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Determining the Opinions of Education Faculty Student Teachers on the Application for Online Courses

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ABSTRACT

This study aimed to determine the opinions of student teachers about distance learning in online courses using a survey designed for this purpose. The researchers designed a questionnaire, titled "The opinion of student teachers about distance learning in online courses survey instrument" to collect quantitative data from student teachers (n= 1056, 55.3% females) who lived in urban, rural, and suburban areas in Turkey. The original version of the survey consisted of 30 items. The authors of this article used the snowball data collection method to collect data. Descriptive statistics such as frequency and percentage analysis were applied for the items in the data collection tool. In response to the first research question of the research, most male and female candidates indicated that they could use the Internet continuously wherever they were. Approximately two-thirds of female and male candidates remarked Internet outages as more hardware problems during class participation. As for the second research question, most of the candidates stated that they had limited internet access at home and could use it continuously on a daily basis.

Key words: Distance Education, Online Courses, Education Faculty, Student Teachers

INTRODUCTION

The 21st century has been the cornerstone of the transition from the industrial age to the information age, depending on the rapid developments in science and technology. This transition has brought with the concept of a "student-centered classroom" and also the need to develop the "21st-century skills" that individuals should have (Noss, 2012; Trilling and Fadel, 2009). Besides adapting to rapidly changing technology, teachers need to integrate new technologies into the teaching-learning process. Also digital literacy skills such as access to reliable information, safe internet use, and intended internet use are considered essential for 21st-century individuals.Studies on the realization of literacy using digital technologies and the importance of digital literacy in higher education (Özbay and Özdemir, 2014; Prior et al., 2016). Therefore, in recent years, it has become essential to review teacher education programs, especially in higher education (Ağaoğlu and Demir, 2020; Özçelik, 2019; Ekici et al., 2017; Yılmaz, 2006).

Some of the obstacles caused by the COVID-19 pandemic a worldwide was also experienced during the implementation of higher education programs. Some of these are; access to technology and the internet (Erbaş, 2021; Basilaia and Kvavadze, 2020; Düzgün and Sulak, 2020; Lanckler and Parolin, 2020; Sintema, 2020; Tegev, 2020; Yılmaz, 2020, Zhang et al., 2020), software defaults (Başaran et al., 2020; Düzgün and Sulak, 2020; Keskin and Özer, 2020), the skills of instructors (Bahçeşehir, 2020; Basilaia and Kvavadze, 2020; Kurnaz et al., 2020; Sayan, 2020; Pınar and Akgul, 2020) and students to interact with technology (Abad-Segura, 2020; Geçgel et al., 2020; Lanckler and Parolin, 2020; Romero-Rvdodriquez, 2020, Tran et al., 2020) and instructional designs of online courses (Başaran et al., 2020; Sayan, 2020; Can, 2020).

At the same time, these obstacles caused some formation of academic feelings in the way that the behaviors of student teachers did not attend classes regularly (Karakuş et al., 2020), spending about 2-4 hours on distance education and more time on social media and e-games in higher education (Keskin and Özer, 2020; Nenko et al., 2020), not actively participating in classroom activities (Basaran et al., 2020; Can, 2020; Sayan, 2020), limited student-student-teacher interaction (Erbaş, 2021; Başaran et al., 2020; Can, 2020; Düzgün and Sulak, 2020; Keskin and Özer, 2020; Kurnaz and Serçemeli, 2020; Nenko et al., 2020; Sayan, 2020), lack of motivation (Öztaş and Kılınç, 2017; Tuncer and Bahadır, 2017; Uzoğlu, 2017), in-depth learning deficiencies (Düzgün and Sulak, 2020; Karakuş et al., 2020; Keskin and Özer, 2020), although learners were fond of computer technologies and mobile phones, they were more willing to face-to-face education or at least hybrid learning (Almuraqab,

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2020; Karakuş et al., 2020; Pepeler et al., 2020; Yılmaz, 2020). Since the main feature of adult learning experiences, observations are also important (Merriam et al., 2007). The observational experiences which are obtained produce emotions that affect the cognitive process of the learners. These feelings as academic emotions related to direct learning, classroom teaching, and success. If the feeling which forms at the end of the learning experience is positive, it creates a suitable environment for deep and meaningful learning; if reverse happens, the prevailing feeling in the classroom will be boredom, which leads to superficial learning. In this process, it is also essential to identify how the academic feelings of student teachers are formed and shaped (Frenzel et al., 2009). The Control-Value theory provides a comprehensive framework for the way individuals' academic feelings are formed.

Control-Value theory is a comprehensive framework that describes the relationship between the sense of achievement, cognitive process, and motivation. The sense of achievement in individuals; groups by value, activation, and focus of the emotion. Accordingly, it is based on the premise that control and value are necessary to create together to occur a sense of achievement. This is also related to academic learning. Control refers to the learners' thoughts about their learning level. On the other hand, value expresses learners' thoughts about learning activities and results (Pekrun et al., 2011).

The feeling of success also emerges depending on the results of academic activities or achievements obtained (Pekrun, 2006). For instance, the pleasure received from the boredom experiences in the classroom is an example of an activity-centered feeling. The enjoyment of the learning process is both positive and process-oriented, also encourages the learner to take an active part. Finalizing an assignment or completing an activity is both positive and product-oriented, but it can also make the learner feel like they do not have to do anything else. As boredom distracts the learner mentally and physically from the environment, it is an emotion that is negative and neutralizes the learner`s feelings. In this case, it is necessary to interpret success assessing academic activities' results based on the standards determined by both learners and educators. The emotions that are felt can be joy and pride or disappointment and shame.

Control-Value theory also enables educators to understand the role of emotions in the learning and teaching process. Educators can analyze the antecedents and impacts of emotions felt in an academic context. The theory explains how disabling emotions can harm learning and how they can cause withdrawal from learning. Pekrun (2006) has particularly emphasized the need for authentic learning activities and active involvement of students in the learning process. In addition, Pekrun has also pointed out the importance of raising value in learning environments that meet social and academic needs. Since learners assess their sense of achievement, they can also evaluate the importance of content and learning experiences. It can be described as a cycle. Student teachers can learn to adapt, adopt and integrate technology through technology education, content-oriented pedagogy education, and practice environments (Schrum, 1999 as cited in Polly, 2020). In other words, student teachers have constructed their perceptions of why and how technological tools can be integrated into the teaching and learning process in the courses designed for this purpose and by observing their instructors. As Polly (2020) has stressed, student teachers can also learn how to integrate technology into their lessons by observing the instructors in their field courses. Some research results also showed that the technology used by their instructors had a positive effect on the development of student teachers' content knowledge (Andoh et al., 2020; From, 2017; Starcic et al., 2016; Swan, 2002; Tondeur et al., 2012). However, nowadays, it is pointed out that there are preliminary studies on the effect of technology integration modeling on teaching and how teacher training institutions model it at a higher level or to what extent they achieve it (Polly, 2020). The overall focus of the research shifted from a result-oriented sense of achievement to an activity-oriented sense of achievement and its effects on motivation, learning, and performance (Pekrun and Stephens, 2010). In the meantime, Parker et al. (2021) denoted that CVT relationships were lacking in online learning. In the same study (Perkowski,2012) indicated that online courses in blended learning or hybrid education could cause unsystematic learning environments, loss of motivation, lack of cognitive involvement, and control disorders perceived by learners. In addition, prospective teachers have recently experienced the technology integration models used in learning and teaching environments since the emergence of COVID-19.

