

**THE EFFECT OF GAMIFIED HOMEWORK ON STUDENTS' INTRINSIC
MOTIVATION AND MOTIVATION FOR HOMEWORK IN EFL CONTEXT**



Hakan SELVASLI

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Assist. Prof. Dr. Enisa MEDE

Director

I certify that this thesis satisfies all the requirements as a thesis for the degree of Master of Arts.



Assist. Prof. Dr. Yavuz SAMUR

Coordinator

This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Arts.



Assist. Prof. Dr. Yavuz SAMUR

Supervisor

Examining Committee Members

Assist. Prof. Dr. Hatime ÇİFTÇİ (BAU, ELT)


Assist. Prof. Dr. Yavuz SAMUR (BAU, CEIT)

Assist. Prof. Dr. Burak ŞİŞMAN (IU, CEIT)



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Name, Last Name: Hakan SELVASLI

Signature: 

ABSTRACT

THE EFFECT OF GAMIFIED HOMEWORK ON STUDENTS' INTRINSIC MOTIVATION AND MOTIVATION FOR HOMEWORK IN EFL CONTEXT

Selvaslı, Hakan

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The aim of this research is to find out whether gamification has any positive impact on students' intrinsic motivation, students' motivation for homework, number of homework completed during 4 weeks. In this study, there are two different classes consisting of 22 9th grade students from one of the private schools in İstanbul. (N=22). Since 22 students are in treatment groups and there is no control group, one-group pretest- posttest design is used in this study. During 4 weeks, gamification implementation was applied to treatment groups. At the beginning and at the end of gamification implementation, intrinsic motivation scale and motivation for homework scale were used as pre-tests and post-tests. Paired sample t-test was used to measure whether there was a significant difference between pre and post test scores of students' intrinsic motivation and motivation for homework when gamified homework was applied. For treatment groups, results of intrinsic motivation scale demonstrate that there was a significant difference between pre (M=80.50, SD=32.28) and post test scores (M=174.90, SD=14.88) of students' intrinsic motivation when gamified homework is applied $t(11)=-11.35$, $p<.00$. Motivation for homework scale's results show that there was a significant difference between pre (M=33.36, SD=2.88) and post test scores (M=43.00, SD=2.02) of students' motivation for homework when gamified homework was applied $t(11)=-11.70$, $p<.00$. To understand deeper sight of gamification on students' intrinsic motivation,

3 students from each class were taken to semi structured interview. The results indicate that gamification has positive effect on students' intrinsic motivation. Also responses of students to interview questions demonstrate that gamification is quite motivating and beneficial. Homework checklist was used to understand whether gamification increased students' completed homework number or not. Results show that gamification increased the number of completed homework.

Keywords: Gamification, Game Elements, Motivation, Intrinsic Motivation, Homework



ÖZ

OYUNLAŞTIRILMIŞ ÖDEVİN YABANCI DİL OLARAK İNGİLİZCE BAĞLAMINDA ÖĞRENCİLERİN İÇSEL MOTİVASYONUNA VE ÖDEV MOTİVASYONUNA ETKİSİ

Selvaslı, Hakan

Yüksek Lisans Tezi, Eğitim Teknolojileri Yüksek Lisans Programı

Tez Danışmanı: Dr. Öğr. Üyesi Yavuz SAMUR

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Araştırmanın amacı oyunlaştırmanın 4 hafta boyunca öğrencilerin içsel motivasyonlarına, ödev yapma motivasyonlarına, ödev tamamlama sayılarına herhangi bir pozitif etkisi olup olmadığını bulmaktır. Bu çalışmada İstanbul'da özel bir okulda öğrenim gören 22 tane 9. Sınıf öğrencisinin oluşturduğu iki sınıf vardır. Bu çalışmada 22 öğrencinin de deney grubunda olması ve kontrol grubu olmamasından dolayı tek grup ön test-son test deneysel desen kullanılmıştır. 4 hafta boyunca oyunlaştırma uygulaması deney gruplarına uygulanmıştır. Oyunlaştırma uygulamasının başlangıcında ve sonrasında, içsel motivasyon envanteri ve ödev motivasyon ölçeği ön test ve son test olarak kullanılmıştır. Öğrencilerin oyunlaştırılmış ödev uygulaması öncesi içsel motivasyon ve ödev motivasyonları skorlarıyla sonraki skorları arasında anlamlı bir farklılık olup olmadığını ölçmek için eşleştirilmiş örneklem t-testi kullanılmıştır. Deney grupları için, içsel motivasyon envanteri sonuçları, öğrencilerin oyunlaştırılmış ödev uygulaması önceki içsel motivasyon skorları (M=80.50, SD=32.28) ile sonraki skorları (M=174.90, SD=14.88) arasında önemli bir fark olduğunu göstermektedir $t(11)=-11.35, p<.00$. Ödev motivasyon ölçeği sonuçları, öğrencilerin oyunlaştırılmış ödev uygulaması öncesi ödev yapma motivasyon skorlarıyla (M=33.36, SD=2.88) sonraki skorları (M=43.00, SD=2.02) arasında önemli bir fark olduğunu göstermektedir $t(11)=-$

