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# Education During Pandemic in the World and in Turkey

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## Abstract

The Coronavirus (Covid-19) pandemic that occurred and spread in 2019, has caused important changes especially in health, economic, social aspects all over the world. Currently, because of the pandemic, face-to-face training can not be carried out throughout the world. Undoubtedly, one of the most significant changes has occured in education systems. Countries are struggling with new situations caused by the ongoing Covid-19 pandemic all over the world. Administrators of the countries and education strive to satisfy the needs of the students through e-learning. Therefore, millions of people around the world have started to receive education by the help of e-learning. Although e-learning is the only, most important and useful tool in this pandemic process, it has also some barriers. This paper examines the views of teachers in Mentese district in Mugla, on e-learning implementation barriers during the Covid-19 pandemic at four barrier levels, namely teacher, school, curriculum and student. Data was collected through an online questionnaire, involving 104 participants from primary and secondary schools in Mentese district in Mugla. Survey design which is one of the quantitative research methods was used to state the e-learning barriers of the teachers.

**Keywords**: Coronavirus, Covid-19, pandemic, e-learning.

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## Introduction

The Covid-19 pandemic, we have encountered nowadays, became more prevalent than globally effective past pandemics like Spanish Flu, Ebola and Sars and it also deeply affected all humanity. After the first diagnosis of the disease caused by Covid-19 on December 31, 2019, the World Health Organization declared pandemic on March 11, 2020. It has caused very significant changes and effects on the economy, social life and education implementations, especially on health at global level. In Turkey, Covid-19 started to be seen for the first time on March 11, 2020 (Saglık Bakanlıgı, 2020: 12-13). In this process, we have experienced radical changes in all areas of life all across the world with the new type of coronavirus (Bozkurt, 2020). These changes affect every aspect of life, from health to sports, to our eating and drinking habits, to our perspective on life. Undoubtedly, it has been the education system where this change is felt radically and it is impossible to escape from the change or slow it down. As a result of this change, policy makers, education leaders, teachers, students, parents and school administrators faced an unprecedented challenge (Bozkurt, 2020; Huang, Liu, Tlili, Yang & Wang, 2020).

Education systems all around the world have faced an unprecedented challenge following mass school closures in order to undercontrol the spread of Covid-19 as part of public health efforts. Governmental institutions work with international organizations, private sector partners and civil society to provide distance education to ensure the continuity of curriculum-based study and learning for all. However, there are very few studies on how distance education strategies provide qualified learning opportunities for everyone and the effectiveness of the distance education process (Kuru Cetin & Taskin, 2021; UNESCO, 2020a.)

In this process, countries have tried to prevent their students from disconnecting from education by implementing e-learning practices. According to Chang and Satako (2020), almost all countries, teachers and school administrators organize online courses and lectures in order to provide and support communication with students and parents. Due to the pandemic, online platforms which are connected to the Internet, are used for continuous learning in many countries such as Argentina, Croatia, China, Cyprus, Egypt, France, Greece, Italy, Japan, Mexico, Portugal, Republic of Korea, Saudi Arabia, United Arab Emirates and the United States. It is seen that learning contents are presented with the help of television and other media in some countries such as Argentina, Croatia, China, Costa Rica, France, Islamic Republic of Iran, Republic of Korea, Mexico, Rwanda, Saudi Arabia, Senegal, Spain, Peru, Thailand and Vietnam (Kuru Cetin & Taskin, 2021).

The Coronavirus (Covid-19) pandemic has primarily created a very significant crisis all over the world, and this crisis has reintroduced online education practices as an essential learning resource in solving the problems and difficulties encountered in education. States all over the world have carried out online education implementation in order to ensure the continuity of learning. In Turkey, after the first case was identified, the state started to take rapid precautions for education. The semester holiday in mid-April was brought forward. And the schools were declared holiday between March 16 and March 30, 2020. The Minister of National Education Ziya Selcuk announced that the Education will go on via the EBA system (MEB, 2020). Face-to-face education practices for all educational institutions affiliated to the Ministry of National Education were stopped and all kinds of education activities were started to be carried out on the Education Information Network (EBA) and TRT's 3 TV (Trt Eba Tv Primary School / Secondary School / High School) channels (MEB, 2020).