Today's student teachers are defined as digital natives. This generation is believed to be equipped to use technology in their personal and social lives. Therefore, it can be assumed that effective and efficient learning will be inevitable when the technology education received by the digital native student teachers is combined with the observations. However, the research results showed that their knowledge and skills in incorporating technology into learning-teaching were not at the desired level (Stobaugh et al., 2010; Reinders, 2009; Graham, 2008; Kabakci and Tanyeri, 2006; Rilling et al., 2005). In addition, the research findings showed that training that was related to the inclusion of technology in the learning-teaching process usually remained at the theoretical level, and therefore student teachers had difficulty transferring their knowledge to a real classroom environment (Çoklar et al., 2007; Luke and Bitten, 2007; Kabakci and Tanyeri, 2006; Bennett and Sharma, 2008). As McElroy (2021) pointed out, in the last two decades before the COVID-19 pandemic, there had been numerous "warnings" that teachers needed to be prepared for online teaching-learning environments at all levels. Since the transition from face-to-face education to online education was abrupt, the emergence of the pandemic affected higher education and other educational institutions. Academicians had great difficulties meeting the needs of students (Schmidt et al., 2021). The transition to distance education, which had not been implemented before, raised the idea of reconsidering and structuring teacher education. This experience is defined as "building the boat while on the water" (McElroy, 2021). This naturally prevents student teachers from developing their field knowledge.

In the light of these reasons, this study aimed to determine the opinions of the student teachers studying in the eight (last) semesters of the education faculties about the applications of the online courses offered by their educators. For this purpose, answers to the following research questions were sought;

Research Questions

1. What are the distributions of student teachers' opinions on online applications according to their gender?
2. What are the distributions of tstudent teachers' opinions on online applications according to their settlements?

METHOD

Research Design

Qualitative research is a method that adopts an interpretative approach to examine the research problem based on an interdisciplinary, holistic perspective. The facts and events on which the research is carried out are handled in their context and interpreted according to the meanings people attribute to them (Altunışık et al., 2010). This study employs a descriptive survey research design to determining the opinions of student teachers about online courses offered at distance education provided during COVID-19. The descriptive survey model is a set of surveys on a group, population, or sample that will come from all or part of the population to reach a general judgment about the population in a phase consisting of many elements (Owen, 2002). A survey instrument was designed specifically to collect the quantitative data to meet the research aim.

Participants and Population

The research universe consists of student teachers studying in higher education institutions in Turkey. Of the 203 selected universities in Turkey, 129 are state and 74 are foundation (private) universities. Among the 203 universities, 93 of them have education faculty. 4676657 undergraduates are studying at these universities, 2224529 female, and 4266024 are studying at state universities. Of these 4676657 undergraduates, 221530 are student teachers at these 93 education faculties. This data can also be described as student teachers from the %9 of overall undergraduates in Turkey. The data were collected from one thousand fifty-six (1056) student teachers in Turkey. This means that data were collected from 0.37% of student teachers in Turkey (YÖK, 2021). Table 1 shows the distribution of participants according to their field of study.

According to Table 1, while 58.6% of the female candidates are in the 21-23 age group, 45.6% of the male candidates are in the 18-20 age group. More than half of the female candidates (58.6%) live in the metropolitan area, while the male candidates about half of them (51.2%) live in the district. The department with the highest participation from female candidates is Primary School Education (66.8%), while the department with the highest participation from male candidates is Turkish Language Education (60.6%).

Context of the Study

The Council of Higher Education (CoHE) is an autonomous institution that supervises the higher education system founded in 1982. He is responsible for planning, coordination, and governance of the higher education system in Turkey per the Turkish Constitution and the Higher Education Laws. Universities offer bachelor's, graduate, and post-graduate programs. The Distance Education issue was first discussed in 1927, implemented partially in 1956 in higher education in Turkey, and experimented with between 1975 and 1978. Upon the foundation of CoHE, universities were allowed to make distance education. Since Anadolu University had the necessary infrastructure, Open Education Faculty (OEF) was founded in 1982. The Open High School in 1992 utilized the Ministry of National Education Film, Radio and Television Education Presidency (FRTEP). Over the years, web-based distance education, certificate and diploma programs, and video conferences have become more common. Face-to-face education, however, has always been the most preferred and implemented mode of education in Turkey (Rüzgar, 2004). In March 2020, CoHE decided to take a break from face-to-face education and continue via distance education. Universities decided on the modes and media of delivery and started to give live lectures within a month. However, there are no official data about the effectiveness and efficiency of distance education implementations. As of the 2021-2022 academic year majority of the universities started "Hybrid Education." It is pointed out that if distance/online education is not embedded in traditional education, all the efforts during distance education would be wasted, and the digital age would be missed (Toprak et al., 2020). The education in K12, however, has returned to traditional face-to-face education solely. However, if two or more students catch COVID within ten days in a classroom, the whole class is guaranteed for 14 days, and online education is made use of (MEB, 2021).

Data Collection

The data collection instrument was designed from scratch using data analyzed from the semi-structured interviews carried out by the authors of this article for this research and the literature reviewed. Initially, a written list of questions guided the interview on students' distance education experience. During the semi-structured interview, the researchers could also probe for more information from the subjects to get additional data. Thirty student teachers were allowed to express their opinions. The interviews were carried out upon getting their consent before the interviews and at their convenience via Zoom or Facetime on one-to-one basis. These interviews were recorded, and their approval was received before it. They were also informed that all data collected would be confidential and used only for this research. The interviews and the content analysis of the data collected was carried out in Turkish. The content analysis consists of coding, categorizing (creating meaningful categories such as words, phrases, sentences), comparing (categories and making links between them), and concluding

Table 1. The distribution of participants

	Female		Male		Total	
	f	**%**	**f**	**%**	**f**	**%**
Age						
18-20	273	46.7	215	45.6	488	46.2
21-23	290	58.6	205	41.4	495	46.9
24 and above	21	3.6	52	11	73	6.9
Total	584	55.3	572	44.7	1056	100
Settlement						
Rural	56	57.7	41	42.3	97	9.2
Urban	75	52.4	68	47.6	143	13.5
Metropolis	328	58.6	232	41.4	560	53
Suburban	125	48.8	131	51.2	256	24.2
Total	584	55.3	472	44.7	1056	100
Department						
Special education	20	3.4	10	2.1	30	2.8
Physical education and Sports teaching	21	3.6	11	2.3	32	3
Turkish language education	67	39.4	103	60.6	170	16.1
Primary school education	187	66.8	93	33.2	280	26.5
Mathematics education	28	48.3	30	51.7	58	5.5
Foreign language education	23	60.5	15	39.5	38	3.6
Music Education	66	49.3	88	50.7	134	12.7
Guidance and psychological counseling	20	64.5	11	35.5	31	2.9
Preschool education	152	55.3	131	44.7	283	26.8
Total	584	55.3	472	44.7	1056	100

(drawing theoretical conclusions from the text) (Ezzy, 2002). The open coding enabling the researcher to underline the words or phrases that indicated possible in axial coding enabled establishing relationships between categories and themes. There were three main categories of students' and parents' perceptions of distance education. Upon developing the categories, their frequencies were counted to identify the patterns among the responses. Once the categories were determined, the quantitative data collection instrument used the themes. The original version of the survey consisted of 30 items. Data were collected using "The opinion of student teachers about distance learning in online courses survey instrument" designed for this purpose by the authors of this article using the snowball data collection method. This method is also known as chain-referral sampling and is a non-random sampling one (Levine, 2014). Due to universities being closed, it was increasingly difficult to find primary data sources unless a participant willingly helped in contacting other students. Therefore, an exponential non-discriminative snowball sampling pattern was followed as collecting data. So, each participant provided multiple referrals, which continued until enough primary data was collected.

