

Research Article

Students' Opinions Toward Game Elements Used in Gamification Application

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Abstract

Gamification is defined as the use of game elements in non-game contexts. The use of gamification in education is stated as the successful integration of the course contents to increase the students' motivation, performance, and attitudes towards the course. However, when gamification is integrated into education, it may result in unexpected outcomes. The aim of study in this context is to examine the students' views towards game elements used in gamification application. Therefore, 12 students' view from 2nd, 3rd, 4th, 5th, 6th, and 7TH grades were collected to analyze in categories of game elements such as an avatar, feedback/reinforcers/points/reward, leaderboard, use, and announcements-notifications. Qualitative research methods were used to analyze the views from the semi-structured interviews. The findings were evaluated and interpreted in terms of the motivation of students and game elements (points, leaderboard, announcements-notifications, avatar).

Keywords: *Gamification, game elements, classroom management, motivation, opinion*

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Oyunlaştırma Uygulamasında Kullanılan Oyun Elementlerine Yönelik Öğrencilerin Görüşleri

Öz

Oyunlaştırma oyun olmayan ortamlarda oyun elementlerinin kullanılması olarak tanımlanmaktadır. Eğitimde oyunlaştırmanın kullanılması, öğrencilerin motivasyonlarının, başarılarının, derse yönelik tutumları ve ilgilerinin artırılması, oyunlaştırma yapısının ders içeriklerine başarılı bir şekilde entegrasyonu olarak belirtilir. Ancak oyunlaştırma eğitime entegre edildiğinde beklenmedik çıktılarda doğurabilmektedir. Bu bağlamda çalışmanın amacı oyunlaştırma uygulamasında kullanılan oyun elementlerine yönelik öğrencilerin görüşlerini incelemektir. Öğrencilerin görüşlerini detaylı bir şekilde elde etmek için avatar, geri bildirim/pekiştirme/puan/ödül, liderlik tablosu, kullanım ve duyuru-bildirim gibi oyun elementleri kategorize edilmiş ve araştırmaya oyunlaştırılmış sınıf yönetimi uygulamasını kullanan 2, 3, 4, 5, 6 ve 7. sınıflarda okuyan toplam 12 öğrenci katılmıştır ve görüşleri incelemek için nitel yöntem kullanılmıştır ve öğrencilerden veriler yarı yapılandırılmış görüşmeler sonucu elde edilmiştir. Elde edilen bulgular öğrencilerin motivasyonu ve oyun elementleri (puan, liderlik tablosu, duyuru-bildirim, avatar) açılarından değerlendirilmiş ve yorumlanmıştır.

***Anahtar Sözcükler:** Oyunlaştırma, oyun elementleri, sınıf yönetimi, motivasyon, görüş*

Introduction

Nowadays, It is known that people are spending a lot of time on games and they are thought to have a good time with games. Due to these reasons, the idea of turning a component into a game has emerged (Yıldırım & Demir, 2014). The use of the game in education has been a known and preferred method for a long time (Ar, 2016). Because games are played at home, on the streets and in any environment where opportunities are available, the thinking skills are processed and game strategies are used in education to make learning easier for the students (Gelen & Özer, 2009). It is seen that one of the important issues that should be emphasized in researches which aimed to increase students' academic achievement, is to teach through games which is the most favorite activity of the children (Yıldırım, 2016, Bozan, 2014, Akçetin & Akçetin 2013). If the games are used for teaching purposes, they may be suitable tools for the children in elementary school to increase their interest towards lessons and they also may increase the motivation and desires of the children during the teaching process (Karataş, 2014).

It is difficult to say that there is a harmony between today's students and traditional education systems (Ar, 2016). Researchers who are aware of this situation are working on the use of games in education (Sarıtaş & Yıldız, 2015, Samur, 2012, Gelen & Özer, 2009). However, there are many situations that make use of games difficult in education. At the beginning of these, it takes a long time to provide necessary economic requirements and design the games. The use of game elements- in other words -gamification- in education settings can help overcome these issues. Motivation and lack of interest are observed when the students' basic problems in the teaching process are examined (Yıldırım, 2016; Lee & Hammer, 2011). It is envisaged that this deficiency can be eliminated through gamification which can affect the students positively by helping them learn from making mistakes in the learning process and it also can support students' emotional experiences and social positioning (Lee & Hammer, 2011).

Werbach (2012) describes gamification as using game elements and game design concepts in non-game environments (Werbach, 2012). In other words, gamification can be described as a use of game mechanics, playful thinking, and aesthetics in order to encourage people to get together and learn. The purpose of the gamification method is to increase learners' motivation and improve their problem-solving skills. In another definition, gamification can be described

as a method which aims to educate individuals in a fun way, to utilize their ideas while having fun and providing problem-solving skills. It is one of the most used and effective methods in education to make individuals learn through using game elements. The use of this method in education provides positive development. Users enjoy more when they work with pleasure (Akçetin & Akçetin, 2013). When it comes to the common points of gamification definitions, they vary according to disciplines which used in the applications increasing individuals' motivation and desire to be involved in the process and making the process more attractive (Bozkurt & Kumtepe, 2014).

In the concept of gamification, it is necessary to use means such as levels, rewards, mastery, which cause the players to participate in the activity. For this reason, infrastructure and logical schema in games can be used to make teaching fun and motivating (Gökkaya, 2014). It has emerged that gamification can be used in education when children's interest and curiosity especially towards digital games are taken into consideration along with the acquisitions that games provide (Kırkkılıç, Kılıç & Topal, 2005). There are usually two terms used in gamification: game mechanics and game dynamics. Game mechanics involve various actions, behaviors and control mechanisms. Points in the game, gifts and virtual goods are examples of game mechanics. They are used to enhance the user's experience and interest. On the other hand, Game dynamics can be defined as products of the interest and passion of the player towards games. Award, status and achievement can be given as examples of game dynamics (Saritaş & Yıldız, 2015).

In recent years, gamification method is a learning and teaching strategy that enables learning and teaching processes to be goal-oriented, feedback-driven, rule-based and fun. Using today's and tomorrow's education systems, and in particular, the use of gamification in terms of education integration of technology can offer significant opportunities. However, it is first necessary to develop teaching materials and learning systems in order for gamification to take place in education (Ar & Akgün, 2015). After that, the game design has to be clarified. If there is no non-game content in this design and if it can be applied to the field, the gamification process will be worked (Yıldırım & Demir, 2014). Lee and Hammer (2011) predicted that using the gamification method in education may have positive effects on the students. When the studies in the field have been examined, it has been noticed that studies on the use of the method of gamification are not sufficient (Ar, 2016). For this reason, well-designed researches and applications in the field of gamification are required. It is also important to design the

gamification experience in accordance with the instructional objectives (Akçetin, Akçetin & Koldemir, 2013).