As a result of the measures taken against the pandemic, schools have been opened in some countries due to the decrease in the number of cases. Moreover, various reports that supports the opening of schools, have been written. For instance, in the report published by the Minnesota Department of Health (2020), there are scenarios for opening the school at three different dates. Again, in the research conducted by The Independent SAGE (2020), there are various dates about England. It is important for countries to protect the health of their citizens and students and not to reactivate the pandemic. However, continuing education and training under all conditions is also important for economies and sustainable development.

Due to the pandemic, online education has become the only solution all over the world, and in parallel with health measures, states have decided to carry out online education in order to ensure continuity in education and (Telli-Yamamoto & Altun, 2020). Although online education implementation have entered our lives more and more with the pandemic, the history of online education goes back to a long time. Educational correspondence between the teacher and the learner forms the basis of online education. The concept of distance education was first used in the 1892 Catalog of the University of Wisconsin (Rumble, 1986) and "was first mentioned in an article written by William Lighty, the director of the University of Wisconsin, in 1906" (Moore, 1987 ). Later, this concept (Fernunterricht) was introduced by the German educator Otto Peters in 1960 and 1970 in Germany and given the name (Teleenseignement) to distance education institutions in France (Verduin & Clark, 1994). In our country, this system, which was theoretically discussed in the 60s and 70s, became widespread in the 80s with the opening of Anadolu University Open Education Faculty (Arat & Bakan, 2011). Online education can be defined as a system in which teachers and students in different physical places interact with the help of various communication technologies and perform teaching-learning activities in order to provide educational services to more people and to ensure equal opportunities in education (Yalın, 2001). However, in addition to the many advantages of online education, it is a fact that online education cannot replace face-to-face education and there may be some barriers in the process of this replacement (Lau, Yang, & Dasgupta, 2020).

More than 1.5 billion students, 63 million teachers, a large number of staff supporting education and community of education have been affected negatively from quarantine, lockdown and school closure because of the Covid-19 in all over the world (EBR, 2020). In most countries, digital classrooms are still not possible due to the lack of computers, the internet and other online platforms, and the extraordinary cost of data that limits access and opportunity in some countries. In other words, there are also obstacles to online education.

## *E-learning Barriers*

As a result of the researhes related to online education, the problems that arise in online education imlementations; it is seen that problems continue increasingly at different levels in almost every country (Hızal, 1983). Mailizar, Almanthari, Maulina and Bruce (2020) examined the views of secondary school mathematics teachers on e-learning implementation barriers during the COVID-19 pandemic at four barrier levels, namely teacher, school, curriculum and student. The findings of their study suggest that student level barrier had the highest impact on e-learning use. In addition, the student level barrier showed strong positive correlation with the school level barrier and curriculum level barrier.

Bonk (2001), in her report prepared as a result of a research conducted by lecturers on distance education activities through the internet, listed the problems that arise in distance education via the internet in 13 items: 1) Time limitation (To learn and develop web-based courses), 2) Lack of training, 3) Lack of experience, 4) Feel of ownership, 5) Cost, 6) Trust, 7) Technological infrastructure, 8) Technical support, 9) Managerial support, 10) Lack of interest, 11) Motivation, 12) Reliability, 13) Pedagogy. Cho and Berge (2002), in their study, the problems encountered in distance education via the internet listed such as; Technical Expertise, Support and Infrastructure, Administrative Structure, Assesment / Evaluation, Organizational Changes Social Interaction and Quality, Student Support Services, Fight Against Technology, Access, Time and Salary, Legal Issues (Copyright). The studies about the problems on online education, in the literature show us that there are various problems dealing with administration and organization', 'student' and 'teacher' (Erguney, 2017).

In their study titled "Barriers in Distance Education", Muilenberg and Berge (2001) discussed the most common problems in distance education under the titles of: administrative structure, organizational changes, technical expertise, support and infrastructure, social interaction, salary and time, technology threat, copyright, evaluation / effectiveness, access and student support service. To these ten problems, Isman (2011) grouped them under thirteen titles adding "communication, teacher and student".

The barriers may be listed, related to general online education, such as; cost, lack of "peer teaching" in the school atmosphere, long-term reading difficulties and eye strain of phones, tablets and computer screens, connection problems due to internet interruptions and copyright infringement related to course content published on the internet, the unsuitability of the content of the subjects and courses for the internet and television, the limitations of assesment and evaluation, the difficulty of the practicum courses. (Gulbahar, 2009; Isman, 201; Cho & Berge, 2002; Bonk, 2001).