Analysis of Data

The collected data were analyzed to determining student teachers' opinions about the field courses offered during the COVID-19. Descriptive statistics such as frequency and percentage analysis were applied for the items in the data collection tool.

3. RESULTS

The research questions have formed the headings of the presentation of the findings;

When Table 2 is analyzed, It has been determined that al-most half of male and female student teachers have a 500₺ monthly income. Nearly half of female student teachers (48.8%) and nearly half of male student teachers (49.4%) stated the lack of computer projection hardware. The vast majority of male and female student teachers indicated that they could use the internet continuously wherever they were. Approximately two-thirds of female (66.4%) and male (62.4%) student teachers remarked internet outage as more hardware problems during class participation. About half of the female student teachers (46.4%) and one-third of the male student teachers (34.3%) marked that attending the course was necessary. Close to half of female student teachers (42.9%) and about half of male student teachers (45.4%) expressed that those online applications were partially sufficient for participation in the course. Half of female student teachers (50%) and more than half of male student teachers (56.6%) found that the applications used to attend the class were adequate in in-class activities and presentations. More than half of female candidates (58.9%) and almost half of male candidates (50%) stated that they found the opportunities at the university where they were studying partially sufficient

Table 2. The distribution of participants' opinions on online applications according to their gender

	Gender				Total	
	Female		Male		f	%
	f	%	f	%		
How much is your monthly income?						
500₺	332	56.8	214	45.3	546	51.7
500-1000 ₺	206	35.3	189	40	395	37.4
1001-2500₺	34	5.8	52	11	86	8.1
2501-5000₺	4	0.7	15	3.2	19	1.8
5000 ₺ and above	8	1.4	2	0.4	10	0.9
Total	584	100	472	100	1056	100
What technological tools are available in your home? You can select more than one option.						
Only family shared computer+ smart phone	143	24.5	120	25.4	263	24.9
Other family member +own phone+ smart phone	33	5.7	18	3.8	51	4.8
Own phone+smart phone+computer	101	17.3	72	15.3	173	16.4
Own smart phone	31	5.3	22	4.7	53	5
Own computer/tablet	198	33.9	179	37.9	377	35.7
Own phone	37	6.3	30	6.4	67	6.3
Shared computer /tablet+ own phone	18	3.1	13	2.8	31	2.9
Only other family members+ shared computer/tablet	23	3.9	18	3.8	41	3.9
Total	584	100	472	100	1056	100
Which of the following do you use most for accessing online learning environments?						
Computer	383	65.60	304	64.40	687	65.10
Phone	190	32.50	162	34.30	352	33.30
Tablet	11	1.90	6	1.30	17	1.60
Total	584	100	472	100	1056	100
Mouse	39	6.7	35	7.4	74	7
Speaker	35	6	19	4	54	5.1
Headphone	34	5.3	15	3.2	46	4.4
Microphone	37	6.7	60	2.7	97	9.2
Camera	56	9.6	60	12.7	116	11
HDMI Connection	104	17.3	50	10.6	151	14.3
Projector connection	285	48.8	233	49.4	518	49.1
Total	584	100	472	100	1056	100
Do you think that your equipment is sufficient to participate in classroom activities in online courses?						
Yes	310	53.1	222	47	532	50.4
Partly	228	39.9	193	40.9	421	39.9
No	46	7.9	57	12.1	103	9.8
Total	584	100	472	100	1056	100
What is the internet service that you receive?						
Fiber optic	357	61.1	265	56.1	622	58.9
Analog	227	38.9	207	43.9	434	41.1
Total	584	100	472	100	1056	100
How is the internet connection in your home?						
Limited	451	77.2	364	77.1	815	77.2
Unlimited	56	9.6	42	8.9	98	9.3

(Contd...)

Table 2. *(Continued)*

	Gender				Total	
	Female		Male		f	%
	f	%	f	%		
Only Phone	22	3.8	31	6.6	53	5.0
Shared with family	55	9.4	35	7.4	90	8.5
Total	584	100	472	100	1056	100
What is the duration of your daily use of the internet in residence?						
Always	514	86	388	82.2	902	85.4
1-4 hours	40	6.8	48	7.6	66	6.3
5-9 hours	30	6.6	36	10.2	88	8.3
Total	584	100	472	100	1056	100
To what extent do you find yourself sufficient to use the following computer technology applications?						
Regular	385	65.9	296	62.7	681	64.5
Course registration outside of course hours	86	14.7	57	12.1	143	13.5
No regular attendance	99	17.0	101	21.4	200	18.9
No attendance	14	2.4	18	3.8	32	3.0
Total	385	65.9	472	100	1056	100
Which hardware problem do you encounter most during class participation?						
Power cut	81	14.9	52	42.8	133	14
Internet	361	66.4	232	62.4	593	62.4
Lack of audio and headphone	85	15.6	83	20.4	168	17.7
Tablet	17	3.1	39	9.6	56	5.9
Total	544	100	406	100	950	100
What time of the day do you have more problems with participation in online applications?						
Morning	155	26.5	120	25.4	275	26
Noon	210	36.0	170	36.0	380	36
Evening	96	16.4	70	14.8	166	15.7
Never	119	20.4	109	23.1	228	21.6
Night	4	7	3	.6	7	0.7
Total	584	100	472	100	1056	100
How would you describe the online attendance of classes?						
Compulsory	125	21.4	126	26.7	251	23.8
Optional	99	17	73	15.5	172	16.3
Necessary	271	46.4	162	34.3	433	41
Very necessary	67	11.5	78	16.5	145	13.7
Not necessary	22	3.8	33	7	55	5.2
Total	584	100	472	100	1056	100
Do you think the phone is necessary to follow your lessons?						
Yes	347	59.4	290	61.4	637	60.3
Partly	149	25.5	115	24.4	264	25.0
No	88	15.1	67	14.2	155	14.7
Total	584	100	472	100	1056	100
Do you think that fast and permanent solutions can be produced to the problems that you have experienced during online applications?						
Yes	103	17.6	106	22.5	209	19.8
Partly	367	62.8	263	55.7	630	59.7

(Contd...)

