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Turkey Applications to Reduce the Effects of Covid-19 in Education

***Alaattin Parlakkılıç**

Abstract. In Turkey, the government implements measures against the new type of coronavirus. Teaching activities were carried on television and on the Internet. Simultaneous bulletins were sent to families and hygiene studies were carried out in non-training hours and days in the schools. A distance education infrastructure has been prepared. In this sense, considering the psychology of the children is beyond the educational decision. In this context, the primary school, middle school, and high school training programs have been carried out mainly on government television channels. The Education Information Network (Eğitim Bilişim Ağı-EBA) is being used as a supportive environment. Educational activities such as exams, EBA Educational Security and Psychosocial Support are ongoing implementations of distance education. In the practiced station, a combination of information network and communication network on Internet-primarily supporting Television broadcast-based the educational system is proposed for maximum educational benefit.

Keywords. Coronavirus, distance education, covid-19, framework, Turkey applications.

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Many students in the world are not going to school because of the coronavirus disease (COVID-19). This number is expected to increase. On the one hand, as the spread in China and some countries began to decrease and treatment opportunities began to increase, some positive news began coming. All this being evaluated in the big picture and decisions are being made accordingly. According to UNESCO monitoring, more than 100 countries have enrolled schools across the globe, because coronavirus is affecting more than half the student population worldwide. Some countries have also closed schools locally. In both cases, this is a disruption in the education of millions of students (Tadesse & Muluye, 2020).

In Turkey, the Ministry of National Education gradually implemented measures against the new type of coronavirus. Teaching activities were carried out in schools and on social media. Some bulletins were sent to families. Simultaneous hygiene studies were carried out in non-training hours and days. Distance education infrastructure, which can be accessed free of charge anytime and anywhere, has been prepared. It is providing 24/7 support and guidance services through the Call Centers to enable students, teachers, and parents to engage in the distance education process comfortably.

Turkey is the only country providing distance education to the whole community at the national level outside of China. In this regard, the process of reaching a much better point by increasing investments and strengthening the infrastructure continues. Distance education was initiated in order to ensure that students do not move away from school nor decrease their motivation to engage in education. In this situation, considering the psychology of the children is beyond the educational decision.

In this article, national educational measures against coronavirus were examined in order to minimize the negative effects in Turkey. Turkey's young and dynamic school-age population of primary and secondary students is affected negatively by the coronavirus. So the following questions will be answered in this study:

- What are the features and possibilities of The Education Information Network (Eğitim Bilişim Ağı-EBA) as a distance education infrastructure?
- What are the measures to be taken in carrying formal education through distance education?
- What are the implementation principles of the measures?
- What psychological supports should be applied?

Coronavirus and Education

The coronavirus (COVID-19) outbreak first appeared in December 2019 in Wuhan, China's Hubei Province. The COVID-19 infection spreads from one person to another, usually through droplets produced from the respiratory system of people infected during coughing or sneezing. According to available data, the appearance of symptoms takes place (or happens) usually between two and 14 days and at an average of five days. The coronavirus pandemic has led to massive scientific conference cancellations, travel restrictions, social distance, and unprecedented prevention measures (Mcleod, 2020).

An international panel of experts undertook a comprehensive assessment and comparison of health safety and response capacities in 195 countries. WHO officially declared an outbreak on March 11, 2020. Countries are continuing to control the spread (Global Health Security Index, 2019).

UNESCO has started providing urgent support to countries to minimize education disruptions and facilitate the continuity of learning, especially for the most vulnerable. In the context of widespread school closings to slow down the spread of COVID-19, UNESCO is committed to ensuring continuous learning for all children and young people through alternative channels. It works with the ministries of education in the respective countries. As of now, the following supports are offered (Unesco, 2020):

- Technical assistance to quickly prepare and deploy inclusive distant learning solutions, utilizing hi-tech, low-tech and no-tech approaches.
- Webinars for the minister of education officials and other stakeholders to share information about country efforts to maintain the provision of inclusive education in different contexts.
- A selection of digital learning resources that governments, schools, teachers, parents can use to open opportunities for learners unable to attend school.
- A repository of national learning platforms designed to support the continuity of curriculum-based study.
- Partnerships to expand national and local capacities to assure the remote provision of education. Organizations are interested in joining the UNESCO Coalition that matches offers of service and assistance with country needs.

