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Research Paper

Examining the Usability of e-Content in Different Forms for Increasing Digital Parenting Competencies

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ABSTRACT

A usability test during the development of learning material can reduce many usability problems. Furthermore, this can increase the quality and efficiency of the material. Therefore, the purpose of this study is to evaluate the usability of e-contents developed to increase parents' digital parenting competencies and awareness. In this study, a usability test was created for online content. Materials for video and visual aided written material usability were designed and used for this study, including an online content usability questionnaire. Field experts' opinions were taken, and usability tests were conducted with real users. Alexander (2013) developed these usability tests and adapted into Turkish by Pekyürek and Yıldız-Durak (2021). This study follows usability principles to determine the usability of various online videos and visually supported materials to increase parents' digital parenting competencies and awareness. Usability test results were revealed through descriptive statistics. This research helps parents better understand the possibilities, potentials, and limitations in designing educational online content on digital parenting. On the other hand, this usability test has the potential to detect the usability of educational videos in different fields.

INTRODUCTION

Since the 1980s, the technology change has accelerated, and the field of information and communication technologies (ICT) has been affected by this change (Vural, 2013). According to the data obtained at the beginning of 2022, mobile devices, which are among the ICT, have reached 5.31 billion individuals, and the Internet has reached 4.95 billion individuals (We Are Social, 2022). Considering these data, mobile devices and Internet usage are essential in ICT.

The field of education has been affected by the changes in technology, especially mobile devices and the Internet, which have been used in the learning process (Krull & Duart, 2017). This change in the learning process has expanded the production and use of content that can be used on the Internet to increase knowledge and skills (Drexler et al., 2008; Greenhow et al., 2009; Grosseck, 2009). In addition, content supported by multimedia elements such as video, sound, and graphics contributes positively to the learning process (Frazel, 2010; Robin, 2008). Among the e-content types that have started to be used, there are explanatory videos, digital stories, e-books, infographics, and learning content can be presented on the Internet with these content types (Gedik, 2021; Korat & Shamir, 2007; Sarıtepeci & Durak, 2016). While explanatory videos and digital stories are used as video-based e-content types, e-books and infographics are used as visually supporting written materials. Among these learning contents, explanatory videos offer educational content aimed at gaining new skills for its audience, with audio and video support. In addition, animated videos used to make complex subjects easier to understand are also included in this genre (Gedik, 2021). The different aspect of digital stories from explanatory videos is that they consist of stories produced in digital environments, supported by multimedia such as pictures, music, and graphics within the framework of a particular scenario (Sarıtepeci & Durak, 2016; Sarıtepeci, 2022; Yıldız-Durak, 2018). E-books are e-contents published digitally created from text, pictures, or both by using information technologies. These contents are presented in book format (Korat & Shamir, 2007). Unlike e-books, infographics are the contents in which the primary information is concentrated and visualized for the reader. In other words, it is an effective graphical data transfer method in which the information is simply presented to the reader by purifying it from its complexity (Schroeder, 2004).

E-content development consists of analysis, design, development, implementation, and evaluation processes (Muruganantham, 2015). After the prepared e-content for a purpose is produced and presented to the end-user, examining the effect on the individuals benefiting from this content is included in the evaluation of the product. In this process, the concept of usability comes into play. Usability is the study of how useful the resulting e-content is, and this process also guides developers who want to introduce new products (Lewis, 2006). Nielsen (1993) stated that usability consists of five interrelated features and these features are (a) learnability, (b) efficiency of use, (c) memorability, (d) few and non-catastrophic errors, and (e) subjective satisfaction. In addition,

the International Organization for Standardization (ISO) (1998) standards include effectiveness, efficiency, and satisfaction factors as usability factors. In ISO standards, effectiveness is defined as the situations in which users perform the given tasks correctly. Efficiency, on the other hand, is expressed as the degree of effort of users while performing tasks. Lastly, satisfaction is emphasized as the feelings and thoughts of users about the application they use. These factors must be taken into account for the product to undergo a valid evaluation process. When we look at usability studies, the interaction of information systems with people is generally examined and there are not many studies examining the e-contents in these systems (Freire et al., 2012; Sancar-Tokmak et al., 2020).