It is necessary to examine the characteristics of the gamification methods (Bozkurt & Kumtepe, 2014), knowing that it is a method used to make the learning process remarkable and more permanent. Gamification is an economic and easily applicable method (Gelen and Özer, 2009). This method, which can be used effectively with preparation and a few simple materials arranged before the lesson, will lead students to enjoy and also affect the attitude and motivation towards the lesson (Gelen & Özer, 2009). There are the studies showing that gamification may help students learn through making mistakes so that it may have a positive effect on students. This method also may increase students' emotional and social development. (Lee & Hammer, 2011). In addition, it is seen that the use of the gamification method, has increased learners' motivation and interest towards the courses. It also improved learners' attitudes towards the lesson and facilitated learning process (Arkun-Kocadere & Samur, 2016). In order to fulfill that purpose, first of all, children should love the lessons, then effective ways of teaching should be found (Gelen & Özer, 2009). In contrast, Hanus and Fox (2015) used gamified learning activities in their research studies. It has been revealed in their research studies that the use of these activities has reduced the motivation and satisfaction of the students. In addition, the leaderboards and badges have contributed negatively to the learning outcomes of users (Hanus & Fox, 2015). In a different research, it is stated that the imaginary avatars in a gamification application move the students away from reality (Bayraktar, 2014).

In the field of education, it is seen that many different methods and tools have been used from the past to the present (Erümit, 2016). With the advancement of technology, the use of these methods and tools has changed over time. Each one's goal is to make the learners learn better and increase their motivation. In addition, through the use of technology with these tools, students' interest and technologies that they use has changed. The factors that motivate the students have also been differed by the development of technology (Prensky, 2001). The purpose of using gamification is not to create a new world like the one in the game, but to bring the things in the game to the real world and bring similar feelings here (Arkun-Kocadere & Samur, 2016).

In Yıldırım's (2016) gamification-based study, the effects of the gamification on the educational process were investigated. There is information about how to gamify a teaching

program and how to evaluate this gamified teaching program. According to the results of the study, the gamification method seems to have a positive effect on the achievements and attitudes of the students. When the gamification perception is examined, it is seen that the most active effect is in dynamics and then in components. When it comes to the evaluation part of the gamification method, it is seen that the researcher has obtained positive results.

Rouse (2013) studied the effect of gamification on student achievement and motivation in a microbiology course. A gamification method was used with 40 students in the experimental group of the study. According to the findings, it was determined that the gamification method has a positive effect on the success and motivation of the students.

The study of Samur (2015), which is a semi-experimental study, lasted for an academic period (15 weeks). In order to increase the effectiveness of teaching, the components of the game such as story, score, leadership, level, badge, and challenge are adapted to the curriculum. The data collected in the study were obtained from the online attitude questionnaire made by the students, the gamification outputs, and interviews with the postgraduate students and observation reports made by the researcher. Students were interviewed at the end of the semester. According to the findings obtained at the end of the study, it was determined that the attitudes and motivation of the 19 students in the experimental group were high. However, students' grades did not differ significantly from those in the control group.

The study by Burger (2015) is a phenomenological study of the perception of the effectiveness of the ClassDojo application on learners and teachers. According to research, it is enough to examine the use of the ClassDojo application in order to be able to see the position of the gamification method in education. The study group was randomly selected and completed by three teachers and 12 students. Questionnaires, interviews and group interviews were used to collect data in the study. The ClassDojo application provides opportunities to facilitate classroom management for teachers and aims to increase the motivation of primary school students. When the results of the study are examined, the ClassDojo application appears to be a positive and effective application for teachers and students. The use of ClassDojo by teachers has also been influential on classroom management (Burger, 2015).

Hanus and Fox (2015) conducted the study to measure the effect of gamification on motivation, pleasure, satisfaction, learning orientation and achievement score of the learners. This study is

an experimental study and conducted with 80 undergraduate students for 16 weeks. In these lessons, gamified learning activities were used, and the students in the courses using gamified activity were less motivated and satisfied than the other students. The reason for the low final exam grades of the students in the environment where these activities were used is the low motivation level of the students. According to this study, the leaderboards and badges have also contributed negatively to the learning outcomes of the users (Hanus & Fox, 2015).

In the scope of this study, a study has been carried out to use the ClassDojo, which is used as an application to help teachers in classroom management, in order to get students' opinions about game elements in the application. The study investigates students' perception of use of gamification as a method or material in the learning environment through ClassDojo application, known as a gamification tool. The research question was determined, as “What are the views of the students for the gamification application used? ” and the study has been developed within the concept of this research problem.

Methodology

This section consists of the research model, participants, data collection tools and materials, ClassDojo application, analysis of data, validity and reliability measures, and researcher's role.

Research Model

In this study, semi-structured interview which is one of the qualitative research methods were used. In this context, the uses of gamification method in education and student opinions about this method were obtained through semi-structured interviews. Students in the study used the gamification application for a period of time. The data were collected from the students started to use the application from the beginning of the first semester. Therefore, students have five months of experience with the application. In addition, the English, Science, Turkish, Physical Education, Social Sciences, Visual Arts and classroom teachers in the research process used the ClassDojo application.

Participants

This research was carried out with 12 students in a private school in Istanbul in the academic year of 2015-2016. Three of the interviewed students were in the second grade, two in the third grade, five in the fourth grade, one in the fifth grade and one in the sixth grade. Students were selected according to their levels (mild-moderate-high), status of usage, and points they got in the application (mild-moderate-high). For this purpose, 4 students use the application less, 4 students use the application at the middle level and 4 students use the application very frequently. In addition, students are categorized according to their scores in the gamification (students with low, medium and high scores). First grade students have not been included by the school administration as they are illiterate. On the other hand, students in the 7th and 8th grades did not use the application because they were in preparation for the high school exam.

The semi-structured interview form was checked by a subject matter specialist. Subject matter specialist has been working as an instructor for 6 years in the field of Computer and Instructional Technology Education (BÖTE). The researcher is a CEIT teacher who has been working for 4 years and she is also a master student in Educational Technology.

