Research Article

Journal of Innovative Research in Teacher Education, *4*(2), 263-281,
ISSN: 2757-6116
http://www.jirte.org
DOI: 10.29329/jirte.2023.572.6
Received: 22/06/2023
Revised: 23/08/2023
Accepted: 03/09/2023

Student, teacher and parent opinions on gamification components used in educational information network (EBA)*

Niyazi Aksoy[1], **Ertuğrul Usta**[2]

Abstract

The gamification approach, one of today's most effective teaching approaches, is also used in the information network (EIN-EBA) and many other platforms. The research was conducted to reveal the views of secondary school students, teachers, and parents on gamification components such as points, leadership boards, and digital crests used in the EBA platform. Within the scope of this study, in which quantitative research methods were used, a questionnaire was applied to 700 students, 700 parents, and 42 teachers from 3 secondary schools. In general, the perceptions of students, teachers, and parents about the score, leadership board, and digital crests used in EBA were positive. Points, leaderboards, and ranges increased student motivation, contributed to academic development, increased access to EBA, and added fun to the lesson. According to the results, students' views did not differ according to gender or school type. At the grade level, 8th-grade students differed. It has been observed that students at this level have a more negative attitude than those at other levels. No difference was found according to the age and income level of the parents. Still, a significant difference was found according to the parent's education level, especially between illiterate and undergraduate graduates. On the other hand, no difference was detected according to teacher gender, age, or professional seniority. Gamification components used in EBA increased students' motivation, made lessons fun, and increased academic success. The EBA platform can have a more systematic gamification setup by including mechanics and dynamics, which are other gamification elements, into the system.

Keywords: EBA, Gamification, Gamification Components

Cite: Aksoy, N. & Usta, E. (2023). Student, teacher and parent opinions on gamification components used in educational information network (EBA). *Journal of Innovative Research in Teacher Education, 4*(2), 263-281. https://doi.org/10.29329/jirte.2023.572.6

* This article was produced by the first author's master dissertation written by the first author under the supervision of the second author. The approval of the Ethics Committee for Social and Human Sciences Scientific Research of Necmettin Erbakan University (19/02/2021 Decision date and number: 02/2021/80) was obtained for the study.

[1] Corresponding author, Türkiye Ministry of National Education, niyaziaksoy1@gmail.com
[2] Necmettin Erbakan University, Department of Computer Education and Instructional Technology, Konya, ertugrulusta@gmail.com

INTRODUCTION

Although distance education studies have a history of three centuries, they have existed in Türkiye for about a hundred years. Today, with information and communication technologies, distance education has become one of the essential parts of education in our country, with the number of students reaching millions (Bozkurt, 2017). Distance education is an innovative system that eliminates time and space limitations on completely digital platforms, where the teacher and learner do not have to meet face-to-face (Kahraman, 2020). With the cheapening of the internet and increasing internet bandwidth and usage, the internet has become a suitable platform for distance education (Al & Madran, 2004). The opportunities offered to children who have problems accessing education due to economic and geographical limitations (Kumari, 2018, p. 1) and individual and social expectations that emphasize personal differences have made the concept of distance education dynamic (Weller et al., 2018, p. 109).

Distance Education

Today, dizzying developments in information and communication technologies lead educators to new learning and teaching forms, affecting the structure and content of education and making using "global education" applications a necessity. One of these applications is distance education, first introduced by letter in 1728 and continuing today as an internet platform (İşman, 2011). Distance education was discussed at the conceptual level until the 1960s in our country, and it was applied in secondary education in the 1970s, in higher education with the Open Education Faculty established within Anadolu University after 1980, and at the primary and secondary levels in the 1990s. In the 2000s, it became an integral part of our education system with the developments in information technologies (Bozkurt, 2017).

Online Learning Environments

Distance education differs from traditional education with kinds of features (Dere & Akkaya, 2022) because the internet and web-based environments first come to mind when discussing online learning environments today. Many educational institutions create online learning environments with various web software. Two essential components are needed in online learning environments to continue online learning activities: a learning management system and a virtual classroom (Polat, 2016). Learning Management System, Education, and Training It is an integrated system that enables content management, monitors learners and teachers, and individualizes learning and teaching processes (Ozan, 2008). In this process, students and teachers have used many online platforms that provide virtual classrooms where students can exchange instant messages and see lectures.

Educational Information Network (EBA)

The Educational Information Network (EBA) is a distance education platform. Students, teachers, and parents can use EBA wherever there is internet access. The Educational Informatics Network offers distance education opportunities for all levels, from preschool to university preparatory classes. The system provides a customized learning environment and interface, a student-specific calendar, support publications and resources, controlled games, one-stop access to all course content, repeating what is learned in the lessons at home, a question and exam bank, and teacher support (Educational Information Network [EBA], 2020). Students can participate in live classes, benefit from digital books, magazines, games, audio, and videos in the library, receive feedback on their course achievements, collect points and badges, and see their position in the class and school with the leaderboard.

Gamification

Gamification can be defined as transferring some structures used in games to non-game environments to attract users' attention and solve problems (Zichermann & Cunningham, 2011) and using aesthetics and game-thinking techniques to motivate users toward an action (Kapp, 2012). On the other hand, Lee and Hammer (2011) state that combining education and game elements can be like combining chocolate and peanut butter and that this beautiful flavor can be used to develop 21st-century skills,

motivate students to participate in lessons, and show them ways in which education can be enjoyable. Şahin and Samur (2017) reveal that the most common definition of gamification in the literature is "the use of game elements in non-game environments. For gamification to achieve the goals set for users, it must have a well-designed design process (Tunga & İnceoğlu, 2016). The gamification approach has been frequently used in education systems recently (Yıldırım & Demir, 2014) due to its fun and motivational features (Buckley & Doyle, 2016). Since game-based learning and gamification are two concepts often confused (Özkan & Samur, 2017), examining the design models in gamification applications is necessary. Many design models, such as the Octalysis Design Model, MDE Design Model, and Pyramidal Design Model, are frequently used in gamification applications. This research will use the Pyramidal Design Model developed by Werbach and Hunter (2012). Accordingly, the pyramidal model consists of dynamics, mechanics, and components.

Gamification in EBA

In distance education, it becomes difficult to motivate students who have to stay in front of the screen for a long time. For this reason, in distance learning, there is a need for approaches that will motivate the student, increase the student's commitment to education, and contribute to the successful completion of the learning process. One of these approaches is gamification (Topal, 2020). The most emphasized concepts in gamification are points, the leadership board, the crest, feedback, and rewards (Şahin & Samur, 2017). It is essential to use the gamification elements correctly in gamification design. Students' temperament, abilities, and expectations are also necessary (Eck, 2006; Hanus & Fox, 2015; Kim, 2015). Arkün-Kocadere and Samur (2016) state that gamification can be used in classrooms and on digital platforms. With an introduction made by the Ministry of National Education on February 10, 2020, it was stated that the gamification system and the application of points, crest, and leadership board were added to the renewed EBA, thus aiming to make learning more fun for students (Ministry of National Education [MoNE], 2020). This has been an essential step in terms of increasing the interaction between students in the system on distance education platforms, making them more interested in academic content (Abu-Dawood, 2016, p. 373), supporting students to take on their responsibilities (Kopcha et al., 2016, p. 63), ensuring students' participation in lessons, and increasing their motivation (Pilkington, 2018, p. 282).