Parents need to learn about certain basic topics in order to gain digital parenting competencies. It is seen that the dimensions of digital citizenship are taken as a basis in order to determine this basic subject and information. Therefore, raising awareness of parents on the definition of digital parenting, digital ethics, digital communication, digital literacy, digital commerce, digital security, digital law, and digital health will enable them to gain digital parenting competencies (Yaman et al., 2019). Individuals who can follow the developments in the digital environment, master the risks and advantages in the digital environment and guide their children against them are expressed as individuals with digital parenting competencies (Yurdakul et al., 2013). There are different studies in the literature in which e-content is used to improve the digital competencies of parents. Clarkson and Zierl (2018) developed the e-Parenting: High-Tech Kids Program to raise awareness of digital parenting. Jent et al. (2021) have created e-books as part of the Parent-Child Interaction Therapy program. Zhang-Kennedy et al. (2017) have designed an interactive educational e-book called Cyberheroes, which aims to introduce children to the concepts of online privacy at an early age. These developed applications are made available to parents in online environments. In all these studies, it has been concluded that e-contents positively affect the targeted digital competencies of parents. These results show the importance of e-contents in helping individuals acquire digital parenting competence. However, the latent purpose of each researcher is to present the valuable information contained in the e-contents they create to parents or their target audience clearly and understandably. At the same time, it is to present these contents in a remarkable, persistent, and memorable way without taking the user's time. In other words, the usability of the study e-contents is desired to be satisfactory. Therefore, it is necessary to work on the usability of the created e-content. For that reason, within the scope of this study, the usability of e-contents in different forms to increase parents' digital parenting competencies was investigated. The results obtained from this study, which investigates the usability of e-content developed by researchers, will ensure that effective e-contents are presented to researchers in the literature. In summary, this study aims to contribute to the development and evaluation processes of e-contents and to contribute to usability studies.

The purpose of the study

This study aimed to evaluate the usability of e-contents developed to increase parents' digital parenting competencies and awareness. Within the scope of this research, there is a search for this question answer "What is the usability level of the developed e-contents?".

METHOD

Research Model

Usability research was used in the study. The evaluation criteria determined by Alexander (2013) and adapted into Turkish by Pekyürek and Yıldız-Durak (2021) were used as a reference. For this study, e-contents were presented to the participants, and they were allowed to examine the e-contents completely without intervening by using their technological tools in an environment of their choice. Users were supported only when necessary. At the end of the whole process, usability tests were presented to the participants. In this study, the experiences of users who use e-contents for the first time while performing the given tasks were determined.

Participants of usability studies of developed e-contents

In this section, the participants of the usability studies of e-contents in the form of explanatory video, digital story, e-book, and infographic, for which sample images are presented, are mentioned.

Participants of video usability studies

Video usability studies of the developed explanatory videos and digital stories were carried out with 12 parents with different socio-demographic characteristics whose children are studying at K-12 secondary school (5th, 6th, 7th and 8th grade). The distribution by gender of the participants in the first group, who watched e-contents in explanatory video or digital story types, is given in Table 1.

Table 1. Distribution of the participants who watched the video by gender

Gender	n	%
Female	6	50
Male	6	50
Total	12	100

According to Table 1, 6 of the parents participating in the study were female, and 6 were male. The rate of female parents participating in the study is 50%, and the rate of male parents is 50%. The age distribution of participants who watched e-contents in explanatory video or digital story types is given in Table 2.

Table 2. Distribution of the participants who watched the video by age

Age range	n	%
35-44	8	66.67
45-54	3	25
55 and above	1	8.33
Total	12	100

According to Table 2, 8 of the parents participating in the study are between the ages of 35-44, 3 are between the ages of 45-54, and 1 is 55 and over. Among the parents who participated in the study, the rate of those aged 35-44 was 66.67%, the rate of those aged 45-54 was 25%, and the rate of those aged 55 and over was 8.33%. The distribution by gender of the children of the participants, who watched e-contents in explanatory video or digital story types, is given in Table 3.

Table 3. Distribution of the children of the participants who watched the video by gender

Gender	n	%
Girl	9	75
Boy	3	25
Total	12	100

According to Table 4, 9 of the children of the parents participating in the study were girls, and 3 were boys. Among the children of the parents participating in the study, the rate of girls is 75%, and the rate of boys is 25%. The distribution of the children of the participants who watched e-contents in the types of explanatory videos or digital stories according to their grades is given in Table 4.

