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EBA Attitudes and Usage Habits of Teachers after the Pandemic[1]

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Öz. Bu araştırmada, öğretmenlerin salgın sonrası Eğitim Bilişim Ağı (EBA)' na yönelik tutum ve kullanım alışkanlıklarının incelenmesi amaçlanmıştır. Araştırma genel tarama modeli ile desenlenmiş olup, araştırma grubunu Tokat ili Merkez ilçesinde İl Milli Eğitim Müdürlüğüne bağlı eğitim kurumlarında görev yapmakta olan 556 öğretmen oluşturmuştur. Araştırmada veri toplama araçları olarak "Eğitim Bilişim Ağı Tutum Ölçeği", "Kullanım Alışkanlıklarını Belirlemek için hazırlanan Anket Formu" ve "Kişisel Bilgi Formu" kullanılmıştır. Araştırmada elde edilen veriler betimsel istatistikler, bağımsız örneklem t- testi ve tek yönlü varyans analizi (One-Way Anova) kullanılarak analiz edilmiştir. Araştırma bulgularına göre öğretmenlerin EBA tutumları orta düzey aralığında yer aldığı bulunmuştur. Araştırma sonuçları öğretmenlerin EBA tutumları cinsiyet, eğitim durumu, görev yaptıkları yerleşim yeri, yaş, hizmet yılı, görev yapılan öğretim kademesi değişkenlerine göre anlamlı farklılık göstermediği tespit edilmiştir. Branşlar düzeyinde EBA tutumu incelendiğinde Din Kültürü ve Ahlak Bilgisi Öğretmenleri ile Özel Eğitim Öğretmenleri arasında anlamlı bir farklılık ortaya çıkmış olup, Din Kültürü ve Ahlak Bilgisi Öğretmenleri lehine olduğu bulunmuştur. Bununla birlikte öğretmenlerin günlük internet kullanım süresi arttıkça EBA tutum düzeyinin arttığı sonucu ortaya çıkmıştır. Bunların yanı sıra öğretmenlerin EBA kullanım alışkanlıkları incelenmiş, EBA kullanım sıklığı orta düzey seviyesinin altında kabul edilebilecek şekilde olduğu belirlenmiştir. Salgın sürecinde öğretmenlerin önemli bir çoğunluğu EBA üzerinden canlı ders yaptığını belirtmekle birlikte salgın sonrası EBA kullanım alışkanlığında değişiklik olduğunu ifade etmiştir.

Anahtar Kelimeler: Eğitim bilişim ağı, Tutum, Kullanım alışkanlığı, Pandemi

Abstract. This research aims to examine teachers' attitudes and usage habits toward the Education Information Network (EBA) after the pandemic. The research was designed with the general scanning model. The research group consisted of 556 teachers working in educational institutions affiliated with the Provincial Directorate of National Education in the central district of Tokat province. "Educational Information Network Attitude Scale," "Questionnaire Form prepared to Determine Usage Habits," and "Personal Information Form" were used as data collection tools in the research. The data obtained in the study were analyzed using descriptive statistics, independent sample t-test, and one-way analysis of variance (One-Way ANOVA). According to the research findings, it was found that teachers' EBA attitudes were in the middle range. The research results showed that teachers' EBA attitudes did not differ significantly according to the variables of gender, educational status, place of residence, age, years of service, and teaching level. When the EBA attitude is examined at the level of branches, a significant difference has emerged between the Religious Culture and Moral Knowledge Teachers and the Special Education Teachers. It has been found to favor the Religious Culture and Moral Knowledge Teachers. On the other hand, as the daily internet usage time of the teachers increased, it was concluded that the level of EBA attitude increased. In addition to these, the EBA usage habits of the teachers were examined, and it was determined that the frequency of EBA use could be considered below the medium level. While a significant majority of the teachers stated that they gave live lessons over EBA during the pandemic, they stated that there was a change in EBA usage habits after the pandemic.

Keywords: Education Information network, Attitude, Usage habit, Pandemic

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Introduction

Technological developments, which have become an indispensable element of our daily life and are involved in people's lives without being aware of it in the 21st century, have led to changes in the sense they attribute to education, as in many systems. Although education stakeholders have tried to transform education by using new tools and technological developments within the scope of distance learning studies for centuries, the trio of the classroom, curriculum, and teacher could not go beyond classical learning methods in essence (Fırat, 2019). Although this process, which started to accelerate with the support of information technologies, was seen as an unusual and innovative way of use before the pandemic, it became a necessity during the pandemic process. According to the chaos theory, which states that an event occurring anywhere in the world triggers another event, the flutter of a butterfly's wings in Asia believes that it can affect the components of all systems and create disorder (Lorenz, 1972). In this context, the new type of coronavirus (Covid-19), which was first seen among the people in the Republic of China in December 2019, affected many countries and not only affected daily routines but also caused the disruption of services in many institutions in the countries. These disruptions made it necessary for institutions to change their systems and interrupted many of them. In addition to the current consequences of the Covid-19 pandemic worldwide, how education will undoubtedly cope with this pandemic is another scenario issue. The continuity of education and training services for social development is as important as nutrition and health for the continuation of human life (Yılmaz, 2020). In this process, which started with the declaration of a pandemic by the World Health Organization in March 2020, disruptions in education began in countries where the coronavirus was effective and determined by UNESCO. (Sekreter, İpekçi Çetin & Kaya Samut, 2021). In these countries where the virus is seen, education has been stopped, sometimes for a short time or completely (Huang, Liu, Tlili, Yang, & Wang, 2020). Due to the increase in the spread of the pandemic, all educational institutions had to start distance education without adequate preparations and began seeking solutions for continuity in education (Yamamoto & Altun, 2020). In the pandemic process, different countries have chosen to continue education by using similar methods to maintain education (Yaman, 2021). Against the Covid-19 pandemic, which caused about 91% of students worldwide to take a break from education and left countries in a difficult situation in terms of education, educational institutions introduced the emergency distance education plan as a solution (Dreesen et al., 2020).

After the first coronavirus case in our country on March 11, 2020, education was suspended in all schools affiliated with Higher Education Institutions and the Ministry of National Education as of March 14, 2020. Educational institutions initially closed until March 23, 2020, and switched to distance education on March 23, 2020, due to the rapid increase in the number of cases in our country and the course of the pandemic in the world. As a result of this situation, to ensure the continuity of education in our country, the Ministry of National Education announced that formal education at all levels would be carried out through online platforms, distance education systems, and TV channels by taking into account the needs of students in the Covid-19 pandemic (Özer, 2020).

On the other hand, the Council of Higher Education (YÖK) has announced that the interrupted education will continue remotely, and the universities will make necessary arrangements (Serçemeli & Kurnaz, 2020; Yılmaz, 2020). Before the pandemic, it took its place on the agenda as an alternative system in the Ministry of National Education to benefit from digital environments, information, and communication technologies in education and to spread distance education. In this context, the Information Network in Education (EBA), an online social education platform that has been on the air since 2012, designed by YEGITEK, was created to support students and teachers in e-content, and provide supplementary material support to the school, plays the leading role in fulfilling an important function. (Aktay & Keskin, 2016).