Data Collection Tools and Materials

Within the scope of the research, the application was used during the five months of 2016-2017 educational year. The students actively used the application in this process. Data were gathered by interviewing the students using the application. The interview questions were prepared by the researcher and subject experts to get students' opinions about the application. The interview questions were prepared together by the researcher and the subject expert by making reference to the previous studies in the field. There are 29 questions in this interview form. These questions are collected under 4 categories and prepared according to the game elements. These categories include avatar, feedback/reinforcer/points/reward, leaderboards and announcement-notification. For the feedback/reinforcer/ points /award element, the question "What kind of behaviors did the students begin to exhibit when the teachers started giving scores by using the ClassDojo application?" was asked.

The data were collected from semi-structured interviews. The interviews were recorded by using voice recorder. Then, recorded audio files were reported.

ClassDojo Application

ClassDojo is a classroom management application based on certain privacy principles and used on gamified web-based IOS, Android or any computer online (Garcia, Hoang & Brown, 2015). The ClassDojo application can be used in any lessons where student performance evaluation can be done.



Figure 1. Reinforcers are provided in the ClassDojo application.

As shown in Figure 1, it is possible to grade students' scores and give homework with the ClassDojo application. As a result, a leaderboard is formed in the application. In this leaderboard; daily, weekly, monthly and overall ratings can be shown. Thus, students can be given feedback on their behaviors, assignments, and performance continuously. The scores in the application are called positive and negative reinforcer and they can be changed by the teachers when it is needed.

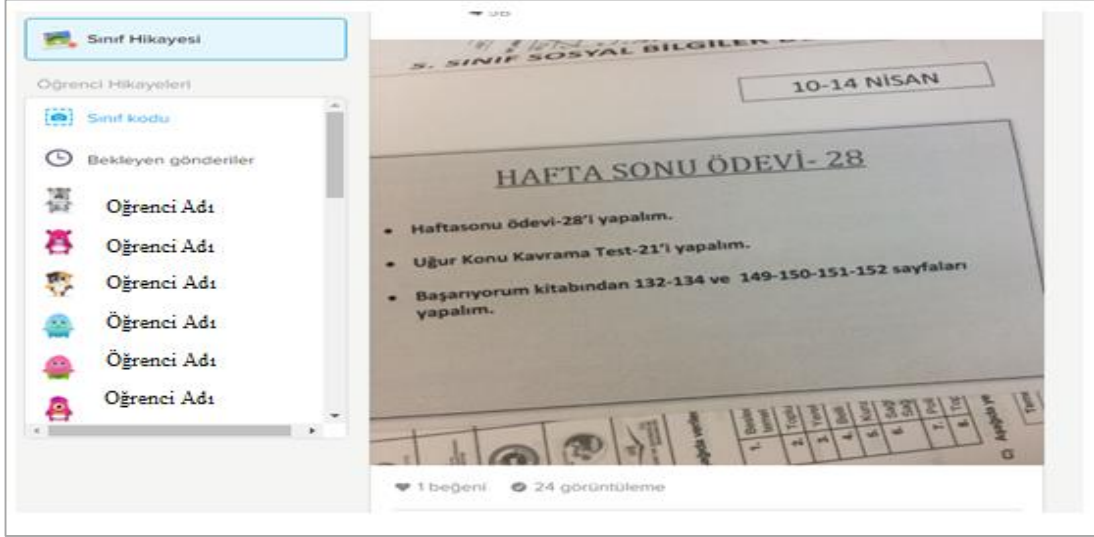


Figure 2. Announcement and photo sharing in ClassDojo application (example).

As shown in Figure 2, teachers can share photos and make announcements with their ClassDojo application. Students and parents can see these posts instantly. There is also an option for teachers and parents to share and comment on photographs and classroom stories shared by teachers. In this way, parents learn about the activities that students perform in the classroom. Decisions and school activities also can be shared with the parents through this way.

Data Analysis

For data analysis, the first step was to report the recorded interviews. Then, in order to analyze collected data, the inductive content analysis that is frequently used by the researcher in qualitative studies has been done. Qualitative data analysis consists of reading, organizing, segmenting, synthesizing, identifying important points and determining what to present (Bogdan & Biklen, 1998). The interview reports read by the researcher were examined by considering the research question. The data were coded using the Maxqda, which is a data analysis program, but the sub-themes appeared during the interviews. At this stage, the researcher received comments and suggestions from subject matter experts on the categories and themes. The data were described according to the theme and codes in the process of content analysis. The direct citation is also included in the study. Semi-structured interview data were organized and coded. At the end of the generated codes, the study was reported. Student names were not used in the study in order to prevent ethical issues. Codes were used instead of student names.

The reliability of the study was provided by receiving opinions from subject matter expert in the process of data analysis, category interpretation, and also establishing common themes. The last version of the research was checked by the subject matter expert and his comments were taken into consideration.

Validity and Reliability Measures

Semi-structured interviews were recorded by the investigator by using a voice recorder. Recorded audio files were reported with the researcher and subject matter expert. Participants in the research are also described in detail so that the transferability of the study can be ensured. After making sure that the consistency was achieved, the data were divided into themes. However, it was aimed to reflect the opinions of the students in a striking way by giving a direct citation in the study.

Findings

What Are the Views of the Students Who Have Used the Gamification Application? Student Findings Related to Research Question

12 students using the gamification application were asked about their opinions. An inductive content analysis was performed on the data. As a result of this analysis, the codes and detailed findings of the determined theme were indicated separately with subheadings. The views of the students on the application were collected under seven themes. These are the purpose of use, usefulness, reinforcers/ points / reward, leaderboard, motivation, avatar and parents. In the process of forming themes, no coding was created. Instead of codes, direct thematization was used. The reason is that students have clearly expressed their views on the application.



Figure 3. Students' views on the application.

Intended purpose

The “purpose of use” theme consists of opinions about how students use the application. Examples of the themes and opinions of the students are given in the form of citations.

