of giving the student the chance to solve emerging problems through correlating them with real problems. *Active Learning* dimension is the provision of an active learning chance to individuals through an active participation in distance education process of students. Finally, *Student Autonomy* dimension means the ability of students to make their decisions in a complete and independent way without being prejudiced and to keep the control of their education process in their own hands (Walker, 2003: 69-70).

3. LITERATURE

Literature studies play a significant role in the comparison of the researches conducted. As this study focused on *university students*, local and foreign researches on the satisfaction of university students on distance education process were preferred in literature researches.

[4] **Blended Learning** also known as mixed learning, hybrid learning and complex learning is form of learning providing a mixed form of face-to-face and distance education.

The survey study by Eygü and Karaman examined the satisfaction perceptions of computer programming associate and theology graduate students on distance education system. The study examined the satisfaction of students from distance education in eight dimensions[5] and concluded that all variables were related and learning was the factor with the highest effect and technology was the one with lowest effect on student satisfaction (Eygü and Karaman, 2013).

A total of 282 students from different faculties and vocational schools of higher education participated in the survey study conducted for university students by Barış. This study measured a low result for"*owning a personal computer, having constant internet access and owning a smart phone or tablet"* variables and the attitudes of students towards distance education (Barış, 2015).

216 students participated in the survey study by Metin et al measuring the effect of distance education system and English classes among distance education classes on the success of students and also the efficiency of distance education class in students being educated in vocational school of higher education. The research concluded that the provision of internet access to the students in home and dormitory environment is important so that they can follow distance education and the students are more successful compared to face-to-face education when they regularly follow the distance education classes and are less successful when they take the exams after watching all classes a short time before the exams (Metin et al., 2017). One of the interesting findings of the study is on efficiency. Efficiency of the classes was tried to be measured only based on the answers to the questions and without based on any efficiency measurement method. Within this context, the efficiency concept used here can be met by the concept of productivity rather than the concept of efficiency in literature. The concept of efficiency in the study also makes us consider the question whether it is related to the concept of satisfaction.

The study by Bircan et al measured the attitudes of associate or graduate university students towards the compulsory courses[6] they take as part of distance education. It was concluded that most of the students had a negative attitude towards the compulsory courses they take in distance education (Bircan et al, 2018).

The study by Bayram et al which was a descriptive research tried to measure the attitudes of associate and graduate level students towards distance education classes. The study showed that the infrastructure deficits affected distance education negatively, some practice-demanding courses were inconsistent with *active learning* dimension, female and male students had different success levels in distance education classes and female students were more advantageous in managing this education method. It was also stated that the instructors should take trainings on distance education and *instructor support* would have a more positive reflection on students in this regard (Bayram et al, 2019).

[5] Personal relevance, efficacy, learning, program evaluation, technology, material, assessment, support services.
[6] Compulsory Courses are Turkish Literature, Basic Information Technologies, English and Ataturk's Principles and Reforms.

In the qualitative comparison study by Saghafi et al which was based on *Grounded Theory methodolo*gy and covered the students and instructors of the architecture students of a university in Australia, an education studio using both face-to-face and virtual education methods was chosen. The basic aim of this study was to discover the limits and advantages of both virtual (online) and face-to-face education and to improve learning. The study concluded that online and face-to-face education should be blended to improve learning (Saghafi et al, 2014).

Cole et al tried to measure the satisfaction levels of students from online education in their three-year survey study on 553 graduate and postgraduate students of a university. The research measured the effect of gender, age and education level variables on the online education satisfaction levels of the students and no statistically significant difference was detected. Then the students were asked about the factors determining whether they are satisfied or unsatisfied by e-learning. Thus four variables including "*interaction, convenience, education infrastructure, learning style and used platform*" were defined for the students and "others" variables was also added. Participating students stated "*convenience*" as the factor with highest (positive) effect on their distance education satisfaction with "*education infrastructure*" and "*learning style*" factors following it. "Interaction" both among the students themselves and with the instructors constitute the factor with highest student dissatisfaction from distance education. Other factors are "*education infrastructure*" and "*learning style*". *Education infrastructure* and *learning style* among the factors determined within this framework increase both the satisfactions and dissatisfactions of the students towards distance education. The students also evaluated online educations as moderately satisfying and partial online or blended education models as more satisfying. While the main reason for the satisfaction of the students from online educations was stated as *convenience of education access*, the main reason for dissatisfaction was *student interaction deficiency* (Cole et al, 2014).

Rodriguez et al measured the e-learning satisfaction levels of the students in their survey study on 1114 university students in Spain. Factors affecting online education satisfaction of the students included *department dimension* covering syllabus and course content, *technology dimension* and *interaction dimension* covering both the collaboration among the students and the support of the instructor. The study showed that these three factors have a positive effect on student satisfaction during e-learning and the factor with highest effect was the department[7] factor with interaction and technology factors following it (Rodriguez et al, 2015).

The study by Buluk and Eşitti (2020) aimed to evaluate the compulsory transformation of face-to-face education into online education due to Covid 19 and measured the distance education satisfaction of graduate students. Distance education class satisfaction was tested through "*personal relevance, efficacy, learning, assessment and support services*" variables. The research concluded that these factors

[7] Refers to the departments of education.

have a positive effect on student satisfaction. While the factor with the highest effect on student satisfaction was supporting services factor among the five factors, personal relevance factor was the factor with lowest effect (Buluk and Eşitti, 2020: 293).

Using survey study among quantative research methods and in-depth interview methods among qualitative research methods together in her research, Üçer preferred blended method among research designs. 1617 Faculty of Communication[8] graduate students constituted the universe of the study and 171 students aged between 19 and 28 constituted its sampling. The aim of the study was to measure the satisfaction of the university students from the digital tools and online satisfaction during the quarantine. The hypotheses of the study were tested through "*Contribution of digital tools in education, efficacy of distance education and Convenience of communication with instructors during distance education"* factors within the scope of quantative data analysis. Within the scope of quantative data analyses, it was concluded that the use of digital tools both facilitated the instructor support and positively affected the efficacy of distance education and the convenience of communicating with the instructors positively affected the efficacy of distance education. Within the scope of qualitative research, two students were chosen from each department and *in-depth interviews were made asking semi-structurized questions* and acquired data were analyzed through *descriptive analysis* method. The study stated to have qualitative data analyses supporting quantative data analyses concluded that the students were unsatisfied by distance education process and preferred face-to-face education to distance education (Üçer, 2020). Similar to the study by Metin et al (2017), this study also tried to measure the efficacy of distance education by asking to students.

