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### **GAMIFICATION EDUCATION FOR PARENTS: EFFECTS ON MOTIVATION AND COMMUNICATION**

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# Gamification Education for Parents: Effects on Motivation and Communication

Huseyin BICEN<sup>1</sup>, Senay KOCAKOYUN AYDOGAN<sup>2</sup>

## Abstract

Gamification approaches can be applied in many different areas. In this study, gamification education was conducted on control and experimental group parents for 7 weeks by using different activities each week. Quantitative and qualitative research methods were used in the research. 25 parents in the control group and 23 parents in the experimental group participated in the study. According to the results of the study, it was determined that the parents' intrinsic motivation towards gamification education was high. The study revealed that the parents felt happy and exciting as long as they participated in gamification education and at the same time, they changed their perspective. It also indicated that there was a significant difference in the communication between parents and their children through gamification education. In order to provide a different experience for their children, it was determined that parents integrated what they had learned with this education in daily life and been motivated in this way.

*Keywords:* parent, gamification, motivation, communication, children, online education.

## Introduction

The main purpose of gamification is to provide a personal experience to its users, to ensure user participation and to increase motivation (Hassan, Dias, & Hamari, 2019). Among gamification definitions, the most accepted is “the use of game design elements in non-game areas” (Deterding *et al.*, 2011). Gamification has a very important function in this sense. In the field of education, it is a very useful and preferred method to increase motivation and focus of employees and to

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make learning process more enjoyable. Gamification is one of the most effective methods when it is used for motivation (Lee & Hammer, 2011; Glover, 2013; Kim, 2015).

In many researches, various courses were given to teachers and students by using the gamification method. Teachers working at the K-12 level were given online education through the gamification method and it was observed that the teachers' motivation increased (Kopcha, Ding, Neumann, & Choi, 2016). In another study, it was concluded that students who learned by play method in groups exhibited long-term performance (Pesare, Roselli, Corriero, & Rossano, 2016). The participants who received education through gamification found this process more interesting (Chen, Liu, & Hwang, 2016; Juarez & Carballo, 2016; Pesare et al., 2016). It was observed that gamification applied to teacher candidates had a direct positive motivation effect on course participation (Çakiroğlu, Başibüyük, Güler, Atabay, & Memiş, 2017). It was seen that such motivational educations were mostly directed towards students and teachers, but parents were not included in the process.

Parent educations attempt to raise parents' awareness of factors that positively affect child development. Education effectiveness varies greatly depending on whether parents feel engaged and interested by education content. Parents are known to play a major role in children's education process. Also, it is the parents' responsibility for raising their children's awareness regarding the use of digital technology (Ihmeideh & Alkhaldeh, 2017). Parents need to adopt parenting roles to contribute to the education of their children. There is a need for gamification education in order for parents to keep their motivation high and to keep their children motivated and to be able to communicate strongly. Although there are a lot of studies on the effects of gamification on motivation, there are no studies examining the effects of parents on the use of gamification environments and their impact on children. This study was based on parents' use of gamification applications and after this gamification education their opinions about their communication with their children. It is an original study that reflects the experiences of parents in using gamification practices in detail. It was thought that the results of the study would provide an application-oriented perspective to parents and researchers conducting research on parents, and teachers working with children.

The aim of this study is to examine the intrinsic motivation of parents by using gamification applications, their effects on their communication with their children, to determine whether there is a significant difference between the intrinsic motivations of the control and experimental groups and to express their opinions. In order to reach the goals stated above, the following questions are addressed:

- *Research Questions 1: How did you feel when you participated in gamification education for parents?*

- *Research Questions 2: Were you happy to use the gamification applications? Why is that?*
- *Research Questions 3: How did your communication with your child differ as a result of the gamification education?*
- *Research Questions 4: Can you explain your motivation to complete gamification education in the learning environment?*

## **Methodology**

The research focuses on gamification education using qualitative and quantitative methods in the form of an experimental study conducted on two groups of parents.

### *Participants*

The study group consisted of the parents of children attending Istanbul Aydin University Children's University in the 2018-2019 fall term. The study group consisted entirely of volunteer parents. 25 parents in the control group and 23 parents in the experimental group participated in the gamification education. In the control group, 80% (n = 20) were female and 20% (n = 5) were male parents, whereas in the experimental group, 73.9% (n = 17) were female and 26.1% (n = 6) were male parents. When the gender distributions of the parents were examined, it was found that mothers were more interested in education.