11.70, $p < .00$. Oyunlařtırmanın öđrencilerin içsel motivasyonuna etkisi daha derinden anlamak için her sınıftan 3 öđrenci yarı-yapılandırılmıř görüşme tekniđine alınmıřtır. Sonuđlar oyunlařtırmanın öđrencilerin içsel motivasyonu üzerinde pozitif bir etkisi olduđunu göstermektedir. Ayrıca öđrencilerin görüşme sorularına verdikleri cevaplar oyunlařtırmanın oldukça motive edici ve faydalı olduđunu göstermektedir. Oyunlařtırmanın öđrencilerin tamamlanmıř ödev sayılarının arttırıp arttırmadıđını anlamak için ödev kontrol listesi kullanılmıřtır. Sonuđlar oyunlařtırmanın öđrencilerden bir hariç, diđer öđrencilerin ödev tamamlama sayısını arttırdıđını göstermektedir.

Anahtar Kelimeler: Oyunlařtırma, Oyun Elementleri, Motivasyon, İçsel Motivasyon, Ödev

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LIST OF ABBREVIATIONS

| | |
|------|--------------------------------|
| EFL | English as a Foreign Language |
| SAPS | Status, Access, Power, Stuff |
| IMI | Intrinsic Motivation Inventory |
| İGE | İçsel Gdlenme Envanteri |
| HFM | Homework for Motivation |



Chapter 1: Introduction

This chapter contains theoretical framework of the study, statement of problem, purpose of the study, research questions, and significance of the study.

1.1 Theoretical Framework

Games are the environments where you can create yourself with artificial conflict and set your rules to engage people for playing to create a meaningful outcome as defined by Salen and Zimmerman (2003). Despite the fact that digital games are new developments, games have been found human culture from the beginning of known history and used for entertainment, building-relations, training and survival and continued to influence our lives from the social and leisure perspectives as McGonigal (2011) argues. Gamification is a newer application of the Game-based learning and defined as the use of game-based learning qualifications in non-game accommodations (Simões, Redondo & Vilas, 2013). Being relatively a new concept in the educational and business environment, gamification is defined as the use of game elements out of the game contexts by Deterding, Dixon, Khaled and Nacke (2011). It is mostly used for increasing the engagement and motivation of the people who are attending the application of something in return for a prize or badge as in the example of Foursquare. As Zichermann and Linder (2013) expressed the term, gamification is a facility which helps individuals provide supplements and initiate your branding with the help of game elements and mechanics. Another definition for the term is the creation of game-like atmosphere knowledge on people (Hamari & Koivisto, 2014). The term gamification is used as the indication of Digital Game Based Learning and serious games in general. As Kapp (2012) brings out, “gamification is the use of game-based mechanics, aesthetics and game thinking for engagement and motivation provide learning and problem-solving” (pp. 10).

Because of the fact that it is a relatively new concept in educational settings, the definition for the application of gamification brings out different perspectives from different academics. The broadest one is the definition of Marczewski (2012) who states that integrating only one attribute of game is enough to make it gamification (i.e. the use of feedback and rewards in a lesson procedure). While Kapp (2012) poses a strong counterargument as using only one feature for example

score points and badges can be counted as gamification but it only provides one type of motivation for the applicants and results in the cursory engagement.