The survey study by Narlıkaya and Demir examined the attitudes of the students being educated in Business Administration Department of the Faculty of Economics and Administrative Sciences and taking accounting and finance classes in distance education form. Hypothesis were tested using "*gender, academic performance, year of study, internet usage duration and distance education preliminary information level*" variables and the variable with highest effect on distance education attitudes of students was "*academic performance"* and the variable without any effect was "*gender*" variable. Results which can be featured based on the evaluation of the effects of the variables used in the research include the facts that students with high academic success have higher distance education satisfaction compared to those with low academic success, average duration of internet use compared to short or long duration [9] increases distance education satisfaction and education satisfaction is higher in students who already had information on distance education. Consequently, although students have a positive view on distance education in accounting and finance courses, it was stated that the reactions towards distance education would change due to different factors and a general evaluation is impossible. The

[8] The students of Visual Communication Design, Public Relations, Advertisement Design and Management, Journalism, Radio, Cinema and Television Departments of the Faculty of Communication participated in the research.
[9] The research defined Short time as between 0-3 hours; Average time as between 3-5 hours and Long time as 5 hours and above.

study also presented the view that distance education can complement or substitute for face-to-face education considering the effects of digitalization (Narlıkaya and Demir, 2020).

The survey study by Terzi et al on graduate and post-graduate nursing department students analyzed the effect of Covid 19 pandemic on nursing education and also the satisfaction of nursing department students from distance education. The survey study showed that Covid 19 pandemic had a significant effect on nursing education. Although reasons such as the *uncertainty in the pandemic period, impossibility of giving nursing education only through distance education and decreased perception of learning in distance education* increase the negative perspective towards distance education, nursing department students generally presented a positive view on distance education. The study also concluded that pandemic period should be completed through different education models in departments such as nursing where practice is compulsory (Terzi et al., 2021).

Demir Öztürk and Eren measured the distance education satisfactions and satisfaction levels of associate degree students taking first year English-1 course during Covid 19 pandemic. Five variables[10] and four sub-dimensions[11] were used to test the hypotheses. *Gender, age, communication channel types and time spent on Learning Management System* were stated as factors affecting student satisfaction. In this regard; *considering gender factor,* it was concluded that female students had higher satisfaction in "delivery and usability", "teaching process"" and "instructional content" sub-dimensions compared to males, participants aged 22 and above had higher satisfaction in "education process" and "interaction and evaluation" sub-dimensions compared to other age groups; students spending 5 hours and more in LMS had higher satisfaction compared to other groups; discussion form among *communication channel types* and multi-communication channels increased student satisfaction and digital devices such as computer, cell phone and tablet used by the students for accessing distance education class do not affect student satisfaction. The students generally stated a high satisfaction level for distance education in the study (Demir Öztürk and Eren, 2021).

The survey study conducted by Tüzün and Yörük Toraman to detect the factors affecting the distance education satisfactions of university students showed that most students were not satisfied with distance education and preferred face-to-face education. The negative attitude of the students towards distance education was stated to be caused by "*physical, university-related and demographical"* factors. (Tüzün and Yörük Toraman, 2021).

In the study by Özkök and Tütüncü aiming to measure the effect of "blended e-learning environments[12]" on children, five variables including "*instructor support, student interaction and collaboration, personal relevance, authentic learning, active learning and student autonomy*" were used

[10] "*Gender, Age, Type of Class Access Tools, Type of Communication Channels used in Class and Time Spent in Learning Management System (LMS) (time spent on the system providing distance education)"*
[11] *"Delivery and usability, Teaching process, Instructional content, Interaction and evaluation"*
[12] The study defined **Blended e-learning environments** as "environments using e-platform and virtual classes together".

to test their hypotheses. The reason for high personal relevance, authentic learning and active learning factor values was stated as blended education environment in the study. These three psychosocial dimensions were also stated to be directly affected by the talents of the individual and the environment had a very little effect on these dimensions (Özkök and Tütüncü, 2022).

The research by Vasiliki et al examining the perceptions and attitudes of university students towards distance education during Covid 19 period showed that many participants ended their education due to low speed internet connection and system failures and in addition to the feelings of the students, the support provided by instructors to the students was also important during distance education process and these factors affected the satisfaction of students from distance education. The students also stated that they did not understand all survey questions (Vasiliki et al, 2021).

In their study, Baloran et al tried to measure the online attendance and distance education satisfaction of university students in Philippines during Covid 19 period. Interrelations of distance education satisfaction, "*skill, emotion, participation and performan*ce" variables were measured to test the hypotheses in the study. Considering the instructor support dimension, findings on how the communication of the instructors with students and their provision of course-related digital materials and their positive feedback on the participation and performance of the students in online courses and the Teaching Management System used by the students increased student satisfaction were covered. The research results presented a high level of student participation and satisfaction in online education. It was also mentioned that eliminating the advantage differences among students would increase satisfaction (Baloran et al, 2021).

A survey measuring the distance (online) education satisfaction of 116 university students from physics, chemistry, biology and math departments in Saudi Arabia was conducted in the study by Bawaneh. To measure distance education satisfaction, "*student specialization'*" (the department), "*educational level*" (year of study) and "*GPA*" variables were used in the study. The variables did not present significant statistical difference at online education and virtual class usage level and the satisfaction of the students from distance education was at an average level. The research also suggested that the infrastructure required for electronic education should be developed and the qualifications and competencies of both the instructors and students on distance education should be increased (Bawaneh, 2021).

The survey study by Martinez Cejas et al on the university students in Ecuador measured the approaches of students on distance education. Four variables including "*gender, educational specialization, position of the student, education level*" were defined to test the study hypotheses and the variables other than gender were statistically insignificant. Limited technological resources and internet access and the insufficient progress of electronic literacy are also defined among the difficulties of online education. Despite all, the students were satisfied with distance education. The study showed

significant statistical differences based on gender variables and the students had more sympathy towards female students in online education (Martínez Cejas et al, 2021).

