



A Study on the Educational Informatics Network (EBA) Live Course Application in the “COVID-19” Pandemic Process

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Abstract

The education sector, which was caught unprepared for the pandemic with the coming of the bans during the pandemic process, had to switch to the distance education process, whose infrastructure is not yet sufficient. In this process, the Live Lesson Application, which uses the Education Information Network infrastructure, has been included in the lives of teachers and students. This research was carried out to examine the display features and interface of the EBA Live Course Application, which was put into practice by the Ministry of National Education due to the COVID-19 pandemic. In this respect, the qualitative research model was adopted in the research, and the workflow data that introduced the program interface in the EBA Live Course Application were examined by document analysis technique. In the research, the workflow that administrators, teachers and students should follow for the EBA Live Lesson Application has been introduced. At the end of the research, findings came to the fore in the direction of not assigning lessons to teachers who do not have technological means, a lesson duration of 30 minutes, and the necessary updates to be made on computers using Windows 7 version. The latest versions must be installed in order to perform Live Lessons smoothly on tablet-like devices. According to the results of the research it is thought that a simpler workflow will be provided if EBA users visit the link <http://www.eba.gov.tr/yardim-sss/>. In order for the live lessons to be carried out smoothly, it is necessary to use Windows 8 and above on computers. Care should be taken to use IOS 11 and above on mobile phones and 5.0 and above on Android devices.

Key Words

COVID-19
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Introduction

The COVID-19 pandemic, which led to the lockdown of the education system of some countries, has caused a worldwide paradigm shift in terms of learning. Most countries have experienced a phase of transition from face-to-face education dominated by traditional classrooms to digital learning. Most of the students currently enrolled in different educational institutions in various parts of the world are shifting their learning styles from face-to-face education to digital learning (Mulenba & Marban, 2020). For example, 270 million students participated in online education during the Covid-19 epidemic in China (Zhou, et al., 2020). A nationwide educational initiative called “Suspend Classes Without Stopping Learning” has been launched by the Chinese government (Zhang, et al., 2020).

As the world struggles with the new situations caused by the COVID-19 pandemic, education administrators strive to meet the educational needs of students through online platforms and distance education solutions. Millions of students and educators are affected by the closure of schools and other restrictions due to the pandemic (Özer, 2020). In order to support the call to "stay at home" due to the worldwide panic, countries are temporarily suspending their education processes, instead, distance education is supported by students (Üstün & Özçiftçi, 2020).

Nearly 1 million teachers and 18 million students in Turkey have been affected by school closures and other restrictions due to the pandemic. A number of steps have been taken by the Ministry of National Education to continue education services during the COVID-19 pandemic. After the decision to close the schools, the infrastructure of the Education Information Network (EIN – in Turkish Eğitim Bilişim Ağı, EBA) as an effective digital education platform was strengthened and cooperation was made with the Turkish Radio and Television Corporation (TRT) within the scope of distance education (Özer, 2020). This situation has caused the importance of distance education to be questioned again. Although the distance education process is a well-known process especially in terms of higher education today, it stands out as a fairly new practice in terms of primary and secondary schools. It is thought that the distance education approach will gain more importance in the future due to the virus pandemic.

Distance education is an education system that enables people to receive education via computer wherever and whenever they want. The rapid development of the Internet has also led to the development of educational methods. WWW (World Wide Web) has become a dynamic, powerful and interactive tool for effective teaching (Özarlan et al., 2007: 159). Gilani (2020) stated that the quality of learning is in line with the level of digital access. Ventayin (2018) mentioned the importance of teacher competencies, time management and distance education experience in online education. Kerres (2020) stated that the medical sector is in a relatively good position compared to the education sector in coping with difficulties, but there are digital deficiencies in the education sector. Jena (2020) stated that the quarantine process accelerated digitalization. Goldschmidt and Msn (2020) said that the COVID-19 process caused the digital education tsunami.