Gamification is not seen as the combination of game design elements out of game context, it is also viewed as a new experience for the people who play it (Werbach & Hunter, 2012). The reason for this is that the use of important learning elements goes through information and knowledge arranged in curriculum format to create new and better learning experiences. Juul (2013) supports this idea by stating the key element of gamification as providing a challenge to keep users engaged throughout the experience and giving out prizes and penalties for wins and losses. Gamification counts on the idea that daily activities including school and learning are not as interesting and attracting as the computer games which are seen as fun, so integrating game features in those boring activities will make them attractive and interesting (McGonigal, 2011; Zichermann & Linder, 2010). Thomas and Brown (2011) support the idea in their book by arguing that curiosity, imagination, and game-playing sense are the missing parts of traditional text-books and educational system. A different point of view for the gamification comes from Raymer (2011) stating that gamified learning environments need clearly stated goals and objectives, and giving feedback and rewards are the most important elements for gamification. Zichermann and Cunningham (2011) highlight the root of gamification as the problem solving while explaining the difference with the edutainment which is the electronic games combining education and entertainment by also focusing on simple game structures and providing limited experience (Egenfeldt-Nielsen, Smith, & Tosca, 2008).

Role of the teacher in gamified learning environments can be deduced as gamifying a specific activity or teaching a phenomenon through using game elements like badges, levels and XPs for mastery (Bunchball, 2010), therefore, the engagement is increased. The application of gamification in educational settings is the result of cheaper technology, personal data track tools and the belief in the game elements (Deterding, 2012).

Gamification in education is the result of motivating feature that has effect on cognitive, emotional, and social perspectives of game players. The main focus of

gamification is this combination of areas to improve learning (Lee & Hammer, 2011). Another idea about the use of gamification in classroom is from Kluger and DeNisi (1996) which is a theoretical perspective that points out feedback systems that are based on task performance of students are the most frequently used psychological interventions. After dominating in cognitive, emotional and social areas, the psychological aspect will also gain importance for the educators. Sadler (1989) also supports the argument by stating that the feedback as the information that is provided through the task or procedure of learning is important.

1.2 Statement of the Problem

One of the most important problems that teachers and schools are dealing with today is that a great number of students do not have enough motivation and interest in learning as Zichermann and Cunningham (2011) stated. Lee and Hammer (2011) point out that one of the most important problems experienced at schools is lack of motivation and the increasing number of school-drops. Instead of creating new extra courses or standards, as Zichermann (2010) stated, teachers can apply more entertainment in education with gamification to change undesired behavior. Therefore, gamification is a fun way of learning (De-Marcos, Dominguez, Saenz-de-Navarrete & Pagés, 2014) and it supports teaching (Özer & Samur, 2015).

It is observed that in one of the private schools in İstanbul, students are demotivated while they are doing homework which is given by their English teacher. According to 6 months submission rates of homework which is 62,39, it can be said that students do not 38,61 percent homework which is given by the teacher. Since every homework is important in terms of English lessons objectives, it is expected from students do more homework. Amount of homework and difficulty of homework are appropriate for students as given in the literature part. When it is asked to students why they don't do their homework, the answer is clear: homework is so boring and they don't have a choice. Because of that reason, it is seen that most of the students do not do their homework in given time or they do their homework just for the reason of mentioning it is done and it affects their homework results as well as their academic performance in negative way.

According to Kapp (2012), some of the reasons for applying gamification into different environments are to motivate individuals, promote learning outcomes and generate engagement. In order to motivate students and make them more engaged in homework, gamification with game elements are applied to Moodle system. In this way, it is aimed that the number of homework that students do and students' motivation increase in 4-week-long gamification application process.

1.3 Purpose of the Study

The main purpose of the study is to look for some answers whether gamification has any positive impact on students' intrinsic motivation and motivation for homework or not. In addition, another purpose of the study is to prove that gamification plays a very important role in increasing the number of completed homework of students. According to Dominguez et al. (2013) gamification has a great potential to increase students' motivation, enhancing learning outcomes in terms of classroom settings.

Also, it is aimed to show that gamification can be a way of increasing motivation and engagement of students in terms of doing homework on contrary to previous research in the literature. In connection with this, for instance, Bogost (2011) focuses on negative impacts of gamification on motivation and engagement of students. To detect the impact of gamification, game elements must be well designed by focusing on more intrinsic motivation than students' extrinsic motivation (Nicholson, 2014).

1.4 Research Questions

1. Is there a significant difference between pre and post test scores of students' intrinsic motivation when gamified homework is applied?
2. Is there a significant difference between pre and post test scores of students' motivation for homework when gamified homework is applied?
3. Is there a difference in terms of students' homework completion numbers between gamification processes compared to previous 4 weeks (non-gamified process)?
4. What are the perceptions of students about gamified homework process?