- Minister-level virtual meetings for policy learning about efforts to initiate and scale-up responses to school closures.
- Global monitoring of country-wide and localized school closures and the number of learners affected.

Distance learning solutions

Communication technologies are used in education to increase the interaction between students. Online learning interacts in many different ways. Figure 1 shows the common media formats used in distance education, which are drawn according to their capacity to support interaction. As can be seen, the higher and richer the form of communication, the more limited the independence. The interaction provides various functions in the education sector. These functions are allowing student control, helping meaningful learning, facilitating program adaptation based on student input, allowing various forms of participation and communication (Anderson, 2008).

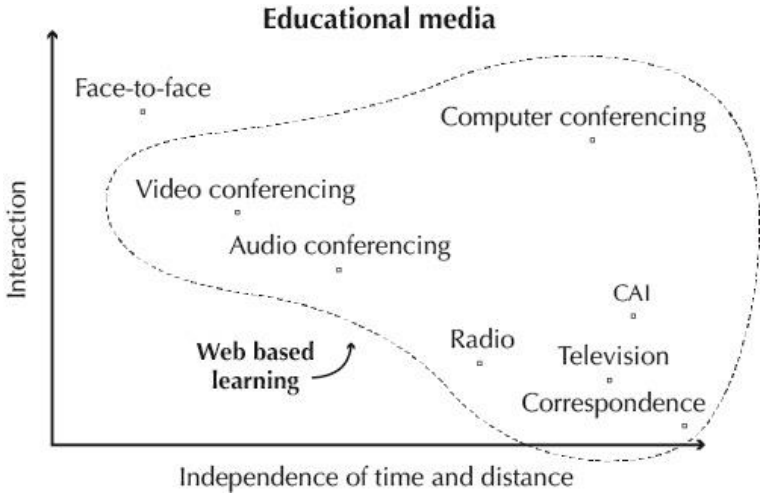

Figure 1. Educational media subsumed by the distance learning.

Below is a list of educational applications and platforms to help parents, teachers, schools and school systems facilitate student learning and provide social caring and interaction during periods of school closure. While these solutions do not carry UNESCO's explicit endorsement, they tend to have a wide reach, a strong user-base and evidence of impact. Most of the solutions are free and several support for multiple languages. If there is a product that is thought to require the digital learning provider to be added to the list of resources below, UNESCO is asked to be notified by email. The resources are as follows (Unesco, 2020):

- Systems purpose-built for mobile phones
- Digital learning management systems

- Systems with strong offline functionality
- Massive Open Online Course (MOOC) Platforms
- Self-directed learning content
- Mobile reading applications
- Collaboration platforms that support live-video communication
- Tools to create digital learning content.

The number of children, youth and adults who are not attending schools or universities is increasing due to COVID-19. Governments around the world have temporarily closed educational institutions to control the global epidemic. Discovery Education, a global company serving 4.5 million educators and 45 million students worldwide in 140 countries and regions, closely monitors the latest coronavirus outbreak. He stated that he was concerned about the potential impact of coronavirus on student learning in school systems (Kinney, 2020).

To ensure continuity of learning for long-term school closings due to coronavirus, Discovery Education offered a three-way recommendation. In Discovery Education Experience (Viruses and Outbreak Channel), coronavirus created a special channel with digital content that helps students discuss the epidemic with students. This content includes timely updates about what coronavirus is, information about how infectious diseases spread and instructions for staying healthy. Schools with access to Discovery Education Experience can find these resources here. (Kinney, 2020).

As the COVID-19 coronavirus continues to spread, schools around the globe are shifting to online learning in an effort to slow the spread of the disease. Preparing, practicing readiness in digital infrastructure and implementing learning actions are important. (Snelling and Fingal, 2020).