Distance education studies, which started about three centuries ago in the world, came to the fore in Turkey after about two centuries and became a part of the mainstream in education in a very short time. In our country, from 1923 to the 1960s, distance education was first discussed conceptually. After the 1970s, distance education studies were carried out at the secondary education level with different initiatives, some experience was gained and progress, albeit limited, was achieved. After 1980, these applications were carried to higher education with the establishment of Anadolu University Open Education Faculty. In the 1980s and 1990s, distance education matured at primary, secondary and higher education levels and became a system that included large student populations. With the successes gained in these years, distance education has received great attention and acceptance. From the end of the 1990s to the beginning of the 2000s, the educational opportunities offered by distance education have increased with the developments in the field of information and communication technologies (ICT), and distance education has become a part of the mainstream in education in our country with the number of students reaching millions (Bozkurt, 2017: 85).

The most important purpose of distance education models is for large masses to receive relevant training from where and when they are. This flexibility offered to trainees makes it easier to

receive education (Dinçer, 2006). In addition, the possibility of transferring data in different formats offered by the computer and the internet makes the education given over the internet popular at all levels (Akdemir, 2011). The popularity of EBA, a digital education platform in Turkey, continues to increase in recent years. In Turkey, the distance education process has been carried out through the digital education platform EBA Live Course Application since March 23, 2020. In this process, with approximately 22.7 billion clicks, the EBA application became the 10th most visited site in Turkey and the 3rd most visited educational site in the world. The mobile application for EBA has reached 16.7 million downloads for Android devices and 1.8 million downloads for iOS devices. During the distance education process, 7,383,213 students and 1,030,516 teachers actively used EBA, and a total of 5,954,174 Live Lessons were held.

Educational Information Network (EBA), in order to transform into an information society, to disseminate the information culture in education with a systematic and planned policy, and to meet the information needs of education; it is an expandable web applications project that was created by blending the dynamic systems of the era such as search engine, social network, and e-encyclopedia, which can carry the entire educational informatics system of the Ministry of National Education (Çakmak and Taşkıran, 2017: 285-286). In addition to the discussion, visual, e-content, e- magazine, e-book, news, video, audio, -e-curriculum modules, starting from the second half of the 2019-2020 academic year, the Ministry of National Education has further developed this application in the COVID-19 pandemic. It has added the online course module known as "EBA Live Class", "EBA Online Class", "EBA Live Class".

EBA Live Classroom Application, which provides the opportunity to provide interactive lessons by eliminating the distance between the teacher and the student in the distance education process, started on 30 March 2020 as a pilot. Then, on 13 April 2020, it was reorganized first for the 8th and 12th grade students, then on 23 April 2020 to include the 3rd and 4th grades of primary schools, as well as the upper classes of secondary schools and high schools.

The Directorates of National Education left the responsibility of creating and organizing live lessons to school administrators and then to all teachers. In this direction, the teachers made their own live lesson plans for the time intervals defined by the system for their branches. Classes defined according to weekly schedules on a class basis were conducted by teachers as live lessons. In order to increase the efficiency and quality of the lesson, the hours of each class are planned differently. Teachers and students were given the opportunity to follow the live lesson information from the notifications area in the upper right part of the EBA main page or by clicking the live lesson field in the upper left part. In addition, the EBA Live Course Application was initially applied only for the courses for the High School Entrance Exam (Turkish, Mathematics, Science, Social Studies, Foreign Language, Religious Culture and Moral Knowledge, TR. History of Revolution and Kemalism), while all courses were later included in this scope.