1.5 Significance of the Study

First of all, this study plays significant role in terms of application game elements into educational context which focus on English as a second language and homework. Some of the examples and previous studies are shown in the literature review and one can understand that there are not many gamification examples which are mainly related to English as a second language. Regarding this fact, this study is a great example of application of gamification in educational context. Especially, there is lack of enough examples of gamification which aim to improve students' motivation in terms of language education in Turkey. Therefore this study is expected to contribute some positive results to academic field.

Second of all, this study can be valuable because of using rewarding type which is stated by Zichermann and Cunningham (2011) and it is called SAPS. This rewarding type includes some steps which goals to students' motivation by starting from extrinsic to intrinsic. Also, rewards, rules and some steps in the gamification are created by both students and teacher of the course. It means that game elements are created according to students' interest and needs.

Also, in this study, there are two different classes whose English levels are different from each other. In both groups, gamification is applied and there is no control group to demonstrate the difference between two groups. Instead of that, with the help of game elements, gamification is applied to both groups. It can be said that even if students' levels of English are different, gamification has still a chance to motivate them, and promote their learning outcomes.

Thirdly, homework means an activity that is given by teachers to students during out of school time (Cooper, 1989). Nowadays, homework becomes a highly controversial topic in the world (Gill & Schlossman, 2000). There are some critical questions about whether homework is beneficial or not for students. There are negative and positive effects of homework. Benefits can be divided into four main categories (Cooper, 1984). First of these categories is immediate academic effects. Homework provides immediate academic effect to students with better remembering of what they have learned, practicing given topic (Corno, 2000). Second of them is long term academic effects. For this category, it can be said that homework gives a chance for students to review, study in their free times. Third of them is non-

academic effects. Homework can be useful for students in terms of self-regulation, organizing time (Bempechat, 2004). Last benefit of homework is parental appreciation and involvement. With the help of achieving and completing homework, students have a feeling of appreciation of their families. Also, while students are doing their homework, parents can interact with their children and support them on this way (Cooper, 2001; McPherson, 2005).

Negative effects of homework can be categorized into four main factors. First of them is satiation. Students can lose their interest in task and material in time (Skaggs, 2007; Brewster & Fager, 2000). While they are doing their homework, they can be physically and emotionally tired. Second of them is Denial of access to leisure time and community activities. Students can have feeling of pressure while they are completing their homework. Third of them is cheating. Students can cheat during homework completion time Kralovec & Buell (2000). Last one is increased difference between successful and not successful students.

For a meaningful homework, teachers should care about some points such as clear purpose (Shellard & Turner, 2004), students and parents' expectations (Brewster & Fager, 2000), suitability to students' mastery of skills (Marzano & Pickering, 2007), amount of homework (Hancock, 2001).

1.7 Definitions

Gamification: Gamification is the application of game-design elements and game principles in non-game context (Deterding et al., 2011).

Homework: Tasks assigned to students by school teachers to be carried out during non-school hours (Cooper, 1989, p. 7).



Chapter 2: Literature Review

This chapter gives background information about what gamification is, game elements, homework, self-determination theory, previous studies about gamification and drawbacks of gamification.

2.1 What is Gamification?

Pelling (2002) put forward the term of gamification and this term drew attention in the few past years (Hamari, Koivisto & Sarsa, 2014). Since then gamification was used in various areas which include education, health, business etc. (Lee & Hammer, 2011). Among the definitions of gamification, this was the one which could be the earliest, simplest and most popular one stated by Deterding et al. (2011). “Gamification is the application of game-design elements and game principles in non-game contexts“. As one can understand from the definition, it is simply applying game elements such as leaderboard and points to non- game context. This definition can be identified as an umbrella term in the literature.

Even though there are many different explanations for the term of gamification, there is not only single one which is accepted in a common by researchers (Seaborn & Fels, 2015). There are more specific definitions in literature. For example, according to Burke (2014), it is a way of using game elements and mechanics for completing a goal by motivating and engaging people in a digital way. Also, Kapp (2012) stated that gamification can be beneficial by using game elements, designs and mechanisms to solve a problem, increasing engagement of people to acquire desired behaviors.