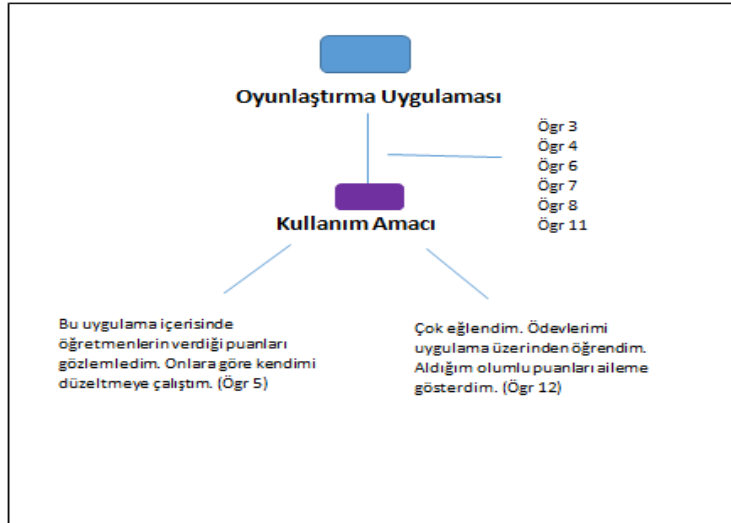


Figure 4. Students's purpose of use the application

As indicated in Figure 4, students expressed their views on the intended use of the application under the theme. Opinions which are similar to those of Öğr 5 and Öğr 12 were also expressed by 6 students.

Ögr 3, Ögr 4, Ögr 6, Ögr 7, Ögr 8, Ögr 11 and Ögr 12, which stated the purpose of use, indicated the effects of the application on themselves.

“It showed me my weakness and strength. Thus, I was able to choose what I did well and my hobbies. I tried to fix the things that I did wrong. Therefore, I am a more successful student than before.” (Ögr 6)

Usability

The “usability” theme consists of students’ opinions about the usability aspect of the application. Examples of the themes and opinions of the students for their intended use are given in the form of citation.

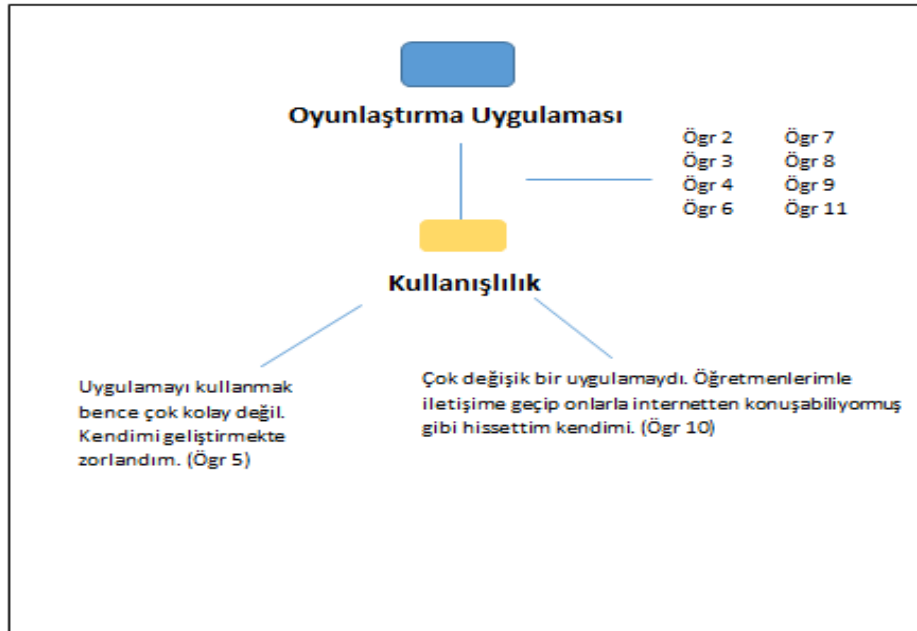


Figure 5. Usability

As it can be seen, the students expressed their views on the intended use of the application. The opinions which are similar to those of Ögr 5 and Ögr 10, were also expressed by 8 students.

Ögr 2, expressed his/her views of the application about the usefulness of it:

“There was a rectangular piece of paper. Names of my teachers were written on the paper. I typed the numbers next to the monsters.” (Ögr 2)

Ögr 6, indicated a distinctive feature of usability theme:

“My experience with ClassDojo was sometimes good and sometimes bad. There are times when I have forgotten my homework at home and then I get minus. My motivation drops when I take the minus. I feel I need to increase my motivation. I'm having a hard time because it is tiring. But I am happy to use it anyway.” (Ögr 6)

In contrast, Ögr 3 stated her/his opinions about the usability of application:

“I can not see everything I want in the application in my I-Pad because there is a missing key in the student accounts (Ögr 3).”

Ögr 5 and Ögr 7, who said that there is little parental participation in the application, shared similar views:

“It's not easy because I could not load most things. For example, I could not load the I-pad. I could not even load my father's phone and it was only loaded on my mother's phone (Ögr 7). “

Reinforcers / Points / Awards

The "Reinforcers / Points / Rewards" theme consists of the students' views on the reinforcement / point / reward aspect of the application they use. Examples of the themes and opinions of the students regarding the reinforcers / points / credits are given in figure 6 below.

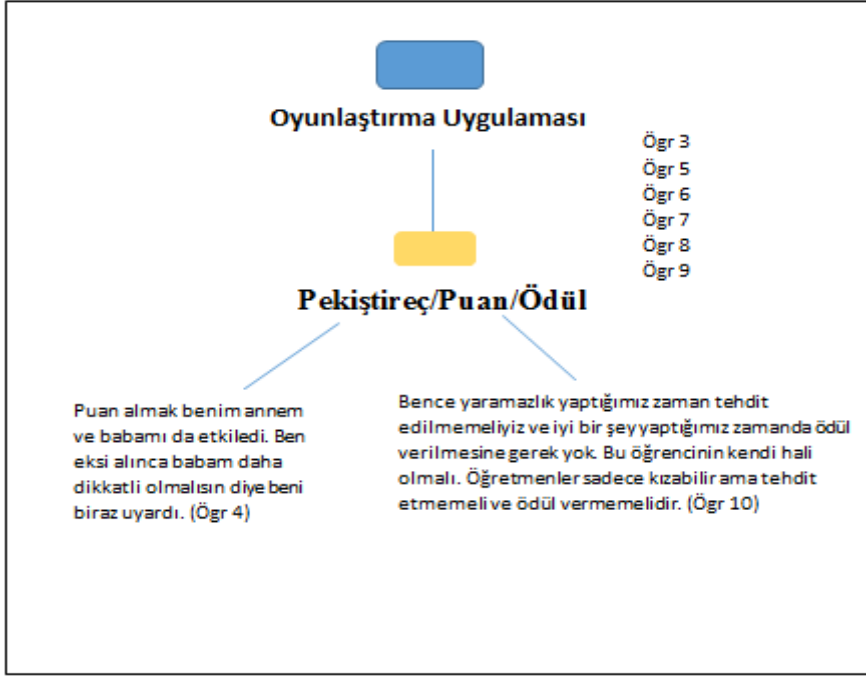


Figure 6. Reinforcers / points / reward.