In the past researches about Education Information Network; Aktay and Keskin (2016) examined the course module and course module components of the Education Information Network. Fidan et al., (2016) stated in their research that Education Information Network is seen as a useful and effective site by primary school teachers. Timur et al., (2017) stated that secondary school students found EBA useful in terms of educational content. Ateş et al. (2015) stated that the Turkish videos in the Education Information Network are quite inadequate in terms of education. Çakmak and Taşkıran (2017) stated that EBA facilitates learning, but this platform is not utilized sufficiently. Pala et al. (2017) stated that there are some problems in the EBA videos section and the overall design. Durmuşçelebi and Temircan (2017) emphasized that some students have difficulties in using the educational content in the Education Information Network. Tüysüz and Cümen (2016) stated that the course contents in the Education Information Network are insufficient. Yılmaz (2013) stated that the Education Information Network project, which was initiated within the scope of the FATİH Project (Movement to Increase Opportunities and Technology - in Turkish Fırsatları Artırma ve Teknolojiyi İyileştirme Hareketi), is an interactive and dynamic platform. Şahin and Erman (2019) suggested in their research with history teachers to eliminate the design confusion for the Education Information Network. Bertiz (2017) found the usability level of the system at a high level in his research on the usability level of the Education Information Network. Arkan and Kaya (2018) stated that Education

Information Network is a social necessity in terms of 2023 Education Vision. Kapıdere and Çetinkaya (2017) stated that the mobile content of the Education Information Network has a simple, plain and easy content. Karaçorlu (2019) said that there are not enough concept maps and infographics in the Education Information Network. Yurdakal (2019) stated that the Education Information Network is mostly accessed via computers and mobile phones, and freezing errors are frequently encountered with the in-site application. Türker and Güven (2016) stated that due to the infrastructure deficiencies in EBA, teachers cannot use the system adequately. When the researches are examined, it is seen that the Education Information Network is mostly evaluated in terms of content, general design and ease of use.

In their research on online course applications, Çakın and Akyavuz (2020) examined student motivation and teacher problems in distance education. Demir and Özdaş (2020) discussed distance education activities in terms of teachers. Gören et al. (2020) evaluated distance education activities in the province of Ankara. Özdoğan and Berkant (2020) discussed the views of teachers, students, parents and administrators on distance education from a broad perspective. Arslan and Şumuer (2020) looked at the classroom management problems in Live Lessons from the teacher's point of view. Doğan and Koçak (2020) examined distance education activities based on the EBA system. Balaman and Tiryaki (2021) examined the positive and negative aspects of distance education, teacher competencies and evaluation processes in distance education according to teachers' views. Kabapınar et al. (2021) dealt with distance education from the perspective of primary school teachers and parents as a process, and examined the problems experienced due to the reasons why students could not participate in distance education. Başaran et al. (2021) examined the technological competence and technological readiness of teachers in distance education. It has been observed that the studies carried out so far are based on teacher competencies in distance education, time management, classroom management in live lessons, student participation in distance education, technological competencies in distance education and stakeholder views in distance education. For this reason, it has been determined that there is a gap in the literature regarding the interface and image features of the EBA Live Course Application.

The statement “The world will not be the same world from now on”, expressed by various circles today, tells us that nothing is independent of the other; education, health, sociology etc. It shows that there is a new world order in which relations will be reinterpreted. From this point of view, it is clearly seen that distance education, which has been put into practice due to the pandemic, will continue even if the conditions return to normal after a while and will not go back to the old completely. On the other hand, the continuous closure of schools brings great difficulties to all educational circles, especially teachers, in terms of ensuring continuity in learning (Chang & Satako, 2020). In addition, it is known that teachers who work devotedly in inappropriate environments at the expense of endangering their own health on a voluntary basis do not have much experience in lecturing in front of the camera and there are various problems in this regard. This research, which examines the program interface and display features for the Education Information Network Live Lesson Application, is important in terms of showing the workflow that should be followed in live lessons. It is anticipated that the research will make significant contributions to the literature on distance education in terms of the experiences gained in this process being more successful in future distance education activities.

Method

Research Model

Case study, one of the qualitative research methods, was used in the research in which the systems and interfaces for the EBA Live Course Application were examined. Case studies are seen as a distinctive approach in seeking answers to scientific questions (Büyüköztürk et al., 2013). Qualitative research is a research in which a process is followed to reveal perceptions and events in a natural environment and in a holistic way by using some qualitative data collection methods. The most distinctive feature of the case study is to reveal certain results by investigating a certain situation in depth (Yıldırım & Şimşek, 2013).