Score in EBA

Every student who enters EBA receives points for their work. Various topics can be collected from many activities, such as logging in to the page, sending a message, watching a lesson video, making a study, commenting, and voting.

Digital Badge in EBA

Crests are used as positive feedback on digital platforms and to motivate participants (Şahin & Samur, 2017) and are used in EBA. Ahn, Pellicone, and Butler (2014) see crests as an evaluation and reflection tool that increases motivation and makes success visible. Students earn digital crests along with points for their activities in EBA. These badges consist of two categories: discovery and accumulation badges. Discover Crests are: welcome, your first exercise, your first favorite article, your first information entry, your first activity, your first message, your first lecture activity, your first homework, your first teacher opinion, your first vote, your first discussion, and your first test. The student who starts with "Discover Crests" then earns "Accumulation Crests" when they continue the activities continuously and complete the tasks. As updated, Accumulation Crests are active users, regular users, permanent users, writers, master writers, scribes, curious, researchers, explorers, thinkers, philosophers, wise, famous, phenomena, superstars, sharers, friendly, social, voters, sensitive, sensitive, guiding, participants, active participants, master participants, endeavoring, diligent, hardworking, question enthusiasts, question monsters, and geniuses.

Leadership Board in EBA

Students are placed on the leaderboard based on their earned points and badges. The leaderboard is located on the student's profile page. Each student can see their ranking in the leaderboard, created as a class and school ranking. They cannot see their other friends in the class. As the points received during the semester change, the class and school point rankings also change. The total score and ranking are fixed at the end of the term and year. The student can see the scores and rankings of the previous classes.

Literature Review

When the related literature is examined, it is seen that the first research on the EBA platform, which became operational in 2010, was conducted by Güvendi (2014) and aimed to determine the frequency of use by teachers. Gezer and Durdu (2020) examined 50 master's theses on EBA between 2012 and 2019 and conducted a systematic analysis. Accordingly, it was revealed that the research focused on specific branch courses and that a limited number of mixed-method studies examined the use of EBA by teachers and students in depth. Varışoğlu (2019) examined the attitudes towards EBA in terms of gender, age, education, and professional attitude, and it was stated that teacher perceptions were moderate and positive, and there was no significant difference between the variables. Kılıçel and Kılıç (2021) found the effect of gamification on the teaching process positive and stated that teachers are aware of the importance of gamification, but there are also limitations. Özdoğru (2021) draws attention to the findings that teachers enrich the lesson with interactive activities and benefit from gamification in the distance education process.

Bozkurt and Kumtepe (2014) tried to explain these concepts by addressing the concept of gamification, gamification elements, player types, theoretical infrastructure, and design process steps. In conclusion, it is stated that the gamification approach involves students in the learning process, increases their motivation, makes the lesson attractive and efficient, adds fun, and makes the process sustainable. The study conducted by Sümer (2017) on 295 students stated that gamification components such as points, a leadership board, and badges helped students complete assignments and increase participation in the lesson. Still, no effect was observed in terms of academic achievement.

Şireci (2021) examined teachers' attitudes towards EBA in terms of different variables. Accordingly, there was no significant difference in the branches of the teachers, but there was a significant difference according to the teachers' seniority. On the other hand, it was found that there was a positive relationship between teachers' participation in live lessons and their attitudes towards EBA. Keleş (2022) found that gamification components increased children's access to EBA and were considered necessary by children. Yıldırım et al. (2017) stated that digital badges positively affect student motivation, increase class participation, and increase academic achievement. Hebebci and Usta (2018) determined that teachers' opinions were positive and effective in gaining behavior, increasing motivation, and engaging students in the lesson. In addition, it was stated that it also brought negativities, such as creating competition, especially among students, and some problems due to infrastructure problems. Fotaris et al. (2016) found that the gamified learning approach is beneficial, motivating, and enriching for both students and teachers compared to the traditional learning approach. On the other hand, it was stated that gamification components such as points, crests, and leaderboards should be carefully evaluated as grades because they lead to competition and create addiction. According to Tılıç (2020), the gamification approach is one of the modern approaches that triggers the desire to learn, stimulates emotions such as discovery and curiosity, and helps in learning.

Özgür, Çuhadar, and Akgün (2018) reviewed the studies on gamification in national and international indexes between 2008 and 2017 and classified them thematically. It was determined that most of the samples consisted of undergraduate students, the core component of gamification was more prominent, and motivation theory was frequently preferred. It has been determined that the research on EBA in the literature continues with an increasing trend, and the number of master's theses on gamification is higher

in our country than in Sweden and the USA (Albayrak-Özer, 2022). The studies on gamification determined that mainly student and teacher attitudes were examined, the advantages and disadvantages of using EBA were revealed, student and teacher perceptions of various branch courses were shown, and the effects of students' academic achievement were investigated. Still, no study was conducted on the gamification components in EBA except Aksoy and Usta (2020). In the study by Aksoy and Usta (2020), student opinions on digital badges in EBA were examined, but the research was limited to students and digital badges. Other gamification components, such as points and leaderboards, were not included.

Purpose of the Study

This study was conducted to determine the opinions of students, teachers, and parents about the gamification components used in the EBA platform. Answers to the following questions were sought:

1) Do students' views on gamification differ according to grade level, gender, and school type?

2) Do teachers' views on gamification components in EBA differ according to branch, gender, and seniority?

3) Do parents' opinions differ according to their age, education level, and socio-economic status?

METHOD

Descriptive Survey Model, one of the quantitative research designs, was used in the study. Likert-type questionnaires were used to collect quantitative data.

Participants

The participants of this study consisted of 5th, 6th, 7th, and 8th-grade students who were enrolled in the 2020-2021 academic year in the Sapanca district of Sakarya province, their parents, and the subject teachers who taught these students. In this study, the table provided by Büyüköztürk and colleagues (2019) was used to calculate the sample sizes for students and parents. As a result, for a research population comprising 1815 students and 1815 parents, a sample of 700 students and 700 parents was reached for the quantitative part of the study. Additionally, opinions were collected from 42 teachers teaching different subjects in the same three secondary schools where the students and parents were selected.

Data Collection Tools and Techniques

The questionnaires of Başal, Aytan, and Elcan-Aytan (2019) and Mert (2017) were used as quantitative data collection tools. All questionnaires were Likert-type and consisted of three themes with eight questions, each with the subheadings score, badge, and leaderboard. Student, parent, and teacher questionnaires were designed in parallel.

Data Collection

In the research, internet-based platforms such as Google Forms were utilized as they enable the data to be collected quickly, the data collector does not affect the participants, and the data can be rapidly recorded in a digital environment (Büyüköztürk et al., 2019).

Analyzing the Data

The research data were analyzed with SPSS statistical software. The independent samples T-test was used to examine whether student opinions differed according to gender, and the one-way Analysis of Variance (ANOVA) was used to determine whether they varied according to grade level and school type. The independent samples T-test was applied to see whether teachers' opinions differed according to gender, and one-way Analysis of Variance (ANOVA) was applied to know whether they varied according to branch and years of professional seniority. One-way Analysis of Variance (ANOVA) was used to examine whether there was any variability according to the parents' age, educational level, and

socioeconomic status. The Tukey Test, one of the Post Hoc tests, was applied to determine the source of the significant difference in the results.