As seen in the figure, the students expressed their views on the reinforcers / points / reward under the reinforcement / points / reward theme. Opinions similar to those of Ögr 4 and Ögr 10 were also expressed by 6 students.

Ögr 7, indicated the views of the application about the reinforcement / points / reward theme and how they got points:

“The application created a competition between two people. One of them got the score and the other one completed the test at home. Some of my friends said that the students completing their test at home are cheating. My friends who behaved like this continued to do the same thing as they got points. They started to run a contest with these scores. “ (Ögr 7)

Similarly, Ögr 8 and Ögr 9 stated the points that students have in the application:

“While we were preparing for the activity, our teacher gave -5 points to those who did not study and +5 points to those who studied well. This affects us in a good way” (Ögr 8).

On the contrary, Ögr 5: pointed out that taking points by using the application had a negative effect on the students.

“I was not happy to get points because I think, this application is a bit unnecessary. They're pushing us with ClassDojo. For example, I could not write the story properly and the teacher insisted me to think about it. I was affected because of this situation. “ (Ögr 5)

Leaderboard

The "Leaderboard " theme is based on the views of the students about the leaderboard in the application. Themes and students' examples on the leaderboard are given in the form of citation.

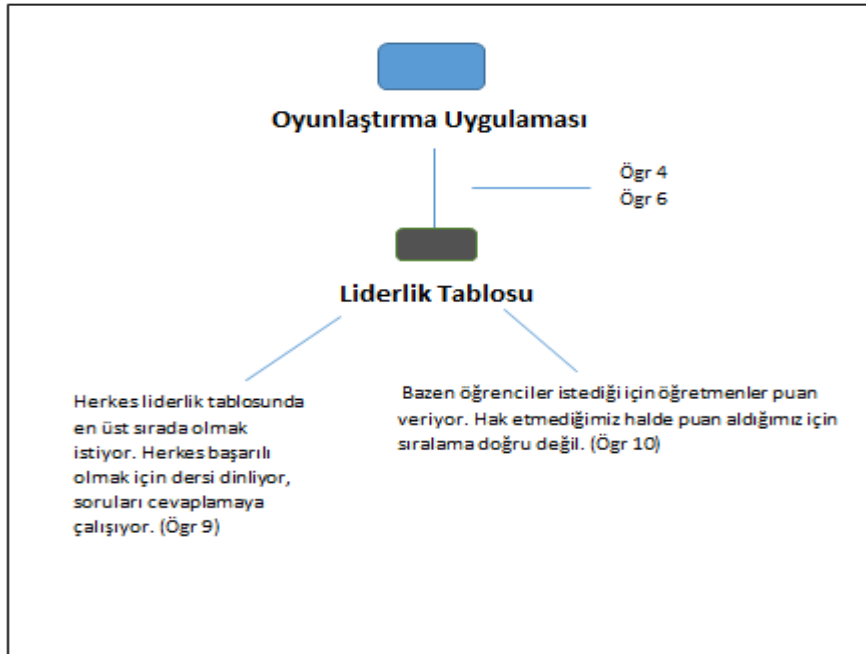


Figure 7. Leaderboard.

As can be seen, the students expressed their opinions about the leaderboard in the application under the leaderboard theme. Opinions similar to those of Ögr 9 and Ögr 10 were also expressed by 2 students, Ögr 4 and Ögr 6.

Ögr 6 and Ögr 4 shared similar views, stating that the leaderboards in the application created a competitive environment among the students:

“There was always competition in the class. They said “I will take higher score than you!” each other. This gave a more sincere competitive environment (Ögr 6).

Avatar

The theme "Avatar" consists of the opinions of the students about the aspect of the avatar in the application they use. Themes and examples from students' opinions on avatars are given in the form of citation.

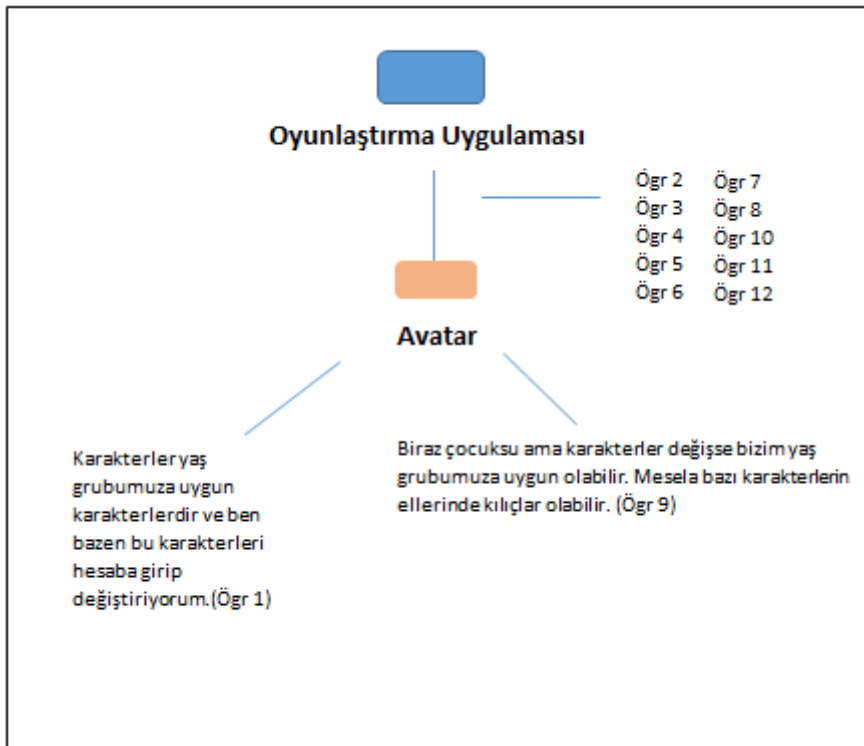


Figure 8. Avatar.

As you can see in figure 8, students pointed their views about the avatar generated within the application. Opinions which are similar to those of Ögr 1 and Ögr 9 were expressed by also 10 students.

Ögr 6, which expresses opinions about avatars in the application,

“The characters are very nice. You can create your own characters. You can create your own soul (Ögr 6) “ by referring to features related to avatars.