The survey by Osmani on the medical students in Iran aimed to measure the satisfaction of students from virtual (distance) education and the performance of this education. The study universe included 2700 and the sampling included 320 individuals and the hypothesis was tested with five dimensions including "*platform availability of the system, designed content, interactive learning activities, quality of service, instructor evaluation*". "Service quality dimension" was stated as the main variable affecting student satisfaction. Most participants of the study had an average level of satisfaction. Presence of a significant relationship between computer skills, semester, gender and student satisfaction was also mentioned (Osmani, 2021).

4. DISTANCE EDUCATION AND STUDENT SATISFACTION

4.1. Research Method

Survey which is a quantative research method was used in the study on the effect of distance education on student satisfaction. Yıldırım and Şimşek emphasized especially the significance of measuring the relationship between two variables as the reason behind using quantative research method. The variables should be analyzed to find which variable affects which variable(s) how and in which direction and this measurement should be performed carefully. This relationship between the variables is considered as a result of causality principle (Yıldırım and Şimşek, 2018: 52-53). As this study covering the effect of distance education on student satisfaction during Covid-19 aimed to study how the present education practice affected students, quantative research method was considered to be suitable.

As Tanrıöğen stated, survey technique has many advantages such as the chance to reach large masses, providing the participant the chance to check available information and answer the questions correctly and preventing any misunderstanding as the questions are in written form (Tanrıöğen, 2012: 136-137). The survey method was preferred as online survey was more useful and time saving as it was conducted during the pandemic and the comparison could be more balanced as different sections were compared by a higher number of participants. Bandırma Onyedi Eylül University graduate and postgraduate students constituted the universe and bachelor students of economics and administrative sciences faculty and the postgraduate students of the social sciences institute of the university constituted the sampling of the study. The main reason behind choosing Economics and Administrative Sciences Faculty and Social Sciences Institute can be explained by the sampling size it provides as the result of being the faculty and institute with the highest number of students in Bandırma Onyedi Eylül University which is a relatively new university. 436 surveys were assessed within the scope of the study. The surveys were prepared online considering the distance education period due to the pandemic. The study was started in 2020-2021 spring term and concluded in two months.

The distance education scale covering six dimensions ("instructor support", "student interaction and collaboration", "personal relevance", "authentic learning", "active learning" and student autonomy") covered by Walker and Fraser was used to measure distance education score (Walker and Fraser, 2005:303-304). Student satisfaction score survey was taken from the article by Bayrak, Tıbı and Altın and covered a total of eight questions (Bayrak et al., 2020:123). The questions in the survey were grouped under three sections. These were demographical questions, questions measuring distance education and questions on student satisfaction. The first five were demographical questions, questions 6-39 were covered under distance education title and questions 40-47 measured student satisfaction. The survey included a total number of 47 questions.

The scales were answered through five-point Likert scale. The adequacy and reliability of the survey questions were tested before starting the actual survey study. The adequacy of the questions was decided by asking the views of experts in the field of adequacy. To assess reliability, a pilot study was made before starting the actual study and the questions were observed to have values supporting a high level of reliability.

4.2. Research Hypotheses

The fact that distance education process played a determining role on student satisfaction constituted the main hypothesis of the study on the effect of distance education on student satisfaction. Considering the sub-hypotheses of the study, the following hypotheses will be tested in distance education process and will be analyzed in the research results section:

a) The attitude of instructors toward students affects/increases student satisfaction.

b) Instructor and student communication positively affects/increases student satisfaction.

c) Attendance of the students positively affects/increases student satisfaction.

Ethics Board Consent Information: Research consent of this research was given by Bandırma Onyedi Eylül University Ethics Board on 01.07.2021 in meeting no 2021-6.

4.3. Research Findings

4.3.1. Demographical Information

This stage of the study covered demographical information of the students. Age, gender, education, department and year of study data were presented within this concept.

Table 1. Demographical Information of the Students

		Number	%
Age	17-20	62	14.2
	21-24	311	71.3
	25 and above	63	14.4
	Total	436	100.0

Gender	Female	267	61.2
	Male	169	38.8
	Total	436	100.0
Education Level		Number	%
	Graduate	375	86.0
	Postgraduate	61	14.0
	Total	436	100.0
Department			
	Labour Economics and Industrial Relations	142	32.6
	Other*	17	3.9
	Econometrics	9	2.1
	Economics	56	12.8
	Business Administration	19	4.4
	Finance	44	10.1
	Political Science and Public Administration	82	18.8
	International Relations	67	15.4
	Total	436	100.0
Year of study			
	1	65	14.9
	2	68	15.6
	3	94	21.6
	4	159	36.5
	Postgraduate course stage	29	6.7
	Postgraduate thesis stage	18	4.1
	Doctoral qualification stage	3	.7
	Total	436	100.0

* means other postgraduate departments covered under social sciences industry and defined by "other".

21-24 age group has highest number of participants within the study. Female participants are higher in number in terms of gender distribution based on the table. The number of participants at graduate level in terms of education level is higher than the participants at postgraduate level. Examining the participant distribution based on departments on the table, it was observed that the participants from labour economics and industrial relations department constituted the majority among other departments and political science and public administration students constituted the second and international relations department students constituted the third most common departments. Considering the years of study, the participants were mostly senior students.

4.3.2. Validity and Reliability Analyses within the Context of Research

First, the validity and reliability were tested for the items of the surveys applied in the research. The validity analysis and reliability analysis performed for this aim were presented and interpreted in the tables below.

4.3.2.1. Validity Analysis

Table 2. Distance Education KMO and Bartlett Tests

KMO sampling adequacy test		**.959**
Bartlett's globality test	Approximate chi square	10722.087
	Sd	351
	P	**.000**

When KMO sampling adequacy test was examined, distance education sampling adequacy value was found .959. As we can understand, number of samples was adequate for analysis. *p* value was significant ($p<0.05$).