Table 4. The distribution of the grade levels of the children of the participants who watched the video

Grade	n	%
5th grade	3	25
6th grade	2	16.67
7th grade	2	16.67
8th grade	5	41.67
Total	12	100

According to Table 4, 3 of the children of the parents participating in the study are 5th-grade students, 2 of them are 6th-grade students, 2 of them are 7th-grade students, and 5 of them are 8th-grade students. Among the children of the parents in the study, the rate of those studying in the 5th grade is 25%, the rate of those studying in the 6th grade is 16.67, the rate of those studying in the 7th grade is 16.67%, and the rate of those studying in the 8th grade is 41.67%. The distribution of the participants who watched e-contents in explanatory video or digital story types according to their educational status is given in Table 5.

Table 5. Distribution of the participants who watched the video according to their educational status

Educational level	N	%
Primary school	1	8.33
Secondary School	1	8.33
High school	3	25
Undergraduate	6	50
Postgraduate	1	8.33
Total	12	100

According to Table 5, one of the participating parents is a primary school graduate, one secondary school graduate, three high school graduates, six undergraduate, and one postgraduate. Among the parents participating in the study, the rate of primary school graduates is 8.33%, the rate of secondary school graduates is 8.33%, the rate of high school graduates is 25%, the rate of undergraduate is 50%, and the rate of the postgraduate is 8.33%. Table 6 shows the distribution of participants who were shown e-contents in explanatory video or digital story types according to their closeness to their children.

Table 6. Distribution of the participants who watched the video according to their degree of affinity to children

Affinity	N	%
Mother	6	50
Father	6	50
Total	12	100

According to Table 6, 6 of the parents in the study are the child's mother and 6 are the child's father. The rate of mothers who participated in the study is 50%, and the rate of fathers is 50%.

E-Book and Infographic Usability Studies Participants

Participants in these studies are also individuals who are consulted for expert opinions on the same content. These participants are not only experts in their fields but also parents. Six parents participated in the e-book and infographic usability studies. Experts in the field of Computer and Instructional Technologies Education and one expert in the field of Lifelong Learning and Adult Education participated in the usability studies of e-contents in the types of e-books and infographics as parents.

Data collection tools

In this study, three data collection tools were used: Parent Information Form, Video Usability Test and Visual Assisted Written Material Usability Test.
Parent Information Form was prepared by the researcher. This form consists of 7 items: gender, age, educational status, gender of the child, the class in which the child was educated, affinity to the child, and the level of use of information technologies.

Video Usability Test is a Turkish usability test developed by Pekyürek and Yıldız-Durak (2021), using the test used in the study conducted by Alexander (2013), and was used in this study. The test consisted of 11 items. In this tool, 5-point Likert (5-Strongly Agree, ….1-Strongly Disagree) rating is used. Examples of questions included in this test are as follows:

- The content I watched was easy to watch
- The content I watched was catchy.
- The visuals in the content I watched were progressing simultaneously with the voice acting.
- In the content I watched, there were elements (image, animation, object, sound, etc.) that were not directly related to the subject.

Visual Assisted Written Material Usability Test is a Turkish usability test developed by Pekyürek and Yıldız-Durak (2021), utilizing the test used in the study conducted by Alexander (2013). The test consisted of 11 items. In this tool, 5-point Likert (5-Strongly Agree, ….1-Strongly Disagree) rating is used. Examples of questions included in this test are as follows:

- The content was easy to understand.
- The content contained useful information.
- The content contained distracting elements.

E-Content usability application

Usability studies of developed e-contents to increase digital parenting competencies were carried out. The application process of usability studies is shown in Figure 1.

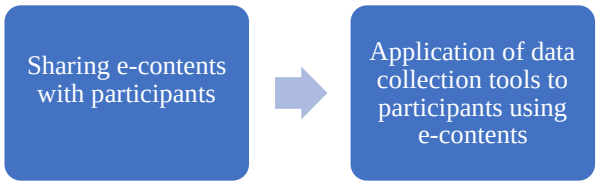


Figure 1. The usability implementation process of e-contents

As presented in Figure 1, e-contents in the form of explanatory videos, digital stories, e-books, and infographics developed to increase digital parenting competencies were shared with the participants using social media tools. They were asked to benefit from the shared e-contents, and usability tests were applied. In usability studies, the usability of explanatory video and digital story types in video format were investigated together. Again, in usability studies, the usability of e-contents in the form of e-books and infographics, which are in the format of visually supported written material, were investigated together.