Huotari and Hamari (2012) pinpointed that gamification role is a process in which players have same feelings as in the games. It can be said that with the help of game elements, game designs, game mechanics can help on this point. Moreover, they highlighted user experience can be important in terms of gamification. Werbach and Hunter (2012) mentioned gamification as transformation of game mechanics and game elements into none game environment.

2.2 Homework

According to Cooper (1989) definition of homework is “tasks assigned to students by school teachers to be carried out during non-school hours” (pp.7). It is getting difficult to understand definition of homework for various types of homework. Types of homework can be considered into many different categories such as voluntary or not, difficulty level of homework, pair or peer work, deadline (Cooper, 2007; Coutts, 2004). One of the most critical questions is what reasons or purposes can be for tasks. Homework is given by teachers for two main reasons. One of them is for giving instructional purposes in which students have a chance to review the topic that they have learned in the classroom. One of them is non-instructional purposes which is way of improving communication between parents and students on learning (Cooper, Robinson & Patall, 2006; Epstein & Van Voorhis, 2001).

One of the motivating factors of homework completion is achievement. According to many researchers homework plays very significant role in terms of academic achievement of students in a positive way at schools (Cooper & Valentine, 2001; Corno, 2000; Gurung, 2003; Hattie, 2009; Mayer, 2011; Paschal, Weinstein & Walberg, 1984; Trautwein, Köller, Schmitz, & Baumert, 2002; Trautwein, Lüdtke, Schnyder & Niggli, 2006). To create positive correlation between academic achievement and homework, one of the most significant factors is students’ motivation. As stated by Hong, Mason, Peng and Lee (2015), students’ motivation and willingness are required for homework completion. When students are motivated more to fulfil an assignment, they get higher results (Hong & Lee, 2000). According to Eunsook, Min and Yun (2011), it is found that perception of high school students about homework is so valuable and necessary for increasing their achievement and improving learning skills. Another motivating factor in high school level is credit and extra credit in terms of homework completion (Ryan & Hemmes, 2005). In another words, it is expected from students complete their homework for extra points which can be important for students because of some reasons including graduation from course and grading. Students can be motivated to get extra credits because of homework completion.

There are some useful points of homework completion including increasing retention, learning how to control time, self-regulation, identifying a goal in classroom settings (Grodner & Rupp, 2013). With the help of homework completion students are expected to taking responsibility for their own learning with self-regulation skills such as time-management. Homework play a significant role in terms of students' self-confidence and self-discipline (Brewster & Fager, 2000).

According to Cooper, et al. (2006), to design a meaningful homework, there are some effective factors including a goal, feedback, environment in which students do their homework, homework amount and quality. Instead of expecting to apply to one factor to create a well-designed homework, it can be better to understand that there must be harmony in these factors. There is a debate about amount of homework among researchers. Cooper (1989) states that time spent for homework should be between 1 and 2 hours for a day. After 2 hours benefits of homework decrease. Also Cooper (2007) states that "10 minutes rule". According to this rule, students are responsible for homework up to their grades. This time spent for homework is multiplied by students' grade level. Also, he mentions that this 10 minute rule can be increased to 15 minutes according to type of homework. Homework difficulty and amount should depend on student's ability (Good & Brophy 2003). Therefore, time spent for homework can be 10 minutes or 15 minutes for each subject for 4th grades or 30 minutes to 60 minutes for 12th graders. In terms of amount of homework, Cooper (2007) states that it is better to give shorter homework to students instead of longer ones. According to (Dettmers, Trautwein, Lüdtke, Kunter, and Baumert, (2010), regarding effort for homework, teachers should arrange optimum level of difficulty for homework. When students find homework not difficult or not easy they are more motivated.

It can be understood that homework has so benefits when students do it willingly. In other words, it can be said that homework is only beneficial for students who want to complete their homework (Cooper, Valentine, Nye, & Lindsay, 1999).

2.3 Self-Determination Theory and Homework

Deci and Ryan (1985) offer a motivational model which is called self-determination theory. This theory is so helpful to understand how behavior of human

is started and controlled. Self-determination is a motivation theory that is related to our natural aptness to behave in effective ways in terms of different areas such as education. There are two main categories of motivation and these are intrinsic and extrinsic motivation (Deci, Koestner & Ryan, 2001). It is not expected that these two motivation types work in same way or do not affect each other. Intrinsic motivation is a self-initiating desire resulting from people's curiosity regarding their surroundings which can help learners become more involved and engaged in the learning process. It can be said that motivational stimuli comes from within. In others words individuals are satisfied or having fun what they have done. Extrinsic motivation is a learning force led by external factors which can also have a positive impact on learning if used properly. It can be said that motivational stimuli comes from outside. Individuals do something in return of getting some rewards or avoiding punishment.