Ethical Considerations

The approval of the Ethics Committee for Social and Human Sciences Scientific Research of Necmettin Erbakan University (19/02/2021 Decision date and number: 02/2021/80) was obtained for the study.

FINDINGS

The detailed presentation of the students' overall opinions, as gathered from their responses to questions related to the "score" component in the questionnaire, can be found in Table 1.

Table 1. Questionnaire Items for Students' Score Perceptions

Survey Items	1		2		3		4		5			
	f	%	f	%	F	%	f	%	f	%	X	Ss
The points I get in EBA motivate me.	59	8,4	115	16,4	133	19,0	280	40,0	113	16,1	3,39	1,182
The points I get in EBA sometimes demotivate me.	128	18,3	180	25,7	158	22,6	202	28,9	32	4,6	2,76	1,184
The points I get in EBA are helpful for my development.	60	8,6	100	14,3	164	23,4	247	35,3	129	18,4	3,41	1,188
I try hard to get higher scores in EBA.	55	7,9	124	17,7	168	24,0	256	36,6	97	13,9	3,31	1,148
The scores in EBA increased my participation in the lesson.	86	12,3	132	18,9	142	20,3	247	35,3	93	13,3	3,18	1,238
I often look at the scores I get on EBA.	113	16,1	164	23,4	113	16,1	258	36,9	52	7,4	2,96	1,244
The thought that I will get points increases my engagement and interest in EBA.	106	15,1	113	16,1	170	24,3	249	35,6	62	8,9	3,07	1,214
Giving points in EBA increased the competition among my friends.	160	22,9	159	22,7	126	18,0	163	23,3	92	13,1	2,81	1,366

When the questionnaire items applied for the scores were analyzed, it was found that the general average was 3.11. Accordingly, it is seen that students' perceptions about the digital scores used in EBA are positive. Students' general perceptions of the Leadership Board component are detailed in Table 2.

Table 2. Questionnaire Items on Students' Perceptions of the Leadership Board

Survey Items	**1**		**2**		**3**		**4**		**5**			
	f	**%**	**f**	**%**	**F**	**%**	**f**	**%**	**f**	**%**	**X**	**Ss**
The leaderboard in EBA motivates me.	72	10,3	38	19,7	130	18,6	266	38,0	94	13,4	3,25	1,221
I try to collect points on EBA to be at the top of the leaderboard.	92	13,1	142	20,3	153	21,9	227	32,4	86	12,3	3,10	1,239
I try hard because my family wants me to be at the top of the leaderboard on EBA.	108	15,4	175	25,0	157	22,4	195	27,9	65	9,3	2,91	1,229
I try to surpass my friends in the leaderboard on EBA.	114	16,3	165	23,6	114	16,3	21,9	31,3	88	12,6	3,00	1,306
Leaderboard in EBA decreases my motivation.	166	23,7	250	35,7	169	4,1	84	12,0	31	4,4	2,38	1,103
The leaderboard in EBA causes students to compete with each other.	110	15,7	91	13,0	178	25,4	218	31,1	103	14,7	3,16	1,279
I get angry when a friend beats me in the leaderboard on EBA.	263	37,6	235	33,6	103	14,7	80	11,4	19	2,7	2,08	1,104

I do not mind when a friend passes me on the leaderboard.	63	9,0	59	8,4	137	19,6	236	33,7	205	29,3	3,66	1,233

According to the survey findings, the general average of 2.94 shows positive student perceptions about using leaderboards in EBA. The students' general perceptions of the Digital Rigging component according to their answers to the survey items are shown in detail in Table 3.

Table 3. Questionnaire Items for Students' Perceptions of the Digital coat of Arms

Survey Items	**1**		**2**		**3**		**4**		**5**			
	f	**%**	**f**	**%**	**F**	**%**	**f**	**%**	**f**	**%**	**X**	**Ss**
When EBA gives me a badge, I feel happy.	53	7,6	51	7,3	88	12,6	302	43,1	206	29,4	3,80	1,163
Badges on EBA helped me to see my success and progress in the course.	47	6,7	73	10,4	130	18,6	341	48,7	109	15,6	3,56	1,082
The thought that I will get a badge increases my engagement and interest in EBA.	57	8,1	151	21,6	138	19,7	260	37,1	94	13,4	3,26	1,176
The thought that I will get a coat of arms motivates me to study more.	66	9,4	113	16,1	156	22,3	272	38,9	93	13,4	3,30	1,170
Using a coat of arms in EBA adds fun to the lesson.	64	9,1	83	11,9	153	21,9	303	43,3	97	13,9	3,41	1,143
Earning a badge after completing homework and activities increases my enjoyment of the lesson.	63	9,0	61	8,7	146	20,9	294	42,0	136	19,4	3,54	1,163
I want my friends in the class to be aware of the badges I got in EBA.	116	16,6	157	22,4	175	25,0	170	24,3	82	11,7	2,92	1,263
Coats of arms in EBA cause students to compete with each other.	95	13,6	126	18,0	168	24,0	202	28,9	109	15,6	3,15	1,271

According to the survey findings, the mean of 3.36 shows that students' perceptions of using Digital Rigging in EBA are positive.

T-Test Results in Terms of Student Gender

An Independent Sample T-Test was conducted to determine whether students' perceptions of gamification components differ significantly in gender. The findings are shown in Table 4.

Table 4. T-test Results of Participant Perceptions according to Gender

Gender	**N**	**X**	**Sd**	**df**	**t**	**p**
Female	350	3,733	.872	418	1,270	,205*
Male	350	3,617	.979			

*p>0,05

According to the results of the independent sample t-test conducted to compare the perceptions of female and male students regarding gamification components, there was no statistically significant difference between the groups of girls (X=3.733, SD=0.872) and boys (X=3.617, SD=0.979) as t(700)=1.270, p=0.205.

One-Way Analysis of Variance Results According to Student Grade Level

One-way analysis of Variance, a parametric test among statistical test techniques, was used to test whether student perceptions of gamification components in EBA differ significantly according to grade level. The results of the analysis are presented in Table 5.

Table 5. One-Way Analysis of Variance Results for Grade Levels

Source of Variance	Sum of Squares	df	Mean Squares	F	p	Significant Difference
Between groups	7,268	3	2,423	5,208	,002	7-8
Within groups	113,493	244	,465			
Total	120,760	247				

According to the One-Way Analysis of Variance results, a statistically significant difference was calculated as F(3,140)=5,208 and p<0.05. Tukey Test, one of the Post Hoc tests, was used to determine the source of the difference, and significant differences were calculated between 7-8 classes. When the classes' averages were analyzed, 8th graders had the lowest average (X=2.885, SD=.832), and 7th graders had the highest average (X=3.340, SD=.608). The effect size calculated as a result of the test ((η2=0.05) shows that this difference (0.060>0.05) is close to the medium level. Green and Salkind (2005, p. 157) interpreted the 0.01 value of Eta square as small, 0.06 as medium, and 0.14 as large effect size.

One-Way Analysis of Variance Results According to School Type

One-way analysis of Variance, a parametric test among statistical test techniques, was used to test whether student perceptions of gamification components used in the EBA platform differ significantly according to school type. The results of the analysis are presented in Table 6.