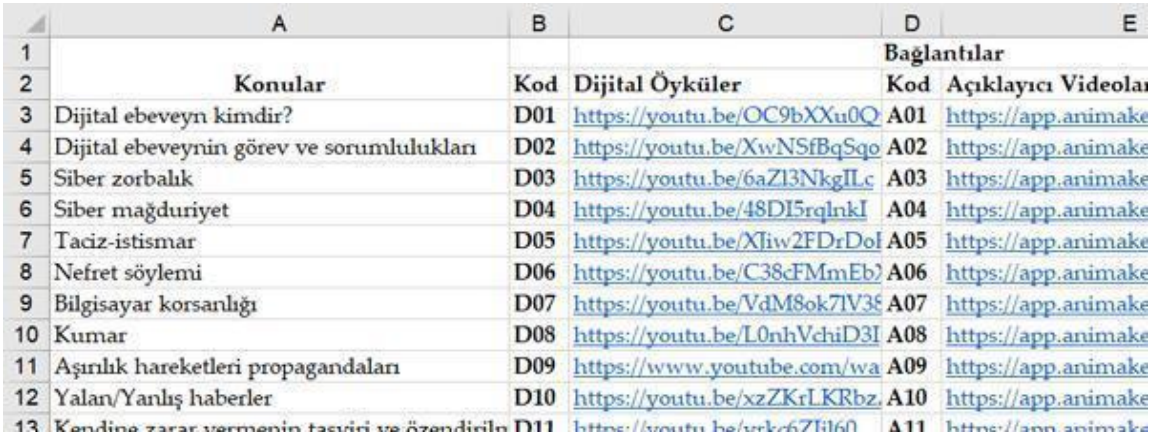
Studies before the implementation process of the usability of e-Content

Before moving on to the usability application process of e-contents, e-contents prepared to improve the competence and awareness of parents were uploaded to social media environments.

E-Content usability implementation process

A separate code number has been given to each of the contents prepared to improve the competence and awareness of parents uploaded to social media environments. Tables have been prepared by specifying the links that will enable access to the contents

next to the code numbers. A sample image from the table prepared for e-contents in explanatory video and digital story types is presented in Figure 2.



	A	B	C	D	E
1				Bağlantılar	
2	Konular	Kod	Dijital Öyküler	Kod	Açıklayıcı Videola
3	Dijital ebeveyn kimdir?	D01	https://youtu.be/OC9bXXu0Q	A01	https://app.animake
4	Dijital ebeveynin görev ve sorumlulukları	D02	https://youtu.be/XwNSfBqSqo	A02	https://app.animake
5	Siber zorbalık	D03	https://youtu.be/6aZI3NkgILc	A03	https://app.animake
6	Siber mağduriyet	D04	https://youtu.be/48DI5rqlnkI	A04	https://app.animake
7	Taciz-istismar	D05	https://youtu.be/XJiw2FDrDoI	A05	https://app.animake
8	Nefret söylemi	D06	https://youtu.be/C38cFMmEb2	A06	https://app.animake
9	Bilgisayar korsanlığı	D07	https://youtu.be/VdM8ok7lV3	A07	https://app.animake
10	Kumar	D08	https://youtu.be/L0nhVchiD3I	A08	https://app.animake
11	Aşırılık hareketleri propagandaları	D09	https://www.youtube.com/wa	A09	https://app.animake
12	Yalan/Yanlış haberler	D10	https://youtu.be/xzZKrLKRbz.	A10	https://app.animake
13	Kendine zarar vermenin tasviri ve özendirilm	D11	https://youtu.be/vrkc6ZjiJ60	A11	https://app.animake

Figure 2. File view of access links for e-contents in explanatory video and digital story types[a]

From the table shown in Figure 2, the participants were asked to watch using the explanatory video and digital story link they wanted. In addition, they noted which content they evaluated during the evaluation process by noting the code number next to the link of the content they watched. A sample image from the table prepared for e-contents in e-book and infographic types is presented in Figure 3.