Table 3. Distance Education Scale Total Variance Explained Table

The number of items	Initial Eigen values			Extraction sum of squared loadings			Rotation sum of squared loadings		
	Total	Variance percentage	Cumulative percentage	Total	Variance percentage	Cumulative percentage	Total	Variance percentage	Cumulative percentage
1	**14.744**	54.608	54.608	14.744	54.608	54.608	5.434	20.127	20.127
2	**1.927**	7.139	61.747	1.927	7.139	61.747	5.291	19.597	39.725
3	**1.675**	6.203	67.950	1.675	6.203	67.950	4.739	17.551	57.276
4	**1.457**	5.395	73.345	1.457	5.395	73.345	4.339	16.069	**73.345**
5	.727	2.693	76.038						
6	.556	2.058	78.096						
7	.505	1.872	79.968						
8	.501	1.857	81.825						
9	.438	1.622	83.446						
10	.428	1.584	85.030						
11	.378	1.401	86.431						
12	.370	1.372	87.803						
13	.350	1.297	89.100						
14	.312	1.156	90.256						
15	.285	1.057	91.313						
16	.283	1.047	92.361						
17	.273	1.011	93.371						
18	.248	.917	94.288						
19	.227	.839	95.128						
20	.215	.797	95.924						
21	.213	.788	96.713						
22	.181	.670	97.382						
23	.170	.628	98.010						
24	.159	.587	98.598						
25	.134	.498	99.096						
26	.131	.485	99.580						
27	.113	.420	100.000						

The items were subjected to factor analysis for factor determination operation in terms of distance education scale explained total variance value. The table based on the analysis showed that distance education scale factor number was 4. Accordingly, the values were 14.744 for factor 1, 1.927 for factor 2, 1.675 for factor 3 and 1.457 for factor 4. Four factors in total increased the total variance of the scale. The table shows that the factors constitute 73.345% of the total variance.

Table 4. Distance Education Scale Rotated Factor Matrix

		Factors (Dimensions)			
Dimensions	**Item no**	**1**	**2**	**3**	**4**
Instructor Support	10	.787			
	7	.771			
	6	.767			
	12	.740			

	8	.737			
	9	.736			
	13	.711			
Personal relevance and authentic learning	24		.787		
	22		.777		
	20		.769		
	29		.767		
	23		.742		
	25		.641		
	27		.609		
	30		.588		
Student interaction and collaboration	18			.796	
	17			.790	
	15			.760	
	14			.751	
	19			.713	
	16			.667	
Student autonomy and active learning	39				.758
	37				.756
	38				.753
	36				.738
	35				.716
	32				.622

Overlapping problem was noticed among different items during factor analysis. This condition caused the omission of items with a association level difference below 0.1 from the analysis. In the analysis where the items were omitted in order, starting from the item with the lowest difference between item scores, item 28 was removed first and factor analysis and rotation operation were repeated. Due to continuing overlapping problem, item 31, item 11, item 26, item 33, item 34 and item 21 were omitted from the scale in order and the factor analysis was repeated and then the scale reached its final form available on Table 4 following rotation operation. Based on the result of the rotation operation, it was observed that questions 6, 7, 8, 9, 10, 12 and 13 were grouped under factor 1, questions 20, 22, 23, 24, 25, 27, 29 and 30 under factor 2, questions 14, 15, 16, 17, 18 and 19 under factor 3 and questions 32, 35, 36, 37, 38 and 39 under factor 4. Among these four factors, the first factor was named as "instructor support", the second factor as "personal relevance and authentic learning", third factor as "student interaction and collaboration" and the fourth factor as "student autonomy and active learning".

4.3.2.2. Reliability Analysis

Reliability analysis reflect the consistency of the answers given by individuals to the questions and the correlation in the mentioned analysis is leading in the interpretation of the relationship between the test scores and the reality or error level of the difference between the subjects. For instance, it may be stated that interpersonal difference in the scores of a test with 80% is 80% correct with an error margin of 20% (Büyüköztürk, 2014:181-182).

One of the striking comments on scale reliability belonged to Özdamar. Depending on this view, the structural evaluation of reliability is as follows (Özdamar, 2013:555):

- the scale is reliable if $\alpha<0.40$,
- the scale reliability level is too low if $0.40\geq\alpha<0.50$,
- the scale reliability level is low if $0.50\geq\alpha<0.60$,
- the scale reliability level is adequate if $0.60\geq\alpha<0.70$,
- the scale reliability level is high if $0.70\geq\alpha<0.90$,
- and scale has a very high reliability level if $\alpha\leq0.90$.

Quoting the interpretation of George and Mallery on the coefficient of reliability, Kılıç covered the following evaluation on reliability range in his study (Kılıç, 2016:48):

- at a perfect level if ≥0.90.
- at a good level if $0.7\geq\alpha<0.9$,
- acceptable if $0.6\geq\alpha<0.7$,
- at a low level if $0.5\geq\alpha<0.6$,
- and unacceptable if $\alpha<0.5$.

According to Büyüköztürk, items with a correlation of 0.30 and above have a good level of identifying individuals, items with a correlation between 0.20-0.30 may not be included in the test or should be corrected and it would be right not to include the items with a correlation below 0.20 in the test in general (Büyüköztürk, 2014:183).

Reliability levels of the questions on each dimension of distance education and student satisfaction scales were presented within the scope of reliability analysis. Cronbach's Alpha and item total statistics table was provided within this scope.

Table 5: Instructor Support Reliability Test

Cronbach's Alpha	Question no
.942	7

When instructor support reliability analysis is examined, it is understood that the questions on the mentioned dimension have a high level of reliability. This condition can be understood from Cronbach's Alpha value of 0.942.

Table 6. Instructor Support Dimension Item Total Statistics

Item no	Mean value of item scores (In case the item is omitted from measurement tool)	Variance of item scores (In case the item is omitted from measurement tool)	Number of corrected item total correlations	Cronbach's Alpha Reliability Coefficient Value (In case the item is omitted from measurement tool)
10	23.10	26.405	.859	.929
7	23.21	25.921	.858	.928
6	23.24	26.880	.783	.935
12	23.29	25.543	.814	.932
8	23.27	26.255	.798	.934
9	23.19	26.579	.806	.933
13	23.28	26.290	.746	.939

Items provide a high contribution to the scale as instructor support dimension item total statistics table shows. Minimum coefficient value of 0.746 and maximum coefficient value of 0.859 on the corrected item total correlation table explains this condition.

Table 7. Personal Relevance and Authentic Learning Reliability Analysis

Cronbach's Alpha	Question no
.938	8

Questions on personal relevance and authentic learning dimension was found to have a high level of reliability as the Cronbach's Alpha value (0.938) on Table 7 shows.

Table 8. Personal Relevance and Authentic Learning Dimension Item Total Statistics

Item no	Mean value of item scores (In case the item is omitted from measurement tool)	Variance of item scores (In case the item is omitted from measurement tool)	Number of corrected item total correlations	Cronbach's Alpha Reliability Coefficient Value (In case the item is omitted from measurement tool)
24	25.10	41.241	.849	.924
22	25.06	41.868	.822	.926
20	25.04	41.280	.836	.925
29	25.00	42.262	.853	.924
23	25.05	42.220	.824	.926
25	24.86	43.493	.722	.934
27	24.86	44.449	.738	.933
30	25.31	44.244	.611	.942

Corrected item total correlation numbers provided a high level of contribution on the scale as the table on personal relevance and authentic learning dimension total item statistics shows (Table 8).