Table 2. *(Continued)*

	Gender				Total	
	Female		Male		f	%
	f	%	f	%		
No	114	19.5	103	21.8	217	20.5
Total	584	100	472	100	1056	100
Do you think online applications are sufficient for class participation?						
Yes	112	19.2	137	29.9	249	23.6
Partly	245	42.9	213	45.4	458	43.4
No	227	38.9	122	25.8	349	33
Total	584	100	472	100	1056	100
Are online applications which are used for class participation sufficient for classroom activities and presentations?						
Very sufficient	5	0.9	23	4.9	28	2.7
Sufficient	292	50	267	56.6	559	52.9
Insufficient	211	36.1	124	26.3	335	31.7
Very insufficient	76	13	58	12.3	134	12.7
Total	584	100	472	100	1056	100
To what extent do you find your university facilities sufficient in terms of online applications?						
Sufficient	164	28.1	136	28.8	300	28.4
Partly	339	58.9	239	50.6	578	54.7
Insufficient	81	13.9	97	20.6	178	16.9
Total	584	100	472	100	1056	100
Screen in online lessons						
Open to all	210	36.0	172	36.4	382	36.2
Open only to presenter	248	42.5	196	41.5	444	42.0
Close to all	82	14.0	73	15.5	155	14.7
Only open question and answer	44	7.5	31	6.6	75	7.1
Total	584	100	472	100	1056	100
To what extent do you currently find the contribution of online applications to your professional development sufficient?						
Sufficient	53	9.1	56	11.9	109	10.3
Partly	245	42.0	185	39.2	430	40.7
Insufficient	286	49.0	231	48.9	517	49
Total	584	100	472	100	1056	100
What do you think that is the most preferred teaching method in classes during classroom online applications?						
Expression	220	37.7	56	11.9	109	10.3
Demonstration	292	50	185	39.2	430	40.7
Problem solving	72	12.3	231	48.9	517	49.0
Total	584	100	472	100	1056	100
To what extent do you find the instructors' ability to use the online applications of the courses that you take sufficient?						
Sufficient	14	2.4	34	7.2	48	4.5
Partly	102	17.5	72	15.3	174	16.5
Insufficient	468	80.1	366	77.5	834	79.0
Total	584	100	472	100	1056	100
What do you think is the least preferred teaching method in lessons during classroom online applications?						
Expression	84	14.6	73	15.5	157	15.0

(Contd...)

Table 2. *(Continued)*

	Gender				Total	
	Female		Male		f	%
	f	%	f	%		
Demonstration	424	73.6	341	72.6	765	73.1
Problem solving	68	11.8	56	11.9	124	11.9
Total	576	100	470	100	1046	100
To what extent do online applications ensure your effective participation in classes?						
Never	348	59.6	234	49.6	582	55.1
Medium	201	34.4	167	35.4	368	34.8
More	35	6.0	71	15.0	106	10
Total	584	100	472	100	1056	100
How would you describe the effect on you constantly participating in online applications in the same environment?						
Too boring	25	4.3	42	843.9	67	6.3
Boring	254	48.5	206	43.6	460	43.6
Amusing and educational	305	52.2	224	47.5	529	50.1
Total	584	100	472	100	1056	100
Do you think online teaching practices offer sufficient opportunities for you to use your teaching knowledge and skills?						
Yes	409	70	279	59.1	688	65.2
Partly	144	24.7	153	32.4	297	28.1
No	31	5.3	40	8.5	71	6.7
Total	584	100	472	100	1056	100
Do you think it is necessary to invite different field experts to online courses as well?						
Yes	176	30.1	129	27.3	305	28.9
Partly	319	54.6	240	50.8	559	52.9
No	89	15.2	103	21.8	192	18.2
Total	584	100	472	100	1056	100
To what extent do you think the textbooks used in online lessons are suitable for online courses?						
Never	29	5.0	24	5.1	53	5.0
Partly	351	60.1	268	56.8	619	58.6
Completely	153	26.2	149	31.6	302	28.6
Not using textbook	51	8.7	31	6.6	82	7.8
Total	584	100	472	100	1056	100
To what extent do you think the materials used in online lessons are suitable for online courses?						
Never	197	33.7	154	32.6	351	33.2
Partly	334	57.2	267	56.6	601	56.9
Completely	53	9.1	51	10.8	104	9.8
Total	584	100	472	100	1056	100
How would you describe student-student communication in the online course process?						
None	34	5.8	12	2.5	46	4.4
Sometimes	459	76.6	407	86.2	866	82
Always	91	15.8	53	11.2	144	13.6

(Contd...)

Table 2. *(Continued)*

	Gender				Total	
	Female		Male		f	%
	f	%	f	%		
Total	584	100	472	100	1056	100
How would you describe instructor-student communication in the online course process?						
None	385	65.9	296	62.7	681	64.5
Sometimes	86	14.7	57	12.1	143	13.5
Always	113	19.3	119	25.2	232	22.0
Total	584	100	472	100	1056	100

concerning online applications. A great majority of female candidates (80.1%) and a significant majority of male candidates (77.5%) indicated that the instructors conducting the courses that candidates took were inadequate in using online applications. More than half of female candidates (59.6%) and almost half of male candidates (49.6%) expressed that they did not find online applications practical for the courses they took.

While nearly half of female candidates found the effects of constantly participating in online applications in the same environment (48.5%) dull, about half (52.2%) found it amusing. Nearly half (47.5%) found it entertaining meanwhile, about half of male candidates (43.6%) also found it boring. Most females (70%) and more than half of male (59.1%) stated that they found online teaching practices efficient providing sufficient opportunities for them to use their teaching knowledge and skills. More than half of female candidates (54.6%) and almost half of male candidates (50.8%) found it partially necessary to invite different field specialists to online courses. The vast majority of female candidates (76.6%) and the majority of male candidates (86.2%) specified that the materials used in online courses were occasionally appropriate for these courses. About half of mathematics department candidates (48.3%) and more than one-third of music department candidates (36.6%) purported to have more problems with participating in online applications in the morning hours. Half of primary school student teachers (50%), nearly half of special education candidates (40%), and approximately one-third of physical education and sports candidates (37.5%) stated that they had more participation problems at noon. About one-third (29%) of pre-school candidates emphasized that they had no problems with their participation.

According to Table 3, regarding the opinions of the candidates about the internet situation in their homes; a large part of the candidates (84%) who live in the city, the majority of the candidates (82.1%) who live in the metropolitan area, a significant part of the candidates (73%) who live in suburban areas and about half of the candidates (48.5%) who live in the village stated that they had limited internet in their homes. Following the duration of the daily use of the internet in the place where the candidates reside; a large part of the candidates (89.8%) live in suburban areas, the majority of the candidates (88%) who live in metropolis, a significant part of the candidates (76.3%) who live in a village, and a significant part of the candidates (73.4%) who live in the city stated that they could use the internet continuously. According to their opinions on what time of day they had more problems during their participation in online applications to their settlements, almost one-third of the candidates (30.9%) who live in the village at noon, approximately one-third (27.8%) also in the morning hours, more than a third of the candidates (35.0%) who live in the city at noon, more than almost a third of the candidates (33.9%) who live in Metropolis at noon, approximately one-third (29.6%) in the morning hours and nearly half of the candidates (43%) who live in suburban areas at noon, approximately one-third (27,8%) also said there were internet outage in the morning hours, and approximately one-third of the candidates (30.1%) who live in the city stated that they had never experienced any interruptions. According to the opinions of candidates about the degree to which the materials used in online courses were suitable for online courses; while more than half of the candidates (58.8%) who live in the village, more than half of the candidates (60.8%) who live in the city more than half of the candidates (55.2%) who live in the metropolis, and more than half of the candidates (57.8%) who live in suburban areas found materials partially efficient, more than one-third of the candidates (37%) who live in the metropolis and almost one-third of the candidates (33.6%) who live in suburban areas stated that they found the materials entirely appropriate. According to where the candidates live, more than half of the candidates (55.1%) also stated that online applications could not ensure their effective participation.