Data Collection Tool

In this research, in which the interface and image features of the EBA Live Course Application were examined, the research data was collected on the website of the General Directorate of Innovation and Educational Technologies, the content produced by the İzmir Provincial National Education FATİH Project Coordinatorship, the Ministry of National Education EBA Help Center and the users on Youtube. The content created for live lessons was collected over a period of 2.5 months and analyzed according to document analysis.

Analysis of Data

The analysis of the research data was made according to the document analysis. In addition to providing descriptive information through these data, changes and developments in hypotheses and categories can also be followed (Merriam, 2013). In this context, the directives and work flow charts produced by FATİH Coordinatorships and the Live Lesson Application work flow materials on the website of the Ministry of National Education <https://ders.eba.gov.tr/yardim-sss/> were examined with document analysis.

Findings

Findings and comments section is divided into points that school administrators should pay attention to in creating live lessons in EBA, points that teachers should know about live lesson application and points that students should know about live lesson application

What are the Points School Administrators Should Consider While Creating Live Lessons in EBA?

- ❖ School principal, assistant principals and teachers have the authority to create EBA Live Classes.
- ❖ School principals do not assign lessons to teachers who do not have a computer or internet connection.
- ❖ It is necessary for the school principals to watch the video "How Do I Create a Live Lesson?"
- ❖ Teachers who will give Live Lessons at EBA are required to follow "Distance Education with EBA" and "Distance Education with EBA Academic Support" courses.
- ❖ Since the hours of live lessons for each school are determined differently, more than one teacher and lesson assignment can be made during these hours.
- ❖ When creating Live Lessons in EBA, the relevant teacher must be selected.
- ❖ EBA Live Lesson Application must be downloaded by teachers and students from the "DOWNLOAD APPLICATION" button.
- ❖ It is required to announce the use of IOS 11 and above, Android 5.0 and above on tablets and mobile phones.
- ❖ It is strongly emphasized that teachers and students should be reminded not to open their cameras unless necessary during the lesson.

Not assigning lessons to teachers who do not have computers and internet, and not turning on the cameras of the teachers and students during the lesson unless necessary were seen as remarkable findings.

Findings regarding the Points that Teachers Need to Know about the EBA Live Lesson Application

Who Can Create Live Lessons?

School principals and teachers have the authority to create live lessons. School principals or teachers can enter the class information, select the lesson teacher and assign the lessons to the date and time of the lesson.

Who Can See the “Live Lessons” Page?



Figure 1. Do I Have a Live Lesson Interface?

This page is an active page only for teachers, students and school principals. Parents do not have the right to access this page. However, parents are notified about live lessons assigned to students.

Notifications to the parents about the live lessons assigned to the students were interpreted as a positive situation in terms of following the lessons.

How Many Branches Can the Live Lesson Be Sent to?

Live lessons can be sent to a maximum of 6 branches.

How Many Students Can Be Sent to Live Lessons?

Live lessons can be sent to a maximum of 300 students.

Who Can Attend the Live Lesson, Other than the Selected Teachers and Students?

No one other than teachers, students and principals can attend live lessons.

Can Created Live Lessons be Updated Later?

School principals can update and cancel their course and branch information until 15 minutes before the start of the course. From the "Add External Live Lessons" panel, teachers can also cancel and review the Live Lessons they have added. If a wrong course is assigned, this course must be deleted. Then, the course must be created again. The status of the created Live Lessons can be seen from the "Update Status of Lessons" button.

When Can I Start the Live Lesson?