### *Instruments*

In order to measure the motivations of the parents, the intrinsic motivation scale prepared by Çalışkur and Demirhan (2013) was used and interview forms were used to obtain their opinions about this form of education. The scale consists of 32 items. When the Cronbach's Alpha value of the overall scale was calculated, the value was found to be .86 which shows a satisfactory level of reliability for the study. Demographic questions were added by the researcher at the beginning of the scale. Expert opinions were taken so as to determine whether the interview form was appropriate for the purpose of the study, as well as its applicability and comprehensibility, and it was revised according to these opinions.

### *Education Process*

The web address [uzem.aydin.edu.tr](http://uzem.aydin.edu.tr), which is used by the Distance Education Centre of Istanbul Aydin University, was chosen in order to create a Gamification Education course for the parents. [uzem.aydin.edu.tr](http://uzem.aydin.edu.tr) is a MOODLE course content management system. Since Distance Education Programs are conducted through this address, it is considered as an appropriate environment where the course

notes of Gamification Education can be shared and online courses can be held. A request was made to UZEM Directorate in Istanbul Aydin University, to create an education folder to be used and for the registration of the parents in the system and the appointment of a trainer in the system. After the course definitions were completed, the education folder “Gamification Education for Parents” was created in the system under the course categories where all course files and materials were included. The education itself was divided into 8 weeks and at the beginning of each week, the relevant materials were added along with online course registrations, which were made available to parents. After the course environment was prepared technically, the materials and applications to be used for the education were determined each week, the gamification applications were used with the parents during the course, the documents were shared with the parents and the education notes were uploaded onto the system. A great attention was paid to ensure that all the selected practices were directly related to gamification.

The control group parents’ lessons were held every Saturday in Block D2309 at Istanbul Aydin University. The control group parents were taught in the computer laboratory. In addition to the presentations or written materials used for the course, the environments to be taught were handled by applying them step by step with the parents. The parents of the experimental group followed the lessons from the educational environment established on [uzem.aydin.edu.tr](http://uzem.aydin.edu.tr). The lessons were held online every Thursday evening at 17.30 for 8 weeks. The parents were asked to join [uzem.aydin.edu.tr](http://uzem.aydin.edu.tr) by clicking on the link for that week’s course during the education hours. In order to inform the parents who were using the Moodle system for the first time in order to make this process smoother and to ensure that they used it effectively, the Learning Management System for Parents (MOODLE) user manual was prepared. WhatsApp and Facebook groups were also created to strengthen communication for the control and experimental group, and to share the course link with the experimental group. Through WhatsApp and Facebook, parents were able to conduct one-to-one communication with the educator during the process. Communicating via this process enabled problems to be solved quickly. During the 8-week education period, “Gamification Elements, Effects of Gamification Tools and Technologies, Modern and Digital Gamification Examples, Teaching Gamification Applications, Positive and Negative Effects of Digital Games on Children and Digital Guidance to Families” were all taught. Information about the gamification applications such as Classdojo, Duolingo, Kahoot, Memrise, Pixel Press Floors was given to the parents and they were asked to create accounts so they could use them with their children at home. Throughout the study, parent and their children performance was evaluated in and outside of the class through activities. Finally, in the last step of the study, the parents were required to answer the intrinsic motivation scale and interview items in order to gather data.

### Data Analysis

The data obtained from the research were analysed using the SPSS 23 program. Data were given as percentage (%), average (M), frequency (f), and standard deviation (SS). The independent samples t-test was used for the analysis of the collected data. The general average was taken into account to explaining any difference in the data. The reason for choosing these methods was that the number of participants in each group was similar. Qualitative data were used to support the validity and reliability of the quantitative data obtained in the study. Using the semi-structured interview form, the codes, categories and themes related to the sub-dimensions were analysed and reported using the Microsoft Excel program. The codes and detailed findings of the themes identified as a result of this analysis were indicated separately as sub-titles. Qualitative data results were given as frequency and percentage. Participants' views were coded on a confidential basis without using real names, and were numbered using control group parents codes "CGP1-CGP25" and experimental group parents codes "EGP1-EGP23". Additionally, "direct quotes" were included.