DISCUSSION

According to the first research question of the research almost half of male and female student teachers had a 500₺ monthly income. In today's conditions, it can be said that this income level is relatively low in terms of meeting and fulfilling technological needs. Whether this income was received before the pandemic during the pandemic, or whether regular expenses were covered separately or from the income

Table 3. The distribution of participants' opinions on online applications according to settlements

	Rural		Urban		Metropolis		Suburban		Total	
	f	%	f	%	f	%	f	%	f	%
Which of the following do you use most for accessing online learning environments?										
Computer	64	66.0	93	65.0	367	65.5	163	63.7	687	65.1
Phone	33	34.0	50	35.0	176	31.4	93	36.3	352	33.3
Tablet	0	0.0	0	0.0	17	3.0	0	0.0	17	1.6
Total	97	100	143	100	560	100	256	100	1056	100
Do you think that your equipment is sufficient to participate in classroom activities in online courses?										
Yes	45	46.4	71	49.7	297	53.0	119	46.5	532	50.4
Partly	45	46.4	52	36.4	212	37.9	112	43.8	421	39.9
No	7	7.2	20	14.0	51	9.1	25	9.8	103	9.8
Total	97	9.2	143	13.5	560	53	256	24.2	1050	100
What is the internet service that you receive?										
Fiber optic	61	62.9	94	65.7	366	65.4	101	39.5	622	58.9
Analog	36	37.1	49	34.3	194	34.6	155	60.5	434	41.1
Total	97	9.2	143	13.5	560	53	256	24.2	1050	100
How is the internet connection in your home?										
Limited	47	48.50	121	84.60	460	82.10	187	73.00	815	77.2
Unlimited	8	8.20	13	9.10	53	9.50	24	9.40	98	9.3
Only phone	21	21.60	3	2.10	5	0.90	24	9.40	53	5
Shared with family	21	21.60	6	4.20	42	7.50	21	8.20	90	8.5
Total	97	9.2	143	13.5	560	53	256	24.2	1050	100
What is the duration of your daily use of the internet in residence?										
Always	74	76.30	105	73.40	493	88.00	230	89.80	902	85.4
4-9 hours	1	1.00	12	8.40	53	9.50	0	00	66	6.3
1-4 hours	22	22.70	26	18.20	14	2.50	26	10.20	88	8.3
Total	97	9.2	143	13.5	560	53	256	24.2	1050	100
To what extent do you find yourself sufficient to use the following computer technology applications?										
Regular	59	60.8	109	76.2	371	66.3	142	55.5	681	64.5
Course registration outside of course hours	10	10.3	22	15.4	76	13.6	35	13.7	143	13.5
No regular attendance	25	25.8	12	8.4	91	16.3	72	28.1	200	18.9
No attendance	3	3.1	0	0.0	22	3.9	7	2.7	32	3.0
Total										
Which hardware problem do you encounter most during class participation?										
Power cut	22	22.9	12	8.6	68	13.7	31	14.1	133	14.0
Internet	60	62.5	83	59.7	305	61.6	145	65.9	593	62.4
Lack of audio and headphone	9	9.4	32	23.0	90	18.2	37	16.8	168	17.7
Tablet	5	5.2	12	8.6	32	6.5	7	3.2	56	5.9
Total	97	9.2	143	13.5	560	53	256	24.2	1050	100
What time of the day do you have more problems with participation in online applications?										
Morning	27	27.8	28	19.6	166	29.6	54	21.1	275	26.0
Noon	30	30.9	50	35.0	190	33.9	110	43.0	380	36.0

(Contd...)

Table 3. *(Continued)*

	Rural		Urban		Metropolis		Suburban		Total	
	f	%	f	%	f	%	f	%	f	%
Evening	18	18.6	18	12.6	83	14.8	47	18.4	166	15.7
Never	19	19.6	43	30.1	121	21.6	45	17.6	228	21.6
Night	3	3.1	4	2.8	0	0.0	0	0.0	7	.7
Total	97	9.2	143	13.5	560	53	256	24.2	1050	100
To what extent do you find the instructors' ability to use the online applications of the courses that you take sufficient?										
Sufficient	0	0.0	11	7.7	26	4.6	11	4.3	48	4.5
Partly	28	28.9	23	16.1	81	14.5	42	16.4	174	16.5
Insufficient	69	71.1	109	76.2	453	80.9	203	79.3	834	79.0
Total										
What do you think is the least preferred teaching method in lessons during classroom online applications?										
Expression	13	1,2	17	12.1	63	11.4	64	25.0	157	15.0
Demonstration	83	7,9	88	62.9	429	77.6	165	64.5	765	73.1
Problem solving	1	0,1	35	25.0	61	11.0	27	10.5	124	11.9
Total	97	9.2	143	13.5	560	53	256	24.2	1050	100
Do you think it is necessary to invite different field experts to online courses as well?										
Yes	71	73.2	88	61.5	389	69.5	140	54.7	688	65.2
Partly	25	25.8	40	28.0	135	24.1	97	37.9	297	28.1
No	1	1.0	15	10.5	36	6.4	19	7.4	71	6.7
Total	97	9.2	143	13.5	560	53	256	24.2	1050	100
To what extent do you think the textbooks used in online lessons are suitable for online courses?										
Never	1	1.0	2	1.4	26	4.6	24	9.4	53	5.0
Partly	55	56.7	75	52.4	371	66.3	118	46.1	619	58.6
Completely	38	39.2	63	44.1	128	22.9	73	28.5	302	28.6
Not using textbook	3	3.1	3	2.1	35	6.3	41	16.0	82	7.8
Total	97	9.2	143	13.5	560	53	256	24.2	1050	100
To what extent do you think the materials used in online lessons are suitable for online courses?										
Fully suitable	23	23.70	35	24.50	207	37.00	86	33.60	351	33.2
Partly suitable	57	58.80	87	60.80	309	55.20	148	57.80	601	56.9
Not suitable	17	17.50	21	14.70	44	7.90	22	8.60	104	9.8
Total	97	9.2	143	13.5	560	53	256	24.2	1050	100
How would you describe student-student communication in the online course process?										
None	1	1.0	1	.7	28	5.0	16	6.3	46	4.4
None	86	88.7	113	79.0	470	83.9	197	77.0	866	82.0
Sometimes	10	10.3	29	20.3	62	11.1	43	16.8	144	13.6
Total	97	9.2	143	13.5	560	53	256	24.2	1050	100
How would you describe instructor-student communication in the online course process?										
None	59	60.8	109	76.2	371	66.3	142	55.5	681	64.5
Sometimes	10	10.3	22	15.4	76	13.6	35	13.7	143	13.5
Always	28	28.9	12	8.4	113	20.2	79	30.9	232	22.0
Total	97	9.2	143	13.5	560	53	256	24.2	1050	100

status and whether people worked. It can be assumed that the participants of this study belong mainly to the low and/or middle socio-economic status.

When the findings were compared with the literature, it was seen that there were significant differences between the technological devices that the student teachers personally owned as well (Ateş et al., 2015; Basilaia and Kvavadze, 2020; İskender, 2016; Lanckler and Parolin, 2020; Le et al., 2019; Fang, 2018; Sintema, 2020; Tegev, 2020; Tüysüz Çimen, 2016). While only one-third of the participants in the study had their own computer/tablet, the other one-third shared a common computer/tablet with their family members. On the other hand, the rest tried different ways to access online courses. As Karakuş et al. (2020) pointed out, the candidates preferred to access distance education courses primarily with computer technology instead of tablets. While the student teachers in classroom teaching and PCG departments had the highest percentage among those, who had their own computers, preschool, special education, and computer technology student teachers had the lowest percentage.