Determining the problems, limitations and weaknesses they feel during online education, is very important for the teachers and parents who want to provide the best education to their children and students through online education, in order to improve methods and tactics for educational activities. Therefore, the aim of this study is to determine the barriers, teachers face in the online education process. For this purpose, it is aimed to answer the following questions.

1. What are the levels of school barriers that teachers face in online education?

2. What are the levels of teacher e-learning use barriers that they face in online education?

3. What are the levels of curriculum barriers that teachers face in online education?

4. What are the levels of student barriers that teachers face in online education?

## Method

In order to determine the online education barriers of the teacher, the survey design, one of the quantitative research methods, was used. One of the quantitative research methods, the survey design aims to describe the characteristics of large masses with questions such as "what, where, when, how often, at what level, how"(Buyukozturk, Kılıc, Akgun, Karadeniz & Demirel, 2016).

### *Participants*

This study group consists of the teachers in primary and secondary schools in Mentese district of Mugla. There are 438 primary and secondary school teachers in Mentese central district of Mugla. Data was collected through an online questionnaire, involving 104 participants from primary and secondary schools with primitive random sampling method as a sample in Mentese district in Mugla. While the number of secondary school teachers who participated in survey is 26, the number of primary schools is 103, and eventually the total participation rate is 80 % Demographic information about the participants is given in Table 1.

**Tablo. 1**
*Demographic Background of participants*

| **Demographic Background** | | **Number of Participants** | **Percentage** |
|---|---|---|---|
| **Gender** | Female | 67 | 64.4 |
| | Male | 37 | 35.6 |
| **Level of Education** | Undergraduate Degree | 83 | 79.8 |
| | Postgraduate Degree | 22 | 21.2 |
| **Teaching Experience** | 5 year and less | 14 | 13.8 |
| | 6-10 | 14 | 13.8 |
| | 11-15 | 20 | 19.8 |
| | 16-20 | 17 | 1.6 |
| | 21 year and more | 36 | 35.6 |
| **Devices and Internet connection used for e-learning** | Mobile Phone | 42 | 26.5 |
| | Landline Connection | 53 | 33.54 |
| | Modem | 63 | 39.8 |

### *Research Instruments*

The data of the study were collected with the e-learning implementation barriers questionare developed by Mailizar, Almanthari, Maulina and Bruce (2020) and adapted to Turkish by the researchers. The questionare consists of four sub-dimensions, namely school level barrier, teacher level barrier, student level barrier and curriculum level barriers. School-level barriers consist of barriers about software and hardware, internet, textbooks, school policy, time and technical support; teacher level barriers related to trust, knowledge, belief and experience; curriculum level barriers consist of barriers about online education resources related to assessment and content structure, and student level barriers consist of barriers about knowledge- skills, motivation, infrastructure of online education. The e-learning implementation barriers questionare scale consists of a total of 21 Likert-type items that are answered: 1- Strongly disagree, 2- Disagree, 3- Neither agree nor disagree, 4- Agree, 5- Strongly agree. The score, the participants got from the scale determines the level of e-learning implementation barriers. Explanatory factor analysis was carried out on the scale in the study. Accordingly, the total variance explained by the scale was calculated as 59.70%. The Cronbach alpha coefficient for the factors of the scale was found as .68, .79, .78 and .88, and the Cronbach alpha coefficient for the whole scale was found to be .87.

## Results

At this part, it is discussed that whether the teachers, participating the study differ according to their demographic characteristics or not and the results are expressed as in tables.

### *The level of e-learning implementation barriers*

The descriptive statistics results showing the levels (median, highest and lowest values) of teachers e-learning implementation barriers who participated in the study, are given in Table 2.