Table 6. One-Way Analysis of Variance Results for School Types

Source of Variance	Sum of Squares	Df	Mean Squares	F	p	Significant Difference
Between groups	0,806	2	0,403	0,717	,489	0
Within groups	392,048	697	,562			
Total	392,855	699				

According to the One-Way Analysis of Variance results, F(3,641)=0.717 and p>0.05, no statistically significant difference was calculated.

General Perceptions of Student Parents on the Score Component

The comprehensive depiction of the parents' overall viewpoints, based on their responses to the survey questions concerning the "Score" component, the initial element within the gamification features employed in the EBA platform, is presented in detail in Table 7.

Table 7. Questionnaire Items for Parents' Perception of Points

Survey Items	1		2		3		4		5			
	f	%	f	%	F	%	f	%	f	%	X	Ss
Points in EBA motivate my child.	25	3,6	117	16,7	128	18,3	350	50,0	80	11,4	3,49	1,014
Points demotivate my child.	62	8,9	181	25,9	177	25,3	247	35,3	33	4,7	3,01	1,075
Points are helpful for my child's development.	54	7,7	108	15,4	166	23,7	322	46,0	50	7,1	3,29	1,060
My child tries hard to get higher scores.	47	6,7	173	24,7	145	20,7	289	41,3	46	6,6	3,16	1,080
Scores increase my child's participation in the lesson.	57	8,1	129	18,4	132	18,9	317	45,3	65	9,3	3,29	1,119
My child often looks at their scores on EBA.	72	10,3	190	27,1	92	13,1	310	44,3	36	5,1	3,07	1,153

Getting points increases my child's access and interest in EBA.	58	8,3	176	25,1	118	16,9	285	40,7	63	9,0	3,17	1,150
Giving points in EBA increased the competition among our children.	89	12,7	197	28,1	153	21,9	221	31,6	40	5,7	2,89	1,151

When the results of the questionnaire applied in the research are analyzed, the general average of 3,17 shows that the parents' perceptions of the students regarding using digital points in EBA are positive.

Student Parents' General Perceptions of the Leadership Board Component

The general perceptions of the parents of the students about the Leadership Board component used in EBA according to their answers to the questionnaire items are shown in detail in Table 8.

Table 8. Questionnaire Items on Parents' Perceptions of the Leadership Board

Survey Items	1		2		3		4		5			
	f	%	f	%	F	%	f	%	f	%	X	Ss
The leaderboard in EBA motivates my child.	66	9,4	156	22,3	114	16,3	306	43,7	58	8,3	3,19	1,155
My child tries to collect points on EBA to be at the top of the leaderboard.	65	9,3	166	23,7	162	23,1	260	37,1	47	6,7	3,08	1,115
My child tries hard because I want them to be at the top of the leaderboard in EBA.	77	11,0	210	30,0	209	29,9	176	25,1	28	4,0	2,81	1,057
My child tries to beat their friends on the leaderboard in EBA.	80	11,4	232	33,1	134	19,1	213	30,4	41	5,9	2,86	1,144
The leaderboard on EBA demotivates my child.	71	10,1	307	43,9	187	26,7	120	17,1	15	2,1	2,57	0,959
The leaderboard in EBA causes our children to compete with each other.	61	8,7	184	26,3	184	26,3	234	33,4	37	5,3	3,00	1,076
If one of the students passes my child on the EBA leaderboard, it angers them.	127	18,1	375	53,6	91	13,0	80	11,4	27	3,9	2,29	1,016
If one of the students passes my child on the leaderboard in EBA, it is not a problem for them.	36	5,1	117	16,7	149	21,3	340	48,6	58	8,3	3,38	1,023

When the results of the questionnaire applied in the research are analyzed, the general average is 2,47, showing that the student parents' perceptions about using the leaderboard in EBA are average.

Student Parents' General Perceptions of the Digital Coat of Arms Component

The general perceptions of the parents of the students about the Digital Rigging component used in EBA, according to their answers to the questionnaire items, are shown in detail in Table 9.

Table 9. Questionnaire Items for Parents' Perceptions of Digital Rigging

Survey Items	1		2		3		4		5			
	F	%	f	%	f	%	f	%	f	%	X	Ss
When my child receives a coat of arms, they feel happy.	41	5,9	81	11,6	66	9,4	395	56,4	117	16,7	3,67	1,068
Coats of arms in EBA allow my child to see their achievements and progress in the lesson.	36	5,1	112	16,0	89	12,7	378	54,0	85	12,1	3,52	1,060
Getting a coat of arms increases my child's access to and interest in EBA.	52	7,4	109	15,6	152	21,7	314	44,9	73	10,4	3,35	1,094

The thought that I will get a coat of arms motivates me to study more.	41	5,9	134	19,1	154	22,0	325	46,4	46	6,6	3,29	1,035
The thought of getting a badge motivates my child to study more.	54	7,7	113	16,1	142	20,3	326	46,6	65	9,3	3,34	1,094
Earning a coat of arms after completing homework and activities increases my child's enjoyment of the lesson.	44	6,3	106	15,1	129	18,4	336	48,0	85	12,1	3,45	1,082
My child wants their classmates to be aware of the badges they receive.	74	10,6	217	31,0	183	26,1	181	25,9	45	6,4	2,87	1,110
Coats of arms cause our children to compete with each other.	77	11,0	161	23,0	183	26,1	235	33,6	44	6,3	3,01	1,112

When the results of the questionnaire applied in the research (Table 9) are analyzed, the general average of 3.31 shows that the perceptions of student parents regarding the use of Digital Badge in EBA are at a positive level.

One-Way Analysis of Variance Results According to Parent Age

One-way analysis of Variance, a parametric test among statistical test techniques, was used to test whether parents' perceptions of gamification components in EBA differ significantly according to age. The results of the analysis are presented in Table 10.

Table 10. One-Way Analysis of Variance Results for Age of Parents'

Source of Variance	Sum of Squares	df	Mean Squares	F	p	Significant Difference
Between groups	5,731	7	0,819	1,484	,170	0
Within groups	381,706	692	,552			
Total	387,438	699				

According to the One-Way Analysis of Variance results, $F(3,127)=1,484$ and $p>0.05$, no statistically significant difference was calculated.

One-Way Analysis of Variance Results According to Parent Education Status

One-way analysis of Variance, a parametric test among the statistical test techniques, was used to test whether the parents' perceptions about the gamification components in EBA differ significantly according to their educational status. The results of the analysis are presented in Table 11.

Table 11. One-Way Analysis of Variance Results for Parent Education Status

Source of Variance	Sum of Squares	df	Mean Squares	F	p	Significant Difference
Between groups	19,388	6	3,231	6,084	,001	0-1, 0-3, 0-4
Within groups	368,050	693	,531			
Total	387,438	699				

According to the One-Way Analysis of Variance results, a statistically significant difference was calculated as $F(3,127)=6,084$ and $p<0.05$. Tukey Test, one of the Post Hoc tests, was used to determine the source of the difference, and significant differences were calculated between illiterate (0) and Primary School (1), illiterate (0) and High School (3), Illiterate (0) and University (4).