- ❖ “Distance Education with EBA” and “Distance Education with EBA Academic Support” courses were opened on EBA Professional Development Area and Youtube channel.
- ❖ It has been reported that Windows, IOS 11 and higher computers, and Android 5.0 tablets and mobile phones can be used to watch the EBA Live Course Application.
- ❖ Parents and students must be informed by the teachers before the Live Lesson starts, using WhatsApp groups or various communication channels.
- ❖ It is thought that it would be appropriate to keep the cameras of the students closed during the Live Lessons.
- ❖ Even if the teachers are late for the start of the lesson, they will be able to attend the classes as long as the lesson time is not over.
- ❖ A lesson consists of 30 minutes.

- ❖ In terms of pre-preparing the materials (presentations, documents, visuals, videos, etc.) to be used by the teachers during the lesson, Live Lessons can be started 5 minutes before the lesson.
- ❖ Testing the cameras and microphones of the computers before the lesson will minimize the problems in this regard.
- ❖ In order for the Live Lesson to start properly, the antivirus program of the computer must be turned off (MEB, 2020).

The 30 minutes of a lesson, the distance education and academic support courses opened for teachers stand out as the most striking findings.

If I am Late for the Live Lesson or Fail to Start the Lesson on time, Will the Lesson be Cancelled?

No. It is not cancelled. If the lesson does not start, students can attend the lesson. However, students cannot communicate with each other in this process. On the screen, they wait for the teacher to start the lesson. In this case, the course can be held during the time allotted to you.

What Should I Do to Avoid a Connection Error When I Click the "Start" button?

If you are a Windows 7 user, relevant updates can be made. If the antivirus program is not used, the traces should be followed and the Windows firewall should be turned off.

How to Make General Settings about Participants during Live Lesson?



Figure 2. General Settings Interface

When the participants section in the EBA Live Lesson is clicked, the settings related to the participants can be made from the "More" button.

Participants can be taken to classes by the teacher with their voices turned off or on. Participants can be given the authority to turn their voices on and off. At the same time, the buzzer can be turned on and off, if desired, at the entrance and exit of the course. The same settings can be made for image adjustment by adjusting the camera setting.

After starting the lesson, the teacher can close the entrance and exit to the lesson and arrange the students' entrance and exit to the lesson. However, considering the connection and disconnection errors on the Internet, it is thought that it would be appropriate not to close the entrances and exits to the courses.

How Can I Mute Participants during Class?

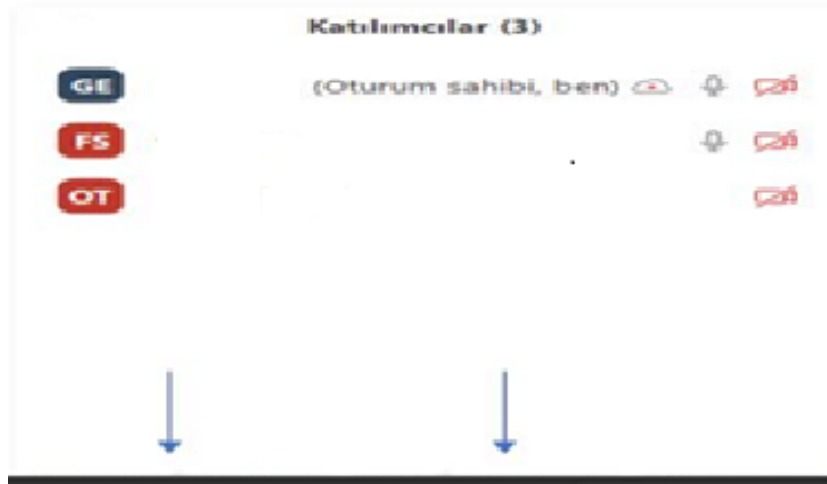


Figure 3. Volume Setting Interface

When we click on the participants, the list of students in the course is displayed. The voice of the participants can be turned on or off with the “Mute Everyone” and “Mute Everyone” buttons at the bottom.

Regarding the sound settings, students can be taken to the lesson with their voices turned off by clicking the "More" button.

How Can I Control the Chat Section?