## Results

In this part of the study, the demographic characteristics of the parents in the control and experimental group, the results of the intrinsic motivation towards the gamification education and the findings of the parents' opinions in the interview form were given. The age information of both groups is illustrated in *Table 1*.

*Table 1.* Age data of the parents

| Age   | Control Group |     | Experimental Group |      |
|-------|---------------|-----|--------------------|------|
|       | n             | %   | n                  | %    |
| 30-34 | 0             | 0   | 1                  | 4,3  |
| 35-39 | 8             | 32  | 5                  | 21,8 |
| 40-44 | 14            | 56  | 13                 | 56,6 |
| 45-49 | 1             | 4   | 4                  | 17,3 |
| 50-54 | 1             | 4   | 0                  | 0    |
| 55-59 | 1             | 4   | 0                  | 0    |
| Total | 25            | 100 | 23                 | 100  |

As shown in *Table 1*, the age of the parents ranged between 35 and 59 in the control group and between 30 and 49 in the experimental group. In the control group, 56% (n=14) of the parents and in the experimental group 56.6% (n=13) of the parents were in the 40-44 age group. Among the participants, the age group of

the youngest parents was in the experimental group and it was between 30 and 34 years old. It was determined that participants over 50 did not prefer experimental group and participated in control group education. This might be because they had not mastered the technology and were afraid of using it.

In the control group, it was determined that the parents participating in the education belonged to various different occupational groups. The highest rate was housewives with 20% (n=5). It was determined that 16% (n=4) of the parents in the control group were engineers, 12% (n=3) were teachers, 8% (n=2) were lecturers and the rest were banker, photographer, OHS specialist, economist-operator, financial specialist, financial advisor, museum specialist, sales specialist, subcontractor, textile manufacturer, and chairman of the board (4% (n=1)). The parents who participated in the experimental group also belonged to various occupational groups. The highest rate was housewives with 34.7% (n=8). It was determined that 17.4% (n=4) of the parents in the experimental group were teachers, 8.7% (n=2) were insurers and the rest were lawyer, banker, editor, craftsman, printing technician, engineer, automotive, instructor and hotel manager (4.3% (n=1)).

#### *Intrinsic Motivation Results of Parents*

*Table 2* reviews the average and standard deviation of the control and experimental group parents' opinions in terms of intrinsic motivation for gamification applications. According to *Table 2*, in the control and experimental group, it was determined that the parents had high intrinsic motivation for gamification education. According to these findings, the parents responses at the "Agree and Strongly Agree" level are as follows: "I like to use gamification applications" (Control group M=4.76, Experimental group M=4.96); "Gamification applications were fun to use" (Control group M=4.84, Experimental group M=4.96); "I enjoyed using gamification applications" (Control group M=4.64, Experimental group M=4.87). These results show that the gamification applications were very important, very interesting, quite beneficial for parents and provided high intrinsic motivation for parents.

Table 2. Comparison of intrinsic motivation results of control and experimental group parent

