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Pedagogical Perspective

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An online social education platform evaluation: The example of EBA case 1 - course content[1]

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Abstract

Online social education platforms are widely used around the world. However, there is limited research on the content and standards established within these systems. This raises intriguing questions about how well these platforms align with the expectations of practitioners, policymakers, and educators. This study aims to investigate the compatibility of EBA science content with the learning goals of the Turkish science curriculum. To achieve this, we employed the document analysis method, one of the qualitative research approaches, along with a checklist developed by the researchers as our data collection tool. For data analysis, we conducted a descriptive analysis of the relevant content using the Dedoose 9 program. Our findings revealed that the content does not demonstrate a balanced distribution across grade levels. Specifically, video, inclusion, and support lecturing contents are significantly more prevalent than interactive elements such as games, experiments, and visuals. Additionally, there is an excessive amount of repetitive content. Consequently, while EBA is quantitatively aligned with the curriculum's learning goals, it lacks qualitative alignment with the nature of science education. Considering these findings, we offer suggestions for practitioners, policymakers, and educators to enhance the effectiveness and relevance of EBA's science content.

Keywords: EBA, Science education, Online social education platform, Document analysis.

Introduction

Distance education is all efforts to provide the teaching process with printed materials or electronic communication tools to students in a different place or time than the teacher (Moore, 1973). Distance education, which emerged as correspondence education at the end of the 19th century, is a field of study whose development and effectiveness increased with information and communication technologies and gained an interdisciplinary quality (Erman, 2021). In this field of study, it is vital and necessary to provide two-way communication between the teacher and the students by using technology to facilitate and support the education process in every way (Seferoğlu, 2006).

[1] Since this study consisted of EBA open to public usage prepared by the Ministry of National Education (MoNE) and any human or animal participants/subjects were not included, an ethics committee review was not required.

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As technology continues to evolve, the significance of utilizing information technologies in distance education becomes increasingly apparent. In response to this need, the Movement to Increase Opportunities and Improve Technology (FATİH) Project was launched by the General Directorate of EĞİTEK. The goal of the FATİH Project is to effectively integrate information technology tools into lessons, thereby promoting equal educational opportunities and enhancing technological resources in schools. In 2012, the Education Information Network (EBA) was developed and launched alongside the FATIH Project to prepare and implement educational e-content. EBA serves as a social education platform that enhances lessons with its extensive content archive while also facilitating information exchange through its social network structure. Its goal is to organize information during the learning process and enable users to generate new knowledge from it (Erman, 2021). EBA, designed as a social education platform, encompasses both social education and e-learning. Developed by the Ministry of National Education (MoNE), EBA is a vital component of distance education. It functions as an educational resource and a social network, welcoming all individuals eager to learn (YEĞİTEK, 2019).

In the 2011-2012 academic year, the Ministry of National Education established EBA as a part of the Fatih Project to integrate technology into education by using information and communication technologies (Akkaş-Baysal et al., 2022). The project aimed to ensure that schools and institutions affiliated with MoNE in the country would benefit from information technologies (Arslan, 2019). The initial version that went live was designed around learning object warehouses, which facilitated the use of technology in education. Learning objects within these warehouses are electronic educational materials created to meet specific learning objectives (Kapıdere & Çetinkaya, 2017). In this first version, several modules were included. The "News Module" allows users to follow education news, share local and national studies, access various informative updates, and view news contributed by EBA administrators, teachers, and students. The "World Module" features a variety of games, interactive applications, educational simulations, and different types of e-content. The "E-book Module" enables users to download textbooks in PDF format for use on tablets or boards. The "Video Module" provides access to lecture videos. The "Visual Module" enhances lessons with additional visual materials. The "Audio Module" offers audio-based support for lessons. The "Discussion Module" was included to enhance the system's efficiency and promote effective use (MEB, 2011).

Version 1 of EBA was published, and shortly after, the content in progress was added, resulting in version 2. This update includes digital educational materials, resources for teachers, websites for students and teachers, links to public service sites, and more in-class and out-of-class resources. New document modules were introduced, comprising e-journals, projects, academic studies, extracurricular resources, charts, forms, and written exam samples (Tutar, 2015).

In 2015, EBA developed a distance education management system, introducing innovative design features and new content. The most significant addition to this newly released version, known as Version 3 in 2016, was the EBA Course Module. This module provides an interactive whiteboard interface that allows both teachers and students to easily access course materials organized by class, unit, subject, concept, and achievement. Within this module, students and teachers can engage in constant interaction with one another (Kalemkuş, 2016). Teachers can also view the completion percentages of various streams by their students. They also have the opportunity to use their materials, objects, and questions in this section (Kapıdere & Çetinkaya, 2017). Another innovation introduced is the Content Production Module. This module serves as the portal for the

content management system, including EBA presentation application, Idealstudio, etudyo, and Xerte content development applications. Through these tools, teachers can create e-contents suitable for their lessons and share them with other educators. Furthermore, the latest version includes added features such as Competition, e-file, and e-course modules (Kalemkuş, 2016).

Version 4 was launched on December 1, 2016, with a new logo and slogan: "Education, always." This new version presents news, video, visual, audio, book, magazine, and document modules under the content heading, providing much easier access to these areas. A straightforward structure has been created in the content pages, which allows users to find more easily what they need. In addition, the EBA News Module has been made shareable on social media. In version 4, teachers could engage in educational discussions within their created groups on the EBA Course, share materials, assign homework, and track studies and upcoming events via their calendar. This allowed students to complete assignments on time and access their homework easily. They could also choose any subject to study, participate in school discussions, vote, join activities, and learn both in and outside of school. One of the essential innovations offered by EBA with this version is that this new face has been opened to the mobile application (YEĞİTEK, 2016).

EBA continuously updates and enhances its content. In line with the 2023 Education Vision, YEĞİTEK launched a revamped EBA at the start of the 2019-2020 academic year. The updated platform, introduced on September 9, 2019, features a mobile application that allows direct access to course materials via QR codes in textbooks. The portal presents textbooks, lecture videos, exams, and other resources in a single, easily accessible area, with content aligned with specific learning goals available in the relevant course sections. Additionally, content that may not directly align with the learning goals but can contribute to the personal development of both teachers and students is available in Library section (MEB, 2019; YEĞİTEK, 2019) (Figure 1).

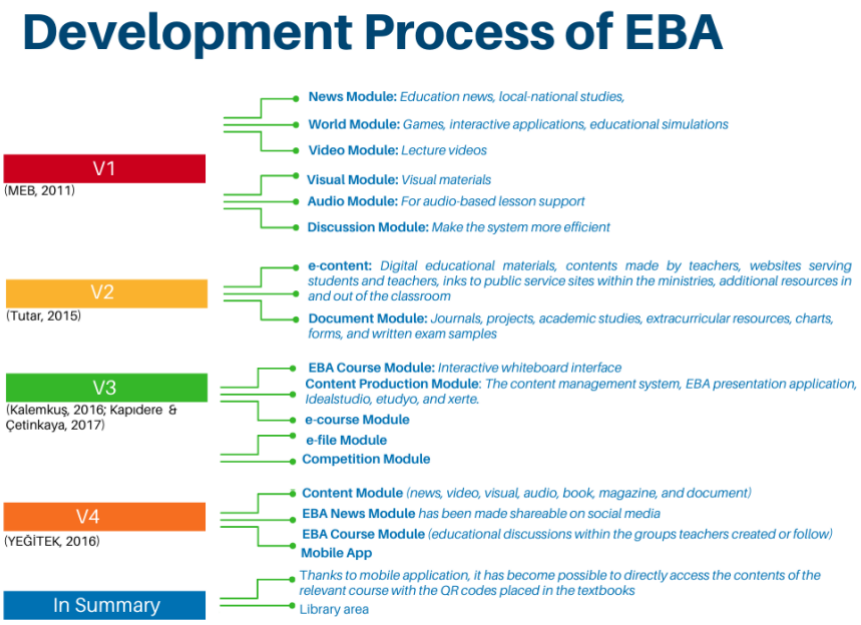


Figure 1 Development of EBA

Unique content has been developed for Interactive Boards. The curricula of compulsory and elective courses were defined to EBA. At EBA, studies were carried out that allow personal use for students and teachers. A specialized academic support system has been created for teachers working with 11th and 12th graders and in secondary education institutions. This system allows

for the creation of a tailored study program that helps students achieve their goals. It continually monitors student performance, quickly identifies any areas of difficulty, and provides personalized lists of missing topics and tests through an intelligent suggestion system. Additionally, a professional development area has been established for teachers and pre-service teachers to access resources on EBA (MEB, 2019; YEĞİTEK, 2019).

Shortly after the renewal of the EBA, the world was confronted with the COVID-19 pandemic. Following the official confirmation of the first case in Turkey, MoNE announced the initiation of distance education across the country. To ensure the continuity of educational services, the distance learning process was to be implemented by the Turkish Radio and Television Corporation (TRT) in collaboration with MoNE, utilizing the digital education platform. Additionally, MoNE confirmed that this initiative would take place through EBA (Kuyurtar, 2021).

Due to the problems in the internet infrastructure and the inability of all students to access internet-connected devices such as computers and tablets, MoNE agreed with TRT and decided to establish 3 EBA TV channels. The established channels (EBA TV Primary School, EBA TV Secondary School, EBA TV High School) have started broadcasting educational content asynchronously to different education levels (Türker & Dündar, 2020, p. 326). Through EBA TV, students can follow the broadcast stream and learn the lectures of their classes, on which day and time of the week, and follow the broadcast at the time interval determined for them (MEB, 2020a).

As a result of some updates made in EBA and improvements in its infrastructure, EBA assistant and EBA Live Class features not previously included in the EBA content were added and activated quickly. Thanks to the virtual classroom integration realized in this way, the opportunity to make live lessons was provided (Gençoğlu & Çiftçi, 2020). The EBA Live Classroom application, which enables teachers and students to come together synchronously in a virtual environment, first started with the preparatory class, 8th and 12th grades. As of April 23, 2020, the application expanded to include nearly all grades (Alanoğlu & Doğan Atalan, 2021). In the EBA Live Classroom application, the lessons were planned by the school administrators in the first place, and then the teachers added the option of creating the lesson hours themselves (MEB, 2020b).

Statement of the problem

During the distance education process, EBA contents and EBA Live classroom applications were constantly updated and developed. In addition, the prepared educational materials were made available to students of all age groups. To ensure equality of opportunity in this period, considering the teachers and students who do not have internet infrastructure, internet service of up to 8 GB was provided in agreement with all GSM operators operating in Turkey, and a control and call center was open 24/7 to solve any problems that may arise in this process (MEB, 2020c).

Thus, EBA has been assumed to be the leading platform for distance learning in pre-higher education courses (İlbilge, et al., 2021). However, as in many other countries, the COVID-19 pandemic has caused significant changes in the education systems worldwide. In this period, access to education has emerged as a global challenge rather than a regional issue (Economic and Social Commission for Asia and the Pacific [ESCAP], 2021). In this process, the priority of all countries has been to ensure the continuity of the learning process. For this reason, the development and dissemination of online distance education tools are necessary for today's

world.