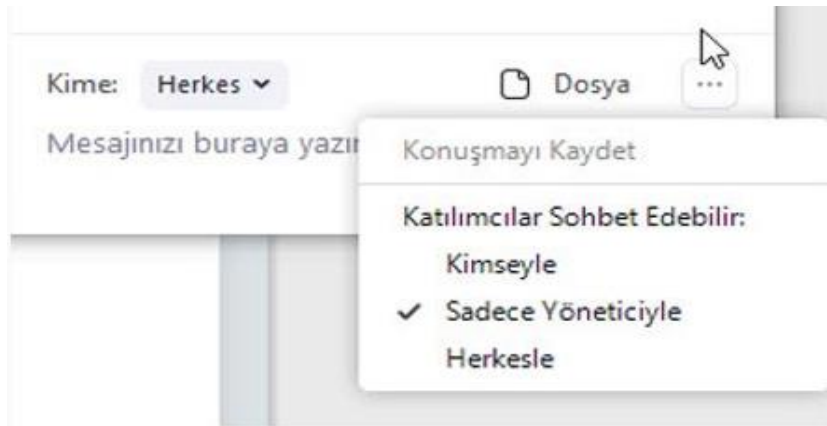


Figure 4. Chat Settings Interface

When the “Chat” button is clicked, the necessary settings can be made from the three-point section. The chat button also allows students to ask questions or report connection errors to the teacher.

What is Assistant Administrator Feature?

During the course, one or more students can be designated as assistant administrators. Assistant administrator has the authority to manage sound on/off, screen sharing, sharing and drawing permissions. However, it does not have the authority to terminate the course or make another student an assistant manager. In the event that the person administering the course leaves the course due to any connection problem, the assistant administrator assumes the role of the main administrator. In the event that the main administrator returns to the course, the assistant administrator automatically returns to his previous position.

What Happens if Live Class Ends due to Connection Problem?

In this case, the student continues the lesson for 2 more minutes. If a student is designated as a co-administrator at the beginning of the course, then he/she is the manager. In case of returning to the lesson again, the lesson will continue from where it left off. If students cannot return to the lesson within two minutes, the lesson is terminated.

What Should You Do if You Get "Sdk init failed-14" Error while Opening EBA Live Course Application?