| No | Items  | Control Group |      | Experimental Group |      |
|----|--|---------------|------|--------------------|------|
|    |  | Mean          | StD. | Mean               | StD. |
| 1  | I like to use gamification applications.   | 4.76          | .43  | 4.96               | .21  |
| 2  | Gamification applications were fun to use.   | 4.84          | .37  | 4.96               | .21  |
| 3  | I thought using gamification applications was boring.                                | 1.40          | .50  | 1.17               | .39  |
| 4  | I have never been interested in gamification applications.                           | 1.32          | .48  | 1.13               | .34  |
| 5  | I found the gamification applications very interesting.                              | 4.60          | .50  | 4.91               | .29  |
| 6  | I found gamification applications quite entertaining.                                | 4.60          | .50  | 4.91               | .29  |
| 7  | I enjoyed using gamification applications.   | 4.64          | .49  | 4.87               | .34  |
| 8  | I think I'm good at using gamification applications.                                 | 4.04          | .79  | 3.78               | .85  |
| 9  | I felt that I was quite good at gamification applications compared to other parents. | 3.24          | .66  | 3.00               | .67  |
| 10 | After a while, I felt that I was quite good at using gamification applications.      | 3.92          | .76  | 2.83               | .94  |
| 11 | I am pleased with my performance in the field of gamification.                       | 3.92          | .86  | 4.00               | .52  |
| 12 | I am as skilful in gamification as possible.   | 3.08          | .91  | 2.26               | .81  |
| 13 | Using gamification applications is something I can't do very well.                   | 2.08          | .91  | 1.48               | .79  |
| 14 | I put a lot of effort into using gamification applications.                          | 3.24          | 1.16 | 4.00               | .67  |
| 15 | I didn't force myself to use gamification applications (I didn't do much).           | 2.76          | 1.13 | 2.04               | .77  |
| 16 | I tried so hard to use gamification applications.                                    | 3.24          | 1.27 | 4.22               | .52  |
| 17 | It was important for me to use gamification applications.                            | 4.40          | .76  | 4.87               | .34  |
| 18 | I did not spend much energy using gamification applications.                         | 2.88          | 1.13 | 2.22               | .80  |
| 19 | I was very nervous about using gamification applications.                            | 1.48          | .51  | 1.22               | .52  |



|    |   |      |      |      |     |
|----|---|------|------|------|-----|
| 20 | I was very comfortable with using gamification applications.                              | 4.28 | .79  | 4.74 | .54 |
| 21 | I was worried when working on gamification applications.                                  | 1.60 | .71  | 1.30 | .70 |
| 22 | I felt under pressure when using gamification applications.                               | 1.44 | .58  | 1.13 | .34 |
| 23 | I felt that using gamification applications was not my choice.                            | 1.76 | .66  | 1.30 | .70 |
| 24 | I didn't really have a choice about whether to use gamification applications or not.      | 1.72 | .74  | 1.30 | .76 |
| 25 | I felt I should use gamification applications.  | 4.28 | 1.10 | 4.91 | .29 |
| 26 | I chose to use gamification applications because I had no other choice.                   | 1.56 | .77  | 1.26 | .45 |
| 27 | I chose to use gamification applications because I wanted to.                             | 4.52 | .65  | 4.65 | .48 |
| 28 | I chose to use gamification applications because I needed to.                             | 4.24 | .88  | 4.74 | .44 |
| 29 | I believe that gamification applications can be quite beneficial for me.                  | 4.40 | .82  | 4.65 | .49 |
| 30 | I want to use gamification applications in everyday life because it adds something to me. | 4.48 | .59  | 4.74 | .45 |
| 31 | I believe that using gamification applications can be useful for me.                      | 4.48 | .65  | 4.74 | .45 |
| 32 | I think gamification is an important activity.  | 4.56 | .51  | 4.83 | .39 |

According to *Table 2*, the parents responses at the “Undecided” level are as follows: “I felt that I was quite good at gamification applications compared to other parents” (Control group M=3.24, Experimental group M=3.00); “After a while, I felt that I was quite good at using gamification applications” (Control group M=3.92, Experimental group M=2.83). These results show that the parents were uncertain about using gamification applications very well.

According to these findings, the parents’ responses at the “Disagree and Strongly Disagree” level are as follows: “I have never been interested in gamification applications” (Control group M=1.32 Experimental group M=1.13); “I thought using gamification applications was boring” (Control group M=1.40, Experimental group M=1.17); “I was very nervous about using gamification applications” (Control group M=1.48, Experimental group M=1.22). These results show that parents disagreed with these statements and that they were actually interested in gamification practices, they did not find it boring, they were not nervous when using the applications, they did not feel under pressure, and that they chose

gamification applications themselves. *Table 3* shows a comparison of the means of the groups.

*Table 3.* Comparison of the means of intrinsic motivation of the groups

|                    | Mean | N  | SS   | t    | df | p    | Explanation                             |
|--------------------|------|----|------|------|----|------|---|
| Control Group      | 3.36 | 25 | 0.30 | .295 | 46 | .769 | p>0.05<br>The difference is meaningless |
| Experimental Group | 3.34 | 23 | 0.10 |      |    |      |   |

As shown in *Table 3*, there was no difference between the intrinsic motivations of the control group parents and the intrinsic motivations of the experimental group parents. While the mean of the control group parents (M=3.36), the mean for the experimental group parents was (M=3.34). When the results were compared, it was observed that there was no significant difference between the intrinsic motivations of the two groups (p =.769, p> 0.05).