Technology-based applications that offer live lessons such as EBA in our country and have registered courses as open online courses, have developed in many countries. Notable education portals include Khan Academy in the USA, Discovery Education, Skoool. pt in Portugal, Edu. fi in Finland, Frog Education in Malaysia, Scootle in Australia, and Educ. ar in Argentina (Alabay, 2015), Communication Technology Agency of Sri-Lanka (ICTA) in Sri-Lanka, Developments in Literacy in Pakistan (ESCAP, 2021) are the leading known education portals. Innovative educational technologies, particularly in developing countries, are designed to assist both teachers and students (Trucano , 2017). Some of these platforms offer international content by providing English content, while others offer national services (Coşkunserçe & İşcitürk, 2019). Khan Academy, which operates under the motto "Free education for everyone, anywhere, anytime at world standards," has partnered with the Ministry of National Education (MoNE) to translate educational content into Turkish for publication on the EBA platform. This collaboration has granted access to thousands of users throughout Turkey (Aydın, 2016; Khan Academy, 2022).

A comprehensive review of the literature reveals that research on EBA primarily captures the perspectives of teachers (Alabay, 2015; Becit İşçitürk & Turan, 2018; Can & Günbayı, 2021; Çakmak & Taşkıran, 2017; Çiftçi & Aydın, 2020; Ezer & Aksüt, 2021; Gömleksiz & Koç Deniz, 2019; Kurtdede Fidan et al., 2016; Pala et al., 2017 ; Saklan & Ünal, 2018; Şahin & Erman, 2019; Tabak & Boz, 2021; Türker & Dündar, 2020). In addition to educators, some studies emphasize the perspectives of students (Atasoy & Nayır, 2019; Bahçeci & Efe, 2018; Bakırcı & Kılıç, 2021; Oğuztekin et al., 2022; Pala et al., 2017). Furthermore, the impact of EBA on student academic success is addressed also (Akbaş, 2019; Gürsoy & Yapıcı, 2021; Keskin Geçer, 2020; Kırıcı, Artun & Bakırcı, 2018; Sarıkaya & Aydın, 2021; Ballıel Ünal & Hastürk, 2018). Maden and Önal (2020) examined the EBA contents for the Turkish lesson and concluded that the content in the system is exam-oriented, the learning areas are not evenly distributed, and the documents have the same content. Additionally, İskender (2016) investigated the compatibility of the 7th-grade Turkish lesson videos included in the EBA with the Turkish curriculum for the 6th, 7th, and 8th grades and found that the videos included content not covered in the curriculum, indicating that the EBA materials did not fully align with the appropriate grade levels. Kılıç Koçak (2019) conducted a comprehensive review of the EBA Biology courses, drawing insights from teachers' perspectives. His findings revealed that the content for 9th and 10th grades effectively conveys the subject matter, while the 11th and 12th grades fall short of expectations. To truly elevate the learning experience in these senior years, it is imperative that the Biology course content is enriched with interactive elements, hands-on experiments, and engaging three-dimensional visuals. Similarly, Erbay (2018) assessed the alignment of EBA course content with the English curriculum and found a commendable level of harmony. However, he emphasized the necessity for stronger coherence in terms of overarching educational objectives. Addressing these gaps is crucial for maximizing the effectiveness of EBA courses and ensuring a well-rounded education for students. When the related literature is examined, the studies related to the Science Course are mostly teachers (Ceylan, 2019; Çiftçi & Aydın, 2020; Geçer & Zengin, 2021; Saklan & Ünal, 2018; Ünal & Saklan, 2019;) and student opinions (Bakırcı & Kılıç, 2021), students' academic achievement (Ballıel Ünal & Hastürk, 2018; Gürsoy & Yapıcı, 2021; Keskin Geçer, 2020; Kırıcı, Artun & Bakırcı, 2018; Korkmaz & Kadirhan, 2020; Taş, 2022) and their interest in science (Kendirli, 2017) is intended to determine. In this context, the fact that no study determines the extent to

which the content of the EBA Science course between the 3rd and 8th grades and the Science Curriculum overlap in terms of learning goals reveals the originality of our study. The research questions designed for the study are given below.

Purpose of the study

Due to the rise of distance education and efforts to enhance technology integration within the education system, the alignment of EBA content with the curriculum has become a significant concern. This study aims to assess the compatibility of the course materials offered in EBA with the science curriculum.

Problem of the study

The research question we examined in this study is: To what extent do the course content in the EBA and the learning goals between the 3rd and 8th grades in the 2018 science curriculum align?

Sub-problems of the study

- What is the EBA's course content distribution in terms of learning areas?
- What is the EBA's course content distribution according to the learning goals?
- What is the distribution of learning goals without course content in EBA?

Method

In this study, the document analysis method, one of the qualitative research methods, was preferred. Bowen (2009) defines document analysis as a systematic review and evaluation of printed and electronic materials. According to Forster (1995), document analysis processes consist of "reaching documents, checking their originality, understanding documents, analyzing data and using data". In this context, the document analysis process of the study is summarized in Figure 2.

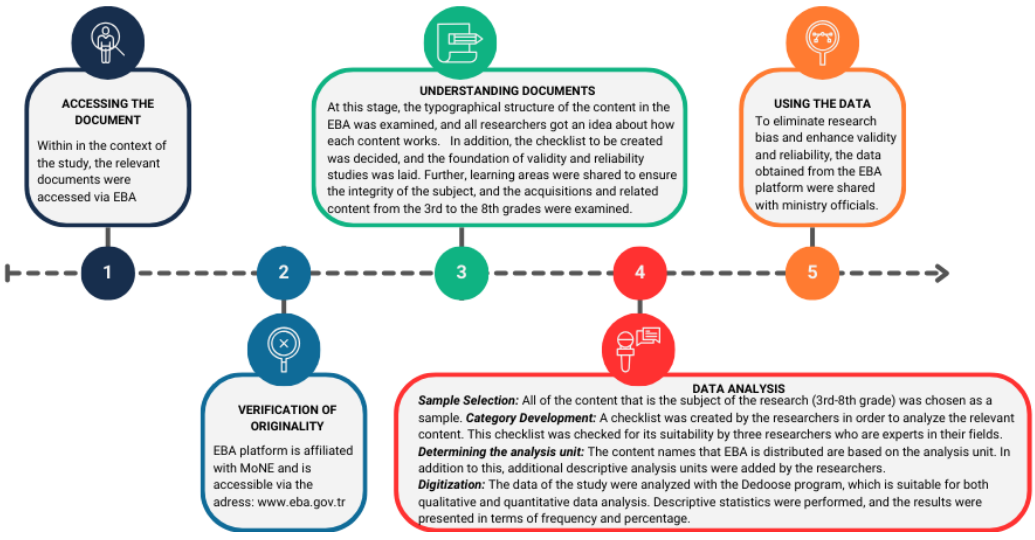


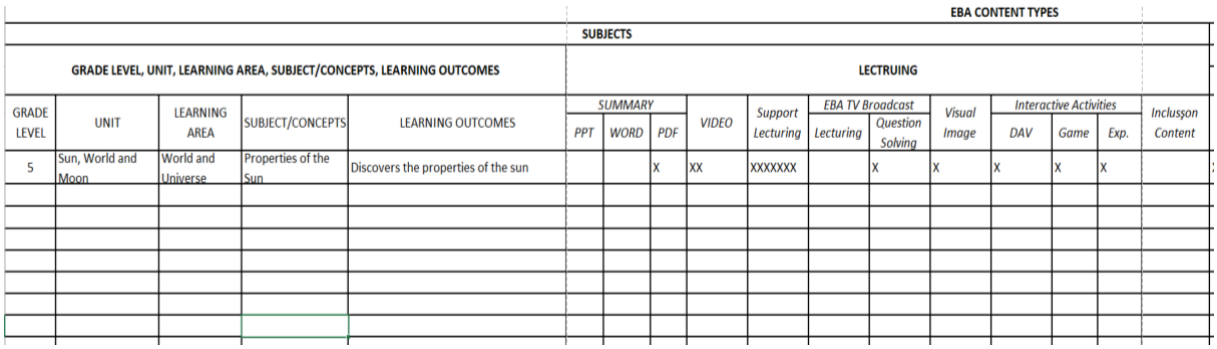
Figure 2 Document Analysis Process

Sample

In this study, all the contents from 3rd to 8th grade in the EBA were examined to form the study sample. A total of 1,646 course contents were analyzed in the EBA.

Data collection tool

The researchers developed a checklist to obtain the data in the related study. The main headings in this checklist were created according to the EBA's contents; when necessary, new additions were made to classify the relevant content. Finally, its suitability was checked by three researchers who are experts in their fields, and the relevant checklist is given in Figure 3.



					EBA CONTENT TYPES											
					SUBJECTS											
GRADE LEVEL, UNIT, LEARNING AREA, SUBJECT/CONCEPTS, LEARNING OUTCOMES					LECTRUING											
GRADE LEVEL	UNIT	LEARNING AREA	SUBJECT/CONCEPTS	LEARNING OUTCOMES	SUMMARY			VIDEO	Support Lecturing	EBA TV Broadcast		Visual Image	Interactive Activities			Inclusion Content
					PPT	WORD	PDF			Lecturing	Question Solving		DAV	Game	Exp.	
5	Sun, World and Moon	World and Universe	Properties of the Sun	Discovers the properties of the sun			X	XX	XXXXXXX		X	X	X	X	X	

Figure 3 Check List (Subject Section) Note. DAV: Draw Attention Based Video, Exp.: Experiment

Table 1 EBA Content Structure, Headings, and Their Definition

Headings		Definition
SUBJECTS		
Grade Level		It includes levels from 3rd grade to 8th grade.
Unit		It covers the units, 7 units at each grade level, in the curriculum.
Learning Area		There are 4 learning areas in the program. These are "earth and universe", "living things and life", "physical phenomena", and "matter and its nature".
Subject/ Concepts		In this section, the relevant subject, and the basic concepts to be learned in the subject are included. There may be more than one subject per unit.
Learning Outcomes		It covers the achievements for each unit and subject.
Summary		It describes the content with definitions and explanations on the subject.
Video		This type of content includes content prepared in the form of videos.
Support Lecturing		This type of content is generally created to enable students to gain deeper knowledge as well as understand the topics.
EBA TV Broadcast	Lecturing	It includes lectures broadcast on EBA TV.
	Question Solving	It includes the solutions to the questions related to the subjects in the curriculum.
Visual Image		It includes visuals with general summary information about the learning goal or the subject.
Interactive Activities	DAV	In this type of content, there are different examples to draw attention to the subject rather than narration. Students can interact with the content also. This title was added by the researchers.
	Game	It refers to the content (matching, competition, etc.) created to increase students' experiences on the subject or learning outcome.
	Exp.	It describes experiments in which students can be actively involved.
Inclusion Content		In this type of content, it is seen that lecture, question-solving, and many other activities are created for sign language or special needs students.