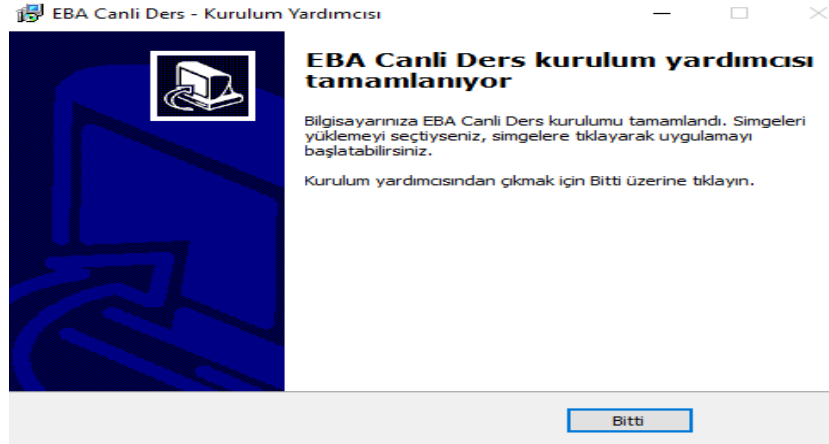


Figure 5. EBA Live Course Setup Wizard

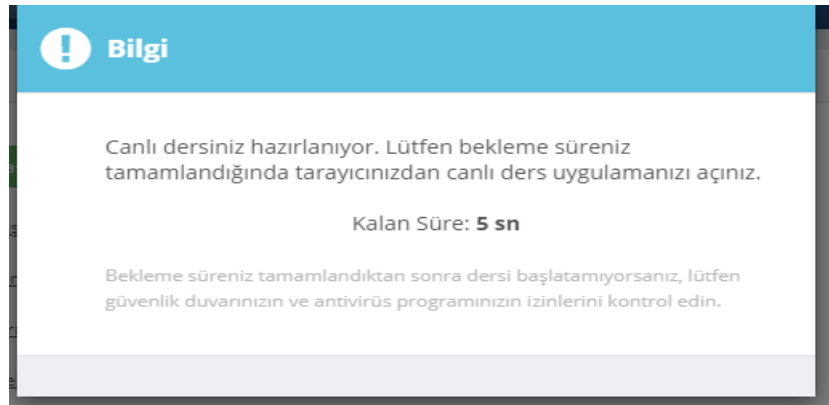


Figure 6. EBA Live Course Upload Timer

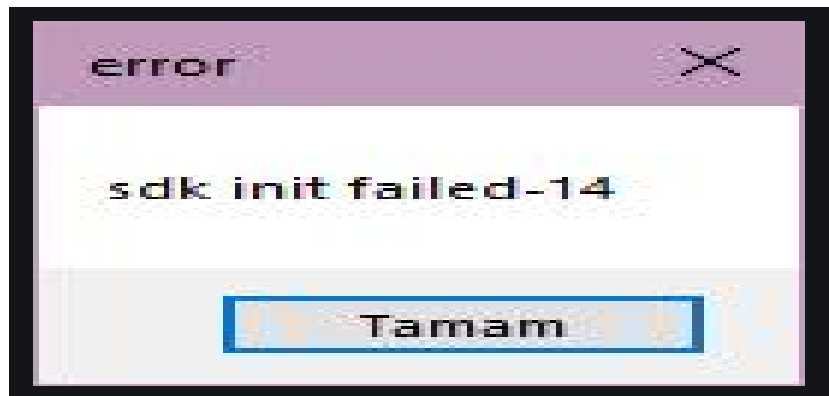


Figure 7. EBA Live Course Error Warning

This error occurs when the live lesson application is open. If the application is checked whether it is closed and the error continues, the computer must be restarted.

If the program is reloaded repeatedly, an error may occur. For this reason, if the program is removed from the add remove section, deleted from the downloads section and the recycle bin and reinstalled, the “sdk init failed-14 error” is not received.

Can I Do Live Lessons on MacOS Operating System?

Yes, it can be done.

Points Students Should Know about EBA Live Course Application

When Can I Attend the Class?

When the start time of the lesson comes and 2 minutes before the lesson, it is possible to enter the Live Lesson. Since the "Join" button will appear as long as the course is active, the course can be entered as long as the time has not expired.

I Attended the Live Lesson but My Teacher did not Come. What Should I Do?

In this case, it is necessary to wait after clicking the "Join" button. Because the teacher can attend the lesson even if it is late. After the teacher joins the lesson, the lesson starts automatically on the screen.

When I Click "Join Live Class" I Get Connection Error. What Should I Do?

- ❖ If Windows 7 is used, it is necessary to check that all of them are installed by checking the latest updates of the operating system from Windows Update.
- ❖ Microsoft's program that offers easy fix solutions should be installed on computers and tried again.
- ❖ It is necessary to check whether the antivirus program used allows access to "EBA Live Course".
- ❖ Windows firewall should be turned off as it may restrict internet access of “EBA Live Course”.
- ❖ EBA users should visit <http://www.eba.gov.tr/yardim-sss/> link.

I Get System Error while Opening "EBA Live Course". What should I Do?

In case of using the old version of Windows, there is a possibility that some files on the computers are missing. To fix this, the program recommended by Microsoft for such problems should be installed and tried again.

I got the alert: “EBA Live Course Updated!” Do I Need to Delete the Old Version of the App?

It needs to be deleted. It is enough to download the updated application and complete the installation.

Can I Do Live Lessons on MacOS Operating System?

On computers with MacOS operating system, similar steps can be followed and the course can be entered.