More than 20 million students and more than one million teachers in Turkey have tried to continue their educational activities with distance education, for which they do not have enough experience (Karip, 2020). Thus, the Ministry of National Education has recently completely renewed the EBA platform, created within the scope of the FATIH Project, which was initiated in 2012 and constituted the content part of this project. The FATIH project, which is the most comprehensive investment in the use of technology in education, aims to improve the technological infrastructure of schools affiliated with the Ministry of National Education and to create a database that includes all stakeholders (MEB, 2020). In addition, it is aimed to minimize the educational difference between students in advantageous and disadvantaged regions (Uğurlu & Gürsoy, 2018). The EBA platform's content, an e-learning portal that education stakeholders can access without the problem of space and time, has been enriched in our country, which is under the influence of Covid-19. Considering the country's conditions, TRT EBA channels were established for places with no internet access, and course content for all level students began to be broadcast. Although there were connection problems with the EBA platform at the beginning, life lessons have been implemented with teachers and students at all levels since the beginning of the 2020-2021 academic year. In this context, the experience and perspectives of teachers towards the EBA platform, which they will frequently encounter in the following education process, are at the top of the elements that should be taken into consideration and investigated both because of the rapid transformation practice and the necessity of examining the evaluations and determinations for the future.

Moreover, it is necessary to examine the differences that may occur after the pandemic regarding the EBA platform, which was on the air before the pandemic and was constantly revised by the Ministry of Education over the years and offered the use of teachers and students. Therefore, it was necessary to determine the post-pandemic EBA attitudes and usage habits of teachers who are the practitioners of this process. The study's main problem is to examine teachers' attitudes and usage habits towards EBA, which is the official e-content center of the Ministry of National Education, in this period when technological developments and educational activities are intertwined.

Although the pandemic continues, with the start of face-to-face education in educational institutions in the 2021-2022 academic year, it is essential to determine the EBA platform, which teachers experience better in the distance education process, to determine the attitudes of teachers towards EBA and to reveal their usage habits in this period. Because of this situation, this research aims to determine teachers' attitudes and usage habits toward EBA. To reach this aim, the researchers planned and collected data throughout quantitative designs by trying to answer following questions:

1- What are the teachers' EBA attitudes and usage habits?

2- Is there a significant difference between the teachers' gender, age, education level, years of service, branch, school level, and place of residence where the school is located, and EBA attitudes?

3- Is there a significant difference between teachers' computer use self-efficacy, daily internet usage time, and EBA attitudes?

Method

This research is a descriptive survey model that aims to reveal the current state of teachers' attitudes and usage habits toward the Education Information Network after the pandemic. The descriptive survey model is “The opinions of the participants on a subject or their interests, skills, abilities, attitudes, etc. These studies are usually carried out on larger samples than other studies in which the research characteristics are determined (Metin, 2014). The situation, individual, or object

that is the subject of the research is tried to be defined in its conditions and as it is. No effort is made to change or influence them (Karasar, 2005). It is based on reviewing all current or past data on the subject (Şimşek, 2012). The study aimed to determine whether there is a significant difference between teachers' post-pandemic EBA usage habits and attitude.

Participants

The research was carried out with 556 teachers on a voluntary basis, determined by the appropriate sampling technique, working in different schools in the Central District of Tokat Province in the 2021-2022 academic year. Convenience sampling is the selection of the sample from easily accessible and applicable units due to the limitations in terms of time, money, and labor (Büyüköztürk, 2011). In convenience sampling, one of the most widely used sampling types in social sciences, researchers select participants from suitable and volunteer individuals (Gravetter & Forzano, 2012). According to Kumar (2011), this method is based on the ease of accessing the sampling universe.

Data Collection Tools

The data collection tools of the research consist of 3 parts. In the research, a personal information form consisting of 9 questions and a survey form consisting of 12 questions were prepared by the researcher. There were created by describing the necessary literature to examine EBA usage habits and prepared as a result of expert opinions were included in the study. And a questionnaire, Education Information Network (EBA) Attitudes Scale, consisting of 30 items and two sub-dimensions developed by Uğurlu and Gürsoy (2018), was used.

Personal Information Form

The personal information in the Personal Information Form has been included with the thought that it will be useful both in terms of evaluating the constantly updated EBA platform in terms of these variables and in making comparisons with previous researches. In the personal information form, there are questions about the gender, age, and branch of the teachers. At the same time, considering that technology self-efficacy among teachers will be different due to the sub-objectives of the research, self-assessments of computer use skills were added to the research questions in the direction that attitudes towards EBA may change.

EBA Usage Habits Survey

Another part of the data collection set of the research is the EBA usage habits questionnaire. The prepared questionnaire was examined by a total of 3 field experts from the field of Computer Education and Instructional Technologies. The 12-item questionnaire form was finalized by making necessary changes in line with the expert opinions. With the questions in the prepared questionnaire, the researchers aimed to take teachers’ views on their' live lesson experiences, changes in the use of EBA content, etc. Also, it was deemed necessary to contribute to this issue, which was left incomplete in the literature during the pandemic process, with the framework of resource creation.

EBA Attitude Scale

The other data collection tool of the research is the "Educational Information Network (EBA) Attitudes scale of Teachers," developed by Uğurlu and Gürsoy (2018). When the validity and

reliability study of the EBA Attitude Scale is examined, 40-item scale questions, which were formed after a comprehensive literature review, eight field expert examinations, and the Lawshe technique for content validity, were applied to 241 teachers from different branches working in the Central and Kahta districts of Adıyaman province. As a result of the analysis, the Kaiser-Maiser Olkin value was calculated as .944, and the Barlett test was found to be significant (p≤.05). According to the results, it was seen that the scale was suitable for factor analysis. Principal component analysis, one of the exploratory factor analyses, was started by choosing the Promax technique from oblique rotation methods. It was determined that the eigenvalue of the scale was gathered under five factors more significant than one. It was determined that five factors explained 59.58% of the scale. To determine the factorization number of the scale, scree and parallel analysis technique, another method, was used. When the slope graph created for the two techniques was examined, it was decided to have a two-factor scale because the slope decreased after the second factor. By choosing the Promax rotation technique, items with a factor load below .40 were removed and reanalyzed. The scale, consisting of two factors and 30 items, took its final form. It was determined that the remaining 30 items explained 51,29% of the scale (Uğurlu & Gürsoy, 2018). The Cronbach Alpha, internal consistency test, was used to measure the scale's reliability. The reliability coefficient of the EBA Attitude scale was calculated as 0.950 in the study of Uğurlu and Gürsoy (2018), 0.894 in the study of Varışoğlu (2019), 0.950 in the study of Akça (2021), and as 0.957 in this study. The EBA Attitude scale, for which validity and reliability analyzes were made, consists of 2 sub-dimensions: "Necessity of EBA (24 items)" and "Applicability of EBA (6 items)". It is seen that the scale, which is a 5-point Likert type and contains eight negative items, is a valid and reliable measurement tool to determine teachers' attitudes toward the use of the Education Information Network. Response options for positive items in the Likert scale were determined as 5= Totally agree, 4=Agree, 3=Undecided, 2=Disagree, 1=Strongly disagree. For negative items, the answer options are precisely the opposite. For example, the option “I strongly disagree” was determined as 5 points.