Development process of data collection tool

Many meetings were held to create the relevant checklist, and many changes were made to make a classification suitable for the content. These discussions led to the establishment of a dynamic structure that evolves continuously. EBA is an educational information network with a wide variety of content due to its structure. The steps in creating the most appropriate checklist to illustrate this structure can be listed as follows (Figure 4).

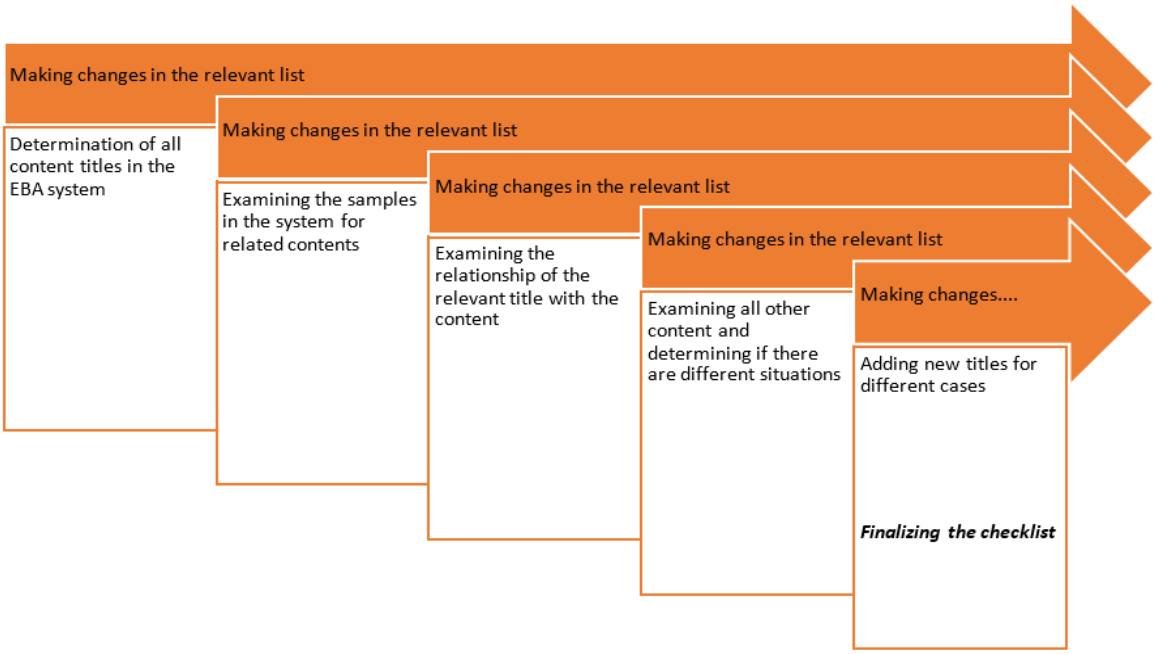


Figure 4 Development Process of Data Collection Tool

As seen in Figure 4, during the creation of the checklist, changes were made regarding the characteristics of the content at each stage. For this reason, the steps we followed in the study can be a guide in examining such information networks or online resources.

Document analysis procedure

A precise process was followed to realize the study, and the relevant activities were summarized in Table 2.

Table 2 Document Analysis Procedure

Activities	Dates
Determining the criteria of the EBA Content Evaluation study, determining the common criteria, and making the relevant decisions.	02.12/ 03.07.2021
Making changes in the EBA Content Evaluation Form in line with the needs of the study and giving its final form	03.07/ 04.11.2021
Determining the relevant steps for validity and reliability studies, choosing the units to be used in determining consensus/disagreement	04.11.2021
Unit Selection (one unit in each of the four learning areas at Grade 5 level) 1. EARTH and UNIVERSE: “Sun, Earth and Moon” Unit 2. LIVING THINGS AND LIFE: Unit "The Living World" Unit 3. PHYSICAL FACTS: “Measurement of Force and Friction” Unit 4. MATTER AND ITS NATURE: “Matter and Change” and analysing units on the EBA content evaluation form	04.11/ 05.11.2021
Analyzing 5th-grade EARTH and UNIVERSE: “Sun, Earth and Moon” Unit	04.11/ 04.18.2021
Analyzing 5th-grade LIVING THINGS AND LIFE: "The Living World" Unit	04.19/ 04.26.2021
Analyzing 5th-grade PHYSICAL FACTS: “Measurement of Force and Friction” Unit	04.27/ 05.03.2021
Analyzing 5th-grade MATTER and IT’S NATURE: “Matter and Change” Unit	05.04/ 05.11.2021
Determining the consensus and disagreements in the forms/Determination of the Krippendorff Alpha coefficient	05.12/ 05.17.2021
Analyze Stage	Dedoose 9.0.15
Combining the obtained data Reporting	

Analysis of data

Dedoose version 9.0.15 was used in the analysis of this study. Dedoose is a suitable analysis tool

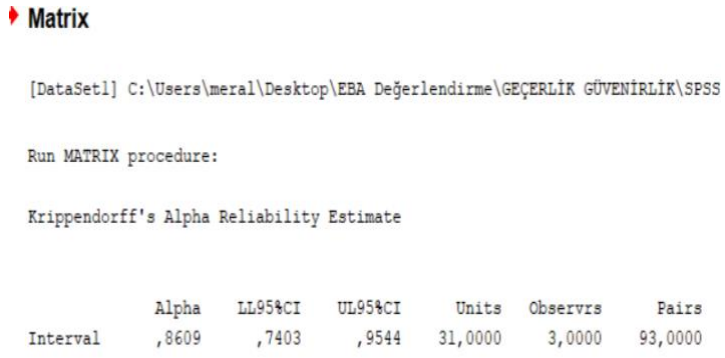
for performing both qualitative and quantitative analysis. In the study, the data in the checklist were presented with descriptive statistics, and the qualitative data obtained from the contents were presented with content analysis. Thus, it is aimed to present a complete picture of the positive and negative cases in practice on behalf of EBA.

Validity and reliability

All the content used in the study and EBA are considered valid and reliable as it is a document source approved by the Ministry of National Education (MoNE). On average, each researcher logged 169 logins to the system, spent 270 hours analyzing the contents, and earned 529 points for these activities. In addition, the checklist used in the study was viewed by three researchers who are experts in the field, and Krippendorff's Alpha Coefficient determined the inter-rater reliability. Krippendorff's Alpha coefficient was first developed to determine the extent of agreement between coders in content analysis (Krippendorff, 2011). This value can be applied to data measured with more than one evaluator and any scale type (classification, ordinal, interval, ratio). It can be used in different sample sizes (Bıkmaz Bilgen & Doğan, 2017). Krippendorff's Alpha Coefficient was preferred due to its stated advantages.

Computing Krippendorff's Alpha Coefficient

The calculation of the KALPHA coefficient was carried out on SPSS 22 in light of the study of Hayes and Krippendorff (2007). The study determined the inter-rater reliability of four different coders for each learning area with KALPHA macro (p.82). The macro used in this process is HEART judges = obs1 obs2 obs3 obs4 obs5/level = 2/detail = 1/boot = 10000. One of the points to be considered here is data type. When performing the analysis, attention should be paid to the explanation of 1 = nominal, 2 = ordinal, 3 = interval, and 4 = ratio. Also, "/detail" (1) represents printing or (0) suppressing computational details such as observed and expected coincidence matrices and delta matrix. The coefficients obtained for the learning areas are presented in Figures 5-6-7 and 8.



Matrix

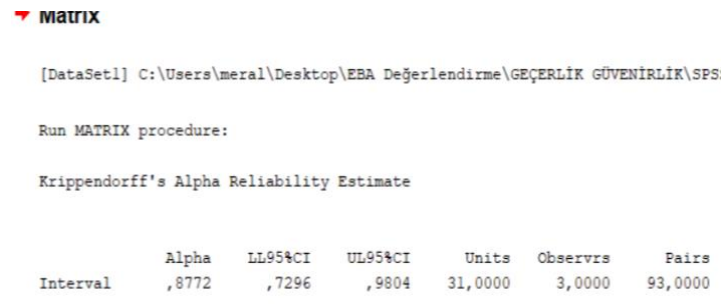
[DataSet1] C:\Users\meral\Desktop\EBA Değerlendirme\GEÇERLİK GÜVENİRLİK\SPSS

Run MATRIX procedure:

Krippendorff's Alpha Reliability Estimate

	Alpha	LL95%CI	UL95%CI	Units	Observrs	Pairs
Interval	,8609	,7403	,9544	31,0000	3,0000	93,0000

Figure 5 KALPHA of "Matter and Change" Unit



Matrix

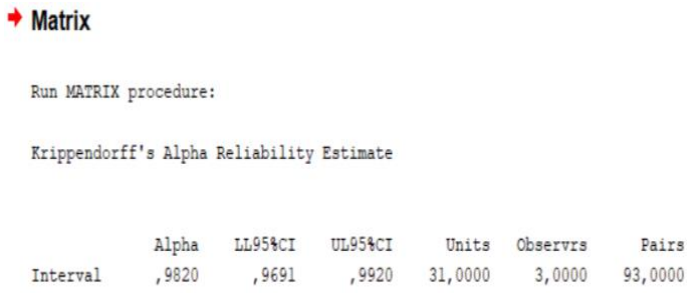
[DataSet1] C:\Users\meral\Desktop\EBA Değerlendirme\GEÇERLİK GÜVENİRLİK\SPS

Run MATRIX procedure:

Krippendorff's Alpha Reliability Estimate

	Alpha	LL95%CI	UL95%CI	Units	Observrs	Pairs
Interval	,8772	,7296	,9804	31,0000	3,0000	93,0000

Figure 6 KALPHA of “Measurement of Force and Friction” Unit



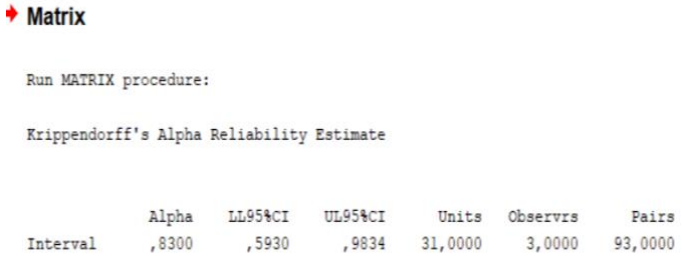
Matrix

Run MATRIX procedure:

Krippendorff's Alpha Reliability Estimate

	Alpha	LL95%CI	UL95%CI	Units	Observrs	Pairs
Interval	,9820	,9691	,9920	31,0000	3,0000	93,0000

Figure 7 KALPHA of “Sun, Earth and Moon” Unit



Matrix

Run MATRIX procedure:

Krippendorff's Alpha Reliability Estimate

	Alpha	LL95%CI	UL95%CI	Units	Observrs	Pairs
Interval	,8300	,5930	,9834	31,0000	3,0000	93,0000

Figure 8 KALPHA of "The Living World" Unit

The predictive criteria of Krippendorff's Alpha Coefficient are presented in Table 3.