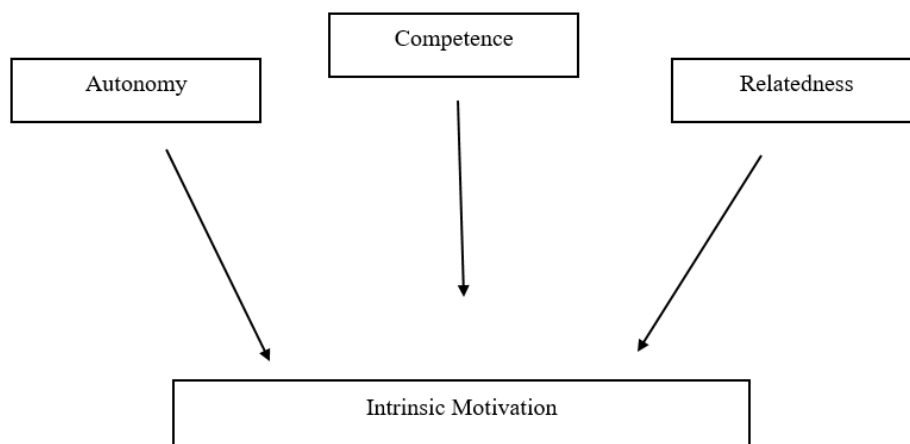


Figure 1. Intrinsic motivation model (Ryan et al. 2006)

Self-Determination theory is simply based on the same elements which are called as autonomy, competence and relatedness (Ryan et al. 2006). Autonomy means that individuals have a chance to choose what is expected from them when they are doing an activity. Individuals feel freedom and have a choice and control while performing a task. Also, it means individuals' strong desire to start things to achieve something (Deci & Vansteenkiste, 2004). Competence is a concept in which

individuals feel that they can do some certain activity and they have mastery in that. Also, it offers some challenges to individuals that they desire (Kapp, 2012). Relatedness means that individuals have a worthwhile interactions and connections with others and feel that they belong to a group (Deci & Ryan, 2000).

Intrinsic motivation is driven by autonomy, relatedness and competence skills and feelings of individuals (Ryan et al. 2006). For example, in terms of homework completion, students feel that they have a choice to do their homework or not. Also, when they complete their homework or not, they have a feeling of mastery experience or lack of it. In terms of relatedness, teacher can support students while and at the end of homework completion.

With the help of combination of homework completion and gamification, students can be motivated intrinsically and extrinsically. According to Cheong, Cheong and Filippou (2013), motivation is a must in terms of education because of providing engagement in learning tasks. Gamification can be a way of increasing intrinsic and extrinsic motivation of individuals for specific purposes. Dominguez et al. (2013) state that gamification is a way of fostering engagement and students' motivation. As stated by Buckley and Doyle (2014), there is a positive correlation between motivation and learning skills of students and gamification application.

2.4 Previous Studies about Gamification in Education

Gamification is used for many different reasons in education field such as motivating students, increasing students' success on different topics, remembering and recalling information, class management. To give an example, gamification was used in their study to increase motivation, learning success and retention with social game elements on the subject of psychology and computer science (Krause, Markus & Joseph 2015). They carried out an experimental study with 213 students. It is found that with social game elements, remembering rate and success of the students significantly increased. According to Huang and Hew (2018), gamification can be used for the sake of increasing students' motivation and engagement. In their study, during 10 weeks flipped information science course, students who are taught with gamification application completed discussions task more than students who are taught without gamification application in given time. Also, students who are

lectured with gamified course thought that gamification is really fun and gamification encourages them to develop their own learning strategies.