Table 9. Student Interaction and Collaboration Reliability Analysis

Cronbach's Alpha	Question no
.926	6

Questions on related dimension have a rather high level of reliability based on student interaction and collaboration reliability analysis. Cronbach's Alpha value of the six questions is at 0.926 level.

Table 10. Student Interaction and Collaboration Item Total Statistics

Item no	Mean value of item scores (In case the item is omitted from measurement tool)	Variance of item scores (In case the item is omitted from measurement tool)	Number of corrected item total correlations	Cronbach's Alpha Reliability Coefficient Value (In case the item is omitted from measurement tool)
18	15.79	28.744	.801	.910
17	15.74	28.214	.838	.905
15	15.67	28.171	.839	.905
14	15.81	28.181	.818	.908
19	15.77	30.591	.695	.924
16	15.53	29.774	.721	.921

As Table 10 shows, it may be stated that the six items have quite high contributions on the scale.

Table 11. Student Autonomy and Active Learning

Cronbach's Alpha	Question no
.924	6

Cronbach's Alpha value of student autonomy and active learning dimension at the level of 0.924 shows the high reliability of the six questions.

Table 12. Total Statistics of Student Autonomy and Active Learning Items

Item No	Mean value of item scores (In case the item is omitted from measurement tool)	Variance of item scores (In case the item is omitted from measurement tool)	Number of corrected item total correlations	Cronbach's Alpha Reliability Coefficient Value (In case the item is omitted from measurement tool)
39	18.13	25.212	.764	.912
37	18.19	23.884	.843	.901
38	18.33	24.050	.821	.905
36	17.83	25.843	.747	.915
35	18.09	25.008	.785	.910
32	18.23	25.280	.727	.917

It was observed on student autonomy and active learning dimension item total statistics table that the six items provided a high contribution on the scale with the greatest contribution of 0.843 on item 37.

Table 13. Student Satisfaction

Cronbach's Alpha	Question no
.943	8

As student satisfaction Cronbach's Alpha value shows, 8 questions on student satisfaction scale had a high reliability value of 0.943.

Table 14. Student Satisfaction Scale Item Total Statistics

Item no	Mean value of item scores (In case the item is omitted from measurement tool)	Variance of item scores (In case the item is omitted from measurement tool)	Number of corrected item total correlations	Cronbach's Alpha Reliability Coefficient Value (In case the item is omitted from measurement tool)
40	26.24	40.355	.778	.937
41	26.24	40.422	.763	.938
42	26.33	39.675	.788	.936
43	26.15	40.709	.820	.934
44	26.27	39.955	.827	.934
45	26.18	40.194	.822	.934
46	26.36	39.391	.770	.938
47	26.48	38.205	.811	.935

4.4. Testing the Significance of Inter-Group Mean Values

Independent sampling t test and one-way variance analysis (Anova) were applied to test the significance of inter-group mean values at this stage of the research. Although group mean values were found to be significant based on the comparisons on age and education levels, mean values in the comparisons on the years of study, departments and genders of the students (p=0.317) were found to be insignificant (p>0.05) The results were explained before.

4.4.1. Comparison of Student Satisfaction Based on Age Groups

Anova test was used to understand whether there is a difference among group mean values of age groups. Mentioned age groups were "17-20", "21-24" and "25 and above". As a difference was noticed among group mean values, post-hoc test presented the analysis results showing among which groups the mentioned difference existed.

Table 15. Anova Test Based on Age Groups

	Sum of squares	Degree of freedom	Average of squares	F	P
Inter-group	11.039	2	5.519	7.029	**.001**
Intra-group	340.001	433	.785		
Total	351.039	435			

Table 15 shows a significant difference among the mean values of three age groups. Groups with the mentioned difference were shown in post-hoc test.

Table 16. Comparison on Age Groups and Post Hoc Test

Scheffe

(I) Age	(J) Age	Average of squares (I-J)	Standard error	P	95% Confidence interval	
					Lower limit	Upper limit
17-20	21-24	-.20260	.12325	.260	-.5053	.1001
	25 and above	-.57567*	.15852	**.002**	-.9650	-.1863
21-24	17-20	.20260	.12325	.260	-.1001	.5053
	25 and above	-.37307*	.12243	**.010**	-.6738	-.0724

25 and above	17-20	.57567*	.15852	**.002**	.1863	.9650
	21-24	.37307*	.12243	**.010**	.0724	.6738

Dependent variable: Student satisfaction

Post-hoc test result showed a significant difference in student satisfaction among the students in the age groups of 17-20 and 25 and above (p=.002). Students aged 21-24 and 25 and above constitute another group presenting difference (p=0.010).

4.4.2. Comparison of Student Satisfaction Based on Education Levels

Students were divided into two groups as graduate and postgraduate level while comparing education levels. Group statistics table and the results of independent sampling t test comparing the mean values among the groups are presented below.

Table 17. Education Level Group Statistics Table of the Students

	Education level	Number	Mean	Standard deviation	Mean value standard error
Student satisfaction	Graduate degree	375	**3.7185**	.89248	.04609
	Postgraduate degree	61	**3.9756**	.90993	.11650

Table 18 shows that the equality of variances was provided based on the Levene test following independent sampling t test on graduate and postgraduate degree students (p=0.848) (p>0.05). Significance value was found p=0.038. This condition shows a significant difference in the distance education satisfactions of students at graduate and post-graduate level. Satisfaction group means of post-graduate students are significantly higher than graduate students.

Table 18. Comparison of the Groups Based on Education Level

		Levene's Test for equality of variance		Equality of means t test						
		F	Sig.	t	Degree of freedom	Sig. (2-tailed)	Difference of group means	Standard error of difference between means	95% confidence interval for the difference between means	
									Lower	Upper
Student satisfaction	Assuming equal variances	.037	**.848**	-2.080	434	**.038**	-.25701	.12355	-.49984	-.01418
	Assuming unequal variances			-2.051	79.934	.044	-.25701	.12529	-.50635	-.00768

4.4.3. Comparison of Student Satisfaction Based on the Year of Study

Another comparison on student satisfaction covered the year of study. Table on the years of study between freshman and doctorate are presented below.