One-Way Analysis of Variance Results According to Parent Income Status

One-way analysis of Variance, a parametric test among statistical test techniques, was used to test whether parents' perceptions of gamification components in EBA differ significantly according to income status. The results of the analysis are presented in Table 12.

Table 12. One-Way Analysis of Variance Results for Parental Income Status

Source of Variance	Sum of Squares	df	Mean Squares	F	p	Significant Difference
Between groups	8,739	9	0,971	1,769	,71	0
Within groups	378,699	690	,549			
Total	387,438	699				

According to the One-Way Analysis of Variance results, $F(3,127)=1,769$ and $p>0.05$, no statistically significant difference was calculated.

Teachers' General Perceptions of the Score Component

The detailed representation of the teachers' overall viewpoints, as reflected in their responses to the questionnaire items related to the "Score" element, which serves as the initial gamification component employed within the EBA platform, is available in Table 13.

Table 13. Questionnaire Items for Teachers' Score Perceptions

Survey Items	1		2		3		4		5			
	f	%	f	%	f	%	f	%	f	%	X	Ss
Points motivate students.	0	0	11	26,2	8	19,0	20	47,6	3	7,1	3,36	0,958
Points sometimes demotivate students.	1	2,4	21	50,0	10	23,8	10	23,8	0	0	2,69	0,869
Scores in EBA are helpful for students' development.	1	2,4	10	23,8	7	16,7	23	54,8	1	2,4	3,31	0,950
Students try hard to get high scores.	1	2,4	11	26,2	10	23,8	18	42,9	2	4,8	3,21	0,976
Scores increase students' participation in the lesson.	1	2,4	11	26,2	7	16,7	21	50,0	2	4,8	3,29	0,995
Students often look at their scores on EBA.	1	2,4	10	23,8	13	31,0	17	40,5	1	2,4	3,17	0,908
The thought of getting points increases their interest in EBA.	0	0	12	28,6	7	16,7	19	45,2	4	9,5	3,36	1,008
Giving points increased the competition among students.	2	4,8	11	26,2	10	23,8	18	42,9	1	2,4	3,12	0,993

When the questionnaire results applied in the research (Table 13) are analyzed, the general average of 3.18 shows that teachers' perceptions about using digital points in EBA are positive. The highest mean score belongs to the item "Points in EBA motivate students," while the lowest mean score belongs to the item "Points in EBA sometimes decrease student motivation."

Teachers' General Perceptions of the Leadership Board Component

The answers given to the survey items regarding teachers' perceptions of the Leadership Board used in EBA were analyzed, and the results are shown in Table 14.

Table 14. Questionnaire Items for Teachers' Perceptions of the Leadership Board

Survey Items	1		2		3		4		5			
	f	%	f	%	f	%	f	%	f	%	X	Ss
The leaderboard in EBA motivates students.	0	0	6	14,3	11	26,2	23	54,8	2	4,8	3,50	0,804
Students try to score points on EBA to be at the top of the leaderboard.	1	2,4	5	11,9	8	19,0	26	61,9	2	4,8	3,55	0,861

As parents want their children to be at the top of the leaderboard in EBA, students try hard.	2	4,8	14	33,3	12	28,6	13	31,0	1	2,4	2,93	0,973
They try to beat their friends on the leaderboard.	1	2,4	8	19,0	8	19,0	23	54,8	2	4,8	3,40	0,939
Leaderboard decreases students' motivation.	2	4,8	19	45,2	16	38,1	5	11,9	0	0	2,57	0,770
The leaderboard causes competition.	2	4,8	7	16,7	8	19,0	24	57,1	1	2,4	3,36	0,958
In the leaderboard in EBA, when one of the students overtakes the other, it makes the rest of the students nervous.	1	2,4	19	45,2	16	38,1	5	11,9	1	2,4	2,67	0,816
In the leaderboard in EBA, one of the students overtaking the other does not cause a problem for the one who is left behind.	2	4,8	14	33,3	16	38,1	10	23,8	0	0	2,81	0,862

When the results of the questionnaire applied in the research are analyzed, the general average of 3.09 shows that the teachers' perceptions about using the leaderboard in EBA are positive.

Teachers' General Perceptions of the Digital Crest Component

The general perceptions of the teachers who participated in the research according to their answers to the questionnaire items about the Digital Rigging component, one of the gamification components used in the EBA platform, are shown in detail in Table 15.

Table 15. Questionnaire Items for Teachers' Perceptions of Digital Rigging

Survey Items	**1**		**2**		**3**		**4**		**5**			
	F	**%**	**f**	**%**	**f**	**%**	**f**	**%**	**f**	**%**	**X**	**Ss**
When students receive a coat of arms, they feel happy.	0	0	3	7,1	3	7,1	29	69,0	7	16,7	3,95	0,731
Coats of arms allow students to see their achievements and progress in the lesson.	0	0	7	16,7	9	21,4	23	54,8	3	7,1	3,52	0,862
The thought of receiving a coat of arms increases students' access to and interest in EBA.	0	0	5	11,9	12	28,6	22	52,4	3	7,1	3,55	0,803
The thought of getting a coat of arms motivates students to study more.	0	0	9	21,4	12	28,6	17	40,5	4	9,5	3,38	0,936
Using a coat of arms adds fun to the lesson.	0	0	7	16,7	4	9,5	27	64,3	4	9,5	3,67	0,874
Earning a coat of arms after completing homework or activities increases students' enjoyment of the lesson.	0	0	7	16,7	5	11,9	23	54,8	7	16,7	3,71	0,944
Students want their classmates to be aware of the badges they receive.	0	0	4	9,5	2	4,8	31	73,8	5	11,9	3,88	0,739
Badges in EBA cause students to compete with each other.	0	0	6	14,3	15	35,7	18	42,9	3	7,1	3,43	0,831

When the results of the questionnaire applied in the research are analyzed, the general average of 3.63 shows those teachers' perceptions about using digital badges in EBA are positive. The highest mean score belongs to the item "When students get a badge on EBA, they feel happy," while the lowest mean score belongs to the item "The thought of getting a badge motivates students to study more."

T-Test Results in Terms of Teacher Gender

An Independent Sample T-Test was conducted to determine whether teachers' perceptions of gamification components differ significantly in gender. The findings are shown in Table 16.

Table 16. T-test Results of Participant Perceptions according to Gender

Gender	N	X	sd	Df	t	p
Female	28	3,373	.491	40	1,020	,009*
Male	14	3,175	.761			

*p>0,05

According to the results of the independent samples t-test conducted to compare the perceptions of female and male teachers about digital badges, there was no statistically significant difference between the female (X=3.373, SD=0.491) and male (X=3.175, SD=0.761) groups as t(42)=1.020, p=0.009).

One-Way Analysis of Variance Results According to Teachers' Branches

One-way analysis of Variance, a parametric test among statistical test techniques, was used to test whether teachers' perceptions of gamification components in EBA differed significantly according to their branches. The result of the analysis is shown in Table 17.

Table 17. One-Way Analysis of Variance Results for Teacher Branches

Source of Variance	Sum of Squares	Df	Mean Squares	F	p	Significant Difference
Between groups	4,838	6	0,806	2,948	,20	0
Within groups	9,575	35	,274			
Total	14,413	41				

According to the One-Way Analysis of Variance results, F(3,307)=2,948 and p>0.05, no statistically significant difference was calculated.