The Education Information Network

The Education Information Network (Eğitim Bilişim Ağı-EBA) is an important project that has been initiated in order to increase the quality of education and interaction opportunities. The Education Information Network, which is designed to use effective materials by using information technology equipment in the education process, is a social platform that can find the correct e-content that is suitable for class levels, reliable and reviewed. While many digital resources prepared to put education and training content into service are published in EBA, teachers, and students also have the opportunity to present the content they produce. EBA gives thanks to those educating for opportunities that can be distributed equally to all students (Candeger, Mete and Büyükköse, 2017).

The Education Information Network is accessed by entering to **"eba.gov.tr"**as shown in Figure 2**.** In addition, you can download the application from your smartphones and access it in this way. You can log in to the platform as a teacher, student or parent (Engnews24, 2020).

Students: With a variety of resources, question banks, and controlled games, all courses are accessed from a single point. There are also opportunities such as customized calendars, social posts, reports, and repetition of lessons learned in lessons.

Teachers: Various courses that are published for teachers to send homework, activities, discussions, and projects, monitor and support students, develop professional knowledge and skills, and resources for teachers are also offered to teachers.
Parents: The child's exam schedule, monitoring the child's progress, performance reports, the student's EBAThings can show actively the parents are used.

EBA contains hundreds of thousands of videos, animations, lectures and tens of thousands of questions. Turkey has a video library of leading teachers. This type of internet infrastructure support is available in very few countries in the world. The Cloud Classroom feature will be put into effect soon. EBA is designed for all stakeholders of education, especially teachers and students (Sürer, 2020):

- Offering different, rich and educational content,
- Disseminating the information culture and ensure its use in education,
- Responding to your content needs,
- Exchanging information with the social network structure,
- Contributing to lessons with its rich and growing archive,
- Being able to restructure and produce information from knowledge while learning information,
- Including students with different learning styles (verbal, visual, numerical, social, individual, auditory learning),
- Bringing all teachers together in a common denominator and helping them to direct the education together
- Serving as a social education platform designed to use technology as a tool, not as a goal.

EBA's Modules

News Module: It is a module that is designed to make everyone hear, see, and improve by improving the best practices of teachers and students.

World Module: This module, which is about to come to life, is planned to have various games, interactive applications, educational simulations, and different e-contents.

E-book: The e-book module of the Education Information Network is a module designed for you to download and use the textbooks you use in your courses as PDFs on your tablet or board.

Video Module: The video module of the Education Information Network is designed so that you can find educational videos in one address that you can show in your lessons. Thanks to this module, which will be enriched with videos sent by our teachers and students, different content will be produced over time and learning will become more enjoyable.

Audio Module: Thanks to this module, you can download audio-based lesson support, personal development, history and culture programs, audiobooks, foreign language listening texts to your tablet or music player.

Visual Module: Photos selected from the archive of the Directorate General of Innovation and Educational Technologies, now enrich the visual material in your lessons.

Discuss Module: Let's discuss the Education Information Network, the system was designed to be more efficient and efficient. Thanks to this module, educational decisions will be shaped by the opinions of teachers, students and everyone interested in education and more realistic solutions can be produced.

EBA Market: It is an application market loaded on tablet computers distributed within the scope of FATİH Project in Education. With EBA Market, you will be able to download new applications and update existing ones.

E-course Module: This application will be placed under the video module and our students, who cannot go to school for a while due to various health problems or natural disasters, will not miss *their lessons with the videos they watch electronically.*

Experiments: Experiments will be shot in various environments and uploaded to the system for use in courses such as physics-chemistry-biology. Thus, students will be able to watch and improve their learning levels by applying what they watch.

Assorted Module: The purpose of this module is to create an electronic encyclopedia that will be passed down from generation to generation. Over time, it will be an application that will be enriched with the contributions of teachers, students and everyone using EBA (OkulHaberler.net, 2020).