This issue was dwelled upon since a similar and/or contradictory finding was not reached when examining the literature. Similar to the findings in the literature *(*Düzgün and Sulak, 2020; Erbaş, 2021; Yılmaz, 2020), prospective teachers were experiencing difficulty in accessing the internet due to having either limited or no internet and/or faced cut off the problem. No matter where they resided, while only two-thirds of the participants purported to do their lessons thanks to the internet, the remaining one-third stated that they could not do their lessons due to the Internet and other software problems. Based on these findings, it can be concluded that the Internet and technological software or tools hindered their attendance to the online courses. Although the vast majority of male and female candidates also claimed that they constantly used the internet where they were during online courses, they emphasized the internet outage as more of a hardware problem. This situation can be considered a problem that hampers the candidates from attending the course. It can be said that it is necessary to prevent interruptions with different infrastructure support. In addition, nearly half of female and male candidates expressed that online applications were partially adequate for participation in the course. This situation can be perceived as the necessity of making different online arrangements to make participation in the course attractive.

On the other hand, nearly half of female candidates found it tedious to constantly participate in online applications in the same environment. Almost half of the female and male candidates marked that they did not find the online applications effective for their courses which they took. Therefore, it can be marked that different practices that increase the interest and participation of the candidates should be included in the teaching of the courses. The majority of the candidates in both gender groups also defined the student-student communication as active occasionally during the lesson. This result can be interpreted as limited participation in the courses. For this reason, it can be claimed that different teaching methods and techniques should be included to increase further participation in online courses.

According to the second research question, most of the candidates who live in the city, live in metropolis, live in suburban areas, and live in villages stated that they had limited internet access at home and could use it continuously daily. This situation can be thought of as not causing any difference in the internet opportunities of the candidates according to. It can be said that limited opportunities should be provided with unlimited internet access and technical regulations. In addition, candidates had more problems at noon during their participation in online courses where they were. For this reason, it can be marked that the necessary technical services should be provided so that the candidates can benefit more from the internet opportunities especially during these hours, which are likely to coincide with the course hours. Student teachers, as also stated in other studies (Bahçeşehir, 2020; Basilaia and Kvavadze, 2020; Ekici et al., 2016; Gürfidan and Koç, 2016; Tutar, 2015; Zhang, 2015) believed that the readiness level of in-structors to use e-teaching-learning tools are insufficient. This finding is mainly consistent when the student teachers' views are examined according to department, residence and gender. These students mentioned ineffective and inefficient interaction between student-student-faculty (Erbaş, 2021; Başaran et al., 2020; Can, 2020; Düzgün and Sulak, 2020; Keskin and Özer, 2020; Kurnaz and Serçemeli, 2020; Nenko et al., 2020; Sayan, 2020). Therefore, student teachers' problems experienced in connectivity and teachers' opinion sabout their ability to interact with technology seemed to prevent them from continuing the course. Similar to the findings in the literature, student teachers also pointed out teaching materials and activities that were not suitable for distance education (Can, 2020; Sayan, 2020). The students also mentioned that the courses were not beneficial in academic development. Besides, even though a small number of candidates found the materials used in online courses entirely appropriate according to their settlements, almost more than half of them found it partially sufficient. While this situation reveals that similarities in the in the candidates opinions according to the differences in their settlements, it can also be perceived that the materials that should be used in the lessons should be updated as soon as possible. In addition, more than half of the candidates generally indicated that online applications never ensured their effective participation in the courses, according to their settlements. In order to eliminate these disadvantages, it can be claimed that in-service training should be given to the instructors who offer the courses to apply some methods that will increase the participation of the candidates in the course.

CONCLUSION

They increased the use of safe Internet by using different technologies, making decisions about the right/wrong of the information obtained, etc. In addition to the studies carried out to acquire the skills, it is thought that digital literacy skills are essential in solving the problems faced by individuals. Like everyone else, especially adolescents and individuals who do not have much internet experience. User profiles they encounter on the internet, the information they

get from the sites they browse, and the individuals they meet in social networks should be careful while communicating (Hamutoğlu et al., 2017). This situation requires individuals to have digital literacy skills. This section can conclude the study; although there are significant differences between preservice teachers' opinions according to gender and residence, it can be argued that the preservice teachers` active participation in the courses given in distance education is limited. Considering the findings of similar studies conducted with this research, it would be appropriate to evaluate distance education practices from two perspectives. The first of these is the readiness level of student teachers in dealing with distance education. The other is whether prospective teachers are self-directed learners who have the skills to use technology effectively. It should be researched, and thus, education was intervened only for a short time. Similarly, during the COVID-19 process, necessary measures are ex-pected to be taken in higher education in our country. It is believed that the main action is the evaluation of teacher training programs.

REFERENCES

Abad-Segura, E.; González-Zamar, M., Infante-Moro, J.C., & García, G.R. (2020). Sustainable Management of Digital Transformation in Higher Education: Global Research Trends. *Sustainability, 12*(5), 2107.

Altunışık, R., Coşkun, R., Bayraktaroğlu, S., & Yıldırım, E. (2010). Sosyal Bilimlerde Araştırma Yöntemleri SPSS Uygulamalı (6. Baskı). Sakarya: Sakarya Yayıncılık.

Ateş, M., Çerçi, A., & Derman, S. (2015). Eğitim bilişim ağında yer alan türkçe dersi videoları üzerine bir inceleme. *Sakarya University Journal of Education, 5*(3), 105-117.

Barry, J. (2020). Historian John Barry compares COVID-19 to the flu pandemic. Available online https://www.rochester.edu/newscenter/historian-john-barry-compares-covid-19-to-1918-flu-pandemic-454732/Accessed on May 20, 2020.

Başaran, M., Doğan, E., Karaoğlu, E., & Şahin, E. (2020). Koranavirüs (COVID-19) sürecinin getirisi olan uzaktan eğitimin etkililiği üzerine bir çalışma. *Academia Eğitim Araştırmaları Dergisi*, *5*(2) 368-397.

Basilaia, G., & Kvavadze, D. (2020). Transition to online education in schools during a SARS-COV-2 Coronavirüs (COVID-19) pandemic in Georgia. *Pedagogical Researc*h, *5*(4), em0060.https: doi.org/10.29333/pr/7937

Battenfeld, M. (2020). Three lessons from how schools responded to the 1918 pandemic worth heeding today. Available online https://theconversation.com/3-lessons-from-how-schools-responded-to-the-1918-pandemic-worth-heeding-today-138403 (accessed on August 16, 2020).

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

Bennett, D. M., & Sharma, S. (2008). The Mental Health (Care and Treatment)(Scotland) Act 2003: A survey on its practice in a General Adult Psychiatric ward in Aberdeen. *Poster session presented at International Congress of the Royal College of Psychiatrists,* London, United Kingdom.

Buluk B., & Eşitti B. (2020). Koronavirüs (COVID-19) Sürecinde Uzaktan Eğitimin Turizm Lisans Öğrencileri Tarafından Değerlendirilmesi, *Journal of Awareness*, *5*(3), 285-298

Can, E. (2020). Coronavirüs (COVID-19) pandemisi ve pedagojik yansımaları: Türkiye'de açık ve uzaktan eğitim uygulamaları. *Açıköğretim Uygulamaları ve Araştırmaları Dergisi, 6*(2), 11-53.

Carter, S. (2020). The Impact of Parent/Family Involvement of Student Outcomes: An Annotated Bibliography of Research from the Past Decade. Consort. Appropr. Dispute. Resolut. Spec. Educ. 2002. Available online: https://oaklandliteracycoalition.org/wp-content/uploads/2016/12/Impact-Family-Involvement.pdf Accessed on August 16, 2020.