Table 3 Value Ranges for the Interpretation of the Krippendorff Alpha Coefficient

α	Power of Concordance
< 0,67	Weak
0,67 - 0,80	Medium
0,80 ≤	High

When the analysis results of the units belonging to each learning area are, it can be concluded that the reliability between the coders is high.

Data analysis procedure

This section presents the findings from our study. To enhance clarity, we utilized a coding system in our presentation. This approach also accommodates instances where certain content aligns with multiple outcomes (in Figure 9). Consequently, we decided to combine the learning outcomes related to the same subject.

EBA CONTENT TYPES																	
SUBJECTS																	
OUTCOME, SUBJECT, GRADE					LECTURING												
					Summary			Video	Support Lecturig	EBA TV Broadcast		Visual Image	Interactive Activities				
GRADE	UNIT	SUBJECT AREA	SUBJECTS/CONCEPTS	LEARNING OUTCOMES	PPT	WORD	PDF			Lecturing	Question Solving		DAV	Game	Exp.		
5	Measuring Force and Friction / Physical Phenomena	Physical Phenomena	Measurement of Force/: Measurement of the magnitude of the force, unit of force	F.5.3.1.1. Measures the magnitude of the force with a dynamometer.			X	XXXX	XX								
				Uses Newton (N) as the unit of force.													
				F.5.3.1.2. Designs a dynamometer model using simple tools.											X		

Figure 9 Example of Matching Achievements and EBA Content

Each unit in the Science curriculum consists of various subjects and concepts. To make the analysis meaningful, we have created subject units that group 3-4 learning goals from the same subject together (Figure 10).

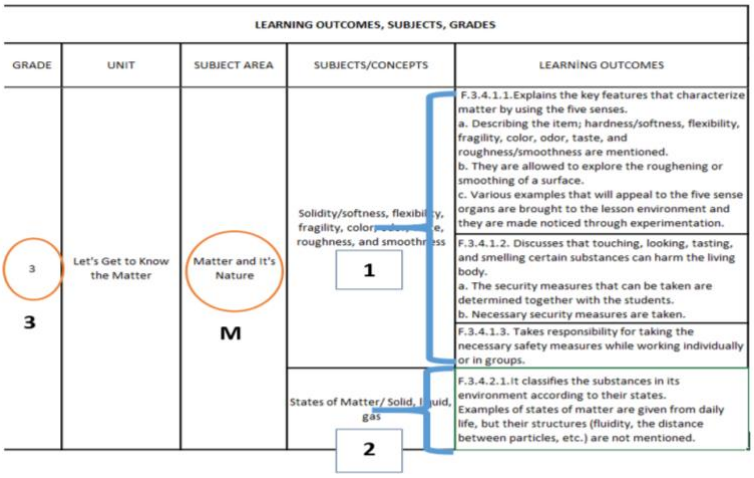


Figure 10 Coding System

While naming the subject unit in the relevant unit, we used the units shown with circles and brackets. As a result, two different subjects in the 3rd grade Matter and Its Nature unit were named 3M1 and 3M2. Subject areas and learning outcomes at all other grade levels were coded this way.

Table 4 Subject units (codes) in the Science Curriculum

Grades	Earth & Universe	Living Things & Life	Physical Facts	Matter & It's Nature
3rd	E1, E2	L1, L2, L3	P1, P2, P3, P4, P5, P6, P7, P8, P9	M1, M2
4th	E1, E2	L1, L2	P1, P2, P3, P4, P5, P6, P7, P8	M1, M2, M3, M4, M5
5th	E1, E2, E3, E4	L1, L2, L3, L4	P1, P2, P3, P4, P5, P6, P7, P8	M1, M2, M3, M4
6th	E1, E2	L1, L2, L3, L4, L5, L6, L7, L8	P1, P2, P3, P4, P5, P6, P7, P8	M1, M2, M3, M4
7th	E1, E2	L1, L2, L3, L4, L5	P1, P2, P3, P4, P5, P6, P7	M1, M2, M3, M4, M5
8th	E1, E2	L1, L2, L3, L4, L5, L6, L7, L8, L9	P1, P2, P3, P4, P5	M1, M2, M3, M4, M5, M6

Findings

EBA has a constantly changing and developing structure. This structure allows teachers and students to reach and work on a wide range of content. What prompted the research group to set out in this study was the question of how compatible the content in the EBA and the science curriculum were. In this context, Figure 11 primarily gives us the overall number of content in EBA. In addition, Figure 11 shows the content types and distribution of course content.

	3rd Grade	4th Grade	5th Grade	6th Grade	7th Grade	8th Grade	Total
DAV	1	6	6	5	7	1	26
Game	6	6	12	10	6	4	44
Visual Image	1	0	9	47	12	2	71
Exp.	0	6	17	12	18	21	74
Question Solving	6	5	20	19	15	17	82
Summary	16	17	23	22	22	25	125
Lecturing	19	12	24	30	22	44	151
Support Lecturing	0	33	47	38	76	99	293
Inclusion Content	62	38	49	59	43	47	298
Video	38	48	73	103	113	107	482
Total	149	171	280	345	334	367	1,646

Figure 11 Course contents and the distribution in EBA between 3rd and 8th grades

After the general distribution of the content in EBA, the findings based on the sub-research questions are given below.

RQ 1. What is the EBA's course content distribution in terms of learning areas?

The science curriculum consists of four main learning areas. These learning areas are "Earth and Universe," "Living Things and Life," "Physical Facts," and "Matter and Its Nature." The purpose of the first sub-research question is to reveal the distribution of the contents in the EBA according to these four learning areas. In the context of the first research question of the study, the results of the analysis of the course contents according to the learning areas were presented (Figure 12).

	EARTH and UNIVERSE	LIVING THINGS AND LIFE	PHYSICAL FACTS	MATTER and IT'S NATURE	Total
DAV	3	9	8	6	26
Game	0	14	17	13	44
Visual Image	4	52	10	5	71
Exp.	4	13	27	30	74
Question Solving	12	33	23	14	82
Summary	14	33	48	30	125
Lecturing	5	70	51	25	151
Support Lecturing	41	103	94	55	293
Inclusion Content	47	150	57	44	298
Video	60	165	173	84	482
Total	190	642	508	306	1,646

Figure 12 Distribution of course content in EBA according to learning areas

There are 1646 course contents in total. For our first research question, we see that most course content is in the "living things and life" and "physical facts" learning areas (Figure 12).

RQ 2. What is the EBA's content distribution according to the learning goals?

One of the research questions in this study aims to identify the number of content items that align with the learning goals. To illustrate this, the contents related to the learning goals and the total number of content items are displayed in Figures 13-18. Additionally, Table 5-10 presents some learning goals that have the least amount of content at the corresponding grade level.

	Summary	Video	Support Lecturing	Lecturing	Question Solving	Visual Image	DAV	Game	Exp.	Inclusion Content	Total
3P5	1	2	0	0	0	0	0	0	0	1	4
3P4	1	1	0	0	0	0	0	0	0	2	4
3E2	1	2	0	0	0	0	0	0	0	2	5
3E1	1	1	0	3	0	0	0	0	0	1	6
3P7	1	5	0	0	0	0	0	0	0	0	6
3M2	1	1	0	0	1	0	0	1	0	2	6
3P9	1	3	0	3	0	0	0	0	0	1	8
3P6	1	3	0	0	1	0	0	1	0	2	8
3P8	1	2	0	6	0	0	0	0	0	2	11
3P2	1	2	0	0	0	0	0	1	0	7	11
3L3	0	0	0	5	0	0	0	0	0	6	11
3P3	1	2	0	0	1	0	0	1	0	7	12
3P1	1	3	0	0	1	0	0	0	0	7	12
3L2	1	2	0	2	0	1	1	0	0	5	12
3L1	1	6	0	0	0	0	0	0	0	7	14
3M1	1	3	0	0	2	0	0	2	0	10	18
Total	16	38	0	19	6	1	1	6	0	62	149

Figure 13 Distribution of course content in EBA for 3rd-grade learning goals

Upon reviewing the learning objectives for 3rd grade, it is evident that the majority of the content is concentrated in video and inclusion materials. Additionally, our analysis reveals the absence of "support lecturing" and "experiment" content across all learning goals at this grade level (refer to Figure 13). Notably, the bulk of the content is associated with the 3M1 learning goal, while the least amount of content pertains to the 3P4 and 3P5 learning goals (see Table 5).

Table 5 Learning goals that have the minimum content for 3rd grade

Subject	Learning Goal
3P4 Learning Goals	F.3.5.2.1. Classifies the light sources around him/her as natural and artificial light sources.
3P5 Learning Goals	F.3.5.3.1. Concludes that every sound has a source, and that sound radiates in all directions. F.3.5.3.2. Using the sense of hearing, make inferences about the approach and distance of the sound source and the location of the sound source. F.3.5.3.3. Classifies the surrounding sound sources as natural and artificial sound sources.

It is observed that there is only a summary, video, and inclusion content related to the learning goals presented in Table 5.

Table 6 Learning goals that have the most content for 3rd grade

Subject	Learning Goal
3M1 Learning Goals	F.3.4.1.1. Explains the basic features that characterize the substance by using the five sense organs.

Most of this learning goal's content is inclusion content, video, question-solving, and game types.

	Summary	Video	Support Lecturing	Lecturing	Question Solving	Visual Image	DAV	Game	Exp.	Inclusion Content	Total
4P7	1	2	0	1	1	0	0	0	0	0	5
4P6	1	2	0	2	0	0	0	0	0	0	5
4M1	1	1	0	0	0	0	0	0	1	2	5
4P8	1	2	0	2	0	0	0	0	0	1	6
4M5	1	5	0	0	0	0	0	0	0	0	6
4P5	1	3	0	2	1	0	0	0	0	0	7
4M4	1	1	1	0	0	0	3	0	1	0	7
4P3	1	3	3	1	0	0	0	0	0	0	8
4P2	1	2	5	0	0	0	0	1	0	0	9
4P4	1	1	5	2	0	0	0	0	0	0	9
4E1	1	4	1	0	0	0	0	0	0	4	10
4M3	1	1	3	0	1	0	0	1	1	2	10
4E2	1	3	2	0	0	0	0	0	0	5	11
4P1	1	3	1	0	0	0	0	0	1	8	14
4L2	1	3	4	2	1	0	0	0	0	3	14
4M2	1	4	6	0	1	0	1	1	1	2	17
4L1	1	8	2	0	0	0	2	3	1	11	28
Total	17	48	33	12	5	0	6	6	6	38	171

Figure 14 Distribution of course content in EBA for 4th-grade learning goals

When we look at the contents allocated to the 4th grade, we see that the experiments were added to the system at this grade level. In addition, most content occurs as inclusion content, video, and support lecturing. However, no content in visual image format was found (Figure 14). Consequently, we determined that the most content at this grade level is in the 4L1 learning goals, and the least is in 4P6, 4P7, and 4M1 learning goals (Table 7-8).