Data Collection Process

The data collection process of this research was carried out between 30.01.2022 and 01.03.2022 after obtaining the necessary permissions from the Tokat Provincial Directorate of National Education. The data collection set was transferred to the online environment and voluntarily delivered to the participating teachers through Google Forms. In addition, data were collected by using the Google Forms limiter to limit the date and one response.

Analysis of Data

The statistical data of the study, in which the attitudes and usage habits of teachers working in the city center of Tokat in the 2021-2022 academic year were examined, were made using SPSS and were evaluated at the 95% confidence interval and .05 significance level. Calculations showing frequency and percentage values were made using descriptive statistical methods for the questionnaire items used to determine the usage habits in the data package. A normality test was performed to determine whether the data obtained from the EBA attitude scale included in the data collection package showed a normal distribution. As a result of the test, it was determined that the data were normally distributed. To determine the statistical significance of the data, analysis tests were performed by calculating the t-test, One-Way Analysis of Variance (ANOVA), and Scheffe Significance Tests from Post-Hoc tests.

Findings

Findings Regarding EBA Usage Habits of Teachers

Descriptive statistical analyses were made for the percentage and frequency distributions of the answers given to the question, “What are the tools that teachers use as a source of EBA usage?” presented in Table 1.

Table 1.
EBA Usage Resources of Teachers

EBA Usage Resource for Teachers	**n**	**%**
Smartphone	105	18,9
Computer	257	46,2
Tablet	21	3,8
Smartboard	165	29,7
All of them	8	1,4

When Table 1 is examined, 18.9% (n=105) smartphones, 46.2% (n=257) computers, 3.8% (n=21) tablets, 29.7% (n=165) smart boards as EBA usage tools and 1.4% (n=8) stated that they used all of them. According to the results, it is seen that teachers prefer their tools (personal computer-smartphone-tablet) at a rate of 70% as EBA usage resources.

The second question was, "Is your school's internet infrastructure sufficient for EBA?" descriptive statistics were made for the percentage and frequency distributions of the answers given to the question, and Table 2 displays the mentioned findings.

Table 2.
Opinions of Teachers About EBA Infrastructure

Is your school's internet infrastructure sufficient for EBA?	**n**	**%**
Yes	255	45,9
No	301	54,1

Table 2 shows that while 45.9% (n=255) of the teachers consider the internet infrastructure of the school they work in to be sufficient for entering EBA, 54.1% (n=301) of the teachers consider it insufficient. Considering that approximately 75% of the teachers who make up the sample work in the city center, according to the result in Table 3, the fact that 54% of the teachers stated that the EBA infrastructure in their schools is weak can be interpreted as the network infrastructure problem of many schools, even in the city center of Tokat.

"What is your EBA Usage Frequency Level?" was another question. Table 3 provides descriptive statistics made for the percentage and frequency distributions of the answers.

Table 3.
EBA Usage Frequency Level of Teachers

EBA usage frequency level of teachers	**n**	**%**
Never	14	2,5
Rarely	138	24,8
Sometimes	277	49,8
Usually	112	20,1
Always	15	2,7

According to Table 3, when the EBA usage frequency of teachers is examined, 2.5% (n=14) never, 24.8% (n=138) rarely, 49.8% (n=277) sometimes, 49.8% (n=112) usually, 27% (n= 15) stated that s/he always uses EBA. According to the results, it is seen that the frequency of EBA use is lower than expected. In this respect, it can be interpreted that 80% of the teachers (sometimes-rarely-never) have not fully formed the habit of using EBA.

Table 4 provides descriptive statistical analyzes were made for the percentage and frequency distributions of the answers given to the question, “Do you exchange information with the EBA social network structure?”

Table 4.
Teachers' Use of EBA Social Network Structure

Do you exchange information with the EBA social network structure?	**n**	**%**
Never	173	31,1
Rarely	185	33,3
Sometimes	158	28,4
Usually	34	6,1
Always	6	1,1

As Table 4 reveal, teachers 31.1% (n=173) never, 33.3% (n=185) rarely, 28.4% (n=158) sometimes, 6.1% (n=34) usually, 1.1% (n=6) stated that they always exchange information with the EBA social network infrastructure. According to the result, the most important point that can be expressed that, teachers do not know the EBA social network infrastructure because a high rate of 31% of the teachers stated that they never used the EBA infrastructure. However, about 60% of the teachers stated that they use it rarely or sometimes. Moreover, it is seen that this result, which emerged in Table 5, coincides with the statistics of teachers' EBA usage frequency.

Descriptive statistical analyzes were made for the percentage and frequency distributions of the answers given to the question "Do you follow EBA on social networks (Facebook, Twitter, Instagram, etc.)?", and it is presented in Table 5.

Table 5.
The Status of Teachers to Follow EBA on Social Networks

Do you follow EBA on social networks?	**n**	**%**
Never	173	31.1
Rarely	185	33.3
Sometimes	158	28.4
Usually	34	6.1
Always	6	1.1

According to Table 5, 31.1% (n=173) of the teachers never, 33.3% (n=185) rarely, 28.4% (n=158) sometimes, 6.1% (n=34) generally stated that 1.1% (n=6) always follow EBA on social platforms. In today's world, where written sources are replaced by digital platforms, popular social media tools are the easiest way to obtain and share information. In these environments where online sharing is very intense, up-to-date announcements can be easily reached. However, according to the data obtained, approximately 93% of teachers do not follow EBA from social networks.

"Do you think the EBA content is sufficient?" was another question. The percentage and frequency distributions of the answers to the question are presented in Table 6.

Table 6.
Opinions of Teachers about EBA Contents

Do you think the EBA contents are sufficient?	**n**	**%**
Yes	141	25,4
No	382	68,7
I have not used / I do not know	33	5,9

When Table 6 is examined, 25.4% (n=141) of the teachers stated that the EBA content related to their branch was sufficient, 68.7% (n=382) teachers were inadequate, and 5.9% (n=33) teachers stated that they did not use EBA. When the resulting statistical data were evaluated, a high percentage of teachers stated that the EBA content was insufficient.

Table 7 display descriptive statistical analyzes were made for the percentage and frequency distributions of the answers given to the question "Have you uploaded content to EBA?".

Table 7.
Teachers Uploading Content to EBA

Status of uploading content to EBA	**n**	**%**
Yes	203	36,5
No	353	63,5

As seen in Table 7, while 36.5% (n=203) of the teachers stated that they uploaded content to EBA, 63.5% (n=353) did not. According to the resulting table, it can be stated that 64% of the teachers use the content in the EBA or do not upload the content they have prepared to the EBA system. In addition, it can be thought that the fact that they do not have sufficient self-efficacy to use applications for content creation or that they do not need to prepare content may have an impact on this result.