One-Way Analysis of Variance Results According to Teachers' Years of Seniority

One-way analysis of Variance, a parametric test among statistical test techniques, was used to test whether teachers' perceptions of gamification components in EBA differed significantly according to their years of seniority. The result of the analysis is shown in Table 18.

Table 18. One-Way Analysis of Variance Results for Teacher Seniority

Source of Variance	Sum of Squares	df	Mean Squares	F	p	Significant Difference
Between groups	2,771	7	0,396	1,156	,353	0
Within groups	11,642	34	,342			
Total	14,413	41				

According to the One-Way Analysis of Variance results, F(3,307)=1,156 and p>0.05, no statistically significant difference was calculated.

DISCUSSION AND CONCLUSION

Based on the research findings, students tend to have favorable perceptions of the "score," coat of arms, and leadership board features implemented in EBA. These perceptions align with the outcomes reported in previous studies conducted by Koç-Avşar and İsabetli (2017), Başal, Aytan and Elcan-Kaynak (2019), Denny (2013), Güler and Güler (2015), Sezgin et al. (2018), Şahin and Samur (2017), and Wichadee and Pattanapichet (2018). Furthermore, these perceptions do not significantly vary based on gender or school type. On the other hand, there is a significant negative difference for 8th-grade students according to grade level.

The fact that the points and badges earned in EBA increase student motivation, contribute to their development, and increase their access to EBA coincides with the research results of Keleş (2022). In addition, it is seen that these components add fun to the lesson, make success visible, and cause students to make more effort. The study conducted by Bozkurt and Kumtepe (2014) stated that the gamification approach involves students in the learning process, increases their motivation, makes the lesson attractive and efficient, adds fun to the lesson, and makes the process sustainable. Sümer (2017) stated that gamification components help to complete students' assignments and increase class participation. These results and the results of the research coincide with each other.

On the other hand, these components cause student competition, which overlaps with Hebebci and Usta's (2018) study. Lazzaro (2011) states that extrinsic motivation in gamification is based on the logic of the behaviorist approach, so it causes addiction; participants strive to win rewards, increase the rewards won, and ensure their continuity. While designing gamification, students' past experiences, goals, needs, and temperament should be well examined to use gamification elements correctly (Eck, 2006; Hanus & Fox, 2015; Kim, 2015).

Based on the findings of the study, the general impressions of parents regarding the "score," coat of arms, and leadership board features implemented in EBA are predominantly positive, and these perceptions do not exhibit a significant variance based on the age or income level of the parents. Conversely, when considering parents' educational backgrounds, it was observed that illiterate parents held the most favorable perspectives, whereas those with undergraduate degrees expressed the least favorable views.

According to the results of the research, teachers' perceptions of the score, coat of arms, and leadership board used in EBA are generally positive, and it was determined that there was no significant difference according to teacher gender, teacher age, or professional seniority. In the study conducted by Varışoğlu (2019), teachers' attitudes towards EBA were examined in terms of gender, age, education, and professional attitude, and it was stated that teachers' perceptions were moderate and cheerful, and there was no significant difference between the variables. Şireci (2021) found a significant difference according to the seniority of the teachers, which is not in line with the study's results. At the end of 2019, all educational institutions switched to distance education due to the COVID-19 pandemic, which started at the end of 2019, which increased the time children spent in front of the screen and created digital fatigue. Despite this fatigue, the gamification components used in EBA have benefited students academically, motivated them to learn, and made the lessons more fun. On the other hand, the EBA platform provided a holistic follow-up and evaluation opportunity by allowing teachers and parents to follow the process with gamification components.

The EBA platform, renewed daily, can have a more systematic gamification setup by including mechanics and dynamics, which are other gamification elements, into the system. Kapp (2012) emphasizes that it is essential that components such as points, badges, and leaderboards are handled with other aspects of gamification, such as storytelling, avatar customization, and problem-solving. With sub-elements such as changeable avatars, story creation, challenge, chance factor, and gaining privileges, students' interests

can be attracted and kept in the flow. Taşkın and Kılıç-Çakmak (2017) state that it would be more accurate to use the gamification approach as a process-oriented formative assessment rather than a result-oriented one. Fotaris et al. (2016) suggest that gamification components such as points, crests, and leaderboards should not be evaluated as grades.

According to these results, online learning platforms can make learning more exciting and interactive by utilizing gamification components. Yıldız and Gündüz (2019) stated that for EBA Course e-content to be used more frequently, more opportunities should be provided for student interaction. For the gamification components used in EBA to reach students better, the Ministry of National Education can include these teachers in the gamification process by organizing in-service training courses for teachers who do not have experience in this field. To improve the defective parts of the gamification approach in education, student temperament, wishes, and needs are also of great importance. Comprehensive research on player types will eliminate the deficiency in this field.

Statement of Researchers

Researchers' contribution rate statement: The authors equally contributed to the article.
Conflict statement: There is no conflict of interest between authors.
Support and thanks: None.

REFERENCES

Abu-Dawood, S. (2016). The cognitive and social motivational affordances of gamification in e-learning environment. In Proceedings of the IEEE 16th International Conference on Advanced Learning Technologies, ICALT 2016, 373–375. https://doi.org/10.1109/ICALT.2016.126

Ahn, J., Pellicone, A., & Butler, B. S. (2014). Open badges for education: What are the implications at the intersectionof open systems and badging? *Research in Learning Technology,* 22, 1-13. https://doi.org/10.3402/rlt.v22.23563

Aksoy, N., & Usta, E. (2020). Ortaokul öğrencilerinin eğitim bilişim ağı (eba) sistemindeki dijital rozet kullanımına ilişkin görüşleri [Secondary school students' views on the use of digital badges in the education information network (EIN) system]. *Turkish Journal of Primary Education, 5*(1), 59-74. Retrieved from https://dergipark.org.tr/tr/pub/tujped/issue/55035/746824

Al, U., & Madran, R. O. (2004). Web tabanlı uzaktan eğitim sistemleri: Sahip olması gereken özellikler ve standartlar [Web-based distance education systems: Required features and standards]. *Bilgi Dünyası, 5*(2), 259-271. https://doi.org/10.15612/BD.2004.491

Albayrak-Özer, E. (2022). Türkiye'de ve dünyada ilköğretim düzeyinde oyunlaştırma üzerine yapılan lisansüstü çalışmaların içerik analizi [Content analysis of graduate theses on gamification at primary education level in Turkey and world]. *Milli Eğitim Dergisi, 51*(233), 77-95. https://doi.org/10.37669/milliegitim.765688

Arkün-Kocadere, S., & Samur, Y. (2016). Oyundan oyunlaştırmaya [From game to gamification]. In A. İşman, F. Odabaşı, & B. Akkoyunlu *Eğitim teknolojileri okumaları [Educational technology readings]* (p. 397-414). Sakarya Üniversitesi: Tojet.