Table 7 Learning goals that have minimum content for 4th grade

Subject	Learning Goal
4P6 Learning Goals	F.4.5.4.1. Compares the audio technologies used in the past and today. F.4.5.4.2. Investigates the positive and negative effects of technological tools with loud noise.
4P7 Learning Goals	F.4.5.5.1. Questions about the causes of sound pollution. F.4.5.5.2. Explains the negative effects of sound pollution on human health and the environment. F.4.5.5.3. Produces solutions to reduce sound pollution.
4M1 Learning Goals	F.4.4.1.1. Explains the basic properties that characterize matter by using five senses..

In Figure 14, there are course contents such as video, summary, lecturing, and experiments for the learning goals in Table 7

Table 8 Learning goals that have the most content for 4th grade

Subject	Learning Goal
4L1 Learning Goals	4.2.1.1. Explains the relationship between living life and nutrient content 4.2.1.2. Deduces that water and minerals are found in all foods. 4.2.1.3. Discusses the importance of freshness and naturalness of foods for a healthy life based on research data. 4.2.1.4. Relates a balanced diet with human health. 4.2.1.5. Recognizes the negative effects of alcohol and cigarette use on human health. 4.2.1.6. Assumes responsibility for reducing smoking in its immediate surroundings.

Table 8 shows inclusion content, video, game, support lecturing, and DAV types for 4L1 learning goals.

	Summary	Video	Support Lecturing	Lecturing	Question Solving	Visual Image	DAV	Game	Exp.	Inclusion Content	Total
5E2	1	2	0	0	0	0	0	0	0	2	5
5P3	1	1	1	0	0	1	0	1	1	0	6
5E4	1	3	1	0	0	0	0	0	0	2	7
5M2	1	1	0	1	0	0	0	0	2	2	7
5P7	1	2	2	0	0	1	1	2	0	0	9
5P5	1	3	2	1	0	1	0	0	1	0	9
5P8	1	0	0	3	2	0	1	1	2	0	10
5P1	1	3	2	1	0	1	0	0	1	1	10
5M4	1	3	2	1	0	0	0	0	1	2	10
5E3	1	4	2	0	2	0	0	0	0	2	11
5P4	1	3	4	0	0	0	2	2	0	0	12
5M3	1	3	1	1	0	0	0	1	3	2	12
5M1	1	4	2	1	1	1	0	0	1	1	12
5L4	1	7	1	4	0	0	0	0	0	0	13
5P6	1	1	8	1	0	0	0	0	2	1	14
5L3	1	6	3	3	4	1	0	0	0	0	18
5E1	1	3	5	0	3	0	1	0	0	5	18
5P2	1	4	6	2	2	0	0	2	1	6	24
5L2	1	3	3	2	4	2	1	2	0	13	31
5L1	4	17	2	3	2	1	0	1	2	10	42
Total	23	73	47	24	20	9	6	12	17	49	280

Figure 15 Distribution of course content in EBA for 5th-grade learning goals

The 5th grade is the first level where content begins to encompass all types of subjects. As a result, most content is presented in video format, support lectures, and inclusive materials. However, the amount of content available in visual image and DAV formats is limited (see Figure 15). The learning goals with the least amount of content for the 5th grade are outlined in Table 9, while those with the most content are shown in Table 10.

Table 9 Learning goals that have minimum content for 5th grade

Subject	Learning Goal
5E2 Learning Goals	F.5.1.2.1. Explains the properties of the moon. F.5.1.2.2. Discusses the ideas he/she produced about living things on the moon.

There are only videos, inclusion content, and summaries for the learning goals related to the properties and life on the moon (Figure 15).

Table 10 Learning goals that have the most content for 5th grade

Subject	Learning Goal
5L1 Learning Goals	F.5.2.1.1. Classifies living things according to their similarities and differences by giving examples.

Table 10 shows inclusion content, video, game, support lecturing, and DAV types for 5L1 learning goals.

	Summary	Video	Support Lecturing	Lecturing	Question Solving	Visual Image	DAV	Game	Exp.	Inclusion Content	Total
6P4	1	2	1	0	0	0	0	0	0	0	4
6P3	1	1	2	0	0	0	0	0	0	0	4
6P7	1	2	0	1	1	0	0	0	0	0	5
6E2	1	2	0	0	0	1	0	0	2	2	8
6M3	2	2	0	0	1	0	0	2	1	0	8
6P5	1	5	1	1	1	0	0	0	0	0	9
6P6	1	8	0	1	0	0	0	0	0	0	10
6P2	0	5	2	1	0	0	0	1	0	2	11
6M4	1	5	2	0	0	2	0	2	0	0	12
6E1	1	5	0	0	1	1	0	0	0	5	13
6M1	1	2	4	1	1	1	0	1	1	2	14
6P8	1	3	5	1	1	2	1	0	1	0	15
6L5	0	4	0	3	0	3	0	0	0	5	15
6P1	1	4	1	1	2	0	1	0	4	3	17
6L4	1	3	4	3	1	1	0	0	0	6	19
6M2	2	4	2	2	1	1	2	0	2	3	19
6L2	1	3	4	5	4	5	0	1	0	0	23
6L6	1	6	0	3	0	4	1	0	0	8	23
6L8	1	8	5	1	0	6	0	0	0	3	24
6L3	1	8	4	3	4	4	0	0	1	0	25
6L1	1	4	1	0	0	5	0	3	0	16	30
6L7	1	17	0	3	1	11	0	0	0	4	37
Total	22	103	38	30	19	47	5	10	12	59	345

Figure 16 Distribution of course content in EBA for 6th-grade learning goals

In the 6th-grade curriculum, we observe that the majority of the content focuses on videos and inclusive materials. In contrast, there is limited space allocated for resources such as DAV (Digital Audio-Visual content), games, and experiments (see Figure 16). The learning goals that feature the least and most content are presented in Tables 11 and 12.

Table 11 Learning goals that have the minimum content for 6th grade

Subject	Learning Goal
6P3 Learning Goals	F.6.5.1.1. Predicts the environment in which sound can propagate and tests his/her predictions.
6P4 Learning Goals	F.6.5.2.1. Discovers by experimenting with that sounds are heard differently with the change of sound source. F.6.5.2.2. Discovers by trying that the sound is heard differently with the change of the environment in which it spreads.

Table 11 contains only a summary, video, and support lecturing for the learning goals.

Table 12 Learning goals that have the most content for 6th grade

Subject	Learning Goal
6L7 Learning Goals	F.6.6.2.1. Explain the structures of the sense organs by showing them on the model. F.6.6.2.2. Demonstrates the relationship between the senses of smell and taste with an experiment he/she designed. F.6.6.2.3. Gives examples of the defects in the sense organs and the technologies used to eliminate these defects. F.6.6.2.4. Discusses the measures to be taken to protect the health of the sense organs.

The video and visual image types are the most relevant content for the 6L7 learning goals. Other content types include summary, lecturing, question-solving, and inclusion.

	Summary	Video	Support Lecturing	Lecturing	Question Solving	Visual Image	DAV	Game	Exp.	Inclusion Content	Total
7M4	1	0	0	0	0	0	0	0	1	0	2
7M5	1	3	1	0	0	0	0	1	0	0	6
7M3	1	3	0	0	0	0	0	0	3	0	7
7M2	1	3	0	0	2	0	0	0	3	0	9
7P5	1	4	2	1	1	0	0	0	1	0	10
7P4	1	8	1	0	0	0	0	1	0	0	11
7P1	1	4	2	1	0	1	0	1	0	2	12
7L4	1	3	3	0	0	1	1	1	1	3	14
7P3	1	5	0	2	1	1	2	1	0	1	14
7L2	1	4	4	1	0	1	0	0	0	4	15
7L3	1	3	6	1	0	0	0	0	0	5	16
7P2	1	8	2	2	2	0	0	0	3	3	21
7E1	1	9	3	0	1	1	2	0	1	6	24
7P6	2	8	10	1	1	2	0	0	0	0	24
7P7	2	10	6	2	2	0	0	0	5	0	27
7M1	2	9	7	4	1	0	0	0	0	4	27
7E2	1	8	18	0	0	1	0	0	0	1	29
7L5	1	15	3	2	2	2	1	0	0	6	32
7L1	1	6	8	5	2	2	1	1	0	8	34
Total	22	113	76	22	15	12	7	6	18	43	334

Figure 17 Distribution of course content in EBA for 7th-grade learning goals

We discovered that the content available for 7th graders primarily consists of videos and support lecturing. Additionally, most of this content aligns with the 7L1 learning goals, while the least amount corresponds to the 7M4 learning goals.

Table 13 Learning goals that have minimum content for 7th grade

Subject	Learning Goal
7M4 Learning Goals	F.7.4.4.1. Chooses and applies the appropriate method among the methods that can be used for the separation of mixtures.

Table 13 includes only the experiment and summary for the 7M4 learning goal.

Table 14 Learning goals that have the most content for 7th grade

Subject	Learning Goal
7L1 Learning Goals	F.7.2.1.1. Compares animal and plant cells in terms of their basic parts and functions. F.7.2.1.2. Discusses the views on the structure of the cell from past to present by associating them with technological developments. F.7.2.1.3. Explain the relationship between cell-tissue- organ-system-organism.

For the 7L1 learning goals, content is available in all types except for the experiment type. Most of the content is found in videos, support lecturing, and inclusion materials.

	Summary	Video	Support Lecturing	Lecturing	Question Solving	Visual Image	DAV	Game	Exp.	Inclusion Content	Total
8L4	1	3	0	0	0	0	0	1	0	1	6
8M6	0	5	1	0	0	0	0	0	0	0	6
8L3	1	2	3	0	1	0	0	0	0	1	8
8M2	1	2	2	1	0	0	0	1	0	1	8
8P4	1	5	0	1	1	0	0	0	1	0	9
8L9	1	2	4	1	0	0	0	1	0	1	10
8L5	1	3	4	1	0	0	0	0	0	1	10
8M3	1	2	5	2	0	0	0	0	0	0	10
8E1	1	1	4	2	3	0	0	0	0	2	13
8P3	1	5	7	0	0	0	0	0	1	0	14
8L6	1	3	7	0	1	0	0	0	2	2	16
8P5	2	8	4	1	1	0	0	0	0	0	16
8M1	1	6	4	3	2	0	0	0	1	3	20
8M5	3	5	6	3	0	0	0	0	4	0	21
8P1	1	10	0	4	1	0	0	0	1	6	23
8L1	1	2	7	5	2	1	0	0	0	5	23
8L7	2	4	6	2	0	1	0	0	5	4	24
8E2	1	11	5	3	1	0	0	0	1	2	24
8P2	1	12	9	0	0	0	0	1	1	0	24
8L8	1	6	7	2	0	0	1	0	0	10	27
8M4	1	6	6	5	0	0	0	0	3	6	27
8L2	1	4	8	8	4	0	0	0	1	2	28
Total	25	107	99	44	17	2	1	4	21	47	367

Figure 18 Distribution of course content in EBA for 8th-grade learning goals

As with all other grade levels, there is an emphasis on video and support lecturing content types. However, the content is primarily associated with the 8L2 learning goals.