Cotton, K., & Wiklund, K. R.(2020). Parent involvement in education. Sch. Improv. Res. Series 1989, 6, 17–23. Available online: https://educationnorthwest. org/sites/default/files/resources/parent-involvement-in-education-508.pdf Accessed on July 17.

Denzin, N. K., & Lincoln, Y. S. (2008). Introduction: The discipline and practice of qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Strategies of qualitative inquiry* (pp. 1–43). Sage Publications, Inc.

Dikmen, S., & Bahçeci F. (2020). COVID-19 Pandemisi Sürecinde Yükseköğretim Kurumlarının Uzaktan Eğitime Yönelik Stratejileri: Fırat Üniversitesi Örneği, *Turkish Journal of Educational Studies, 7*(2), 78-98.

Düzgün, S. & Sulak, S. (2020). Öğretmen Adaylarının Covıd-19 Pandemisi Sürecinde Uzaktan Eğitim Uygulamalarına İlişkin Görüşleri, *Millî Eğitim*, *49*(1), 619-633.

Ekici, M., Arslan, İ., & Tüzün, H. (2016). Eğitim bilişim ağı (EBA) web portalı kullanılabilirliğinin göz izleme yöntemiyle değerlendirilmesi. In İşman A., Odabaşı, H. F. & Akkoyunlu, B (Eds.). *Eğitim Teknolojileri Okumaları içinde.* (pp. 273-297). TOJET.

Erbaş, Y. H. (2021). COVID-19 salgını döneminde eğitim: İlkokuma yazma öğretiminde karşılaşılan sorunlar ve çözüm önerileri. *Ana Dili Eğitimi Dergisi*, *9*(2), 360-380.

Erdoğan, Ç., & Demirkasımoğlu, N. (2010). Ailelerin Eğitim Sürecine Katılımına İlişkin Öğretmen ve Yönetici Görüşleri. *Kuram ve Uygulamada Eğitim Yönetimi* [*Educational Administration: Theory and Practice*], *16*(3), 399-431.

Ezzy, D. (2002). *Qualitative Analysis: Practice and Innovation.* Allen and Unwin.

Fang, X. (2018). Empirical Analysis of Affirmation of National Boutique Online Open Courses. *China Higher Education Research, 7*, 94–99.

Frenzel, A. C., Goetz, T., Lüdtke, O., Pekrun, R., & Sutton, R. E. (2009). Emotional transmission in the classroom: Exploring the relationship between teacher and student enjoyment. *Journal of Educational Psychology, 101*(3), 705–716

Goetz, T., Frenzel, A. C., Hall, N. C., & Pekrun, R. (2008). Antecedents of academic emotions: Testing the internal/external frame of reference model for academic enjoyment. *Contemporary Educational Psychology, 33*(1), 9-33.

Geçgel, H., Kana, F., & Eren, D. (2020). Türkçe eğitiminde dijital yetkinlik kavramının farklı değişkenler açısından incelenmesi. *Ana Dili Eğitimi Dergisi, 8*(3), 886-904.

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. *Handbook of Qualitative Research, 2*(105), 163-194.

Gürfidan, H., & Koç, M. (2016). *Eğitim Bilişim Ağı (EBA) kullanımının öğretmen görüşleri doğrultusunda değerlendirilmesi.* X. International Computer and Instructional Technologies Symposium'da sunulan bildiri. Recep Tayyip Erdoğan Üniversitesi, Rize.

Gürler, C., Uslu., T., & Daştan, İ. (2020). Evaluation of distance learning from student perspective in COVID-19 pandemic. *Atatürk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 24*(4), 1895-1904.

Hamutoğlu, N. B., Güngören Ö., C., Uyanik G., K. & Erdoğan, D., G. (2017). Dijital Okuryazarlık Ölçeği: Türkçe 'Ye Uyarlama Çalışması. *Ege Eğitim Dergisi, 18*(1), 408- 429

İskender, H. (2016). Eğitim Bilişim Ağı'nda bulunan 7. sınıf Türkçe dersi videolarının ilköğretim Türkçe dersi (6, 7, 8. Sınıflar) öğretim programıyla uyumu. *Adıyaman Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 1*(3), 1042-1068.

Karaca, İ., Karaca, N., Karamustafaoğlu, N., & Özcan, M. (2021). Öğretmenlerin uzaktan eğitimin yararına ilişkin algılarının İncelenmesi. *Humanistic Perspective, 3*(1), 209-224. https://doi.org/10.47793/hp.844113

Karakuş, N., Ucuzsatar, N., Karacaoğlu, M. Ö., Esendemir, N., & Bayraktar, D. (2020). Türkçe öğretmeni adaylarının uzaktan eğitime yönelik görüşleri. *RumeliDE Dil ve Edebiyat Araştırmaları Dergisi, 19*, 220-241. DOI: 10.29000/rumelide.752297

Keefe, T. E. (2020). Crises in American Education: WWII, Baby Booms, and CORVID-19. March 2020. Retrieved from publication at: https://www.researchgate.net/340166373

Kenar, İ. (2012). Teknoloji ve Derslerde Teknoloji Kullanımına Yönelik Veli Tutum Ölçeği Geliştirilmesi ve Tablet PC Uygulaması. *Eğitim Bilimleri Araştırmaları Dergisi, 2*(2), 59-67.

Keskin M., & Özer D. (2020) COVID-19 Sürecinde Öğrencilerin Web Tabanlı Uzaktan Eğitime Yönelik Geri Bildirimlerinin *Değerlendirilmesi İzmir Kâtip Çelebi Üniversitesi Sağlık Bilimleri Fakültesi Dergisi, 5*(2), 59-67.

Kurnaz, A., Kaynar, H., Şentürk Barışık, C. & Doğrukök, B. (2020). Öğretmenlerin Uzaktan Eğitime Ilişkin Görüşleri. Milli Eğitim Dergisi, Salgin Sürecinde Türkiye'de Ve Dünyada Eğitim (pp. 293-322). DOI: 10.37669/milliegitim.787959

Kurnaz, E., & Serçemeli, M. (2020). COVID-19 Pandemi Döneminde Akademisyenlerin Uzaktan Eğitim ve Uzaktan Muhasebe Eğitimine Yönelik Bakış Açıları Üzerine Bir Araştırma, *USBAD Uluslararası Sosyal Bilimler Akademi Dergisi, 3*, 2687-2641

Lancker, W.V., & Parolin, Z. (2020). COVID-19, school closures, and child poverty: a social crisis in the making. Available online https://doi.org/10.1016/S2468-2667(20)30084-0. Accessed on: June 13, 2020.

Le, A. V., Do, D. L., Pham, D. Q., Hoang, P. H., Duong, T. H., Nguyen, H. N., & Vuong, Q. H. (2019). Exploration of youth's digital competencies: A dataset in the educational context of Vietnam. *Data, 4*(2), 69.

Levine, D. (2014). *Even You Can Learn Statistics and Analytics: An Easy to Understand Guide to Statistics and Analytics* (3rd ed.). Pearson FT Press.

Merriam, S.B., Caffarella, R.S., Baumgartner, L.M. (2007). Learning in adulthood: A comprehensive guide. (3rd). San Francisco, CA: Jossey-Bass

Morales, E.E. (2014). Learning from success: how original research on academic resilience informs what college faculty can do to increase students' retention. *International Journal of Higher Education, 3*(3).

Morgan, G., & Smircich, L. (1980). The case for qualitative research. *Academy of Management Review, 5*(4), 491-500.