*How did you feel when you participated in gamification education for parents?*

The themes in the analyses were given in *Table 4*. According to *Table 4*, in the control group, 36% of parents said they were “happy” (n=9), 28% of parents said it “changed my perspective” (n=7) and 36% of parents said it was “exciting” (n=9). In the experimental group, 56.52% of the parents said they were “Happy” (n=13), 21.74% of the parents said it “changed my perspective” (n=5) and 21.74% of parents the said it was “exciting” (n=5).

*Table 4.* First research question themes for control and experimental groups

| Theme                  | n  | %    | n  | %     |
|------------------------|----|------|----|-------|
| Happy                  | 9  | 36.0 | 13 | 56.52 |
| Changed my perspective | 7  | 28.0 | 5  | 21.74 |
| Exciting               | 9  | 36.0 | 5  | 21.74 |
| Total Parent           | 25 | 100  | 23 | 100   |

According to the results, the expressions made by happy parents in the control group included: “I saw that there was a lot I didn’t know about it. I was happy to learn new things.” (CGP21) and another said, “I was very happy. I’m starting to think that I could be enough for my child now.” (CGP25). The parents who participated in the control group stated that they were happy that they could learn something for his child. In the experimental group, the quotes of some parents are:

“I was very happy. I learned new things for my child.” (EGP1, EGP19), another one, “I was happy to be able to teach my child new practices.” (EGP8). These statements revealed that parents are now happy as they had the opportunity to learn about new things.

According to *Table 4*, in control group, 28% of the parents (n=7) and in the experimental group, 21.74% of the parents (n=5) made statements under the theme “Changed my perspective”. The expressions of the parents are as follows: a parent who changed his/her perspective “I found a new perspective. I found that gamification is very important both for my child and for my business life.” (CGP19). In the experimental group, the quotes of some parents are: “We were all very pleased and happy. It made us consider about parenting from a different perspective” (EGP2). Another parent said, “I can say that I enjoyed the education very much. My approach changed for gamification applications” (EGP5).

According to *Table 4*, in the control group 36% of parents (n=9) and in the experimental group 21.74% of parents (n=5) made statements under the theme “Exciting”. The quotes of some parents are: “I enjoyed using my son’s age-appropriate apps and they are very exciting.” (CGP10), and another parent said “Learning new gamification applications and games was both fun and exciting” (CGP8). In the experimental group, the quotes of some parents are: “I was glad that the education was online but I couldn’t imagine it would be so enjoyable.” (EGP18). These statements revealed that the parents were always excited to learn new things.

#### *Were you happy to use the gamification applications? Why is that?*

The themes reached in the analyses are given in *Table 5*. According to *Table 5*, in the control group, 48% of parents (n=12) and in the experimental group, 39.12% of parents (n=9) made statements under the theme “Yes, it brought a different perspective”. In the control group, the quotes of some parents are: “I was happy. I didn’t know much about gamification education. I learned that I could design games with my daughter.” (CGP1), another one “Yes we have seen that the motivation options have changed our perspective” (CGP5). In the experimental group, the quotes of some parents are: “I am someone who is always playing games. But it is also nice to know that such applications exist. At least our child can now play useful applications.” (EGP22). These statements revealed that parents were happy as they had a new perspective regarding the gamification applications.

Table 5. Second research question themes for control and experimental groups

| Theme  | n  | %    | n  | %     |
|--|----|------|----|-------|
| Yes, it brought a different perspective        | 12 | 48.0 | 9  | 39.12 |
| Yes, gamification applications were delightful | 7  | 28.0 | 3  | 13.04 |
| Yes, I can be useful to my child               | 3  | 12.0 | 4  | 17.40 |
| Yes, my child was happy                        | 3  | 12.0 | 3  | 13.04 |
| Yes, I can share what I have learned           | -  | -    | 4  | 17.40 |
| Total Parent                                   | 25 | 100  | 23 | 100   |