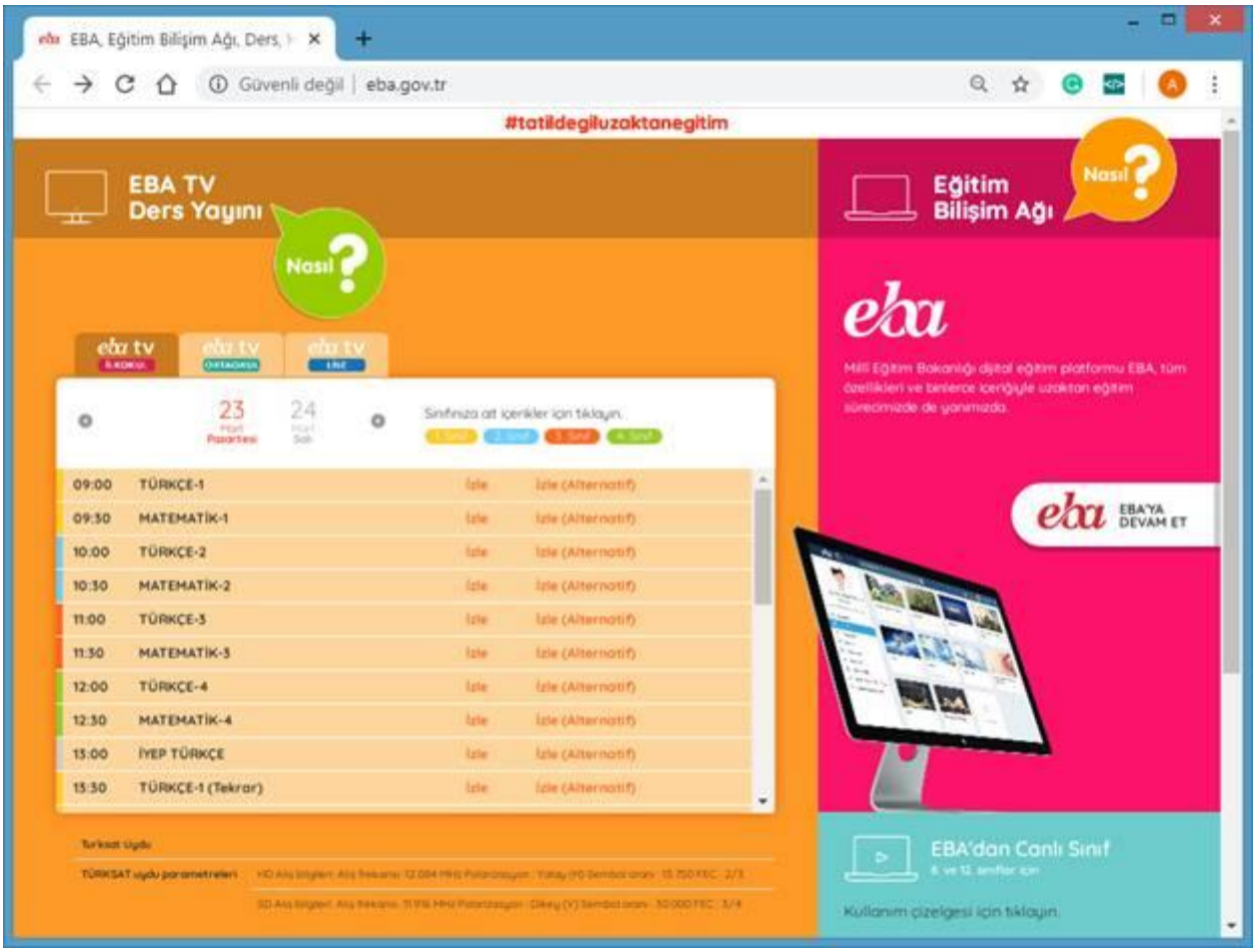

Figure 2. The Education Information Network (Eğitim Bilişim Ağı-EBA).

Method

A qualitative research model has been adopted in this research which examines the use of TRT EBA TV and Eba Network system in distance education. Qualitative research (Yıldırım & Şimşek, 2006) is a research method in which a qualitative process is adopted for collecting data and determining perceptions and events in a natural and holistic way in the natural environment of observation and interview. In the research, the document analysis technique was used to collect data.