**Table 2**
*Descriptive results of e-learning implementation barriers for Teacher Level barrier*

| | **Teacher Level barrier** | **n** | **Mean** | **St. Dev.** |
|---|---|---|---|---|
| 1 | I do not have sufficient knowledge and skill to use e-learning during the Covid-19 pandemic | 102 | 2.09 | 1.13 |
| 2 | I am not confident in using e-learning during the Covid-19 pandemic | 103 | 1.87 | .95 |
| 3 | I have experience in using e-learning | 103 | 3.83 | 1.13 |
| 4 | I believe that the use of e-learning in teaching is not useful during this pandemic | 103 | 2.92 | 1.19 |
| 5 | The use of E-learning during this pandemic is not convenient for me | 102 | 2.34 | 1.13 |
| Total | | 101 | 12.99 | 205 |

Table 2 shows that the opinions of the participants vary between 3.83 and 1.87 in the teacher barriers sub-dimension of the implementation barriers scale. The weighted arithmetic mean for this dimension was calculated as 2.60. In other words, the teachers expressed the statements regarding this dimension as “I disagree”. The item, most agreed by participants in this dimension is “I have experience in using e-learning” (3.83), The item, least agreed by participants in this dimension is “I am not confident in using e-learning during the Covid-19 pandemic” (1.87). The highest score that can be obtained from the teacher barriers sub-dimension of e-learning implementation barriers scale is $\bar{x}$= 25 and the lowest score is $\bar{x}$= 5. According to the scoring, with the scores obtained by the teachers from the total of the scale ($\bar{x}$= 12.99), the teachers think that the online education barriers caused by the teachers are at the "medium" level.

**Table 3**
*Descriptive results of e-learning implementation barriers for School Level barrier*

| | School Level Barrier | n | Mean | St. Dev. |
|---|---|---|---|---|
| 6 | My school does not have an e-learning system | 103 | 2.19 | 1.13 |
| 7 | My school does not have internet connection | 103 | 1.76 | .98 |
| 8 | School regulations do not support the use of e-learning during the Covid-19 pandemic | 103 | 2.18 | 1.11 |
| 9 | Textbooks are not in line with e-learning use | 101 | 3.27 | 1.18 |
| 10 | My school does not provide technical support for e-learning use | 101 | 2.36 | 1.14 |
| 11 | Because of workload, I do not have enough time to prepare e-learning materials | 102 | 2.80 | 1.16 |
| Total | | 102 | 14.60 | 4.72 |

Table 3 shows us that the opinions of the participants vary between 3.27 and 1.76 in the school level barriers sub-dimension of the e-learning implementation barriers scale. The weighted arithmetic mean for this dimension was calculated as 2.43. In other words, the teachers expressed the statements regarding this dimension as "I disagree".

The item, most agreed by participants in this dimension is "Textbooks are not in line with e-learning use" (3.27) .The item, least agreed by participants in this dimension is "My school does not have internet connection" (1.76).

The highest score that can be obtained from the teacher level barriers sub-dimension of e-learning implementation barriers scale is $\bar{x} = 30$ and the lowest score is $\bar{x}= 6$. According to the scoring, with the scores obtained by the teachers from the total of the scale ($\bar{x}= 14.60$), the teachers think that the online education barriers caused by the school are at the "medium" level.

**Table 4**
*Results of e-learning implementation barriers for Curriculum Level barrier*

| | Curriculum Level Barrier | n | Mean | St Dev |
|---|---|---|---|---|
| 12 | Learning and teaching resources that are available on the e-learning system are not in accordance with the curriculum | 102 | 2.86 | 1.14 |
| 13 | Schools require students' assessments that are not in line with e-learning use | 101 | 4.00 | 1.00 |
| 14 | The contents of my subject cannot be taught using e-learning | 100 | 2.72 | 1.19 |
| 15 | The contents of my subject are difficult to be taught using e-learning | 101 | 3.35 | 1.19 |
| 16 | The contents of my subject are difficult to be understood by students through e-learning | 101 | 3.22 | 1.14 |
| Total | | 101 | 16.16 | 4.15 |

Table 4 shows us that the opinions of the participants vary between 4.00 and 2.72 in the curriculum level barriers sub-dimension of the e-learning implementation barriers scale. The weighted arithmetic mean for this dimension was calculated as 3.23. In other words, the teachers expressed the statements regarding this dimension as "Neither agree nor disagree".

The item, most agreed by participants in this dimension is "Schools require students' assessments that are not in line with e-learning use" (4.00). The item, least agreed by participants in this dimension is "The contents of my subject cannot be taught using e-learning" (2.72).