According to *Table 5*, in the control group, 28% of parents (n=7) and in the experimental group, 13.04% of parents (n=3) made statements under the theme “Yes, gamification applications were delightful”. In the control group, the quotes of some parents are: “Yes, because I’m over 50 years old, I stayed away from technology. But with the teacher’s step-by-step explanation, we used these practices with children during the course and at home, which made us happy.” (CGP10). In the experimental group, the quotes of some parents are: “It was very enjoyable to try these gamification applications and these current programs.” (EGP6). These statements revealed that the parents were happy to use the gamification applications as they were very enjoyable. In the control group, 12% of parents (n=3) and in the experimental group, 17.40% of parents (n=4) made statements under the theme “Yes, I can be useful to my child”. In the control group, the quotes of some parents are: “Yes it made me happy. I can choose useful apps for my child.” (CGP4). In the experimental group, the quotes of some parents are: “It made me very happy to see that I was useful for my child and to know that.” (EGP9, EGP12). These statements revealed that the parents were happy as they believed that they could be useful for their children.

According to *Table 5*, in control group, 12% of parents (n=3) and in the experimental group, 13.04% of parents (n=3) made statements under the theme “Yes, my child was happy”. In the control group, the quotes of some parents are: “I was very happy. I understood my child better and my child was happy because of this.” (CGP15), “I was extremely happy to be able to play with my child and my child was very happy.” (CGP25). In the experimental group, the quotes of some parents are: “I created an account and played Duolingo with my child and enjoyed it very much, I was happy.” (EGP18). These statements revealed that parents were happy as a result of the happiness of their children.

As shown in *Table 5*, only parents who participated in the experimental group stated that they were happy to share what they had learned. In the experimental

group, 17.40% of parents (n=4) made statements under the theme “Yes, I can share what I have learned.” The quotes of parents are: “I shared what I learned with my other friends who had children, and I was also happy.” (EGP19). These statements revealed that parents were happy as they could share what they had learned.

*How did your communication with your child differ as a result of the gamification education?*

The themes reached in the analyses are given in *Table 6*. According to *Table 6*, in the control group, 44% of parents said “I’m starting to understand him/her.” (n=11), 32% of parents said “We use gamification applications together” (n=8), 24% of parents said “We had positive developments” (n=6). In the experimental group, 60.86% of parents said “I’m starting to understand him/her” (n=14), 30.43% of parents said “We use gamification applications together” (n=7), and 8.70% of parents said “I’m relieved” (n=2).

*Table 6.* Third research question themes for control and experimental groups

| Theme                                     | n  | %    | n  | %     |
|---|----|------|----|-------|
| I’m starting to understand him/her.       | 11 | 44.0 | 14 | 60.86 |
| We use gamification applications together | 8  | 32.0 | 7  | 30.43 |
| We had positive developments              | 6  | 24.0 | -  | -     |
| I’m relieved                              | -  | -    | 2  | 8.70  |
| Total Parent                              | 25 | 100  | 23 | 100   |

The vast majority of parents answered under the main theme of “I’m starting to understand him/her.” When this theme was examined the quotes of some parents in the control group are: “I was having difficulty understanding him. We have begun to overcome his stubborn personality and insistence through gamification.” (CGP5). Another parent said, “I can understand him better. I have changed my approaches. I’m now acting on his motivation.” (CGP24). In the experimental group, the quotes of some parents are: “I understand the motivating factors and why my child is not motivated in some cases, and I act accordingly.” (EGP13). These statements revealed that parents had started to understand their children.

According to *Table 6*, in the control group 32% of parents (n=8) and in the experimental group, 30.43% of parents (n=7) made statements under the theme “We use gamification applications together”. When this theme was examined the quotes of some parents in the control group are: “We tried different sources of motivation for our child. We played gamification practices together and became competitors. My son was more ambitious in this way.” (CGP6). In the experimental group parents’ quotes about these theme are: “We are now able to play more serious, more active and fun games.” (EGP3), “I discovered games that I can play

with my child and my child was very happy.” (EGP5), another one, “We managed to become a competitor on the same platform as my child.” (EGP14). These results show that parents used gamification practices with their children and their children were affected, surprised and delighted by this process. In the control group 24% of parents (n=6) made statements under the theme “We had positive developments”. The quotes of some parents are: “We communicate positively. He can now learn English more easily thanks to his gamification practices.” (CGP11), and another parent said, “After this gamification education, we applied the Duolingo program to our 7.5-year-old daughter. We have made significant progress in learning English in just two weeks.” (CGP21). In the experimental group 8.70% of parents (n=2) made statements under the theme “I’m relieved”. The quotes of some parents are: “I have learned platforms where I can manage and control children, and that makes me feel very comfortable.” (EGP23). These statements revealed that parents were relieved.