Similarly, Öğr 8 mentioned the use of avatars in the application:

“I used another character before dental braces. After dental braces, I was able to choose a character with braces. I think it was beautiful and it reflected my personality “. (Öğr 8)

Öğr 12, Öğr 2, Öğr 3, Öğr 4, Öğr 5, Öğr 7, Öğr 10 and Öğr 11 shared similar views by mentioning the features of avatars in the application:

“I loved the monsters. They are very sweet and I paid my attention to them. I could change my character and make it better (Öğr 12).”

Motivation

The theme of “motivation” consists of the code “student motivation” and it is shown in Figure 7. In this context, there are quotations from students' views expressing for both codes. The opinions of Öğr 9 and Öğr 10 were quoted directly related to the "student motivation" code and nine students shared similar opinions with them.

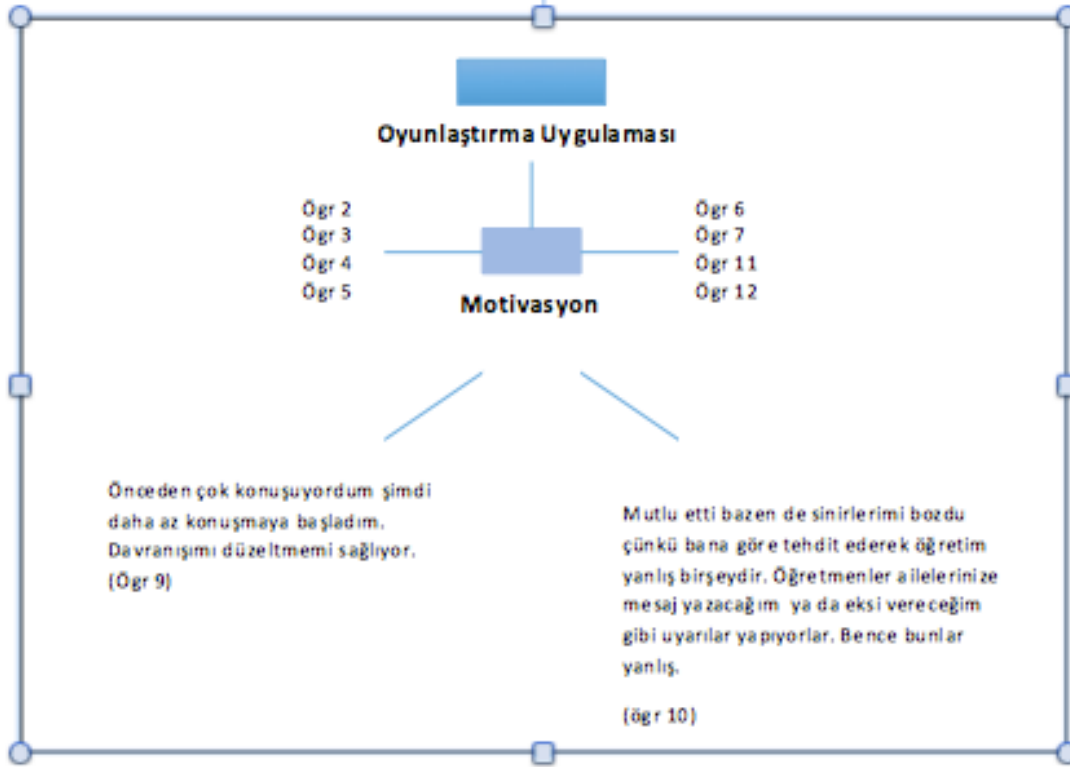


Figure 9. Motivation

The views of Öğr 9 and Öğr 10 have been quoted directly under the “Student motivation“ theme. Opinions similar to those of Öğr 9 and Öğr 10 were indicated also by 6 students. Öğr 6 expressed his views of the student motivation code under the motivation theme of the application:

“I’m very motivated. This application also increases students’ interest and participation in the classroom (Ögr 6).”

Ögr 6 mentioned the positive points about the motivation of the students who use the application.

Similarly, Öğr 2, Öğr 3, Öğr 4, Öğr 11 and Öğr 12 mentioned the effects of the application on the student motivation:

“I think students started to show more positive behaviors. They started not to talk during the lessons. They did their homework on time (Ögr 12) “.

On the contrary, Öğr 5 talked about the negative aspects of the application about student motivation:

“The use of the application did not make me very happy because there is an unfair system. When someone misbehaves in the classroom, the whole class is affected (Ögr 5)”.

Parent participation

The “Parent Participation” theme is based on the opinions of the students regarding the aspect of parental involvement on the application used by the students. Themes and examples of students' views on parental involvement are given in the form of citation.

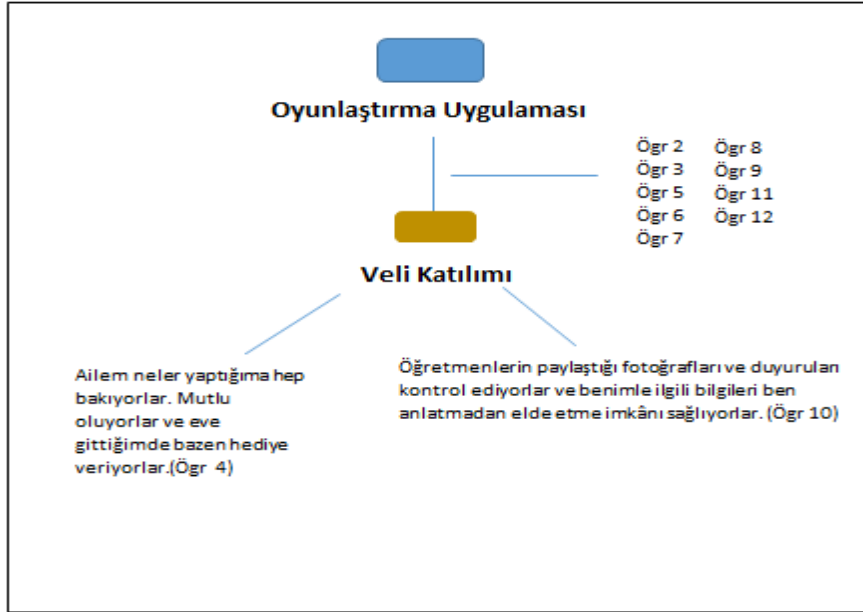


Figure 10. Parent participation.

As can be seen, the students expressed their opinions about the participation of parents in the application. The opinions of Öğr 4 and Öğr 10 were also expressed by 9 students.

Öğr 11, indicated their views under the theme of parental involvement in the application:

“When the assignment is missing, my parents can see it in the application. I have to explain why I did not do it (Öğr 11).”