	A	B	
1	Kod	E-Kitaplar	Bağlantısı
2	E1	Bilişim Suçları	https://drive.google.com/file/d/1j067
3	E2	Dijital Bağımlılık	https://drive.google.com/file/d/1hAky
4	E3	Gizlilik El Kitabı	https://drive.google.com/file/d/13Dm
5	E4	Hacker	https://drive.google.com/file/d/1JAU
6	E5	Hackerlik	https://drive.google.com/file/d/1wKY
7	E6	Sanal Dünyada Bağımlılık Davranışları	https://drive.google.com/file/d/1M2fZ
8	E7	Siber Tehditler	https://drive.google.com/file/d/10V8H
9	E8	Siber Zorbalık	https://drive.google.com/file/d/1AMjf
10	E9	Türkiye'de Bilişim Hukuku	https://drive.google.com/file/d/1gWA
11			
12	Kod	Infografikler	
13	I1	Dijital Ebeveynlik	https://drive.google.com/file/d/1Gen
14	I2	Çevrim-içi riskler	https://drive.google.com/file/d/1k19x
15	I3	DijitalEtik	https://drive.google.com/file/d/1dJbu
16	I4	Dijital Güvenlik	https://drive.google.com/file/d/1-SN
17	I5	Dijital Hukuk	https://drive.google.com/file/d/1ZOfj
18	I6	Dijital İletişim Araçları	https://drive.google.com/file/d/1-lAh-
19	I7	Sosyal Medya Ortamları	https://drive.google.com/file/d/1el7q
20	I8	Dijital Vatandaşlık	https://drive.google.com/file/d/1oRp
21	I9	Dijital Vatandaşlık Boyutları	https://drive.google.com/file/d/1lYR5
22	I10	Dijital Dünyada Fiziksel ve Psiolojik Sağlık	https://drive.google.com/file/d/1ARq
23	I11	Dijital Sağlık	https://drive.google.com/file/d/1hiOF
24	I12	Dijital Ticaret	https://drive.google.com/file/d/1Mdfl

Figure 3. Access links of e-contents in e-book and infographic types, file images

Participants were enabled to benefit from the table shown in Figure 4 by using the e-book and infographic link they wanted. In addition, they were asked to indicate which content they evaluated during the evaluation process by noting the code number next to the link of the content they benefited from.

Collection and analysis of usability data of developed e-contents

Data collection tools were applied to the participants in an online environment. Quantitative and qualitative data were collected within the scope of the research. Quantitative data were obtained by applying the "Video Usability Test" for the usability of e-contents in the types of explanatory videos and digital stories and the "Visual Supported Written Material Usability Test" for the

[a] Source: Web: http://ebeveyn.erbakan.edu.tr/uygulama.html
Android App: https://play.google.com/store/apps/details?id=com.dijital.ebeveynlik
IOS App:https://apps.apple.com/tr/app/dijital-ebeveynlik/id1613705846?l=tr

usability of e-contents in the type of e-books and infographics. Qualitative data were collected using open-ended questions included in usability tests. Descriptive analysis of quantitative data (arithmetic mean and standard deviation) was performed using the SPSS 22 program.

FINDINGS

The research problem is "What is the usability level of the e-contents to be developed?". In the study carried out for this problem, four different types of e-content were used. These e-content types are explainer videos, digital stories, e-books, and infographics. Within the scope of the study, two different usability tests, Video Usability Test and Visual Assisted Written Material Usability Test, were used.

E-contents in the types of explainer videos and digital stories are in video format. For this reason, the Video Usability Test was applied to these two types of e-content. During this application, the participants watched by choosing either of these two types of content. Participants, who watched e-content in video format, evaluated these two different types together. Visual Assisted Written Material Usability Test was applied for e-contents in the type of e-books and infographics. The participants, who benefited from e-contents in the e-book type and e-contents in the infographic type, evaluated these two different types separately.

Three separate usability data were obtained: (i) data obtained from e-contents in video type, (ii) data obtained from e-contents in e-book type, and (iii) data obtained from e-contents in infographic type. A descriptive analysis of the obtained data was carried out. The findings obtained as a result of descriptive analyzes are presented as percentages. The statistical representation of the usability data obtained from the e-contents in the developed explanatory video and digital story types is presented in Table 7.