Table 15 Learning goals that have the minimum content for 8th grade

Subject	Learning Goal
8L4 Learning Goals	F.8.2.4.1. Explains the adaptation of living things to the environment they live in, by observing.
8M6 Learning Goals	F.8.4.6.1. Researches the development of the chemical industry in Turkey from past to present.

The content regarding the environment and industry primarily relies on supplemental materials such as inclusion content, games, and videos. It is important to note that the learning goals are derived from observation and research (Table 15).

Table 16 Learning goals that have the most content for 8th grade

Subject	Learning Goal
8L2 Learning Goals	8.2.2.1. Defines the concepts related to inheritance. 8.2.2.2. Solves problems related to single character crossovers and comments on results. 8.2.2.3. Discusses the genetic consequences of consanguineous marriages.

Content exists in all content types except Visual image, DAV, and game types. In addition, most content supports lecturing and lecturing content types (Table 16).

RQ 3. What is the distribution of learning goals without content in EBA?

Table 17 Learning Goals that do not have both course and exam content in EBA

Grade Level	Learning Goal	Explanation
3	F.3.4.1.3. Takes responsibility for taking the necessary safety measures while working individually or in groups.	No course and exam content
4	F.4.4.5.3. Discusses the separation of mixtures in terms of their contribution to the country's economy and effective use of resources.	No course and exam content

As noted, we determined that there was no content on work safety, efficient use of resources and the effects of chemistry on the national economy.

Results, discussion, and recommendations

In this study, an analysis was conducted to ascertain the compatibility of the science course contents in EBA an online social education platform, with the curriculum for levels from 3rd to 8th grade. The study revealed the types and distribution of the contents. The data obtained demonstrated that, quantitatively, EBA largely overlaps with the learning goals in the science curriculum. However, qualitatively, it does not fully reflect the nature of the science course. As a result of the document analysis, it has been determined that video, inclusion content, and support lecturing are more common in EBA than in other content. Furthermore, it has been determined that video content has the highest rate at every grade level except for 3rd-grade. This may be because video content prepared according to the grade level is found more attractive by age groups, and therefore, more video content is included. Another reason for the higher number of educational videos compared to other content is that educational videos positively contribute to the learning process in the distance education process (Ozan, 2015). In addition, considering the video-watching habits of students in these age groups on social media, YouTube, and the availability of watching educational videos in EBA, video content may have been given much space. Considering the time spent by the students watching the videos in various social media

tools in their social lives, we can think that the possibility of benefiting from the educational videos in the EBA is relatively high, and therefore, educational videos are given more space (Alakurt et al., 2016). In addition, we can state that the inclusion content and support lecturing are similarly higher than other content since students with special needs are included in inclusive education in regular schools (Demir & Açar, 2010; MEB, 2011, p. 146;). Therefore, although EBA is working to provide equal opportunities for the student groups mentioned here, the contents that will appeal to students with both inclusive and special education needs must be structured in more detail and consider their special needs features. In addition, Khan Academy video content was included in most of the support lecturing contents in the EBA. In the videos, it is seen that the subject covered has content that activates the high-level thinking skills of the students. However, some support lecturing contents are well above the developmental level of children, address high-level learning goals, and thus increase the cognitive load cause misconceptions, and complicate the learning of the subject. Furthermore, although the inclusion content and the support lecturing are more numerous than the other contents, it is a remarkable finding that the inclusion content decreases as the grade level progresses, while the support lecturing increase as the grade level progresses. This case leads us to conclude that EBA's content types need to show a balanced distribution at the grade level. In addition, the high number of videos, support lecturing, and inclusion content show that students and teachers enhance their learning experiences through various audio-visual elements, such as watching, reading, and listening. We can state that this kind of support is an emphasis on traditional education (Bingimlas, 2009; Searson et al., 2011).

The main goal of science education is to develop students' skills, including observation, experimental design, inquiry, problem-solving, critical thinking, and the application of knowledge to real-life situations. However, the study's findings indicate a lack of focus on interactive games, experiments, and real-life applications in EBA, as interactive activities such as games, experiments, and visuals are afforded relatively little space within the platform. Similarly, Tüysüz and Çümen (2016) stated in their research that more educational games, entertaining content, and test and lecture videos should be added to the site for students. Likewise, Arslan (2019) stated that students want different applications, such as educational games and cartoons in EBA, to increase. Erman (2021) also stated in his study that included teachers' opinions that EBA application is compatible with the curriculum, but it contains superficial information, and the content should be enriched. Therefore, we can state that interactive content such as experiments, games, and visuals should be increased according to age groups, mainly since science education includes priorities such as scientific process skills, experimental processes, science literacy and 21st-century skills, and concretization of abstract concepts. Similarly, in a study in which science teachers' views on EBA were taken, it was stated that the number of interactive experiments should be increased (Buluş Kırıkkaya & Yıldırım, 2019).

On the other hand, the least numbered content is DAV in EBA. This type of content aims to inform and motivate students by using notable examples from everyday life instead of focusing solely on traditional lectures. In science education, everyday examples are emphasized for their role in helping students internalize concepts and understand the nature of science. For instance, a study by Higgins et al. (2018) highlighted the importance of using videos in science education. The study found that teachers often incorporate videos featuring real-life examples, particularly to convey information that cannot be found in textbooks and to clarify concepts that cannot be

directly experienced. Therefore, increasing the presence of these videos on EBA, which has safe content, especially in which the relationship with daily life is established, will contribute positively to the student's learning. According to another result of the study, when the total number of contents in EBA was evaluated according to grade levels, it was seen that the number of course contents increased as the grade level increased. While this situation provided quantitative sufficiency, it raised concerns about the quality of the content. Consequently, the term 'qualitative inadequacy' signifies that the content does not fully align with the active, inquisitive, experiment, and observation-based learning approach characteristic of science.

After the general distribution of the content in the EBA, the results for the sub-problems of the research are presented and discussed below.

Conclusion and discussion for the first sub-problem

The first sub-problem of the research aims to reveal how the content distribution of EBA is according to learning areas. When the distribution of EBA contents according to four different learning areas in the science curriculum, namely "Earth and Universe," "Living Things and Life," "Physical Facts," and "Matter and Its Nature" is examined, we see that a total of 1646 course contents are included. According to this distribution, the most content belongs to the "Living Things and Life" and "Physical Facts," and the most negligible content belongs to the "Earth and Universe" learning areas. In other words, when the learning goals in the science curriculum are examined on a class basis and considering the learning area, we see that the highest number of learning goals belongs to the learning areas of "Living Things and Life" and "Physical Facts" (MEB, 2018). Bayar et al., (2018) examined the contents of science courses in EBA according to variables such as learning areas and learning strategies and determined that while the most course content was "Living Things and Life" and "Physical Facts," and the most negligible content was "Earth and Universe" learning area.

While it is seen that the number of learning goals is proportional to the number of course content, it is also noteworthy that the content in the "Living Things and Life" learning area, especially in the inclusion content, lecturing, and question-solving titles, is presented repeatedly. At the same time, this situation may have caused the content to increase numerically. Content repetitions may also have resulted from too many resources being uploaded to the system to meet students' educational needs during the Covid-19 pandemic. Sönmez, et al., (2020) stated in their research that some of the primary school teachers did not find the EBA content appropriate for their grade level and stated that the content repetitions in the EBA were among the reasons. The presence of a large amount of similar content that repeats the same learning goal is further evidence that the qualitative diversity needed to support authentic and in-depth learning processes is limited.

On the other hand, the learning area with the most negligible content in EBA is "Earth and the Universe" it may be that the learning goals in this learning area are fewer compared to other learning areas when examined on a class basis. This case shows that the contents in the EBA are prepared in a way proportional to the number of learning goals for learning areas (MEB, 2018). However, the fact that the "Earth and the Universe" learning area contains more abstract concepts than other learning areas suggests that there should be more concrete content related to this learning area in the EBA content.

Conclusion and discussion for the second sub-problem

For the second sub-problem of the research, the distribution of the contents in the EBA according to the learning goals has been determined. According to the findings, the video content has the most course content at every grade level from 3 to 8 grades. As mentioned at the beginning of the discussion section, the majority of the content in EBA consists of videos. After the videos, the most used content type is followed by inclusion content and support lecturing.

When we examine all these findings from the 3rd to the 8th grade, the learning goal with the most content belongs to the learning area of "living things and life," and the learning area with the most negligible content belongs to the learning area of "earth and universe." However, according to the science curriculum, the learning area in which the total number of learning goals at each grade level is the highest is "physical facts." For this reason, EBA course contents overlap with the learning program in numbers but do not show a balanced distribution in terms of content. This finding coincides with Karatekin et al. (2015)'s study that EBA course contents should overlap with the curriculum. In addition, in the context of this finding, it has been concluded that the course contents in EBA are insufficient according to the learning goals. In the literature, there are similar results regarding the insufficient level of EBA course content. Yeşilyurt (2019) and Alabay (2015) stated that the course contents of EBA were insufficient and should be enriched, while Altın (2014) similarly stated that the contents of EBA were both inadequate and incompatible with the curriculum. On the other hand, Erman (2021) and Kuloğlu (2018) stated that the course contents in EBA are appropriate and sufficient, but they should be enriched with higher-quality content. According to Atalay (2019), the course contents of EBA were sufficient. In addition, when we examine it as content, most of the content prepared for learning goals at all grade levels consists of videos, support lecturing, lecturing, and inclusion videos. Unfortunately, these findings still remind us of the teacher-centered approach. In other words, the contents were prepared through listening and narration. Moreover, the number of interactive rich content that involves the student in hands-on activities is almost nonexistent. Especially in such a period when 21st-century skills are at the forefront, the lack of content to improve students' creativity, problem-solving skills, and critical thinking skills suggests that the content of EBA should be enriched.

Conclusion and discussion for the third sub-problem

The third sub-problem of the research is aimed at determining whether there are learning goals without content in EBA. We determined that the learning goals that do not have content in the EBA are in the "Matter and its Nature" learning area. These are the achievements of F.3.4.1.3 (Taking responsibility for taking the necessary safety precautions when working individually or in groups) and F.4.4.5.3 (discussing the separation of mixtures in terms of their contribution to the country's economy and effective use of resources). Since both learning goals are the learning goals that will be realized due to the interaction of the students individually or with the group in the classroom environment, the contents related to these acquisitions are not included.