Similarly, Öğr 2, Öğr 3 Öğr 8, Öğr 9 and Öğr 12:

“They looked at the messages sent by the teachers. They have learned whether I did my homework or not. (Öğr 12).”

On the contrary, Öğr 5 pointed out the negative aspects of the participation of the parents using the application:

“My family is not very involved, but it was my mother who was most interested in this application. My mother has complained about minus points I got. (Öğr 5).”

On the other hand, Öğr 6 and Öğr 7, who said that there is little parental participation in the application, shared similar views:

“My parents are not interested in this application. Because they think that they do not need this application (Ögr 6).”

Conclusion, Discussion and Suggestions

Opinions About Motivation Of Students As A Result Of Use Of Gamification Method

The students stated that the use of gamification method in education makes the education competitive, fun, useful and more efficient. In the study of Yıldırım, Demir (2014) and Samur (2015), It has been stated that the use of the gamification method increased the motivation of the students and had a positive effect on the course. Similarly, in the studies of Karahan, Aytuğ Koşan and Demirören (2014) related to basic microbiology education, the effect of using gamification method in microbiology lesson on student motivation and achievement was examined. The lessons were conducted using the gamification method in the experimental group. At the end of the study, it was revealed that the use of gamification method positively affected the success and motivation of the students. It has been determined in the study of Fidan (2016) that using the gamification method increases the attendance and motivation of the students to the classes, makes the education process more fun and consequently affects the academic success of the students positively. Lee and Hammer (2011) have stated in their research that gamification method provides an opportunity to make mistake and learn from mistakes. For this reason, it is stated that this method has a positive effect on student motivation and it helps them increase their interest in the lesson because it supports the students socially and emotionally. Students who have increased interest and motivation have expressed that their academic achievement is also increasing. Similar to these results; the use of the gamification method has also contributed to the more cautious listening of the lesson. Teachers began to give points in the course according to behaviors they wanted students to have. Accordingly, as the teachers gave points, students tried hard to get more points. Getting points made students feel more hardworking and happy. This also shows that their motivation and interest towards the lesson has increased.

On the other hand, the use of application negatively affects the motivation of some students because they think that the use of this application is unfair. The reason for this is that the teacher

blamed on the whole class because of a student who misbehaved in the class. Teacher's behavior indicates that students' motivation and interest to the lessons has decreased.

Some students also think that their teachers have been putting pressure on themselves by using gamification application. The reason for this is that teachers force students to do their homework and projects completely through the application. This shows that students perceive their responsibilities as obligations because of teachers' statements such as " I will give you extra points if you do your homework" or " I will increase your grade if you complete your homework".

Students' Opinions about Gamification Elements in the Application

In the studies examined, there is the positive foresight related to the use of gamification method in education (Yıldırım, 2016). Some of these predictions are that the gamification method is a process-oriented design and it is designed according to the needs of the learning situations, the game elements in the application (points, leaderboard, announcement-notification and avatar) When Yıldırım (2016) examined student perceptions of gamification application, he stated that dynamics, components and mechanics are obtained with the order of importance. Additionally, the most important aspects of gamification are given as the process of logic, emotion and progression. On the other hand, some of the terms used in this research such as points, leaderboards, avatars and announcement-notification have a significant influence on the student.

Students' Opinions about Point Element in the Gamification Application

The use of the gamification method is seen as an incentive for students to improve their behavior. There is a system that allows students to earn points for demonstrating desired behaviors. This system is just an indicator. The scoring system is used to eliminate undesired behaviors of the students. Using this system, teachers try to keep students away from undesired behaviors. Giving points to students is an indicator that teachers use to promote desired behavior. In addition, Garcia, Hoang & Brown (2015) have also explained in their research that feedback and points should be given to the students not only to promote positive behaviors but also prevent negative behaviors. This system may also have negative effects on some students. There may be students who do not study to get points, students who are trying to get points or

students who cannot get points although they are hardworking in the class. At this point, the teacher should control the use of the gamification to balance in the class.

Ar (2016) stated in his study that he has made learning fun with gamification. Similarly, this system may be fun for the students. They can see their own progress by including this system. They will be able to see the rewards they have earned in the course and they may have the opportunity to see their progress on the leaderboards within a certain period of time. Scores are concrete systems and they may give the winners some privileges. The scores given by the teacher can be taken back or given to other students. As students get points, they may want to use the application continuously. A change in the classroom behavior of students can be observed after the application is used.

Yıldırım and Demir (2014) suggested that the achievements of the subject should be associated with points and medals. In this study, it has been concluded that the teacher should create a point system according to his / her course, except for the situation that the gamification application may have already a point system. Similar to this result, Garcia, Hoang & Brown (2015) concluded that the teachers should identify point system and this system should be based on the concrete data. This also indicates that students have to pre-determine what they need to do to get these scores, which is a sanction on the awarding students because they expect to get positive and negative scores on the right and wrong behavior. According to this point system, the students try to improve their ranking in the leaderboard and increase their success by getting points. If this behavior is repeated frequently, after a while, it becomes a desire to leave the lesson and to get points through the application. Contrary to students who have positive points, negative scores may cause discomfort, irrelevance to the lesson and it may affect their self-confidence. Parallel to this result, Garcias, Hoang & Brown (2015), have found that students may want to get points continuously. Therefore, teachers should pay attention when using this system. Before using the application, teachers and students should take a decision on points together. In line with these decisions, points must be able to meet the behaviors of the students and their achievements in the classroom. Thus, learners will learn how to behave in order to get points and they do not experience shame, indifference to the lesson, and reduced confidence. Knowing the scores, the students will try to improve their behavior and performance in line with the scores they earn.

Another positive effect of the use of the point element in the application is that the parents can see the points given by the teachers. Their parents have increased their motivation by encouraging them because of their success. It is also indicated that there are the parents who rewarded their children for their success. It is thought that these behaviors of the parents contribute to the increased collaboration between teacher-student and parents. This finding is similar to those of previous studies by Garcia, Hoang & Brown (2015) and Burger (2015).

The fact that the teachers gave scores to the students by using the gamification application in the course negatively affected some students. The reason for this is that the race of points has emerged among the students. As students get points, it is seen that the motivation of the students decreased because some of them said that "I got a higher score than you," "my score exceeded your score". Another reason is that students get negative scores. As the students get a minus grade, their interest and desire towards the lesson decrease. It is seen that students have anxiety related to understanding the courses. They express their feelings by saying "I do not understand the course and I cannot do it". Families who have seen this situation through the gamification have started to warn their children. It seems that these warnings also cause lack of motivation. Fitz-Walter, Tjondronegoro & Wyeth (2011) emphasized similar results in their research but stated that students who are reluctant to use the gamification application should be encouraged.