Table 7. Video usability statistics

Video Usability Scale Items	% 1	% 2	% 3	% 4	% 5
The content I watched was easy to watch.	0	0	14.3	7.1	78.6
The content I watched was easy to understand.	0	0	14.3	0	85.7
Watching the content I was watching was time-consuming.	35.7	28.6	14.3	14.3	7.1
The content I watched was catchy.	0	0	24.4	14.3	64.3
The content I watched contained useful information.	0	0	14.3	7.1	78.6
The duration of the content I watched was appropriate.	7.1	0	7.1	28.6	57.1
The audio and visuals in the content I watched were related to each other.	0	0	14.3	14.3	71.4
The visuals in the content I watched were progressing simultaneously with the voice acting.	0	0	21.4	7.1	71.4
The content I watched was remarkable.	0	7.1	14.3	28.6	50
In the content I watched, there were elements (image, animation, object, sound, etc.) that were not directly related to the subject.	71.4	7.1	7.1	0	14.3
There were distractions in the content I watched.	71.4	7.1	0	0	21.4

According to Table 7, the parents who participated in the research rated the expression "The content I watched was easy to watch" with 3 for 14.3%, 4 for 7.1%, and 5 for 78.6% for e-content in video format. Parents rated the content I watched as easy to understand with 14.3% as 3 and 85.7% with 5 points. Parents rated the phrase "Watching the content I watched was time-consuming" with 35.7% as 1, 26.8% with 2, 14.3% with 3, 14.3% with 4, and 7.1% with 5. Parents rated the phrase "The content I watched was catchy" with 24.4% as 3, 14.3% with 4, and 64.3% with 5 points. Parents rated the content that "I watched contained useful information" with 14.3% as 3, 7.1% with 4, and 78.6% with 5 points. Parents rated the expression "The duration of the content I watched was appropriate" with 7.1% as 1, 7.1% with 3, 28.6% with 4, and 57.1% with 5. Parents rated the phrase "The voiceovers and visuals in the content I watched were related to each other" as 3, 14.3%, and 71.4% as 5, respectively. Parents rated the expression "The visuals in the content I watched were progressing simultaneously with the voiceover" with 21.4% as 3, 7.1% with 4, and 71.4% with 5 points. Parents rated the statement "The content I watched was remarkable" with 7.1% as 2, 14.3% with 3, 28.6% with 4, and 50% with 5. Parents rated the expression "There were elements (picture, animation, object, sound, etc.) that are not directly related to the subject in the content I watched" with 71.4% as 1, 7.1% with 2, 7.1% with 3, and 14.3% with 5. Parents

rated the expression “There were distractions in the content I watched” with 71.4% as 1, 7.1% with 2, and 21.4% with 5. The statistical representation of usability data obtained from e-contents in the e-book type of this problem is presented in Table 8.

Table 8. E-book usability statistics

E-book Usability Scale Items	**% 1**	**% 2**	**% 3**	**% 4**	**% 5**
The content was easy to understand.	0	0	16.67	50	33.33
The content was catchy.	0	0	33.33	33.33	33.33
The content contained useful information.	0	0	0	50	50
The content was remarkable.	0	0	0	66.67	33.33
The content contained elements (pictures, etc.) that were not directly related to the subject.	66.67	16.67	0	16.67	0
There were distractions in the content.	83.33	0	0	0	16.67

According to Table 8, the parents who participated in the research rated the phrase “The content was easy to understand for e-book type e-contents” with three for 16.67%, four for 50%, and five for 33.33%. Parents rated the content as catchy as 33.33%, four by 33.33%, and five by 33.33%. Parents rated the phrase “The content contained useful information” with scores of four by 50% and five by 50%. Parents rated the content as “remarkable” with a score of 4 by 66.67% and a five by 33.33%. Parents rated the content as “catchy” as 1 for 66.67%, 2 for 16.67%, and 4 for 16.67%. Parents rated the content as catchy, with 1 for 83.33% and 5 for 16.67%. The statistical representation of the usability data obtained from the infographic-type e-contents of this problem is presented in Table 9.