*Can you explain your motivation to complete gamification education in the learning environment?*

The themes reached in the analyses are given in 0. In the control group 44% of parents (n=11) and in the experimental group, 17.40% of parents (n=4) made statements under the theme “Different topics each week”. The control group parents’ quotes about these theme are: “Accessing different knowledge in each lesson raised my motivation.” (CGP8). In the experimental group parents’ quotes are: “We learned different practices in each of the lessons and didn’t want education to end.” (EGP11). The parents stated that they had high motivation and this continued until the end of the educations because of different activities offered every week.

Table 7. Fourth research question themes for control and experimental groups

| Theme                                   | n  | %    | n  | %     |
|---|----|------|----|-------|
| Different topics each week              | 11 | 44.0 | 4  | 17.40 |
| Intrinsic motivation                    | 7  | 28.0 | 3  | 13.04 |
| To give my child a different experience | 3  | 12.0 | 3  | 13.04 |
| I need to be active in this area        | 4  | 16.0 | 9  | 39.12 |
| Online education                        | -  | -    | 4  | 17.40 |
| Total Parent                            | 25 | 100  | 23 | 100   |

According to *Table 7*, in the control group 28% of parents (n=7) and in the experimental group 13.04% of parents (n=3) made statements under the theme "Intrinsic motivation". The control group parents' quotes about these theme are: "It was motivating to adapt the knowledge I acquired in education to everyday." (CGP23). In the experimental group parents' quotes are: "My motivation did not diminish at all when I realized that it really made a difference to my son when I implemented the activities." (EGP1). Another one said "This process increased my motivation when I realized that I had positive feedback." (EGP21). In the control group 12% of parents (n=3) and in experimental group 13.04% of parents (n=3) made statements under the theme "To give my child a different experience". The control group parents' quotes about these theme are: "With all the knowledge I learned, I could give my child a different experience, so I continued without getting bored until the end of the education." (CGP4). In the experimental group parents' quotes are: "To see that my child happily uses apps, to have this experience." (EGP10). These results showed that the parents want to give their children a different experience.

According to *Table 7*, in the control group 16% of parents (n=4) and in the experimental group 39.12% of parents (n=9) made statements under the theme "I need to be active in this area". The control group parents' quotes about this theme are: "We need to be active in the gamification. In each lesson we learned new things that we can use in everyday life. I did not want to miss this." (CGP5). In the experimental group parents' quotes are: "I did not want to miss this education. I had never experienced such an education. That's why I felt lucky." (EGP5). Another one, "We need to know and guide the games children play." (EGP13). These statements showed that parents felt lucky to attend the education and did not want to miss the education. These results revealed that parents want to improve themselves in the field of gamification. Under the main theme of "Online education", it was observed that only parents participating in the experimental group made statements under this theme. When this theme was examined the quotes of some parents are: "The online environment has motivated me." (EGP14), and another parent said, "It was nice to listen to topics online. We could access them at any time." (EGP20). These results showed that the parents had stated that they were motivated by the fact that the education was online and they continued until the end of the education process.

## Discussion

When the gender distributions of the parents were examined, it was found that mothers were more interested in education. Research on parent-child interaction mainly focuses on mother-child interactions. The mother's communication with and love for their child has an impact on the child's development. Mothers are the main decision-makers in regards to what the child does on the Internet (Alvarez,

Torres, Rodríguez, Padilla, & Rodrigo, 2013). It was determined that participants over 50 did not prefer experimental group and participated in control group education. The reason for this is that they do not use the technology because they are afraid to use it. In a similar study, it was found that parents between 25-44 years of age had more control over their children than parents between 45 and 54 years of age. Parents' gender also plays an important role. It was found that mothers were the dominant parents who controlled and directed their children and also supported them. In other words, it has been shown that mothers show more parental interest than fathers. In addition, the age of the parents makes a significant difference in terms of Internet control and the interests of parents towards their children (Alvarez, Torres, Rodríguez, Padilla, & Rodrigo, 2013).