The following question was "Did you do live lessons over EBA during the pandemic?" Descriptive statistical analyzes were made for the percentage and frequency distributions of the answers given to the question, and it is presented in Table 8.

Table 8.
EBA Live Lesson Status of Teachers

Have you done live lessons on EBA?	**n**	**%**
Yes	484	87,1
No	72	12,9

When Table 8 is examined, 87.1% (n=484) of the teachers stated that they gave live lessons via EBA, while 12.9% (n=72) stated that they did not give life lessons. This indicates that a high percentage of teachers entered EBA during the pandemic.

"Has there been a change in your EBA usage habits after the pandemic?" was another question. The percentage and frequency distributions of the answers to the question are presented in Table 9.

Table 9.
Changes in EBA Usage Habits of Teachers

Has there been a change in your EBA usage habits?	**n**	**%**
Yes	382	68,7
No	174	31,3

Teachers stated that there was a change in their EBA usage habits in 68.7% (n=382) and 31.3% (n=174) in the post-pandemic period.

Teachers were also asked “Where do you think you use EBA content more after the pandemic?” The percentage and frequency distributions of the answers given to the question are presented in Table 10.

Table 10.
EBA Usage Areas of Teachers

Where do you use EBA content?	**n**	**%**
In-school	202	36,3
Out-school	97	17,4
Both	159	28,6
No change in usage	98	17,6

As EBA usage places, 36.3% (n=202) are in school, 17.4% (n=97) are out of school, 28.6% (n=159) are both in and out of school, 17.6% (n=98) answered that my usage did not change.

Findings Regarding the EBA Attitude Scale

An independent sample t-test was conducted to test whether teachers' educational information network (EBA) attitudes differ significantly according to their genders. Analysis results are presented in Table 11.

Table 11.
Independent t-test Results of Teachers by Gender

Sub-dimensions	**Gender**	**N**	**X̄**	**sd**	**t**	**p**
EBA	Female	293	2,4767	,50522	-,254	,800
Necessity	Male	263	2,4835	,50215		
EBA	Female	293	2,5290	,50222	-,291	,771
Applicability	Male	263	2,5440	,50215		
EBA	Female	293	2,4840	,50473	-,272	,786
Attitude(General)	Male	263	2,4957	,51298		

* Significance at 0.05 level

When Table 11 is examined, it is understood that there is no significant difference between the attitudes of female and male teachers towards EBA (p>0.05). However, when the mean scores obtained from both the EBA general attitude dimension and both sub-dimensions are examined, it is seen that the scores are quite close to each other. Therefore, it has been determined that the attitudes of female and male teachers towards EBA are similar.

Descriptive statistics were made for the frequency, mean and standard deviation values for EBA according to the age variable of the teachers and are presented in Table 12.

Table 12.
Descriptive Statistics of Teachers by Age

Sub-dimensions	**Age**	**N**	**X̄**	**sd**
EBA	21-30 Age	80	2,5021	,54006
Necessity	31-40 Age	298	2,4786	,47908
	41-50 Age	127	2,4436	,52141
	≥ 51 Age	51	2,5204	,52872
	Total	556	2,4778	,50176
EBA	21-30 Age	80	2,5396	,68088
Applicability	31-40 Age	298	2,5403	,57837
	41-50 Age	127	2,5131	,67964
	≥ 51 Age	51	2,5654	,62546
	Total	556	2,5363	,62074
EBA Attitude(General)	21-30 Age	80	2,5096	,54588
	31-40 Age	298	2,4909	,48091
	41-50 Age	127	2,4575	,53776
	≥ 51 Age	51	2,5294	,53747
	Total	556	2,4895	,50823

According to Table 12, when the descriptive findings obtained from the EBA attitude scale according to the age variable of the teachers are examined, it is seen that there is no distinctive difference between age groups in terms of both the general average score and sub-dimensions of the scale. As a remarkable dimension, it is striking that the average of the factor of EBA applicability (X̄=2,5363) is higher than the average of EBA general attitude (X̄=2,4895) and EBA necessity (X̄=2,4778) factors. In addition, another noteworthy data is that the mean score of the 51-year-old and over-teacher group both in the general attitude dimension and in both sub-dimensions is higher than the other age groups.

A one-way analysis of variance test (ANOVA) was conducted to test whether teachers' educational information network (EBA) attitudes differ significantly according to age. Analysis results are presented in Table 13.

Table 13.
One-Way Analysis of Variance Results by Age of Teachers

Sub-dimensions		Sum of Squares	sd	Mean Squares	F	p	Difference Scheffe
EBA Necessity	Between-group	,289	3	,096	,381	,767	
	In-group	139,441	552	,253			
	Total	139,730	555				
EBA Applicability	Between-group	,117	3	,039	,101	,960	
	In-group	213,735	552	,387			
	Total	213,852	555				
EBA Attitude (General)	Between-group	,244	3	,081	,314	,815	
	In-group	143,109	552	,259			
	Total	143,353	555				

* Significance at 0.05 level

When Table 13 is examined, it is understood that there is no significant difference in age levels between teachers' attitudes toward EBA (p>0.05). In this case, it is understood that teachers' opinions about EBA are similar.

The frequency, mean and standard deviation values for the EBA requirement sub-dimension according to the branches of the teachers are presented in Table 14.

Table 14.
Descriptive Statistics for EBA Requirement Sub-Dimension by Teachers' Branches

Sub-dimensions	Branch	N	$\bar{X}$	sd
EBA Necessity	Physical Education Teacher (1)	28	2,4375	,37977
	Information Technology Teacher (2)	40	2,4125	,53591
	Religious Culture and Ethics Teacher (3)	41	2,7654	,42723
	Science Teacher (4)	31	2,3239	,45855
	Elementary Math Teacher (5)	43	2,5378	,55343
	English Teacher (6)	47	2,4716	,48100
	Math Teacher (7)	23	2,5199	,45607
	Vocational Course Teacher. (8)	45	2,3898	,48373
	Pre-school Teacher (9)	36	2,5139	,49190
	Special Education Teacher (10)	19	2,2998	,44226
	Guidence Teacher (11)	20	2,5125	,54345
	Primary School Teacher (12)	90	2,5523	,51698
	Social Science Teacher (13)	26	2,3702	,55381
	Turkish Language and Literature Teacher (14)	35	2,6250	,53722
	The Turkish Language Teacher (15)	32	2,4779	,48764
	Total	556	2,4778	,50176

Table 14 shows that the arithmetic averages of the EBA requirement sub-dimension obtained at the branch level are examined. Therefore, it is seen that the general arithmetic mean is X̄=2.4778. In addition, Religious Culture and Ethics Teachers (X̄=2.7654; n=41), Turkish Language and Literature Teachers (X̄=2.6250, n=35), and Primary school teachers (X̄=2.5523, n=90) draw attention as the group of teachers with the highest average score. However, the lowest averages obtained were respectively Special Education Teachers (X̄=2.2998, n=19), Science Teachers (X̄=2.3239, n=31), and Social Science Teachers (X̄=2.3702, n=26) group. In the study, which included 15 different branch groups in total, the average score of other branch teachers was at the average level, and it was revealed as a result of the analysis that it was between 2.5378 and 2.3898.