Başal, A., Aytan, T., & Elcan-Kaynak, N. E. (2019). Türkçe öğretmeni adaylarının dijital rozetlere yönelik algıları üzerine bir araştırma [A study on the perceptions of Turkish teacher candidates about digital badges]. *Journal of Language and Literature Studies,* (14), 1-14. https://doi.org/10.29000/rumelide.540989

Bozkurt, A. (2017). Türkiye'de uzaktan eğitimin dünü, bugünü ve yarını [The past, present and future of the distance education in Turkey]. *Açıköğretim Uygulamaları ve Araştırmaları Dergisi, 3*(2), 85-124. https://dergipark.org.tr/tr/pub/auad/issue/34117/378446

Bozkurt, A., & Kumtepe, E. G. (2014). *Oyunlaştırma, oyun felsefesi ve eğitim: Gamification. Akademik Bilişim'14* (pp. 147-156). Mersin: Mersin Üniversitesi.

Buckley, P., & Doyle, E. (2016). Gamification and student motivation. *Interactive Learning Environments, 24*(6), 1162-1175. https://doi.org/10.1080/10494820.2014.964263

Büyüköztürk, Ş., Çakmak, E. K., Akgün, Ö. E., Karadeniz, Ş., & Demirel, F. (2019). Eğitimde bilimsel araştırma yöntemleri. Ankara: Pegem Akademi.

Denny, P. (2013). The effect of virtual achievements on student engagement. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 763-772. https://doi.org/10.1145/2470654.2470763

Dere, İ. & Akkaya, A. (2022). Distance social studies courses in the pandemic period with the experiences of teachers. *Cukurova University Faculty of Education Journal, 51*(2), 1172–1206. https://dergipark.org.tr/tr/download/article-file/2128130

Eck, R. V. (2006). Digital game-based learning: It's not just the digital natives who are restless. *Educause Review, 41*(2), 16-30. https://er.educause.edu/articles/2006/3/digital-gamebased-learning-its-not-just-the-digital-natives-who-are-restless

Educational Information Network [EIN]. (2020). EBA Assistant. "What is EBA?" Date of access: 28.11.2020 Retrieved from: http://www.eba.gov.tr

Fotaris, P., Mastoras, T., Leinfellner, R., & Rosunally, Y. (2016). Climbing up the leaderboard: An empirical study of applying gamification techniques to a computer programming class. *The Electronic Journal of e-Learning, 14*(2), 94-110.

Gezer, M., & Durdu, L. (2020). Eğitim Bilişim Ağı (EBA) ile ilgili tezlerin sistematik analizi [Systematic analysis of the theses related to education information network (EIN*)]. Başkent University Journal of Education, 7*(2), 393-408. https://buje.baskent.edu.tr/index.php/buje/article/view/345

Green, S. B. & Salkind, N.J. (2005). *Using Spss for windows and macintosh: Analyzing and understanding data* (4th edition). New Jersey, Pearson Prentice Hall Press.

Güler, C., & Güler, E. (2015). Çevrimiçi öğrenme ortamlarında oyunlaştırma: Rozet kulllanımı [Gamification in online learning environment: The use of badge]. *Journal of Research in Education and Teaching, 4(*3), 125-130.

Güvendi, G. M. (2014). *Milli Eğitim Bakanlığı'nın öğretmenlere sunmuş olduğu çevrimiçi eğitim ve paylaşım sitelerinin öğretmenlerve kullanım sıklığının belirlenmesi: Eğitim bilişim ağı (EBA) örneği* [Determination of teachers' usage frequency of online education and sharing websites supplied by the ministry of education: An example of education information technologies network (EBA)] (Unpublished master thesis). Sakarya University. https://tez.yok.gov.tr/UlusalTezMerkezi/tezDetay.jsp?id=pKEJmUvXu_WQTgocPNlGuA&no=ZWsEQsVmErQrMB4x_vsf_w

Hanus M. D., & Fox, J. (2015). Assessing the effects of gamification in the classroom: A longitudinal study on intrinsic motivation, social comparison, satisfaction, effort, and academic performance. *Computers & Education, 80,* 152-161. https://doi.org/10.1016/j.compedu.2014.08.019

Hebebci M. T, Usta E. (2018). Eğitim ortamlarında dijital rozet kullanımına ilişkin öğretmen görüşleri [Teacher opinions on the use of digital badges in educational environments]. *Turkish Journal of Computer and Mathematics Education, 9*(2), 192-210. https://doi.org/10.16949/turkbilmat.341178

İşman, A. (2011). *Uzaktan eğitim* [Distance education]. Ankara: Pegem Academy Publishing.

Kahraman, M. E. (2020). COVID-19 salgınının uygulamalı derslere etkisi ve bu derslerin uzaktan eğitimle yürütülmesi: Temel tasarım dersi örneği [The effect of COVID-19 epidemic on applied courses and the implementation of these courses by distance education: Example of basic design course]. *İMÜ*

Sanat Tasarım ve Mimarlık Fakültesi Dergisi, 6(1), 44-56. https://doi.org/10.46641/medeniyetsanat.741737

Kapp, K. M. (2012). *The gamification of learning and instruction: Game-based methods and strategies for training and education.* John Wiley & Sons, Inc.

Keleş, S. K. (2022). *Uzaktan eğitimde EBA kullanımının öğrencilerin başarı ve motivasyonuna etkisi* [The effect of EBA use in distance education on students' success and motivation] (Unpublished master thesis). Anadolu University.

Kılıçel, D., & Kılıç, H. E. (2021). Fen bilimleri öğretmenlerinin ve ortaokul öğrencilerinin oyunlaştırma tekniği hakkındaki görüşleri. *Anadolu Öğretmen Dergisi, 5*(1), 137-159.

Kim, B. (2015). Designing gamification in the right way. *Library Technology Reports, 51*(2), 29-35. https://journals.ala.org/index.php/ltr/article/view/5632

Koç-Avşar, E., & İsabetli, İ. (2017). Eğitimde oyunlaştırma [Gamification in education]. *Ekonomik, Toplumsal ve Siyasal Analiz Dergisi,* 1, 20-33. https://hdl.handle.net/20.500.12415/3857

Kopcha, T. J., Ding, L., Neumann, K. L., & Choi, I. (2016). Teaching technology integration to K-12 educators: A 'Gamified' approach. *TechTrends, 60*(1), 62-69. http://dx.doi.org/10.1007/s11528-015-0018-z

Kumari, S. (2018). Open and distance education system and learner support services: An introduction. In *Technology for efficient learner support services in distance education (*pp. 1-22). Singapore: Springer.

Lazzaro, N. (2011). Chasing wonder and the future of engagement. In *Smartphone Summit, Game Developer's Conference*. Retrieved from https://www.slideshare.net/NicoleLazzaro/chasing-wonder-and-the-future-of-engagement

Lee, J. J., & Hammer, J. (2011). Gamification in education: What, how, why bother? *Academic Exchange Quarterly, 15*(2), 1-5.

Mert, Y. (2017). *Oyunlaştırma uygulamasında kullanılan oyun elementlerine yönelik öğrencilerin, öğretmenlerin ve velilerin görüşleri: İçsel motivasyon ve teknoloji kabul çalışması* [Students', teachers', and parents' perceptions regarding the game elements used in gamified application: A study on intrinsic motivation and technology acceptance]. (Unpublished master thesis). Bahçeşehir University.https://tez.yok.gov.tr/UlusalTezMerkezi/tezDetay.jsp?id=cAoKIvrgd1kpBs5tKBKfAQ&no=WYJ_EJ97mGdQbDLhFWdSBg

Ministry of National Education [MoNE]. (2020). The new slogan of Turkey's education system is "fairness of opportunity in education". Date of Access: 30.11.2020 Retrieved From: https://www.meb.gov.tr/turkiye-egitim-sisteminin-yeni-slogani-egitimde-firsat-adaleti/haber/20281/tr

Ozan, Ö. (2008). Öğrenme yönetim sistemlerinin (learning management systems-LMS) değerlendirilmesi, *XIII. Türkiye'de İnternet Konferansı*. Middle East Technical University, Ankara.