Apart from this, some of the contents in EBA are out of the way. One of them is the F.5.1.1.1.b learning goal (this mentions that the Sun consists of layers like the Earth, but the structure of the layers is not mentioned); in the relevant content, the temperature of the inner and outer layers of the Sun, the outermost layer has a temperature of 6000 °C, and the colder regions on its surface are located. In addition, sunspots are included in the related content, again without a learning

goal. Similarly, for F.5.1.4. Subject, it is seen that solar and lunar eclipses, the names of the solar system, and planets are mentioned, but this situation is out of reach in the relevant subject. Therefore, there needs to be more content for the learning goals mentioned earlier in the science curriculum in EBA. Again, the example states that the content is out of the learning goal. For this reason, it has been concluded that the EBA contents need to be more robust in the context of the learning goals mentioned above. The competence mentioned here is used in the sense that the content follows the curriculum and the learning goals of the relevant subject are included in a way that there is no missing or excess. A similar result can be seen in the study conducted by Saklan and Ünal (2018) with science teachers, which aimed to reveal teachers' views about EBA. As a result of the study, science teachers considered the content of the EBA partially sufficient and stated that the content should be simplified. However, science teachers also expressed deficiencies in the EBA content. They expressed the need for digital materials that are used efficiently, prepared following the curriculum, and content sufficiency is provided. The study stated that since EBA is not sufficient in terms of content, it is possible to use the EBA platform more efficiently by enriching the content and making it more suitable for the curriculum. In addition, Alabay and Taşdelen (2017) obtained a similar result in their study with 208 teachers from 12 different branches in 5 different secondary schools and 211 students studying in these schools. Most of the teachers stated that the content in the EBA is insufficient to meet the needs. Similarly, Keskin Yorgancı (2019), in his study aiming to determine EBA usage levels and EBA competencies, concluded that most teachers found EBA helpful but insufficient in content and preferred EBA less. In the study of Kırlı (2023), the classroom teachers found that the content in EBA was insufficient to meet the needs of the lesson, while Altın (2014) in his study stated that not only the teachers but also the administrators and parents thought that the course contents in EBA were insufficient and that the course contents in EBA were incompatible with the curriculum.

Recommendations

Including DAV content related to each grade level and each subject area in EBA will help students establish a context between subject learning goal and their daily lives. The high number of repetitive content in EBA may cause a waste of time and may cause difficulties for students and teachers to reach the necessary information. For this reason, the system of not including content repetition unless necessary will ensure that the information is given more focus by clearing the source confusion. Careful arrangement of the content that may cause confusion and distract attention on the EBA platform will strengthen the quality and functionality of the education network. Diversifying the number of interactive videos and experiments for the subject and achievement at each grade level will reinforce the taught subject and create permanent learning experiences. For the EBA platform to offer the expected effect/benefit in students' academic development, a balance of content must be observed in all classrooms and learning areas. To improve time management for both students and teachers, especially for long video content, it is helpful to include content descriptions, as on platforms such as YouTube. Yassine et al. (2020), in their study examining the content of Khan Academy, noted that most users prefer short videos. They are willing to engage with slightly longer videos if there is a valid reason for the length. However, the study also highlighted that users tend to feel bored with long videos, particularly in the absence of timestamps. These descriptions should indicate the specific timestamps where relevant information can be found. This approach is also believed to support each student's individual learning pace. In addition, providing instant and detailed feedback to students after

they view videos, inclusion content support lecturing content such as exercises, tests, or interactive activities on the platform, can significantly enhance the quality of learning. Currently, while there are question-solving videos and test materials available, their variety is limited when it comes to incorporating interactive and adaptive learning tools. Although there is a significant amount of inclusion content for students with special needs in EBA, most of this content is in the form of 'videos' and offers limited interaction. Increasing the number of guided and modular contents that support individualised learning speed and learning style will increase the quality.

For future research;

The researchers should examine the contents of special education and inclusive EBA for students with special education needs. It is recommended to integrate the situations where the student can get out of the passive state and become more active in the EBA course contents. On the other hand, researchers can follow the procedural development of EBA both on a branch basis and in comparison, with other branches.

To evaluate the quality of online education platforms, it is beneficial to compare them with successful international examples such as Khan Academy, Discovery Education, and Scootle. A review of the existing literature reveals that these platforms incorporate more interactive simulations, 3D visuals, and game-based applications, which foster active participation from students (Booth, 2013; Dart, 2020). These comparisons suggest that EBA could evolve from being primarily a content repository to a more interactive learning ecosystem. Additionally, studying international examples that address multi-language support, designs tailored for different age groups, and personalized resources for students with special needs may provide concrete suggestions for enhancing the quality of EBA.

Implications for practice or policy:

Practitioners and policy makers should draw attention to online social education platforms to create science content for students with underrepresented or special educational needs. They should develop a system where all students can have 21st century skills and be active. As a result of this study, when developing online social platforms for science, it is recommended that skill-based applications, i.e. experiments, discussions, scientific process skills, interactive animations and simulations that can get students active, should be prepared according to the learning goals.

Statement of Researchers

Researchers contribution rate statement

Author 1: Conceptualization, Literature Review, Writing - original draft, Writing - findings and editing; Author 2: Literature Review, Data Collection, Writing - review and editing; Author 3: Literature Review, Data Collection, Writing - review and editing; Author 4: Literature Review, Data Collection, Writing - review and editing; Author 5: Conceptualization, Review, Editing.

Conflict statement

There is no conflict of interest with any institution, organization or person. There is also no conflict of interest between the authors.

References

Akbaş, E. E. (2019). The impact of EBA (Educational Informatics Network) assisted mathematics teaching in 5th-grade fractions on students' achievements. *Journal of Computer and Education Research*, *7*(13), 120–145.

Akkaş-Baysal, E., Ocak, G., Ergün, M., & Yurtseven, R. (2022). The opinions of students, teachers, and parents on the use of EBA and EBA TV as distance education tools in secondary education. *Erzincan University Journal of Education Faculty*, *24*(1), 82–96.

Alabay, A. (2015). *A research into secondary education teachers' and students' views on EBA (Education Information Network) usage* [Unpublished master's thesis]. Istanbul Aydın University.

Alabay, A., & Taşdelen, V. (2017). A research into secondary education teachers' and students' views on EBA (Education Information Network) usage. *Journal of Istanbul Aydın University Education Faculty*, 27–29.

Alakurt, T., Kahraman, M., & Mazman Akar, G. (2016). Cloud computing and educational Google applications in learning. In *Seeking Innovation and Quality in Educational Sciences* (pp. 1183–1198). Pegem Index.

Alanoğlu, M., & Doğan Atalan, B. (2021). COVID-19 period from the teacher's perspective: A case study on students' independent research and self-regulation skills. *Dicle University Journal of Education Faculty*, *39*, 34–47.

Altın, H. M. (2014). *Investigation of the FATİH Project based on the perceptions of students, teachers, school administrators, and parents* [Unpublished master's thesis]. Başkent University.

Arslan, E. (2019). *Middle school teachers' and students' opinions about the Educational Informatics Network (EBA) platform: The case of Hatay province* [Unpublished master's thesis]. Çukurova University.

Atalay, M. (2019). *Investigation of the Educational Informatics Network (EBA) in secondary schools* [Unpublished master's thesis]. Necmettin Erbakan University.

Atasoy, M., & Nayır, Ö. Y. (2019). Students' opinions regarding the use of Educational Informatics Network (EBA) video modules in math courses. *International Journal of Science and Education*, *2*(1), 24–37.

Aydın, M. (2016). *Investigating the outputs of MOOC implementation in terms of faculty members and institutions* [Unpublished master's thesis]. Karadeniz Technical University.

Bahçeci, F., & Efe, B. (2018). Evaluation of high school students' opinions on the Educational Informatics Network (EBA) site. *Journal of Theoretical Educational Science*, *11*(4), 676–692.

Bakırcı, H., & Kılıç, K. (2021). Investigation of eighth-grade students' opinions on the use of Educational Informatics Network (EBA) video modules in science courses. *YYU Journal of Education Faculty*, *18*(1).

Ballıel Ünal, B., & Hastürk, G. (2018). The effect of using the Educational Informatics Network (EBA) in science courses on middle school students' academic success in the circulatory system. *International Journal of Humanities and Education*, *4*(7), 327–342. https://dergipark.org.tr/en/pub/ijhe/issue/36883/404805

Bayar, M. F., Kurt, M., & Haşsıloğlu, M. A. (2018). Science and technology course in the Educational Informatics Network: A review of videos. *Universal Journal of Educational Research*, 6(3), 413–420.

Becit İşçitürk, G., & Turan, E. Z. (2018). Attitudes of Religious Culture and Ethics teachers toward the Educational Informatics Network (EBA). *Electronic Turkish Studies*, *13*(29). https://doi.org/10.34085/buifd.1012322

Bikmaz Bilgen, O., & Doğan, N. (2017). The comparison of interrater reliability estimating techniques. *Journal of Measurement and Evaluation in Education and Psychology (EPOD)*, *8*(1).

Bingimlas, K. A. (2009). Barriers to the successful integration of ICT in teaching and learning environments: A review of the literature. *Eurasia Journal of Mathematics, Science and Technology Education*, *5*(3), 235–245.

Booth, A. (2013). NSW DEC: Scootle is here. *Scan: The Journal for Educators*, *32*(4), 6–9.

Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, *9*(2), 27–40.

Buluş Kırıkkaya, E., & Yıldırım, İ. (2019). What do science teachers think about educational portals? *Journal of International Scientific Research*, *4*(2), 222–235. https://doi.org/10.21733/ibad.531997

Can, E., & Günbayı, İ. (2021). Opinions of primary school administrators and teachers on the distance education application conducted via the Educational Informatics Network (EBA) during the COVID-19 pandemic. *Asya Studies*, *5*(16), 279–303. https://doi.org/10.31455/asya.885885

Ceylan, H. (2019). *Science teachers' views on the use of the Educational Informatics Network (EBA) in teaching* [Unpublished master's thesis]. Trakya University.

Çakmak, Z., & Taşkıran, C. (2017). Social studies teachers' perspectives on the Educational Informatics Network (EBA) platform. *International Journal of Turkish Education Sciences*, *5*(9), 284–295.

Çiftçi, B., & Aydın, A. (2020). Science teachers' views on the Educational Informatics Network (EBA) platform. *Journal of Turkish Chemical Society Section C: Chemistry Education*, *5*(2), 111–130. https://doi.org/10.37995/jotcsc.765647

Coşkunserçe, O., & İşçitürk, G. B. (2019). A case study on increasing students' awareness about the Educational Informatics Network (EBA) platform. *Journal of Qualitative Research in Education*, *7*(1), 260–276.

Dart, S. (2020, December). Khan-style video engagement in undergraduate engineering: Influence of video duration, content type, and course. In *Proceedings of the 31st Annual Conference of the Australasian Association for Engineering Education (AAEE 2020)*. Engineers Australia.

Demir, M. K., & Açar, S. (2010). Classroom teachers' perspectives toward inclusive education. *Gazi University Journal of Gazi Faculty of Education*, *30*(3), 749–770. https://dergipark.org.tr/en/pub/gefad/issue/6740/90608

Erbay, A. (2018). *Examination of EBA English content provided as part of the FATİH Project in terms of secondary school English curriculum* [Unpublished master's thesis]. Erciyes University.

Erman, E. (2021). *Evaluation of history course electronic content prepared for distance education from the perspectives of history teachers and high school students: The case of the Educational Informatics Network (EBA)* [Unpublished doctoral dissertation]. Gazi University.