Table 9. Infographic usability statistics

Infographic usability scale items	**% 1**	**% 2**	**% 3**	**% 4**	**% 5**
The content was easy to understand.	0	0	0	50	50
The content was catchy.	0	0	0	33.33	66.67
The content contained useful information.	0	0	0	50	50
The content was remarkable.	0	0	33.33	50	16.67
The content contained elements (pictures, etc.) that were not directly related to the subject.	66.67	16.67	0	0	16.67
There were distractions in the content.	66.67	0	16.67	16.67	0

According to Table 9, the parents who participated in the research rated the phrase "The content was easy to understand" for e-content in the infographic type with a rate of four for 50% and a score of five for 50%. Parents rated the content as catchy, with 33.33% as four and 66.67% as five points. Parents rated the phrase "The content contained useful information" with scores of 4 by 50% and five by 50%. Parents rated the content as remarkable as 33.33%, four by 50%, and five by 16.67%. Parents rated the phrase "There were elements in the content that are not directly related to the subject (pictures, etc.)" with one for 66.67%, two for 16.67%, and five for 16.67%. Parents rated "There were distractions in the content" with 1 for 66.67%, 3 for 16.67%, and 4 for 16.67%.

Within the scope of the research, the answer to the question "What are parents' experiences regarding e-contents?" has been researched. Regarding this, "What did you like most in the videos you watched? What were the points you didn't like?" questions were asked, and their opinions were sought. In this theme, the views on the popular aspects of the e-contents in the explanatory video and digital story types in video format are presented in Table 10.

Table 10. Favorite features of videos

Theme	Code	f
Favorite aspects of watching videos	Informative	12
	Understandable language	6
	Catchy	6
	Up-to-date information	3

When the views of the parents in Table 10 are examined, the aspects they like about the videos they watch are informative (f=12), using understandable language (f=6), catchy (f=6), and containing up-to-date information (f=3). Some of the parent comments are as follows:

(E10) "Very well prepared and their families very well informed."
(E26) "I found the videos very well-prepared tutorial."
(E40) "It answered all the questions we might encounter and it was a very educational and useful study. What I like the most is that instead of directing our children to the sites or games we want, it was very accurate that it would be more effective to spend time with them on the sites they want to be and to give warnings at that time."

This theme presents views on the disliked aspects of e-contents in video format explanatory video and digital story types in Table 11.

Table 11. Disliked features of videos

Theme	Code	f
The disliked aspects of the watched videos	The low number of voice actors	2
	Fluency needs improvement	2

When the views of the parents in Table 11 are examined, the aspects they dislike about the videos they watch are the low number of voice actors (f=2) and the need to improve fluency (f=2). Some of the parent comments are as follows:

E(21) "It was nice that it was in short chapters. Being more fluent and fast can attract more attention. In addition, the narrator's constant use of the phrase 'he said while conveying the dialogues reduces the interest."
E(38) "It was slow, I had to set the video speed to *1.75, but the animations were generally enjoyable. Although it is good that it is not long in terms of time, it has become too many in number. I also thought about what it would be like if there was a mutual communication between two people instead of "he said", "he said", "he said," in the voiceovers."

In line with the research on parental experiences, the participants were asked, "What did you like most about the documents you examined? What were the points you didn't like?" Parents' opinions were also asked by asking the question. In this theme, the views on the favorite aspects of e-contents in infographic and e-book types are presented in Table 12.

Table 12. Favorite features of documents

Theme	Code	f
Favorite aspects of the documents examined	Contribution to protecting our children	8
	Contains useful information	4
	Keeping the content up to date	4

When the views of parents in Table 12 are examined, they state their opinions about the documents they examined as contributing to the protection of our children (f=8), containing useful information (f=4), and being up-to-date (f=4). Some of the parent comments are as follows:

E(3) "As a parent, I liked that it made me realize that besides limiting internet use, it is also necessary to inform."
E(5) "The parts about how we should warn children about the use of digital media were very enlightening for us. There isn't a point we don't like."
E(22) "You have chosen the topics very well."

In this theme, views on the disliked aspects of e-contents in infographic and e-book types are presented in Table 13.

Table 13. Disliked features of documents

Theme	Code	f
Disadvantages of the examined documents	Selection of graphics	1
	Selection of texts	1

When the views of parents in Table 13 were examined, they indicated their opinions about the aspects they did not like about the documents they examined as the selection of graphics (f=1) and the selection of texts (f=1). One of the parent comments is as follows:

E(31) "Graphics and text could have been more professional."

In line with the research on parent experiences, the participants were asked, "What are your suggestions for improving the materials you have examined?" Parents' opinions were also asked by asking the question. In this theme, the views on the suggestions for all types of e-content are presented in Table 14.