The frequency, mean and standard deviation values of the teachers for the EBA applicability sub-dimension according to the branches are presented in Table 15.

Table 15.
Statistics for EBA Applicability Dimension by Branches

Sub-dimensions	**Branch**	**N**	**X̄**	**sd**
EBA Applicability	Physical Education Teacher (1)	28	2,5655	,50986
	Information Technology Teacher (2)	40	2,4750	,76381
	Religious Culture and Ethics Teacher (3)	41	2,8860	,50933
	Science Teacher (4)	31	2,4301	,57358
	Elementary Math Teacher (5)	43	2,5271	,60959
	English Teacher (6)	47	2,5461	,61748
	Math Teacher (7)	23	2,5072	,68622
	Vocational Course Teacher. (8)	45	2,4741	,54467
	Pre-school Teacher (9)	36	2,5972	,55403
	Special Education Teacher (10)	19	2,2317	,57358
	Guidance Teacher (11)	20	2,5167	,65091
	Primary School Teacher (12)	90	2,6111	,65103
	Social Science Teacher (13)	26	2,4167	,66039
	Turkish Language and Literature Teacher (14)	35	2,7714	,59832
	The Turkish Language Teacher (15)	32	2,5521	,57803
	Total	556	2,5363	,62074

Table 15 displayed the arithmetic averages obtained at the branch level of the EBA applicability sub-dimension and the general arithmetic mean is X̄=2,5363. In addition, Religious Culture and Ethics Teachers (X̄=2.8860), Turkish Language and Literature Teachers (X̄=2.7714) and Primary School Teachers (X̄=2.611) draw attention as the group of teachers with the highest arithmetic score averages, respectively. However, the lowest arithmetic averages obtained belong to the Special Education Teachers (X̄=2.2317), Social Sciences Teachers (X̄=2,4167) and Science Teachers (X̄=2,4301) groups, respectively. In the study, which included 15 different branch groups in total, the average score of the other branch teachers was at the average level, and it was revealed as a result of the analyzes that it was between 2.5972 and 2.4741. On the other hand, when the statistical data obtained for the necessity of the EBA (X̄ =2,4778) sub-dimension in Table 36 is compared, it is striking that teachers' attitude score averages for the applicability of EBA (X̄=2.5363) sub-dimension are higher. In addition, it is noticed that the branch groups with the highest and lowest arithmetic score averages do not change.

The frequency, mean and standard deviation values of teachers' general attitude towards EBA according to branches are shown in Table 16.

Table 16.
Descriptive Statistics of Teachers on EBA General Attitudes According to Their Branches

Sub-dimensions	Branch	N	X̄	sd
EBA Attitude (General)	Physical Education Teacher (1)	28	2,4631	,38020
	Information Technology Teacher (2)	40	2,4250	,57397
	Religious Culture and Ethics Teacher (3)	41	2,7895	,43277
	Science Teacher (4)	31	2,3452	,46956
	Elementary Math Teacher (5)	43	2,5357	,54909
	English Teacher (6)	47	2,4865	,49371
	Math Teacher (7)	23	2,5174	,48678
	Vocational Course Teacher. (8)	45	2,4067	,48082
	Pre-school Teacher (9)	36	2,5306	,47412
	Special Education Teacher (10)	19	2,2862	,45552
	Guidence Teacher (11)	20	2,5133	,54883
	Primary School Teacher (12)	90	2,5641	,52241
	Social Science Teacher (13)	26	2,3795	,55233
	Turkish Language and Literature Teacher (14)	35	2,6543	,53816
	The Turkish Language Teacher (15)	32	2,4927	,48221
	Total	556	2,4895	,50823

In Table 16, the arithmetic averages of teachers' EBA general attitude obtained at the level of branches are examined. Thus, the arithmetic mean of EBA attitude general scores is X̄=2.4895. Respectively, Religious Culture and Ethics Teachers (X̄=2.7895), Turkish Language and Literature Teachers (X̄=2.6543) and Primary School Teachers (X̄=2.5641) draw attention as the group of teachers with the highest average score. EBA attitude scores of other branch teachers were respectively Preschool Teachers (X̄=2,5306), Elementary Mathematics Teachers (X̄=2,5174), Guidance and Psychological Counselor (X̄=2,5133), Turkish Teachers (X̄=2,4895) , English Language Teaching (X̄=2,4865), Physical Education Teachers (X̄=2,4631), Information Technology Teachers (X̄=2,4240) and Vocational Course Teachers (X̄=2,4067). It is seen that the lowest averages obtained belong to the Special Education Teachers (X̄=2.2862), Science Teachers (X̄=2.3452) and Social Science Teachers (X̄=2.3795) groups, respectively.

A one-way analysis of variance test (ANOVA) was conducted to test whether teachers' educational information network (EBA) attitudes differ significantly according to their branch. Analysis results are presented in Table 17.

Table 17.
One-Way Analysis of Variance Results by Teachers' Branches

Sub-dimensions		**Sum of Squares**	**sd**	**Mean Squares**	**F**	**p**	**Difference Scheffe**
EBA Necessity	Between-group	5,996	14	,428	1,733	,046*	3-10
	In-group	133,734	541	,247			
	Total	139,730	555				
EBA Applicability	Between-group	9,813	14	,701	1,858	,028*	3-10
	In-group	204,039	541	,377			3-14
	Total	213,852	555				
EBA Attitude (General)	Between-group	6,943	14	,464	1,833	,031*	3-10
	In-group	136,860	541	,253			
	Total	143,353	555				

* Significance at 0.05 level

In Table 17, teachers' attitudes towards EBA are examined, there is a significant difference between Religious Culture and Moral Knowledge Teachers and Special Education Teachers at the level of EBA (general) attitude. In the applicability sub-dimension,there is a significant difference between Religious Culture and Moral Knowledge Teachers and Special Education Teachers, as well as between Religious Culture and Moral Knowledge Teachers and Turkish Language and Literature Teachers. In the sub-dimension of necessity, there is a significant difference between Religious Culture and Moral Knowledge Teachers and Special Education Teachers. When the significant differences between the branches are examined, it is understood that EBA general attitude level is in favor of Religious Culture and Moral Knowledge Teachers, taking into account the average attitude scores.

Descriptive statistics were made for frequency, mean and standard deviation values according to the teachers' computer use self-efficacy evaluations. Analysis results are presented in Table 18.