ESCAP-UN. (2021). *Combating COVID-19 with ICT: Effective practices and policies in the Asia-Pacific region*. Retrieved May 20, 2022, from https://repository.unescap.org/handle/20.500.12870/4516

Ezer, F., & Aksüt, S. (2021). Opinions of social studies teachers on using the Educational Informatics Network (EBA) platform in social studies courses during the COVID-19 process. *İnönü University Journal of the Faculty of Education*, *22*(1), 197–233. https://doi.org/10.17679/inuefd.771367

Forster, N. S. (2006). The analysis of company documentation. In J. P. Scott (Ed.), *Documentary research* (pp. 83–106). SAGE.

Geçer, K., & Zengin, R. (2021). The purpose of using the Educational Informatics Network (EBA) and the opinions of science teachers and secondary school administrators: The case of Bitlis province. *Journal of Social Sciences Institute*, *9*(2), 281–301. https://dergipark.org.tr/en/pub/susbid/issue/66311/952648

Gençoğlu, C., & Çiftçi, M. (2020). Education during the COVID-19 pandemic: An analysis of Turkey. *Journal of History School*, *46*, 1648–1673.

Gömleksiz, M. N., & Koç Deniz, H. (2019). Mathematics teachers' views on the Educational Informatics Network (EBA) course website. *Turkish Studies - Information Technologies and Applied Sciences*, *14*(3), 431–446. http://dx.doi.org/10.29228/TurkishStudies.23516

Gürsoy, G., & Yapıcı, B. (2021). The effect of the Educational Informatics Network (EBA) on students' science achievement. *Anatolian Journal of Turkish Education*, *3*(1), 60–87. https://anadoluturkegitim.com/index.php/ated/article/view/32

Hayes, A. F., & Krippendorff, K. (2007). Answering the call for a standard reliability measure for coding data. *Communication Methods and Measures*, *1*(1), 77–89. https://doi.org/10.1080/19312450709336664

Higgins, J., Moeed, A., & Eden, R. (2018). Video as a mediating artefact of science learning: Cogenerated views of what helps students learn from watching video. *Asia-Pacific Science Education*, *4*. https://doi.org/10.1186/s41029-018-0022-7

İlbilge, İ., Sakarya, G., & Zahal, O. (2021). Teachers' opinions about music lessons conducted on the EBA platform during the COVID-19 pandemic. *Eurasian Journal of Music and Dance*, *18*, 232–253. https://doi.org/10.31722/ejmd.960092

İskender, H. (2016). Conformity of 7th-grade Turkish course videos on the Educational Informatics Network with the Turkish curriculum (6th, 7th, and 8th grades). *Journal of Adıyaman University Graduate School of Social Sciences*, *24*, 1042–1068.

Kalemkuş, F. (2016). *Opinions of secondary education teachers and students about the Educational Informatics Network (EBA)* [Unpublished master's thesis]. Afyon Kocatepe University.

Kapıdere, M., & Çetinkaya, H. N. (2017). Evaluation of the mobile application of the Educational Informatics Network (EBA). *International Journal of Active Learning*, *2*(2), 1–1.

Karatekin, K., Elvan, Ö., & Öztürk, D. (2015). Social studies and classroom teachers' opinions about the FATİH Project. *International Journal of Eurasian Social Sciences*, *6*(18), 81–114.

Kendirli, H. (2017). *The effect of EBA-supported science course applications on seventh-grade students' interest in science* [Unpublished master's thesis]. Niğde Ömer Halisdemir University.

Keskin Geçer, A. (2020). The effect of using the Educational Informatics Network (EBA) in secondary science courses on students' solar system and eclipses success test results. *Journal of Social Sciences Institute*, *8*(15), 117–129. https://dergipark.org.tr/en/pub/susbid/issue/54983/712770

Keskin Yorgancı, F. (2019). *Middle school mathematics teachers' levels of utilization of the Educational Informatics Network (EBA) project and their opinions about the project* [Unpublished master's thesis]. Van Yüzüncü Yıl University.

Kılıç Koçak, P. (2019). *Evaluation of electronic content of biology courses in the Ministry of National Education's Educational Informatics Network (EBA)* [Unpublished master's thesis]. Hacettepe University.

Kırlı, M. (2023). *Evaluation of classroom teachers' opinions about the Educational Informatics Network (EBA): The case of Ankara province* [Unpublished master's thesis]. Gazi University.

Kırıcı, M. G., Artun, H., & Bakırcı, H. (2018). The influence of Educational Informatics Network (EBA)-aided teaching on learning the concepts of "measurement of force and friction." *Electronic Turkish Studies*, *13*(3).

Khan Academy. (2022). *About us*. Retrieved September 12, 2023, from http://www.khanacademy.org.tr

Korkmaz, Ö., & Kadirhan, M. (2020). The effects of learning blended with EBA content on students' academic achievement and attitudes toward science courses. *Trakya Journal of Education*, *10*(1), 64–75. https://doi.org/10.24315/tred.529721

Krippendorff, K. (2011). *Computing Krippendorff's alpha-reliability*. Retrieved from https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=de8e2c7b7992028cf035f8d907635de871ed627d

Kuloğlu, M. E. (2018). *Analyzing the usage of the Educational Informatics Network (EBA) by English language teachers* [Unpublished master's thesis]. Gaziantep University.

Kurtdede Fidan, N., Erbasan, Ö., & Kolsuz, S. (2016). Views of classroom teachers about the use of the Educational Informatics Network (EBA). *Journal of International Social Research*, *9*(45).

Kuyurtar, D. (2021). *Investigation of Educational Informatics Network (EBA) quality standards in the distance education process according to the views of teachers at different career stages* [Unpublished master's thesis]. Marmara University.

Maden, S., & Önal, A. (2020). Evaluation of documents related to the Turkish course in the Educational Informatics Network (EBA) content module. *Educational Technology Theory and Practice*, *10*(1), 25–50.

MEB. (2011). *What are EBA modules and their purposes?* Retrieved September 28, 2022, from https://mebbis.oidb.net/node/138

MEB. (2018). *Science curriculum* (Primary and middle school 3rd, 4th, 5th, 6th, 7th, and 8th grades). Ankara.

MEB. (2019). *Renewed EBA in use*. Retrieved October 3, 2022, from https://www.meb.gov.tr/yenilenen-eba-kullanimda/haber/19289/tr

MEB. (2020a). *Information on satellite frequencies and broadcasting platforms for distance education*. Retrieved October 3, 2022, from https://www.meb.gov.tr/uzaktan-egitim-icin-uydu-frekans-ve-yayin-platformlari-bilgileri/haber/20565/tr

MEB. (2020b). *Education starts with EBA live classroom*. Retrieved September 11, 2022, from https://www.meb.gov.tr/ebada-canli-sinifla-egitim-basliyor/haber/20602/tr

MEB. (2020c). *Turkey is one of the two countries providing distance education on a national scale during the coronavirus outbreak*. Retrieved from https://www.meb.gov.tr/turkiye-koronavirus-salgininda-ulusal-capta-uzaktan-egitim-veren-2-ulkeden-biri/haber/20618/tr

Moore, M. G. (1973). Toward a theory of independent learning and teaching. *Journal of Higher Education*, *44*, 661–679. https://doi.org/10.1080/00221546.1973.11776906

Oğuztekin, E., Bektaş, O., Karaca, M., & Metin, M. (2022). Secondary school students' views on the Educational Informatics Network (EBA). *İnönü University Journal of the Faculty of Education*, *23*(1), 433–459. https://doi.org/10.17679/inuefd.985561

Ozan, Ö. (2015). Educational video development for e-learning. *Journal of Open Education Applications and Research*, *1*(4), 59–80.

Pala, F. K., Arslan, H., & Özdinç, F. (2017). Investigating the usability of the Educational Informatics Network (EBA) website through eye-tracking and authentic tasks. *Ihlara Journal of Educational Research*, *2*(1), 24–38.

Searson, M., Laferriere, T., & Nikolow, R. (2011). *Barriers to successful implementation of technology integration in educational settings*. Paper presented at EduSummIT, Paris. Retrieved from http://edusummit.nl/res2011/calltoaction2011/briefpapers2011

Seferoğlu, S. S. (2006). *Instructional technologies and material design*. PegemA Publishing.

Saklan, H., & Ünal, C. (2018). Technology-friendly science teachers' views on the Educational Informatics Network (EBA). *Necatibey Faculty of Education Electronic Journal of Science and Mathematics Education (EFMED)*, *12*(1), 493–526.

Sarıkaya, D., & Aydın, A. (2021). The effect of Educational Informatics Network (EBA) and experiment-supported activities on teaching the 7th-grade electrical circuits unit. *Journal of Science Teaching*, *9*(2), 265–310.

Sönmez, M., Yıldırım, K., & Çetinkaya, F. Ç. (2020). Evaluation of the distance education process due to the new coronavirus (SARS-CoV-2) pandemic from the perspectives of elementary school classroom teachers. *Electronic Turkish Studies*, *15*(6).

Şahin, M., & Erman, E. (2019). Evaluation of history teachers' opinions on the use of the Educational Informatics Network (EBA). *Mehmet Akif Ersoy University Journal of Faculty of Education*, *49*, 256–275.

Tabak, C., & Boz, Ü. (2021). Opinions of secondary school music teachers on the use of the Educational Informatics Network (EBA): The case of Şanlıurfa. *Atlas Journal*, *7*(45), 2253–2264.

Taş, A. (2022). *The effect of secondary school students' EBA class group sharings on academic success in science, educational social network use self-efficacy, and opinions about EBA* [Unpublished master's thesis]. Alanya Alaaddin Keykubat University.

Trucano, M. (2017). *20 innovative edtech projects from around the world*. Retrieved July 8, 2021, from http://blogs.worldbank.org/edutech/20-innovative-edtech-projects-around-world

Tutar, M. (2015). *Evaluation of teachers' perceptions toward the Educational Informatics Network (EBA) site* [Unpublished master's thesis]. Karadeniz Technical University.

Türker, A., & Dündar, E. (2020). The opinions of high school teachers on distance education conducted through the Educational Informatics Network (EBA) during the COVID-19 pandemic. *Journal of National Education*, *49*(1), 323–342.

Tüysüz, C., & Çümen, V. (2016). Secondary school students' opinions on the EBA course website. *Uşak University Journal of Social Sciences*, *9*(27/3), 278–296.

Ünal, C., & Saklan, H. (2019). Science teachers' opinions on the status of EBA among digital education platforms. *Ondokuz Mayıs University Journal of Education Faculty*, *38*(1), 19–34.

Yassine, S., Kadry, S., & Sicilia, M. A. (2020). Statistical profiles of users' interactions with videos in large repositories: Mining of Khan Academy repository. *KSII Transactions on Internet & Information Systems*, *14*(5).

YEĞİTEK. (2016). *New EBA in use*. Retrieved October 3, 2022, from https://yegitek.meb.gov.tr/www/yeni-eba-yayinda/icerik/859

YEĞİTEK. (2019). *New EBA in use*. Retrieved October 3, 2022, from https://yegitek.meb.gov.tr/www/yeni-eba-yayinda/icerik/2830

Yeşilyurt, S. (2019). *Social studies teachers' views on the use of the Educational Informatics Network (EBA)* [Master's thesis]. İnönü University.