Table 19. Comparison of Mean Year of Study (Anova)

	Sum of squares	Degree of freedom	Average of squares	F	P
Inter-group	96.118	37	2.598	1.294	.122
Intra-group	798.947	398	2.007		
Total	895.064	435			

One way Anova test presented no significant difference among the means of the year of study of the mentioned groups (p=0.122) (p>0.05).

4.4.4. Comparison of Student Satisfactions Based on the Departments

This stage analyzing the student satisfaction based the means depending on departments tested any significance in the mean values of departments.

Table 20. ANOVA Test Based on Means of Departments

	Sum of squares	Degree of freedom	Average of squares	F	P
Inter-group	259.728	37	7.020	1.179	.224
Intra-group	2369.529	398	5.954		
Total	2629.257	435			

Anova test result on departments presented no significant difference among the mean values for departments (p=0.224) (p>0.05).

4.4.5. Comparison of Student Satisfaction Based on Genders

Independent sampling t test results measuring student satisfaction based on gender are provided on group statistics table and independent sampling t test table.

Table 21. Group Statistics Table Considering Genders and Satisfaction

	Your gender	Number	Mean	Standard deviation	Standard error for mean values
Student satisfaction	Female	267	3.7202	.89058	.05450
	Male	169	3.8087	.91044	.07003

Table 22 shows that the equality of group variances was provided based on the Levene test following independent sampling t test (p=0.800) (p>0.05). Significance value presented no significant difference among the means of female and male students (p=0.317) (p>0.05).

Table 22. Comparison of Groups Based on Gender

		Levene's Test for equality of variances		Equality of means t test						
		F	P	t	Degree of freedom	Sig. (2-tailed)	Difference of group means	Standard error of difference between means	95% confidence interval for the difference between means	
									Lower	Upper
Student satisfaction	With equal variances	.064	**.800**	-1.002	434	.317	-.08852	.08830	-.26207	.08504
	With unequal variances			-.997	351.653	.319	-.08852	.08874	-.26305	.08602

4.5. Distance Education Sub-dimensions and Student Satisfaction Regression Analysis

The predictivity of distance education sub-dimensions on student satisfaction was measured in regression analysis. Accordingly, selecting "instructor support", "personal relevance and authentic learning", "student interaction and collaboration" and "student autonomy and active learning" dimensions of distance education scale as independent variables and student satisfaction as dependent variable, they were analyzed on regression model.

Table 23. Results of the Model for the Explanatory Nature of Independent Variables

Model	R	R square	Corrected R square	Regression equity standard error
1	.881[a]	.777	**.775**	.42617

Independent variables: “Student autonomy and active learning”, “Instructor support”, “Student interaction and collaboration”, “Personal relevance and authentic learning” Dependent variable: Student satisfaction

As the corrected r square value on Table 23 shows, independent variables ("student autonomy and active learning", "instructor support", "student interaction and collaboration", "personal relevance and authentic learning" explained dependent variable (student satisfaction) at the level of 0.775. On the other hand, the model was found to be significant.

Table 24. Distance Education Variables and Student Satisfaction Regression Results

	Non-standardized coefficients		Standardized coefficients	t	p	Correlation			Correlation between predicted variables	
Model	B	Standard error	Beta			Binary	Partial	Semi-partial	Tolerance	VIF
(Constant)	.222	.098		2.259	.024					
Instructor support	.397	.037	.376	10.749	**.000**	.786	.460	.244	.423	2.366
Personal relevance and authentic learning	.086	.035	.089	2.467	**.014**	.708	.118	.056	.400	2.499

Student interaction and collaboration	.054	.028	.064	1.912	.057	.670	.092	.043	.457	2.190
Student autonomy and active learning	.418	.032	.461	13.087	**.000**	.815	.533	.298	.417	2.399

Dependent Variable: Student Satisfaction

Table 24 shows that "instructor support, "personal relevance and authentic learning", "student autonomy and active learning" dimensions have an effect on student satisfaction dimension ($p<0.05$). Considering beta variable in terms of effect direction, the positive effect of all three independent variables was observed on student satisfaction. Thus, it can be stated that student satisfaction also increases when "instructor support", "personal relevance and authentic learning" and "student autonomy and active learning" increases. Evaluating based on effect value, it may be stated that one unit increase in instructor support is effective in increasing student satisfaction 39%, one unit increase in personal relevance and authentic learning dimension increases it 08 % and one unit increase in student autonomy and active learning dimension increases it 41%.

In order, the approach of the instructor towards the student is a determining factor in increasing student satisfaction as supported by hypothesis 1. It may be concluded that the view stating that especially the reachability of instructors by students when needed positively affects distance education satisfaction levels of the students is accepted.

Evaluating in terms of hypothesis 2, instructor-student communication has a positive effect on student satisfaction. The hypothesis emphasizing the relationship between the student and instructor both during the course and the whole process of learning was especially supported.

As hypothesis 3 states, participation of the students in the courses has a positive effect on student satisfaction. When students actively participate in the course-related activities and they have the freedom to make decisions during the course, their satisfaction towards distance education would increase.

5. CONCLUSION

Education process has passed through different stages in time and this process provided through basic methods before continues its presence with different options such as face-to-face and online education today. The experienced pandemic period also brought along a period of reinterpreting education in terms of before and after. As in almost all sectors, the pandemic period also affected education in different ways. The mentioned effect increased the popularity of distance education method making education possible in house or office environment. Distance education process was built on the continuity of non-stop education during this process both in Turkey and the whole world.

Students constituting the target mass of education life in the mentioned period also experienced compliance problems to the new education process certainly. Pandemic period revealed the need for

analyzing the satisfaction level of the students towards education understanding. This study analyzed the effect of distance education on student satisfaction. The main study was started after analyzing the adequacy and reliability of the surveys and taking the positive results of the pilot study. The study including 436 graduate and post-graduate students presented that distance education has a significant effect on student satisfaction.

Anova and independent sampling t tests were used to test the significance among the groups in the study. The test presented a significant difference among the students in terms of age and education levels. This condition presents the difference in the satisfaction levels of graduate and postgraduate students and the students in the age groups of "17-20", "21-24" and "25 and above".