Results

In the findings and comments section, studies on TRT EBA TV practices, EBA Network Learning Opportunities, exams, EBA Educational Security and Psychosocial Support on the implementation of distance education in primary and secondary schools are examined in relation to covid-19.

Education Informatics Network was followed by "eba.gov.tr", and distance learning contents were prepared for students of all education levels from primary school 1st grade to high school 12th grade. Grade school students can use mobile or internet-connected mobile devices in line with their technical opportunities and preferences. All the details about the lecture program on TRT channels are also announced on "eba.gov.tr". In the Internet environment to get the service of all students from EBA Platform, they can continue to communicate with their teachers and class groups. The digital education contents are ready to minimize the need for schools during the holiday period. Free internet is provided to everyone who will access these contents. In addition, face-to-face compensation programs will be implemented when the compulsory holiday is completed at all classes level.

TRT EBA TV Broadcasts

Distance education is the current central television plus the internet. Inasmuch as the fastest means of access in the society is television, a little more than 30 percent of the population uses SD, while the rest uses HD television. Therefore, in order to be able to watch, six channels are broadcasted, three of them are HD and three are SD.

TRT EBA TV was opened for distance education due to Coronavirus measures. There are very short videos about how to get into the EBA and television channels. The frequency information of the channels that will be given distance education and the name of the channels for primary, secondary and high school distinctions are stated on the EBA website. Students and parents can enter the EBA with a password. EBA is designed for 24-hour service. It broadcasts from three different channels: primary, secondary and high school.

Each channel has lesson schedules. Teachers voluntarily prepared the lessons and subjects needed on television. In certain centers, studios and schools, teachers work in small groups and then test publications are made. The shooting of not only lessons, but also some artistic, sportive works, music content and other lessons, continues. The classes start at 09:00. Lessons are taught in 20

minutes, not 40 minutes as in school. Because sitting at school is not the same as sitting at home. It's a matter of concentration, so lessons take less time.

There are Turkish language, mathematics, life science, science, religious culture and moral knowledge, English lessons for primary, secondary and high schools. There is also an improvement program. Improvement means a compensation opportunity for some students who are behind the current curriculum. Let's say the student missed the lesson. They have hours to repeat courses.

EBA Learning Facilities

Technology education for teachers has been carried out for many years within the framework of the Fatih project. Teachers have been trained how to use EBA, how to evaluate, how to upload to EBA, how to download from EBA, how to enrich EBA, and how a class interactively teaches in EBA. A requirement-based machine learning infrastructure was established and relevant trainings were provided. Students with a lack of topics will be able to complete their work by accessing their own class and missing content through "eba.gov.tr," including the activities, questions and other content to be sent by teachers through EBA. When the distance education process is over, compensation training will be held in all classes. Students will be able to communicate and share information with their course teachers through "eba.gov.tr."

EBA, over twenty thousand entries of content are offered. MEB has updated its educational platform, Education Information Network (EBA), with interactive school books, lecture videos, quizzes, and applications. With its renewed modern and simple user interface and smart features, the new EBA continues to be used by parents with approximately 18 million students and one million teachers. Important new features are:

Personalization: with a content recommendation system according to the student's performance, the new EBA, a specialized learning environment, and people, according to a personalized user to search for offers face option.

Debate: Turkey's students and teachers from all over can benefit from the content link to the EBA. The teacher can open a discussion with the class on the EBA.

Academic support system: MEB provides EBA Academic Support to Grades 11 and 12. Thanks to the Academic Support system, a special study program is created for these class students to achieve their goals.

Virtual classroom: Some extra studies have been carried out especially for children who are in a university exam year. For the students who are in the exam year, virtual classrooms have been created in which they can meet interactively with their teachers in the same class digitally. These classes will be used primarily for them. The calendar of these will be ready and published, stating which city, when and at what time.

Free internet support: 8 GB of free internet access is provided so that the system can be used, support access to the current central television of distance education is provided.

Mobile access: Besides the eba.gov.tr address, EBA will be able to access mobile applications developed for iOS and Android via the App Store and Google Play.