Students' Views on the Leaderboard Element in the Gamification Application

The use of the leaderboards varies according to the age of the students. According to the findings obtained within the scope of the research, older students loved and used the leaderboards more than the others. Gamification application can provide a visual system, such as a leaderboard, so that the students can instantly see their own situation and progress. Students who see their achievement in the leaderboard will also have information about their progress. Similar to this result, Sillaots (2014) and Garcia, Hoang & Brown (2015), have concluded that their students has been supported externally through the use of the leaderboard.

In the study of Hanus and Fox (2015), it was concluded that the leaderboard has contributed negatively to the learning outcomes of the users. On the contrary, the ranking system in the leaderboards can create an entertaining competition environment for the students. In this environment, students will begin to work harder in order to pass score of their friends. It must be used in all lessons with all of the students to provide a fair classroom environment.

Otherwise, when the student is not in the classroom, he/ she will not get point and consequently her/his place in the leaderboard will go down. This will prevent a fair result as it will not reflect the actual performance of the student. In addition, students who are quiet in the class, who have difficulties in adapting to the class, may not go up to the top level in the leaderboard as they get minus points even if they complete their homework. The use of this application, in this case, may create a negative effect on students.

Students' Opinions about Announcement-Notification Element in Gamification Application

Aytekin (2016), points out in his study that the applications provide elements such as sharing, appreciation, commenting, creating a competitive environment, announcement, notification and following. Thanks to these elements, it is possible to follow a lot of information through gamification application. The announcement notification is an element that affects and increase students' success. Similarly, Burger (2015) stated that the announcement-notification influenced the success of the students positively.

When teachers share daily and weekly homework on the platform, they not only inform parents about the due-dates of the assignments but also remind students who forget what the homework is. In this way, students can do homework regularly. When parents learn students' homework through the gamification application, they can motivate students to complete their homework.

Students' Opinions About Avatar Element in the Gamification Application

Each student is represented by an avatar in the classes created by the teachers in the gamification application. Each of these avatars has a different appearance, and avatars can be edited within the application. Students who wish to make changes to the avatars can add new features to their own accounts.

While the gamification application is used, it is seen that avatar has a positive effect on the students. In his study Bayraktar (2014), he emphasized that students should be interested in game avatars and game environments. Students stated that the avatars in the application are remarkable and their appearance is funny, cool, angry, fancy, bald, cute, feathered, with cd-like eyes. Because of these features, it is seen that avatars have a positive effect on them and their motivations because avatars are suitable for their age

groups and they can change the characteristics of the avatars through their accounts. Bayraktar (2014) stated that avatars also affect student and their motivation. Avatars make learning easier and the lesson fun. Furthermore, Sheldon (2012) stated that each student must create and use an avatar. The students who design their avatars are happy and they can create their avatars reflecting their own characteristics. For example; Öğr 8 student stated that *"I used another character before dental braces. After dental braces, I was able to choose a character with braces. I think it was beautiful and it reflected my personality "*. (Ögr 8) Students also think that avatars are suitable for their age. A different positive effect is that the characters are randomly assigned, and students indicate that these avatars do not affect their own development.

On the other hand, some students stated that the avatars in the gamification application have a negative effect on the students. The reason for this is that avatars are not appropriate for the age of middle school students as it looks childish. It is also stated that the fact that the avatars are ugly makes the students feel bad. Some students stated that avatars are imaginative and they are alien characters with 3 eyes. In addition, Bayraktar (2014) stated that avatars in the application are not realistic. There are some factors that affect students' motivation such as a warrior character who looks real. The characters also can change according to gender and students can use their own pictures.

Teachers who expressed their views on the effects of avatars in the gamification application have shown that they have more positive effects on the students. Students find them funny, they compare their avatars with each other and love them. Öğr7 coded teacher stated that many students find their avatars nice because they associate avatars with cartoon characters. Teachers who showed negative effects stated that students paid attention to the avatars until they accustomed to them. However, they did not care about avatars after a while. It is also noted that avatars are not suitable for students in grades 5, 6 and 7. The reason for this is that the students see themselves as a young group and avatars look childish according to their age. Therefore, the avatars have to be changed and the current characters should be preferred. Another negative point is that teachers give too much importance to the avatars. It is related to how these characters are perceived and imposed on students. It is thought that the avatars should not be too important in the education of the students.

Suggestions

Based on the findings obtained from the research results, suggestions were given to researchers and practitioners. It is thought that the part of suggestions given to researchers will contribute to the literature while suggestions for practitioners will be for the teachers who want to use the gamification method in education and researchers who want to do research on gamification.

Suggestions for Researchers

It is seen that the number of the studies in this field is limited. Therefore, upcoming studies will shed light on gamification field.

- The studies related to how to operate the gamification application in education and how to integrate gamification into the curriculum will highly contribute to literature.
- The motivation and satisfaction of students using gamification was lower in some studies than in this study (Hanus & Fox, 2015). For this reason, exploring the effects on participants' internal motivations using gamification will guide the studies in this area.
- Gamification has positive effects on adults but it is not known exactly how it will affect the young learners. Therefore the literature has been contributed by this research. However it may be investigated whether the gamification elements in this group directly contribute to the achievement and motivation of the students or not.
- In this area, the effects of the reinforcer on the participants can be investigated through the use of gamification application in classroom management.
- More data may be collected to learn the views of the parents in the field as it is important to observe students out of classroom.

Suggestions for Practitioners

Gamification method should be used carefully in education. It is necessary to design the method according to the acquirements of the course. The reason is that student' success, perception, attitudes and comments on the course can be positively influenced when the gamification method is used correctly.

- Gamification is a good stimulus for students when it is used carefully. Using scores based on this system eliminates the need for positive-negative reinforcer in the class and allows students to earn points in the maximum amount. Moreover, if the gamification application is well planned and used correctly, it can be a good teaching tool for the teacher and it can encourage the students to learn in the classroom.
- If teachers use the system of points positively, all students can provide positive feedback to this system. Students' behavior can be observed constantly and their grade also can increase. If the application is used negatively, it may lose its influence after a while and the students may have less confidence in the application and they may be less willing to learn. In order to prevent these situations, the teachers should determine the scoring system that they will use in the course in a good way.

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