Nenko, Y., Kybalna, N., & Snisarenko, Y. (2020). The COVID-19 Distance Learning: Insight from Ukrainian students. *Revista Brasileira de Educação do Campo, 5*, 1-19.

Noss, R. (2012). 21st century learning for 21st century skills: What does it mean, and how do we do it? In 21st century learning for 21st century skills (7th European Conference on Technology Enhanced Learning). Saarbrucken, Germany.

OECD (2020). *A framework to guide an education response to the COVID-19 Pandemic of 2020.* OECD Publishing.

Özbay, M., & Özdemir, O. (2014). Türkçe Öğretim Programı İçin Bir Öneri: Dijital Okuryazarlığa Yönelik Amaç ve Kazanımlar. *Okuma Yazma Eğitimi Araştırmaları, 2*(2), 31-40.

Öztaş, S., & Kılıç, B. (2017). Atatürk İlkeleri ve İnkilap Tarihi dersinin uzaktan eğitim şeklinde verilmesinin öğrenci görüşleri açısından değerlendirilmesi. *Turkish History Education Journal, 6*(2) 268-293.

Pepeler, R., Özbek, & Adanır, Y. (2018), "Uzaktan Eğitim İle Verilen İngilizce Dersine Yönelik Öğrenci Görüşleri: Muş Alparslan Üniversitesi Örneği", *Anemon Muş Alparslan Üniversitesi Sosyal Bilimler Dergisi, 6*(3), 421-429.

Perkowski, J. (2012). The role of gender in distance learning: a meta-analytic review of gender differences in academic performance and self-efficacy in distance learning. *Journal of Educational Technology Systems, 41*(3), 267-278 DOI: 10.2190/ET.41.3.e.

Pınar, M. A., & Akgül, G. D. (2020). COVID-19 salgını sürecinde fen bilimleri dersinin uzaktan eğitim ile verilmesine yönelik öğrenci görüşleri. *Journal of Current Research on Social Sciences, 10*(2) 461-486.

Prior, D. D., Mazanov, J., Meacheam, D., Heaslip, G., & Hanson, J. (2016). Attitude, digital literacy and self-effi-

cacy: Flow-on effects for online learning behavior. *The Internet and Higher Education, 29*, 91-97.

Romero-Rodríguez, L.M., Ramírez-Montoya, M.S., & Aguaded, I. (2020). Determining Factors in MOOCs Completion Rates: Application Test in Energy Sustainability Courses. *Sustainability, 12*, 2893.

Sayan, H. (2020). COVİD-19 Pandemisi Sürecinde Öğretim Elemanlarının Uzaktan Eğitime İlişkin Görüşlerinin Değerlendirilmesi,AJIT-e: *Bilişim Teknolojileri Online Dergisi*, Yaz, *11*(42). DOI: 10.5824/ajite.2020.03.004.x 118

Sintema, E. J. (2020). Effect of COVID-19 on the performance of grade 12 students: implications for STEM education. *EURASIA Journal of Mathematics, Science and Technology Education, 16*(7).

Stern, A. M., Cetron, M. S., & Markel, H. (2009). Closing the Schools: Lessons from the 1918–19 U.S. *Influenza Pandemic*, *125*(3), 63–70. DOI: 10.1177/00333549101250S309

Tran, T., Hoang, A. D., Nguyen, Y., Nguyen, L., Ta, N., Pham, Q., Pham, C., Le, Q., Dinh, V., & Nguyen, T. (2020). Toward sustainable learning during school suspension: socioeconomic, occupational aspirations, and learning behavior of Vietnamese students during COVID-19. *Sustainability*, *12*, 4195; doi:10.3390/su12104195

Trilling, B., & Fadel, C. (2009). *21st century skills: Learning for life in our times.* Jossey-Bass

Tuncer, M., & Bahadır, F. (2017). Uzaktan eğitim programlarının bu programlarda öğrenim gören öğrenci görüşlerine göre değerlendirilmesi. *Eğitim Yansımaları, 1*(2) 29-38.

Türkiye Eğitim Gönüllüleri (2020). COVID-19 dönemi TEGV çocukları uzaktan eğitim durum değerlendirme raporu. Available online https://tegv.org/hakkimizda/egitim-raporlari/Accessed on September 18, 2020.

Türküresin, H. E. (2020) COVID-19 Pandemi Döneminde Yürütülen Uzaktan Eğitim Uygulamalarının Öğretmen Adaylarının Görüşleri Bağlamında İncelenmesi, *Millî Eğitim Dergisi*, *49*(1) 597-618.

Tutar, M. (2015). *Eğitim Bilişim Ağı (EBA) sitesine yönelik olarak öğretmenlerin görüşlerinin değerlendirilmesi* (Yüksek lisans tezi). Karadeniz Teknik Üniversitesi, Eğitim Bilimleri Enstitüsü, Trabzon.

Tüysüz, C., & Çümen, V. (2016). EBA Ders web sitesine ilişkin ortaokul öğrencilerinin görüşleri. *Uşak University Journal of Social Sciences, 9*(27), 278-296.

Uzoğlu, M. (2017). Fen Bilgisi öğretmen adaylarının uzaktan eğitime ilişkin görüşleri. *Karadeniz Sosyal Bilimler Dergisi*, *9*(16) 335-351

Van Lancker, W., & Parolin, Z. (2020). COVID-19, school closures, and child poverty: A social crisis in the making. *Lancet Public Health* 5, e243–e244.

Wickramasinghe, N. C., Steele, E. J., Gorczynski, R. M., Temple, R., Tokoro, G., Wallis, D. H., & Klyce, B. (2020). Growing Evidence against Global Infection- Driven by Person-to-Person Transfer of COVID-19. *VirolCurr Res, 4*(1).

Wong, J. L. (2020). COVID-19 Singapore-current experience: critical global issues that require attention and action. Available online http://jamanetwork.com Accessed on May 27, 2020.

Xia, J. (2020) Practical exploration of school-family cooperative education during the COVID-19 epidemic: a case study of Zhenjiang experimental school in Jiangsu province, China. *Best Evidence China Education*, *4*(2), 521-528 Doi:10-15354/bece.20.rp003.

Yılmaz, M. (2020). *Uzaktan Eğitimin İyileştirilmesi: Salgın Kaynaklı Eğitim Krizini Aşmak İçin Öneriler* (Politika Notu: 2020/12). İstanbul: İLKE *İlim Kültür Eğitim Vakfı.*

Yılmaz, E.O. (2020). Pandemi Sürecinde Google Classroom Uzaktan Eğitim Sisteminin Entegrasyonu ve Öğrenci Memnuniyet Düzeylerinin İncelenmesi,Gelecek *Vizyonlar Dergisi*, *4*(3), 42-55.

Yukselturk, E., & Bulut, S. (2009). Gender differences in a self-regulated online learning environment. *Educational Technology & Society*, *12*(3), 12-22.

Zhang, W., Wang, Y., Yang, L., & Whang, C. (2020) Suspending Classes without stopping learning: China's education emergency management policy in the COVID-19 breakout. *Journal of Risk and Financial Management, 13*(3) 10.3390/jrfm13030055.

Zhang, Y., Xiaoli L., Fulan F., Ping-Hong Z., & Qing-yu B. (2015). Factors Influencing on Teachers' ICT Application Level of Primary and Secondary Schools: An Empirical Analysis Based on the 14 cities of X Province. *Modern Educational Technology, 25*, 44–50.