Exams

The education given through television will also be related to the past subjects taught face to face. It is possible to access all textbooks digitally via EBA. All textbooks are available for children in three dimensions and digitally. In addition, with the data matrix application, when a photo, shape or diagram on a page of the textbook is printed as a data matrix, a video about it can also be accessed. This is a very special application. They can also work on this. If they want, they can watch these books on the screen.

The content of the exams is whatever students took face to face. But it was determined that there would be no exam for the courses watched on television. Expressing that the teachers pay attention to the understanding of the subject while passing from one topic to another in the lessons based on progressive learning, the questions are answered by asking the questions in the expression and presentation of the teachers. Sometimes they even say to parents, 'Come on, you too. Let's do it all together. Are you in?' is called. In this sense, an embedded measurement-evaluation system is implemented.

EBA Educational Security

The Ministry of National Education announced that it will do distance education through TRT channels on television and on the internet via eba.gov.tr. Turkey has already surpassed millions of students in distance education for display in the home. In this process, parents and children experiencing 'compulsory digitality' should receive suggestions on cybersecurity as follows:

Using reliable connections: Watch out for fake sites and redirects that may come up with a solution suggestion for possible login or connection problems on the Internet! Keep the address bar under control frequently. Be cautious with the username and password requests.

Taking performance measures: Terminate games and other internet connections that can cause the computer to 'contract', especially during online training. Also, first, clean your temporary files on your computer, then empty the wastebasket. Do the same on your tablets and phones. Delete unnecessary applications that take up space and can cause loss of performance.

Device and data protection: Do not neglect system and program patches on your devices. Do not click on every link that comes up on the internet, especially the attached messages with the 'exe' extension. Make sure to back up the data and keep it in a safe environment so that homework and lecture notes are not lost. Make your data available when your device is corrupt or lost.

Using up-to-date antivirus software: Every day, millions of malware try to access our personal data through our systems. Even now, phishing efforts on coronavirus are quite intense. An up-to-date and proactive antivirus or internet security software keeps you away from many troubles. It allows you to safely enjoy education on the Internet.

Installing antivirus software on your access devices: Threats focused on computers and even more are now targeting phones. But precaution is possible, and there are many security options for free.

Paying attention to their operators' free internet access: Operators have announced that they will provide students with free internet access between 3 and 8 GB (depending on the operator) for their mobile devices for use only in EBA. It is useful to check the access during the connection. When you say I use it for free, do not empty your gigabytes in your paid package.

Solving problems with parents and children together: Let your children tell you about new programs and smart devices. Try to solve the technological problems that may arise in distance education together.

Psychosocial Support

In order to reduce the anxiety and traumatic effects of the new type of coronavirus on young people and families, the "Psychosocial Support Package" was launched. Many new efforts are added to these measures and supports. Cleaning work in schools in 81 provinces in Turkey is ongoing. In this process, a support package was prepared for students in order to reduce the

traumatic effects of the epidemic disease. Studies for students are created with a team of experts with content prepared in accordance with their developmental periods. For the preparation of psychoeducational videos especially for preschool and primary school children, the national psychosocial support team started to produce content together with academicians who are experts in neuropedagogy, game therapy, and art therapy. These contents are made available via EBA in the form of short videos.

The education of students who have been now on holiday as part of the coronavirus measure would not be disrupted. The education of the students will be carried out over the internet and television by a distance education method. The system to be installed for students will not look for the classroom environment. In the system, parents also have an important role in getting their children engaged at home. While the training is planned to be held throughout the day, it is also determined which time of the broadcasts will be for students at which grade level.

In this process, a guide has been prepared by a group of academicians who are experts in psychological traumas, in order to support the normalization of the anxiety caused by the outbreak for young people and families. In addition, teachers and administrators will be deemed to have carried out their related studies and will benefit from additional weekly tuition fees in return.