The highest score that can be obtained from the curriculum level barriers sub-dimension of e-learning implementation barriers scale is $\bar{x}$= 25 and the lowest score is $\bar{x}$ = 5. According to the scoring, with the scores obtained by the teachers from the total of the scale ($\bar{x}$= 16.16), the teachers think that the online education barriers caused by the curriculum are at the "medium" level.

**Table 5**
*Descriptive results of e-learning implementation barriers for Student Level barrier*

| | **Student Level Barrier** | **n** | **Mean** | **St Dev** |
|---|---|---|---|---|
| 17 | My students do not have sufficient knowledge and skill in the use of e-learning | 103 | 3.25 | 1.15 |
| 18 | My students do not have devices (i.e. notebook and tablet) for the use of e-learning | 103 | 3.30 | 1.05 |
| 19 | My students are not interested in using e-learning | 102 | 3.50 | 1.02 |
| 20 | My students do not have internet connection | 103 | 3.21 | 1.06 |
| 21 | My students are not able to access the e-learning system | 103 | 3.18 | 1.06 |
| Total | | 103 | 16.46 | 4.40 |

Table 5 shows us that the opinions of the participants vary between 3.50 and 3.18 in the student level barriers sub-dimension of the e-learning implementation barriers scale. The weighted arithmetic mean for this dimension was calculated as 3.3. In other words, the teachers expressed the statements regarding this dimension as “Neither agree nor disagree”.

The item, most agreed by participants in this dimension is “My students are not interested in using e-learning” (3.50). The item, least agreed by participants in this dimension is “My students are not able to access the e-learning system” (3.18)

The highest score that can be obtained from the student level barriers sub-dimension of e-learning implementation barriers scale is $\bar{x}$= 25 and the lowest score is $\bar{x}$= 5. According to the scoring, with the scores obtained by the teachers from the total of the scale ($\bar{x}$ = 16.46), the teachers think that the online education barriers caused by the student are at the "medium" level.

## Discussion, Conclusion and Recommendations

Online education is regarded as the best solution in this unusual circumstances where there is no way for face to face education. Sindiani (2020) has also stated that onlie education is the best choice in this period. This study has investigated the barriers of online education, the teachers face during Covid-19 pandemic, and also the barriers that the teachers in Mentese, the district of Mugla Metropolitan Municipility, face during this period with regards to the schools, professions, curriculum, and the students.

The data collected from the onlie questionnaire filled out by the teachers taking part in this study have revealed that most of them are experienced in online education. As Can (2020, s.30) emphasized, it is important that the teachers who will take part in online education, must be highly-qualified for it, and for some fields like information technologies, and etc.

According to the study by Ersoy and Kavaklıoglu (2020), it is stated that the teachers have possitive attitudes towards technology. It seems that Most of the teachers taking part in this study could easily be successful in online education during Covid-19 pandemic, and they also think that the coursebooks are compatible with most online capable devices, there is no internet connection problem in schools and their curriculum can easily be taught.

Studies such as that conducted by Kocoglu, Ulu Kalın, Tekdal and Yigen (2020) have shown that the teachers think that online learning activities conducted during online education are sufficient. This

study has also showed that most of the teacher think that the students who have no access to online education must be assessed differently, and the student are not pleased with online education. Patricia (2020) and Sindiani (2020) also consider that the students prefer face to face education to online education during pandemic.

Considering the data of the study, we could find that the barriers that participating teachers face on school, teacher, curriculum and students are moderate. This means that the teachers did not have much difficulties while conducting online education, and most of them are qualified enough for online education. In their survey, Konig, Jäger-Biela and Glutsch (2020) stated that the most crucial factors that affects the success of online education are teachers' ability to use information technologies, the access of the students to the online capable devices, the in-service education of the teachers. In this context of the study, it may be suggested that; researches on students' unwillingness to attend to online education could be conducted. Students should be supported with free and unlimited access to internet in order to make them attend to online education. Online platforms should be created to let the teacher share their experiences, and possitive samples they had, during online education. The students can be acknowledged about the process of online education to improve the effectivenes of the education. The attendance to online education must be controlled or could be compulsory in order to reduce the students' abstenteeism. Students must be equipped with free internet and materials such as tablet, etc. Finally, teachers should participate in in-service-education to upgrade their knowledge and skills on assessment and evaluation process.

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