It was found that the parents participating in the control and experimental group were involved in various occupational groups. Gamification, which will also support in-service education and on-the-job learning, can be considered as a future learning platform (Gökkaya, 2014). In both groups, housewives constituted the highest proportion. It was concluded that housewives were more susceptible to education compared to working women.

In the control and experimental group, it was determined that the parents had high intrinsic motivation for gamification education. It was concluded that there was no difference between the intrinsic motivations of control and experimental group parents after the course. The lack of a significant difference in motivation between the two groups indicates that both types of education can be given. Gamification education can be sustained in two different groups because of the parents' high motivation levels. Kocadere and Çağlar (2015) stated that gamification is a method that can be used in both physical and online classes and this finding supports the fact that there is no difference in motivation between the control and experimental groups.

The parents in the control and experimental group stated that as long as they participated in gamification education, they were happy, pleasant, excited, and their perspectives changed. Individuals with intrinsic motivation show more time and effort while performing the work on which they are motivated, and are happy when they do the work (Van Dijke, Leunissen, Wildschut, & Sedikides, 2019). It was determined that the parents were happy during the education because they learned useful practices for their children. It was also concluded that the parents changed their perspectives, tried the gamification practices with their children during the education and their children watched them in surprise.

It was determined that parents attitudes towards games changed. It was concluded that it was an education full of excitement and curiosity and that parents were always excited to learn new things. Game-based applications are known to be effective on variables such as motivation, learning, and commitment (Sung, Hwang, & Yen, 2015; Hamari, Shernoff, Rowe, Coller, Asbell-Clarke, & Edwards, 2016).



It was determined that parents were always open to education. Parents who were happy to gain a different perspective had realized that they were aware of how interesting and different applications were, and that they were happy to view gamification from a different perspective. Gamification has the potential to cover an important gap in the professional and personal development of adults, which is a major problem in our country (Gökkaya, 2014). It was concluded that the parents could be helpful to their children and they were happy as a result of their children's happiness. It was determined that only parents who participated in the experimental group were happy to share what they had learned. It was concluded that the parents were happy to share what they learned with other parents.

It has been determined that there is a significant difference in the communication between the parents and their children through gamification education. It was concluded that their children act according to their motivation sources and as a result, they understand them better. It was determined that their prejudices about the games changed, they realized that there could be useful games, and they understood their children because their approaches changed.

Parents stated that their children made significant progress in terms of their English learning with gamification applications. Thanks to basic and specific fixed language knowledge in another research, Duolingo allowed users to develop their own language skills without further assistance (Merzifonluoğlu, Yüce, Ersoy, & Göktaş, 2018). Similarly, in other studies, it was found that when students used technology and practices voluntarily, they adapted more easily and efficiently to achieve better learning outcomes from progression (Lai, Wang, Li, & Hu, 2016).

The reasons for the motivation of the parents to complete the activities in the learning environment were determined as learning different topics each week, internalizing the education, to give their child a different experience, being interested in this area. It was determined that their motivation increased and they internalized the education in this process as they received positive feedback. As the game elements have an effect on external motivation, they will not yield effective results in the long term and therefore, it is necessary to focus on the intrinsic motivation of individuals in the process (Ozkan & Samur, 2017).

In order to provide a different experience to their children, it was determined that parents integrated what they had learned in daily life and are motivated in this way. It was determined that the parents wanted to be active in this field and therefore continued until the end of the education. The continuation of education in the digital environment has increased the motivation of parents participating in the experimental group.

Gamification provides a new perspective to education in a globalized world with its user-friendly and development-oriented dynamic structure. With this and similar studies, an important step will be taken in parent education. If all these

are designed correctly, gamification is thought to be an alternative solution for parent education. In particular, increasing the number of studies in which adults are used as a sample is important for the effect of gamification in the education of adults. However, it is recommended that experimental studies are conducted on various samples.

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