The Proposed Framework

The Television system is the basis of the students' distance education system. It is necessary to understand the means of communication in the internet environment. Learners should be taught to use communication tools to exchange knowledge and share ideas. Both synchronous and asynchronous tools can be used to support the learning of communication tools. Teachers should understand the importance of these communication tools. In addition, technologists need to design these tools to properly support and fully develop students' learning. This distance education system can be used as information services such as RSS, Streaming - video/audio, Podcast VoIP system, video conferencing system, IM as well as communication facilities such as email, web blogs, wiki pages, and social networks. As the basic factor, when the television broadcasts in distance education are considered at the focus point, the structure formed in these three components can be proposed as indicated in Figure 3.

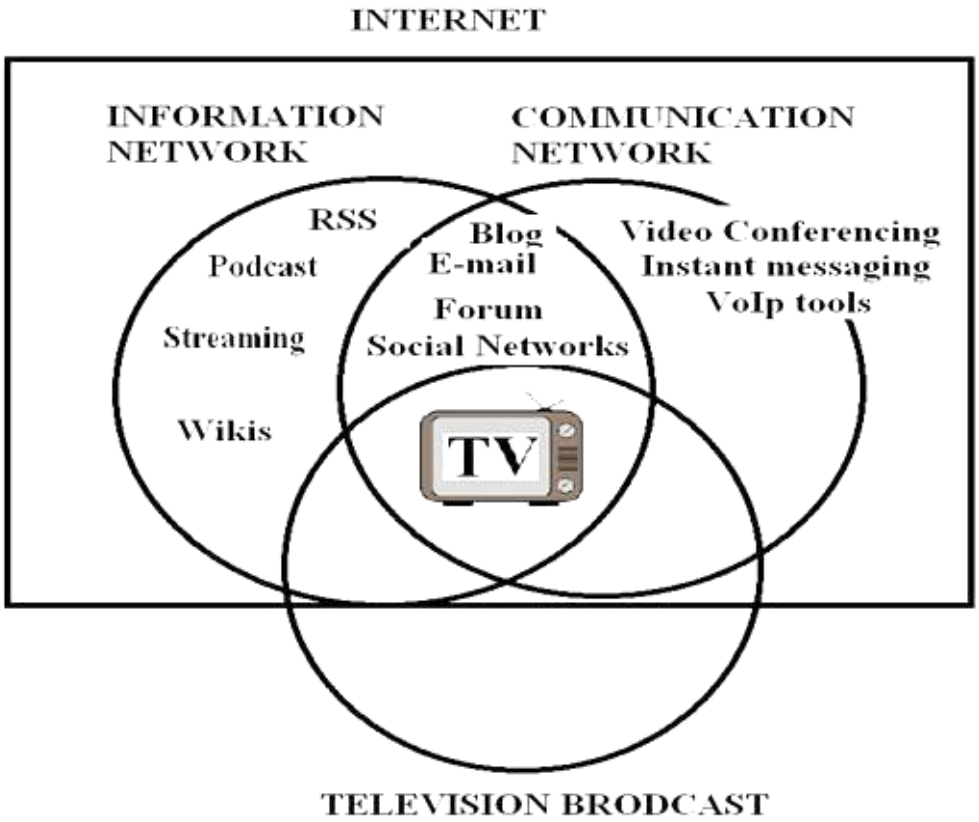

Figure 3. The Proposed Distance Learning Framework.

Conclusion

Schools around the world have temporarily been closed due to control of the Covid-19. The government in Turkey take some measures against the new type of coronavirus for education. Teaching activities were carried by distance education mainly on television. In this context, the primary school, middle school, and high school education have been carried television channels. Simultaneous some bulletins were sent to families and hygiene studies were carried out in non-training hours and days in the schools. At the same time The Education Information Network (Eğitim Bilişim Ağı-EBA) is being used as a supportive environment and exams, information security measures and psychosocial support are ongoing activities. As a framework, a combination of information network and communication network on Internet-primarily supporting Television broadcast-based the educational system is proposed for maximum educational benefit.

About Author

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Conflict of Interest

It has been reported by the authors that there is no conflict of interest.

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Ethical Standards

We have carried out the research within the framework of the Helsinki Declaration.

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