- Reachability of the instructors by students any time during the education process and the supportive attitudes and behaviors of the instructors towards their students,

- Instructor and student communication

- and the attendance of the students to the courses were observed to contribute to increasing student satisfaction. All three hypotheses are supported within this scope.

Especially the experienced pandemic period and digitalization have significant effects on education sector, too. Popularity of distance education also brings along an increasing requirement of student and instructor collaboration. This can be possible through the active presence of the student in education system during the learning process.

Based on the results of the study, also considering the conditions of different faculties, institutes and departments, it can be stated that the possibility of distance provision of a certain number of courses (theoretical and applied) within the education period may provide successful results for its permanence and sustainability of distance education can be achieved.

REFERENCES

Baloran, E. T., Hernan, J. T. and Taoy, J. S. (2021) ‘‘Course Satisfaction and Student Engagement in Online Learning Amid Covid-19 Pandemic: A Structural Equation Model’’, Turkish Online Journal of Distance Education, 22 (4): 1-12.

Barış, M. F. (2015) ‘‘Üniversite Öğrencilerinin Uzaktan Öğretime Yönelik Tutumlarının İncelenmesi: Namık Kemal Üniversitesi Örneği’’, Sakarya University Journal of Education, 5 (2): 36-46.

Bawaneh, A. K. (2021) ‘‘The Satisfaction Level of Undergraduate Science Students Towards Using e-Learning and Virtual Classes in Exceptional Condition Covid-19 Crisis’’, Turkish Online Journal of Distance Education, 22(1): 52-65.

Bayrak, F., Tıbı M. H. and Altun A. (2020) ‘‘Development of Online Course Satisfaction Scale, Turkish Online Journal of Distance Education’’,TOJDE, 21 (4): 110-123.

Bayram, M., Peker, A., Aka, S. and Vural, M. (2019) ‘‘Üniversite Öğrencilerinin Uzaktan Eğitim Dersine Karşı Tutumlarının İncelenmesi’’, Gaziantep Üniversitesi Spor Bilimleri Dergisi, 4 (3): 330-345.

Bennett, S., and Lockyer, L. (2004) ‘‘Becoming an Online Teacher: Adapting to a Changed Environment for Teaching and Learning in Higher Education’’, Educational Media International, 41(3): 231-248.

Bircan, H., Eleroğlu, H., Arslan, R. ve Ersoy, M. (2018) ‘‘Cumhuriyet Üniversitesi Öğrencilerinin Uzaktan Eğitimde Sunulan Derslere Yönelik Bakış Açısı’’, Avrasya Sosyal ve Ekonomi Araştırmaları Dergisi, 5(12): 91-100.

Buluk, B. ve Eşitti, B. (2020) ‘‘Koronavirüs (Covid-19) Sürecinde Uzaktan Eğitimin Turizm Lisans Öğrencileri Tarafından Değerlendirilmesi’’, Journal of Awareness, 5 (3): 285-298.

Büyüköztürk, Ş. (2014) ‘‘Sosyal Bilimler için Veri Analizi El Kitabi (İstatistik, Araştırma Deseni SPSS Uygulamalari ve Yorum)’’, 20. Bs. Ankara: Pegem Akademi.

Cohen, E., and Davidovitch, N. (2020) ‘‘The Development of Online Learning in Israeli Higher Education’’, Journal of Education and Learning, 9(5): 15-26.

Cole, M. T., Shelley, D. J., and Swartz, L. B. (2014) ‘‘Online Instruction, E-Learning, and Student Satisfaction: A Three Year Study’’, The International Review of Research in Open and Distributed Learning, 15(6): 111-131. https://doi.org/10.19173/irrodl.v15i6.1748.

Eygü H. ve Karaman, S. (2013) ‘‘Uzaktan Eğitim Öğrencilerinin Memnuniyet Algıları Üzerine bir Araştırma’’, Kırıkkale Üniversitesi Sosyal Bilimler Dergisi, 3(1): 36-59.

Franz, S., Behrends, M., Haack, C., and Marschollek, M. (2015) ‘‘Benefits and Barriers of Elearning for Staff Training in a Medical University’’, Studies in Health Technology and Informatics, 213: 99-102.

Gökmen, Ö. F., Duman, İ. ve Horzum, M. B. (2016) ‘‘Uzaktan Eğitimde Kuramlar, Değişimler ve Yeni Yönelimler’’, Açıköğretim Uygulamaları ve Araştırmaları Dergisi, 2 (3): 29-51.

Jegede, O. J., Fraser, B., and Curtin, D. F. (1995) ‘‘The Development and Validation of a Distance and Open Learning Environment Scale’’, Educational Technology Research and Development, 43(1): 89-94.

Kantoğlu, B., Torkul, O. ve Altunışık, R. (2013) ‘‘E-Öğrenmede Öğrenci Memnuniyetini Etkileyen Faktörlerin İncelenmesine Yönelik Model Önerisi’’, Business and Economics Research Journal. 4 (1): 121-141.

Kılıç, S. (2016) ‘‘Cronbach’ın Alfa Güvenirlik Katsayısı’’, Journal of Mood Disorders (JMOOD), 6(1): 47-48.

Korkmaz, Ö., Çakır, R. ve Tan, S. S. (2015) ‘‘Öğrencilerin E-Öğrenmeye Hazır Bulunuşluk ve Memnuniyet Düzeylerinin Akademik Başarıya Etkisi’’, Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi, 16 (3): 219-241.

Martínez Cejas, M. F., Navarro Cejas, M., Venegas Alvarez, G. S., Proaño Rodríguez, C. E. and Mendoza Velazco, D. J. (2021) ‘‘Student Perceptions of Ecuadorian Virtual Platforms During the Covid-19 Pandemic’’, Problems of Education in the 21st Century, 79 (2): 241-254.

Metin, A. E., Karaman, A. ve Aksoy Şaştım, Y. (2017) ‘‘Öğrencilerin Uzaktan Eğitim Sistemine Bakış Açısı ve Uzaktan Eğitim İngilizce Dersinin Verimliliğinin Değerlendirilmesi: Banaz Meslek Yüksekokulu’’, Karabük Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 7 (2): 640-652.

Narlıkaya, Z. ve Demir, Ö. (2020) ‘‘Covid-19 Salgını Sürecinde Muhasebe ve Finans Derslerini Alan Öğrencilerin Uzaktan Eğitime İlişkin Tutumlarının Araştırılması’’, Journal of Social and Humanities Sciences Research, 7(60): 2894-2904.