Özdoğru, M. (2021). Uzaktan eğitimde öğrencilerin derse katılmama nedenleri ve derse katılımı sağlamaya yönelik öğretmenlerin kullandıkları stratejiler. *Instructional Technology and Lifelong Learning, 2*(2), 209-233.

Özgür, H. , Çuhadar, C., & Akgün, F. (2018). Eğitimde oyunlaştırma araştırmalarında güncel eğilimler [Current trends in gamification Research in education]. *Kastamonu Education Journal, 26*(5), 1479-1488. https://doi.org/10.24106/kefdergi.380982

Özkan, Z. & Samur, Y. (2017). Oyunlaştırma yönteminin öğrencilerin motivasyonları üzerine etkisi [The effect of using gamification on students' motivation]. *Ege Journal of Education, 18*(2), 857-886. https://doi.org/10.12984/egeefd.314801

Pilkington, C. (2018). A playful approach to fostering motivation in a distance education computer programming course: Behaviour change and student perceptions. *International Review of Research in Open and Distributed Learning, 19*(3). https://doi.org/10.19173/irrodl.v19i3.3664

Polat, H. (2016). *Çevrimiçi öğrenme ortamlarında sınıf yönetiminin çeşitli değişkenler açısından incelenmesi* [Investigation of classroom management in online learning environments in terms of various variables]. (Unpublished master thesis). Fırat University. https://tez.yok.gov.tr/UlusalTezMerkezi/tezDetay.jsp?id=fsj5F2UPHSAjrzA6Evv9lQ&no=g9aqzgDhNwwe5jyhDB7Frg

Şahin, M., & Samur, Y. (2017). Dijital çağda bir öğretim yöntemi: Oyunlaştırma [Instructional method of digital age: Gamification]. *Journal of Ege Education Technolgies, 1*(1), 1-27. Retrieved from https://dergipark.org.tr/tr/pub/eetd/issue/29867/306559

Sezgin, S., Bozkurt, A., Yılmaz, E. A., & Linden, N. V. (2018). Oyunlaştırma, eğitim ve kuramsal yaklaşımlar: Öğrenme süreçlerinde motivasyon, adanmışlık ve sürdürülebilirlik [Gamification, education and theoretical approaches: Motivation, engagement and sustainability in learning processes]. *Mehmet Akif Ersoy University Journal of Faculty of Education,* (45), 169-189. https://doi.org/10.21764/maeuefd.339909

Şireci, M. (2021) *Öğretmenlerin EBA tutumlarının farklı değişkenler açısından incelenmesi* [Investigation of tearchers (EBA) attitude in terms of different variables]. (Unpublished master thesis). Kahramanmaraş Sütçü İmam University.

Sümer, M. (2017). Açık ve uzaktan öğrenme programlarında oyunlaştıma kulllanımı [Integrating gamification into open and distance learning]. (Unpublished doctoral thesis). Anadolu University. https://tez.yok.gov.tr/UlusalTezMerkezi/tezDetay.jsp?id=sbymrYjKGU0_P9DcSSP2QA&no=4pqcMR6k0WX9OCTobEi9Ig

Taşkın, N., & Kılıç-Çakmak, E. (2017). Öğrenci merkezli öğrenme ortamlarında oyunlaştırmanın alternatif değerlendirme amaçlı kulllanımı [The use of gamificaiton in student centered learning environments as alternative assessment]. *Bartın University Journal of Faculty of Education, 6*(3), 1227-1248. https://doi.org/10.14686/buefad.333286

Tılıç, G. (2020). Eğitimde dijitalleşme kapsamında oyunlaştırma kavramı [Gamification in the scope of digitalization in education]. *Sanat ve Tasarım Dergisi,* 671-695. Retrieved from https://dergipark.org.tr/tr/pub/sanatvetasarim/issue/58750/848515

Topal, M. (2020). *Öğrenmenin başarı, çevrimiçi bağlılık ve öğrenme motivasyonu üzerindeki etkisi* [The effect of online learning enhanced with gamificatıon on student's engagement to online learning environment, academic achievement and learning motivation]. (Unpublished doctoral thesis). Sakarya University. https://acikerisim.sakarya.edu.tr/handle/20.500.12619/69564

Tunga, Y., & İnceoğlu, M. M. (2016). Oyunlaştırma tasarımı [Gamification desing]. International Conference on New Trends in Education, 267-279.

Varışoğlu, B. (2019). Öğretmenlerin eğitim bilişim ağı (EBA) tutumlarının incelenmesi [An investigation of teachers' attitudes of educational informatics network (EIN)]. *Turkish Studies Social Sciences, 14*(6), 3511-3521. http://dx.doi.org/10.29228/TurkishStudies.39294

Weller, M., Jordan, K., DeVries, I., & Rolfe, V. (2018). Mapping the open education landscape: Citation network analysis of historical open and distance education research. *Open Praxis, 10*(2), 109-126. 10.5944/openpraxis.10.2.822

Werbach, K., & Hunter, D. (2012). *For the win, revised and updated edition: The power of gamification and game thinking in business, education, government, and social impact.* Wharton Digital Press.

Wichadee, S., & Pattanapichet, F. (2018). Enhancement of performance and motivatıon through application of digital games in an Englısh language class. *Teaching English with Technology 18*(1), 77-92. http://www.tewtjournal.org

Yıldırım, İ., & Demir, S. (2014). Oyunlaştırma ve eğitim [Gamification and education*]. International Journal of Human Sciences, 11*(1), 655-670. Retrieved from https://www.j-humansciences.com/ojs/index.php/IJHS/article/view/2765

Yıldırım, S., Çelik, E., Kaban, A., & Yıldırım, G. (2017). Değerlendirme sürecinde dijital rozetlerin kullanımı ve öğrenen görüşleri [The use of digital badges in the evaluation process and learners' views]. *Mehmet Akif Ersoy University Journal of Social Science Institue, 9*(22), 173-193. https://doi.org/10.20875/makusobed.310614

Yıldız, T., & Gündüz, Ş. (2019). Opinions of secondary school teachers about the EBA course e-contents: A qualitative study. *Turkish Online Journal of Qualitative Inquiry, 10*(2), 243-266. https://doi.org/10.17569/tojqi.480231

Zichermann, G., & Cunningham, C. (2011). Gamification by design: Implementing game mechanics in web and mobile apps. O'Reilly Media, Inc.

Author Biographies

Niyazi AKSOY is working as a classroom teacher. He completed his master's degree in Computer and Instructional Technologies at Necmettin Erbakan University. He has studies on gamification and children's books.

Ertuğrul USTA is a faculty member at Necmettin Erbakan University, Department Chair of Computer and Instructional Technologies. His research interests are instructional design, distance education, lifelong learning.