Table 18.
Teachers' Computer Use Self-Efficacy Evaluations

Sub-dimensions	Self-efficacy	N	$\bar{X}$	sd
EBA Necessity	Weak (1)	0	0	
	Medium(2)	20	2,4604	,34078
	Good (3)	158	2,4784	,46900
	Very Good (4)	247	2,5240	,52158
	High (5)	131	2,3928	,51580
	Total	556	2,4778	,50176
EBA Applicability	Weak (1)	0	0	0
	Medium(2)	20	2,4167	,48816
	Good (3)	158	2,5243	,58943
	Very Good (4)	247	2,6221	,62707
	High (5)	131	2,4071	,64290
	Total	556	2,5363	,62074
EBA Attitude (General)	Weak (1)	0	0	0
	Medium(2)	20	2,4517	,35860
	Good (3)	158	2,4876	,47426
	Very Good (4)	247	2,5436	,52573

High (5)	131	2,3957	,52404
Total	556	2,4895	,50823

As Table 18 displays, when the mean scores of EBA necessity, EBA applicability, and EBA general attitude are analyzed according to computer self-efficacy evaluations, there is no correlation between the use cases. However, when the sub-dimensions of the scale are examined, it is seen that the mean of EBA applicability ($\bar{X}$=2,5363) is higher than the average of EBA necessity ($\bar{X}$=2,4778) and EBA general attitude ($\bar{X}$=2,4895). When the results of the research are examined in detail, a remarkable statistic stands out. First of all, it is seen that the EBA mean scores at both the EBA general attitude and both sub-dimension levels continue to increase among the groups that describe their computer use self-efficacy as medium-good-very good. Therefore, it is noticed that the attitude averages of the teachers who prefer the computer use self-efficacy assessment high in both the EBA general attitude level and in both sub-dimensions have lower scores than the other groups. In addition to coinciding with the results of this study, it can be interpreted that EBA is an environment that does not require high-level computer use in terms of ease of use.

One-way analysis of variance test (ANOVA) results is presented in Table 19 to test whether teachers' EBA attitudes differ significantly according to their computer use self-efficacy assessments.

Table 19.
One-Way Analysis of Variance of Teachers' Self-Efficacy in Computer Use

Sub-dimensions		**Sum of Squares**	**sd**	**Mean Squares**	**F**	**p**	**Scheffe Difference**
EBA Necessity	Between-groups	1,478	3	,493	1,968	,118	
	In-groups	138,251	552	,250			
	Total	139,730	555				
EBA Applicability	Between-groups	4,315	3	1,438	3,789	,010*	4-5
	In-groups	209,537	552	,380			
	Total	213,852	555				
EBA Attitude (General)	Between-groups	1,905	3	,635	2,478	,060	
	In-groups	141,448	552	,256			
	Total	143,353	555				

* Significance at 0.05 level

The significance of teachers' attitudes towards EBA at the level of evaluation of computer use self-efficacy is examined as seen in table 19, so there is no significant difference in EBA general attitude and necessity sub-dimension. However there is a significant difference between those who score their computer use preference as very good(4) and high(5) in the applicability sub-dimension. It is understood that the difference between these two groups is in favor of teachers who prefer a very good (4) level of computer use.

Descriptive statistics were made for frequency, mean, and standard deviation values according to teachers' daily internet usage time. Analysis results are displayed in Table 20.

Table 20.
Daily Internet Usage Periods of Teachers

Sub-dimensions	**Time**	**N**	**X̄**	**sd**
EBA Necessity	Never	0	0	0
	Less than 1 hour	50	2,2975	35615
	1-3 hours	265	2,4668	49916
	3-5 hours	158	2,4829	52343
	≥ 5hours	83	2,4778	51283
	Total	556	2,4312	50176
EBA Applicability	Never	0	0	
	Less than 1 hour	50	2,4773	43430
	1-3 hours	265	2,5177	60795
	3-5 hours	158	2,5237	64260
	≥ 5hours	83	2,6446	70652
	Total	556	2,5363	62074
EBA Attitude (General)	Never	0	0	0
	Less than 1 hour	50	2,3327	34860
	1-3 hours	265	2,4790	50488
	3-5 hours	158	2,4890	52796
	≥ 5hours	83	2,6185	53762
	Total	556	2,4895	50823

When Table 20 is examined, while it is noteworthy that EBA applicability and EBA general attitude scores increase as the daily internet time of teachers increases, it is noticed that the attitude averages of the teachers whose daily internet usage time is between 3 and 5 hours are high in the EBA necessity sub-dimension.

Table 21 presents one-way analysis of variance (ANOVA) results for EBA according to teachers' daily internet usage time.

Table 21.
One-Way Analysis of Variance Results by Teachers' Daily Internet Usage Time

Sub-dimensions		Sum of Squares	sd	Mean Squares	F	p	Scheffe Difference
EBA Necessity	Between-groups	2,784	4	,696	4,251	,006 *	2-5
	In-groups	136,946	551	,249			
	Total	139,730	555				
EBA Applicability	Between-groups	2,540	4	,635	1,101	,348	
	In-groups	211,312	551	,384			
	Total	213,852	555				
EBA Attitude (General)	Between-groups	2,708	4	,677	3,452	,016 *	2-5
	In-groups	140,645	551	,255			
	Total	143,343	555				

* Significance at 0.05 level

According to Table 21, when the significance of teachers' attitudes towards EBA at the level of daily internet use frequency is examined, there is a significant difference in favor of the teachers who use the internet for 5 hours or more in the EBA general attitude and necessity sub-dimensions, among the teachers who use the internet for more than 5 hours and less than 1 hour, a difference is seen. There was no significant difference in the applicability sub-dimension.

Conclusion and Discussion

Considering the results of the research, the findings that emerged in line with the statistical analysis of the data obtained to determine the EBA attitudes and usage habits of the teachers were tried to be interpreted by comparing them with the previous studies.

The scale used in the research consists of two sub-dimensions, the necessity of EBA and the applicability of EBA. It can be said that teachers' EBA attitudes are generally around the medium level and in a positive direction. In addition, it is seen that teachers' EBA attitude score average is 74.68 on the study scale, where the lowest 30 points and the highest 150 points can be obtained. When the sub-dimensions are analyzed specifically, it is seen that the necessity of EBA has higher ratios than the applicability dimension of EBA. When the studies carried out before and during the pandemic are examined, it is seen that results parallel to this study were obtained (Varışoğlu, 2019; Aztekin, 2020; Şireci, 2021; Tutar, 2015; Yılmaz, 2019; Kuloğlu, 2018; Karbeyaz & Kurt, 2020). However, considering the studies conducted until 2021 examining the attitudes of teachers towards the Education Information Network, this study is the study in which the lowest EBA attitude scores of teachers were obtained. It can be thought that, especially after the pandemic, in the 2021-2022 academic year, the schools started face-to-face education at all levels, resulting in the fact that teachers reduced their attitudes towards the EBA platform, which they used compulsorily in this process. It seems that the necessity of teachers to do their lessons using EBA during the pandemic, virtual environment activities without experience, the inability of students to use EBA due to physical inadequacies, and the fact that teachers are not together with their students created a feeling of boredom towards EBA and likely affected this result.