Table 14. Suggestions for improving materials

Theme	Code	f
Aspects of the studied materials that need improvement	Continuation of the current	2
	Increasing the number of speakers	2

When the opinions of the parents in Table 4.17 are examined, they stated their opinions as to the continuation of their suggestions for improvement of the materials they examined (f=2) and increasing the number of voice actors (f=2). One of the parent comments is as follows:

E(40) "It might be good if the voiceovers are mutual communication."

CONCLUSION AND DISCUSSION

In this study, analyzes were made on the usability of the contents developed to improve the digital parenting of parents. The usability of the contents was evaluated in terms of ease of learning, pleasantness of the medium, usefulness of the medium, easy to use, and personal preference. Usability studies were conducted with 12 parents. Content in video type and content in written material type were evaluated using different measurement tools. When the usability of the video-type content is examined, it is concluded that the parents find the content primarily usable in terms of ease of understanding (%85,7) and the least in terms of attractiveness (%50) of the content. Nielsen (2000) argues that if the content on a web page is difficult to read, that page will not be used by people. In this context, the fact that the content of the video type is useful in terms of understanding will ensure the continuation of the desire of individuals to use these contents. Although the least usable part of the videos is remarkable, 9 out of 12 participants gave this item a score above the middle score of 3. In addition, the points by the participants to the item "It was time-consuming to watch the content I watched" show different distributions. Each content in the video type has been prepared in a way not exceeding three minutes. Taşdemir et al. (2004) highlighted that video watching should not exceed 10 minutes for each lesson hour (40 minutes) in video training. Based on this idea, each video can be considered a lesson as they deal with different topics. Thus, since the video content does not exceed the maximum duration of 10 minutes, it can be used in terms time-consuming. When qualitative data were examined, the participants received positive comments about the video content as it is informative, understandable language is used, catchy, and contains up-to-date information. It was determined that the participants expressed their opinions about the video content as the low number of voice actors and the lack of fluency. Although the low number of voice actors (f=2) is expressed as a negative opinion by the participants, the fact that half of the participants (f=6) say that fluent language is used brings the idea that the content will not pose a problem in terms of vocalization. In addition, it is possible to distinguish mutual conversations by using different intonations in vocalizations. Conversations are included in the content only in digital stories since there can be only one narrator of the story. Only one voice is included in this type. Explanatory videos do not contain any conversation, but again, such content is produced as a single narrator's voice. In addition, using the same voice has been the reason for preference since using different voices can distract the participants' attention. As a result, the usability of all video content is high in line with the ratings given by the users.

When the quantitative results for the infographic and e-book content were examined, it was seen that the features that the participants found the lowest usability in e-books were the intelligibility of the content (%33.33), the memorability of the content (%33.33), and the attention span (%33,33). These percentiles represent the lowest averages given to the five highest scores. Although this average seems low, the scores for these items are above the average score of three. Looking at the infographic content, the lowest usability feature is concluded that the content is remarkable. E-books contain more textual content, while infographics provide more summary information and support information with visuals. If a comparison is made between the two types, it is concluded that users find infographics more useful.

When the We Are Social (2022) report is examined, it is concluded that the most preferred e-content in Turkey is video content. In line with the statistics, it is concluded that people in our country prefer graphic-based content more than text-based content. In this respect, it is natural for statistics that e-books, text-based content, are less usable by users than infographics and videos, which are graphic-heavy. When the qualitative data on e-books and infographic contents are examined, it is liked in terms of contributing to the protection of children, having helpful content, and keeping the content up to date. The aspects that the users criticize regarding the arrangement of these contents were the direction of choosing graphics and texts more professionally. While creating the texts of the contents, the literature, the field experts, and the parents' opinions were used, and the content texts were created in this direction. The created texts were presented to expert opinions again, and the contents' development started at the end of the process. From this

point of view, the texts were produced by professionals. As a result, e-books and infographics are generally available to users, but the usability levels vary according to user preferences among the contents. As a result, it is concluded that in terms of ease of learning, pleasantness of the medium, usefulness of the medium, ease to use, and personal preference, the most usable content by the study group is video-based content. The second most usable content is infographics, and although the usability results are high, the least usable content is e-books compared to other content types.

Finally, when the suggestions of the participants for the development of the materials are examined, a continuation of the materials and the increase in the number of voice actors. Updating materials is of great importance to keep up to date with the developing technology in terms of offering different opportunities and bringing different measures. Materials should be used or developed with this recommendation in mind for future research.

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