Discussion, Conclusion and Suggestions

The COVID-19 pandemic spreads to hundreds of countries in the world and changed many situations in a short time. One of the rapid and difficult changes has been experienced in the field of distance education, which is carried out accurately and precisely in a limited time. Along with the distance education application during the pandemic process, the teachers had to use the EBA Live Lesson Application quite intensively. For this reason, the need to analyze the features and interfaces of the EBA Live Course Application has arisen. In this respect, the research was carried out in order to witness a process where the understanding of education, which shifted to a completely different axis during the virus epidemic process, gained wealth with online platforms, distance education and live lesson applications, and to examine the features offered by the "EBA Live Course Application".

During the pandemic process, education was moved to the house and exams were held online. Both students and teachers quickly moved to the house, and whiteboards, tablets, desktop computers and mobile phones became as educational tools. EBA has become the biggest school for millions of students. The Ministry of National Education has explained in detail the workflow for the EBA Live Lesson Application as what to do before and during the lesson. The use cases of different operating systems, connection errors during Live Lessons, audio settings and screen settings to be made during live lessons are explained in detail by Fatih Project Coordinators and the EBA Help Center on the internet.

The prominent results of this research, in which the interface for the EBA Live Course Application was introduced, are as follows: The authority to create Live Lessons is available to administrators and teachers. It is not possible to assign Live Lessons to teachers who do not have the technological opportunity. In order to conduct Live Lessons, tablets and mobile phones must have the latest versions of IOS 11 and above, Android 5.0 and above. In order to follow the Live Lessons, parents are notified about the date and time of the lesson. EBA Live Lesson interface allows to send Live Lessons to a maximum of 6 branches and 300 students. Even if there are disconnections during Live Lessons, lessons can be re-entered. Live Lessons consist of 30 minutes. The fact that the antivirus programs on the computers are closed makes it easier to participate in the Live Lessons. In order to avoid connection errors during Live Lessons, necessary updates must be made on computers, tablets or mobile phones. There are interruptions in the EBA Live Lesson panel due to the problems experienced on the internet during the Live Lessons. Due to connection errors experienced during Live Lessons, one or more students may be appointed as assistant administrators by the lesson teacher. In case of starting Live Lessons sequentially, "sdk init failed-14" warning may be received. In order to avoid this warning, the program must be deleted from the "Add or Remove Programs" section, the "Downloads" section and the "Recycle Bin" on the computers. In terms of making preparations for the lesson, teachers can log in to the EBA Live Lesson interface 5 minutes before and students 2 minutes before. In case of updating the Live Lessons from computers with MacOS operating system, the lessons can be followed by logging into the EBA Live Lesson panel. In the light of all these results, it is concluded that the EBA Live Lesson Application will be more beneficial as a result of the reinforcement of the necessary infrastructure for the EBA Live Lesson Application, the system features and the introduction of the program interface sufficiently.

Accordingly, the following recommendations were made:

- ❖ It is thought that it would be beneficial to introduce the program interfaces in the EBA Live Lesson Application and to continue the academic support trainings related to this in a way that includes all teachers.
- ❖ Since all the studies on the EBA Live Lesson Application will constitute an important basis for the program to be developed in the future and the changing understanding of education, it is thought that it would be appropriate to take the opinions of teachers, students and administrators on this issue.
- ❖ The technical errors in the EBA Live Lesson panel should be minimized and the problems experienced in this regard should be minimized.
- ❖ It would be appropriate for teachers not to activate the "Close Class Entry" button on the EBA Live Lesson panel against disconnections and connection errors on the Internet for a healthier lesson.
- ❖ In order not to receive the "sdk init failed-14" error during Live Lessons, the workflow for this should be followed by the teachers and students.
- ❖ Mobile phones and tablets to be used in Live Lessons must use Android 5.0 and above and IOS 11 and above.
- ❖ In case of using Windows 7 version on computers, necessary updates must be made.

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