In the study, which shows that female and male teachers are equally distributed, it is seen that their attitudes toward EBA do not differ according to gender. Similarly, studies have concluded that gender has no effect on EBA attitude (Kurtdede Fidan, Erbasan & Kolsuz, 2016; Kuloğlu, 2018; Çakmak & Taşkıran, 2017). However, Erçelik (2004) concluded that male teachers have more positive attitudes than female teachers in his study on classroom teachers. Although there is no significant difference in gender in this study, it is seen that the EBA attitude scores of male teachers are slightly higher than female teachers.

As a result of the analysis in which the EBA attitude of the teachers was examined according to the age variable, no significant difference was found between the groups. When the studies were examined, it was concluded that the age variable did not create a differentiation in the attitude (Özgümüş, 2018; Gökdemir, 2020). However, when the attitude scores of the groups are observed, it is seen that the teachers between the ages of ≥51 and the ages 21-30 have higher attitude scores than the teachers between the ages of 31-40 and 41-50. The averages show that it is seen that the attitudes of middle-aged teachers are lower than those of the 21-30 age group and ≥51 age group. While Aztekin (2020) concluded in his study that the level of attitude is relatively higher as age groups increase, Karbeyaz and Kurt (2020) found the opposite result and found the attitudes of teachers with higher age groups to be higher than other age groups. In this study, it may be among the assumptions that the pandemic has an effect on the high attitudes of teachers over the age of 51. Their EBA attitudes might be affected among teachers of this age group, who continue their

educational activities with more traditional methods, which can be interpreted as the efforts of these age group teachers to complete their missing aspects compared to other groups, to improve their digital competencies and to adapt quickly to different educational approaches. On the other hand, the reason for younger teachers' high attitude is that they are new in the profession, their dynamism and ease of adaptation to innovations, and their ability to reach and use the information at a high level bring along these comments. In addition, it should be taken into account that the sample of age groups is generally concentrated between the ages of 31-51.

When the EBA attitude differences according to the branches of the teachers are examined, a significant difference emerges between the Religious Culture and Moral Knowledge Teachers and the Special Education Teachers at the EBA (general) attitude level. When the studies on the EBA attitude are examined, it is noteworthy that the studies are mostly carried out based on branches and there is no comparison between the branches. In addition, while there is an EBA attitude study in the literature specific to Religious Culture and Moral Knowledge Teachers, there is no study on EBA attitude specific to Special Education Teachers. However, when the literature is examined, teachers' EBA views have been the subject of research, mostly with qualitative methods. If we try to interpret the reason for the difference in this context, it is the possibility that the pandemic process will cause negative and positive orientation in these two branches. Because if it is considered independently of education levels, age groups, or prior knowledge levels about EBA, special education group students are the most disadvantaged group in need of individual communication, face-to-face education, and teacher support. It has been frequently emphasized that face-to-face education should be continued for the group, which the Ministry of National Education has emphasized during the pandemic process. In this case, it can be thought that the compulsory attendance of special education teachers to distance education via EBA in the process of rapidly increasing the course of the pandemic creates a prejudice that the EBA system will not be sufficient and beneficial for this student group. With the start of face-to-face education in schools in the 2021-2022 academic year, special education teachers have renewed their belief in face-to-face education in this branch, and it can be said that it has a negative reflection on their attitudes towards EBA. The high level of attitude of Religious Culture and Moral Knowledge teachers is that the General Directorate of Religious Education produced more content in this field compared to other branches during the pandemic, the frequency of entry increased compared to the pre-pandemic period, and the content sharing was actively announced to teachers throughout the province within the framework of online meetings. Thus, it can be interpreted that the increased level of EBA awareness has a positive effect on the EBA attitude. Also, since Religious Culture and Moral Education Teaching has a structure that is open to interpretation and accommodates different opinions in terms of course content, it is among the strong possibilities that the contents recommended by the Ministry of National Education will be met. That is why, instead of questioning the reliability of online information to be obtained from different sources, choosing EBA, the official education portal of the Ministry of National Education, for this branch is seen as more trouble-free and forms a basis for the interpretation that EBA attitudes can be affected. However, in support of the results of the study conducted, Yıldız (2021) found that the attitudes of RCME teachers were positive and positive both at the general attitude level of EBA and at both sub-dimension levels in his study, in which he examined the attitudes of Religious Culture Teachers towards EBA. However, when the attitude averages of the two studies are compared, it is seen that the average of the study conducted by Yıldız is considerably higher than the current study. This situation can be thought of as the fact that the teachers who make up the sample group of the study by Yıldız participated in the research with the convenience sampling method, which is also called the sampling method, which they could find through social media. Because if teachers who are actively involved in social platforms and who participate to share and transfer information, have high digital competencies and are inclined to academic studies, it may be possible to cause a statistical difference. As a result, although it is seen that there is a statistical difference between these two branches in the current study, the limited interpretations that can be made and the fact that they are

not based on any theoretical basis may cause the results of this study to not find a significant response.

When the EBA attitudes of the teachers according to their branches are examined, another important situation that should be emphasized is that the EBA attitude points and averages of Information Technologies Teachers are below the general teacher average. This statistical ratio, which stands out when the literature is scanned, can be evaluated based on assumptions since there is no EBA attitude research specific to CT Teachers. First of all, the most effective factor in the emergence of this result is the opinion that CT teachers have a lot of work in this process due to the lack of infrastructure experienced during the pandemic process and other branch teachers' lack of knowledge of applications that offer life lessons such as EBA, Zoom, Skype or Teams. It can be thought that it is not an exaggeration to say that many of them struggle with many issues both inside and outside the school, especially since many of them are FATİH Project CT Guidance Teachers. However, another overriding comment is that considering that IT teachers' ability to produce and access digital content is higher than that of other teachers and the lack of CT course content on the EBA portal, the possibility that CT teachers may turn to digital content other than EBA and benefit from different sources can be considered. However, this situation is probably a general perception. In this period when schools were opened face-to-face, it can be seen whether the repetition of the same study or research on technology support in education coincides with the result of this research.

Within the scope of the research, when the EBA attitudes of teachers were examined according to their computer use self-efficacy and internet usage frequency, there is no significant difference between the groups in terms of computer use proficiency in general. Because, when the findings were examined, approximately 90% of the teachers interpreted computer proficiency as good or above. When the research were examined, it was concluded that the teachers considered themselves competent in terms of computer use and technology (Tatlı & Kılıç, 2013; Kaplan, 2014). In addition, when the results of the research are examined, there is no correlation between the average scores of the groups and the computer use self-efficacy levels. Therefore, considering that mobile devices can be accessed and used by everyone in today's conditions, it can be expressed as an equivalent interpretation of the emerging research finding. However, in this study, it is necessary to examine the computer usage status of teachers in detail, to identify and analyze them with a valid and reliable measurement tool, and to reach and interpret more reliable data. This review is preliminary information for future studies and has been reported to provide a superficial assessment. When examined according to the frequency of internet use, it is seen that those who use the internet for 5 hours or more have a higher EBA attitude than those who use less than 1 hour. According to findings, approximately 80% of the teachers stated that they use the internet for 3 hours or more per day. Gökdemir (2020) concluded that 85% of teachers use social education sites. The results of the study tend to support this finding and showed that as the frequency of internet use by teachers increases, the EBA attitude reveals a positive impression. In this context, it brings with it the interpretation that teachers search for materials and educational content on the Internet to use in lessons.