Oliveira, A. C., Mattos, S., and Coimbra, M. (2017) ‘‘Development and Assessment of an Elearning Course on Pediatric Cardiology Basics’’, Jmır Medical Education, 3(1), e10. doi: 10.2196/mededu.5434.

Osmani, F. (2021) ‘‘Analysis of Students Satisfaction with Virtual Education in Medical Science University during the Pandemic Outbreak of Covid-19’’, International Journal of Assessment Tools in Education, 8 (1): 1-8.

Özbay, Ö. (2015) ‘‘Dünya ve Türkiye'de Uzaktan Eğitimin Güncel Durumu’’, Uluslararası Eğitim Bilimleri Dergisi 2(5): 376-394.

Özdamar, K. (2013) ‘‘Paket Programlar ile İstatistiksel Veri Analizi’’, C.1, 9. Bs. Ankara: Nisan Kitabevi.

Özkök, G. A. ve Tütüncü, H. (2022) ‘‘İki Yükseköğretim Kurumunun Harmanlanmış Öğrenme Ortamlarının Psikososyal Boyutlarının Karşılaştırmalı Olarak İncelenmesi’’, Kırşehir Eğitim Fakültesi Dergisi, 23(1): 923-953.

Öztürk Demir, S. and Eren, E. (2021) ‘‘Üniversite Öğrencilerinin Öğrenim Ortamına İlişkin Memnuniyet Düzeyleri’’, Uluslararası Bilim ve Eğitim Dergisi, 4(2): 67-84.

Rodríguez, M. Ó., Molina, J. C. F., Montero, M. Á. M. and Gómez, F. G. (2015) ‘‘The Main Components of Satisfaction with E-Learning’’, Technology, Pedagogy and Education, 24(2): 267–277. https://doi.org/10.1080/1475939X.2014.888370.

Saghafi, M. R., Franz, J. and Crowther, P. (2014) ‘‘A Holistic Model for Blended Learning’’, Journal of Interactive Learning Research, 25(4): 531-549.

Tanrıöğen, A. (2012) ‘‘Bilimsel Araştırma Yöntemleri’’, Anı yayıncılık, 3. baskı, Ankara.

Terzi, B., Azizoğlu, F. and Özhan, F. (2021) ‘‘Factors Affecting Attitudes of Nursing Students Towards Distance Education during the COVID-19 Pandemic: A Web-Based Cross-Sectional Survey’’, Perspectives in Psychiatric Care, 57(4): 1765–1773.

Tüzün, F. ve Yörük-Toraman, N. (2021) ‘‘Pandemi Döneminde Uzaktan Eğitim Memnuniyetini Etkileyen Faktörler’’, Ömer Halisdemir Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, 14(3): 822–845

Üçer, N. (2020) ‘‘Pandemi (Covid-19) Sürecinde Uzaktan Eğitim Araçlarının Etkinliğinin Üniversite Öğrencileri Tarafından Değerlendirilmesine Kullanımlar ve Doyumlar Yaklaşımı Açısından Bir Bakış’’, Global Media Journal TR Edition, 11 (21): 206-233.

Vasiliki, K., Athina, C. and Eleni, T. (2021) ‘‘Greek University Students’ Attitudes about Distance Education Due to Emergency Circumstances’’, European Journal of Open Education and E-learning Studies, 6(1): 14-25.

Walker, S. L. and Fraser B. J. (2005) ‘‘Development and Validation of an Instrument for Assessing Distance Education Learning Environments in Higher Education: The Distance Education Learning Environments Survey (Deles)’’, Learning Environments Research, 8: 289-308.

Walker, Scott L. (2003) ‘‘Development and Validation of an Instrument for Assessing Distance Education Learning Environments in Higher Education: The Distance Education Learning Environments Survey (DELES)’’, Doctoral Thesis, Curtin University of Technology. Science and Mathematics Education Centre.

Yaprak, B. ve Ercan, S. (2021) ‘‘Kapitalizmin Sözde Ölümü: Paylaşım Ekonomisine Eleştirel Bir Bakış’’, Düşünce ve Toplum Sosyal Bilimler Dergisi, (5): 92-121.

Yıldırım, A. ve Şimşek, H. (2018) ‘‘Sosyal Bilimlerde Nitel Araştırma Yöntemleri’’, Seçkin Yayıncılık, 11. baskı, Ankara.

KATKI ORANI/ CONTRIBUTION RATE AÇIKLAMA	AÇIKLAMA / EXPLANATION	KATKIDA BULUNANLAR / CONTRIBUTORS
Fikir veya Kavram / Idea or Notion	Araştırma hipotezini veya fikrini oluşturmak / Form the research hypothesis or idea	Asst. Prof. (Ph.D.) Neslihan ARSLAN Assoc. Prof. (Ph.D.) Yasin YILMAZ
Tasarım / Design	Yöntemi, ölçeği ve deseni tasarlamak / Designing method, scale and pattern	Asst. Prof. (Ph.D.) Neslihan ARSLAN Assoc. Prof. (Ph.D.) Yasin YILMAZ
Veri Toplama ve İşleme / Data Collecting and Processing	Verileri toplamak, düzenlenmek ve raporlamak / Collecting, organizing and reporting data	Asst. Prof. (Ph.D.) Neslihan ARSLAN Assoc. Prof. (Ph.D.) Yasin YILMAZ
Tartışma ve Yorum / Discussion and Interpretation	Bulguların değerlendirilmesinde ve sonuçlandırılmasında sorumluluk almak / Taking responsibility in evaluating and finalizing the findings	Asst. Prof. (Ph.D.) Neslihan ARSLAN Assoc. Prof. (Ph.D.) Yasin YILMAZ
Literatür Taraması / Literature Review	Çalışma için gerekli literatürü taramak / Review the literature required for the study	Asst. Prof. (Ph.D.) Neslihan ARSLAN Assoc. Prof. (Ph.D.) Yasin YILMAZ

Hakem Değerlendirmesi: Dış bağımsız.

Çıkar Çatışması: Yazar çıkar çatışması bildirmemiştir.

Finansal Destek: Yazar bu çalışma için finansal destek almadığını beyan etmiştir.

Teşekkür: -

Peer-review: Externally peer-reviewed.

Conflict of Interest: The author has no conflict of interest to declare.

Grant Support: The author declared that this study has received no financial support.

Acknowledgement: -