According to the results of the survey to examine the EBA usage habits of the teachers, it is seen that a table is displayed in a way that can coincide with the teachers' EBA attitudes. First of all, approximately 70% of the teachers stated that their use of EBA changed after the pandemic. However, this change generally justifies the idea that there is a sense of understanding of the importance of digital education during the pandemic, rather than renewing existing usage habits. The correlation when post-pandemic usage habits and attitudes support this idea.

The EBA usage resources of the teachers revealed that nearly half of them prefer their personal computers and 20% prefer their mobile phones. As a matter of fact, as a finding to support

this view, 55% of the teachers state that the internet infrastructure of their schools is not sufficient. When the literature is examined, there are studies that detect hardware problems in schools (Hakkari, 2018; Petretto, Masala & Masala, 2020; Kana & Aydın, 2017). As it can be understood from this, it is concluded that teachers enter EBA out of school due to both their usage habits and the hardware problems of the schools. Aksoy (2017) states that most of the teachers have problems with the lack of internet in their classrooms or being slow. Güvendi (2014) and Alabay (2015) found out that the lack of infrastructure in schools negatively affects teachers' use of EBA. In addition, according to YEGITEK (2022) data, the network infrastructure of 16,547 (47%) of 47,722 schools included in the scope of the project throughout Turkey has been completed and about 7 schools have ongoing infrastructure works. In the province of Tokat, which constitutes the sample part of the research, 299 (58.5%) of the 511 schools included in the project were completed. Therefore, it is seen that the completion status of the FATIH project and the results of the research almost coincide. Due to the fact that most of the teachers have access to EBA from their personal tools and the schools' lack of infrastructure, it can be a basis for the thought that teachers prepare for the lesson by providing pre-access to the EBA content that they can use in the lesson and benefit from the content offline in the classroom. Also, a high percentage of teachers use EBA in in-school activities in line with the answers to the questionnaire. Aksoy (2017) displayed that teachers mostly use EBA for teaching, preparation for exams, and making use of content and entertainment. This result, which coincides with the answers from the research, reveals the interpretation that EBA is still used in the classroom at a high rate. However, the rate of using EBA out of school constitutes a substantial number according to the results of the research. From this point of view, it can be said that after the pandemic, nearly 20% of the teachers have changed their EBA usage habits. According to the results of the research, during the pandemic, when the majority of the teachers gave live lessons, the habits of sharing materials before and after the lesson via EBA tend to continue even after the pandemic.

When the EBA usage frequency of the teachers is examined, it is understood that it is far below the expectations and is not used actively. The studies in related literature share similar results (Arslan, 2016; Tutar, 2015).In addition to the hardware and technical deficiencies of their schools, teachers seem to agree to a large extent that the EBA content is not sufficient. Studies have shown that the contents of EBA do not meet the needs (Öner, 2017; Şahin & Erman, 2019). When the comments about the EBA usage frequencies remaining below the expected level are listed, it has been commented that it is not parallel with the curriculum, is not supportive of the acquisitions, and is qualitatively simple.

Moreover, teachers' lack of knowledge about appropriate activities in EBA and ignoring the content of assessment and evaluation come to the fore (Altın, 2014; Kılıç Koçak, 2019; Sezgin, 2014; Gür Erdoğan & Ayanoğlu, 2021). While there are studies emphasizing the inadequacies of EBA at a high rate in the literature, there are also positive studies in terms of its suitability for grade levels and curricula (Bahçeci & Efe; 2018; Türker & Güven, 2016). According to the current research data, when the general situation regarding the contents is evaluated, it is revealed that although teachers state that they need resources, they still tend towards ready-made content and do not produce content. The studies on content creation show that teachers rarely or never develop content or do not upload the content they prepare to EBA (Alabay, 2015; Kurtdede Fidan et al., 2016). According to the related studies, it has been concluded that teachers do not produce content due to reasons such as not having enough time, not receiving training on content production, having technical problems while uploading content, and lack of computer skills (Arkan & Kaya, 2018; Eren & Yurtsever Avcı, 2016). However, when the current study results and related research on the content aspect of EBA are evaluated thoroughly, although teacher opinions point to problems originating from EBA, the fact that teachers are not willing to prepare and develop content suggests that teachers, in general, have a reluctant attitude towards EBA. Also, according to current research data, teachers have a very low rate of exchanging information with EBA's social network infrastructure and following EBA from

social platforms supports this interpretation. Even though the Ministry of National Education has increased and updated the EBA content considerably during the epidemic period, the teachers strengthen the assumption that they continue their old habits and turn to the content they are familiar with and do not examine the EBA platform in detail.

In general, in line with the results obtained from the research, it can be stated that teachers' EBA attitudes and usage habits are below the expected level. It is thought that the research will contribute to the literature in terms of examining teachers' attitudes and usage habits towards EBA after the pandemic and comparing it with the studies done before and during the pandemic. If these three different periods, which can be predicted to differ in EBA attitudes and usage habits, are evaluated in general, It is seen that the studies in which teachers' attitude levels reached the highest averages were during the pandemic. In addition, when the studies conducted before and after the pandemic were examined, the results were very close to each other. In studies conducted in all three periods, teachers' age, gender, branch, etc., it is seen that there is no significance according to the variables. As the reason for the attitude difference in the studies conducted during the pandemic, the fact that the pandemic process lasts quite a long time, or the thought that schools may return to distance education can be expressed within the framework of this period. When investigated in terms of EBA usage habits, the generally expressed common opinion is that inadequate EBA content and internet infrastructure affect both in-school and out-of-school EBA usage habits. However, the contents of EBA, mostly used in school activities before the pandemic, were reflected in the post-pandemic habits as a result of the habits acquired during the pandemic. The possibility that attitudes and habits towards EBA, which has been on the air for about ten years, will suddenly undergo a high level of positive transformation due to the compulsory distance education activities, which take three semesters on average, can be interpreted as a contradiction to the concept of attitude and habit formation, which takes a very long time. Therefore, the results of the research are essential in this context. Because although EBA, which forms the basis of distance education during the pandemic and is the main component of the whole fiction, was used as intensely as possible and discovered more during the pandemic process, the opposing approaches of teachers after the pandemic created a contradiction. Within the framework of this situation, it creates the feeling that teachers' gains regarding EBA attitudes and habits during the pandemic are not permanent. Thus, it turns out that teachers' attitudes toward educational technologies did not reach the desired level after the pandemic and were not reflected in their usage habits. Teachers should follow today's modern teaching methods and techniques, which gain more importance, especially during the pandemic, and keep up with innovations. According to Genç and Genç (2013), the role of teachers in education, which has a dynamic structure and is constantly changing, is enormous.

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