Gamification can be used in foreign language learning to get better results than traditional teaching. To give an example, gamification was used for German foreign language course to understand whether there was a significant difference between pre and post scores of students (Berns, Palomo-Duarte, Dodero & Cejas, 2014). An app which is called guess was created by researchers for their study to engage their students more than they used to before. In terms of vocabulary learning and engagement, results of the study showed that gamification has a positive impact on foreign language learning during 4 weeks. Another example is about English language learning (Fortunato & Cruz, 2018). In their study, it was aimed to understand that students have better academic and behavioral performance and understanding, more motivation and participation by using gamification with game elements; leaderboard, rewards, competition, collaboration during English lessons. The result of the study demonstrated that gamification can improve motivations and engagements of their students while they are performing task during English lessons. Also, as a result, during gamification, it was observed by researchers that students have different positive emotions results from accomplishment such as euphoria and joy. Lajord (2016) conducted a study about gamification in his school. In his study, researchers aimed to improve an oral activity in terms of English language learning with gamification and game elements. He gamified his four English lessons in which students were expected to take some roles, use critical thinking to solve problems by using English. Conclusion of the study stated that students were encouraged, motivated to solve problems by using English and it was clarified that students felt more confident and creative after gamification process in terms of problem solving and meaningful communication.

Gamification was used for classroom management (Carlson, Harris & Harris, 2017). In their study, researchers created a system which was called coin counter. In this system, students could earn and spend their coins according to their desire. It was aimed that certain and desired behaviors of the students could be improved with the help of gamification. The result of the study showed that gamification has a

powerful effect on participation of students, class management, classroom performance, classroom strategy, and classroom enjoyment.

Gamification can provide customized and personalized learning for students and teachers. To give an example, Mora, Tondello, Nacke and Arnedo-Moreno (2018) designed a personalized gamification computer network design course for their students to understand whether gamification has a positive effect on behavioral and emotional engagement of students. It took 14 weeks with 81 students, and at the end of the study it was obvious to say that personalized gamification has a positive impact on students' engagement when compared to generic approaches. According to Jagušt, Boticki, Mornar and So (2017) gamification can be one of the best applications to increase students' engagement, interest and motivation. In their study, researchers developed a multiplatform mobile learning system for teaching math to young learners with the help of gamification application. 59 students took part in this study and the study consisted of two lessons. At the end of the study, students who were given gamified instructors were more motivated and engaged than students who were taught by normal way.

There are some apps and websites which get benefit from gamification by using game elements. One of these apps and websites is Kahoot. Teacher can create multiple choice questions according to his or her needs. Kahoot can provide a platform in which teachers have a chance to motivate and engage students with the help of leaderboard, point system, time. To give an example Tan, Ganapathy, Malini and Manjet (2018) conducted a study for their English for media lessons in their high school. They used Kahoot for their each weekly lessons at the end of the lessons during one semester to goal that enhance understanding of students, fostering their learning, increasing students' motivation as well as engagement. The result of the study shows that Kahoot with the help of gamification and game elements has a positive outcome for students' engagement and motivation. Another example to some apps, websites is ClassDojo. Bicen and Kocakoyun (2017) carry out a study about how to manage students with gamification application. They use ClassDojo media in their classroom to change behavior of students in positive way. 20 students

and 12 parents take part in the study. The result of study show that gamification has a positive effect on students' behavior such as obeying rules and class order.

2.5 Game Elements

2.5.1 Leaderboard. Leaderboard element plays very significant role in terms of many gamification applications. It provides participants to see themselves in which position they are in. Therefore it can be thought that leaderboard enhances players' social status and engagement in the activity according to Dicheva, Dichev, Agre and Angelova (2015). To be ranked in top positions, it is expected from players to compete with each other and it enables players to feel highly motivated as stated by Barata, Gama, Jorgeand and Gonçalves (2013). Also, it gives a chance to compare their performance with others while they have a chance to get some feedbacks what they have done so far according to Charles, Bustard and Black (2011). When students get more instant feedback about what they have done in gamification, they have chance to understand and correct their mistakes as stated by Li, Grossman and Fitzmaurice (2012).

Leaderboard as itself may not be enough in terms of bearing up students to get higher scores in gamification (Bruder, 2014). In order to get better results with gamification, one can be careful about many things which include other gamification elements.

2.5.2 Competition. One of the comprising game elements which is used in the studies is competition. One of aims in gamification is having fun when players have a challenge. Competition is an event that more than one side are struggling for winning or achievement (Liu, Li, & Santhanam, 2013). It gives a chance to players to challenge each other. Hanus and Fox (2015) state that leaderboards can be used to promote competition between players to engage and motive them. According to Burguillo (2010) social pressure can be occurred because of competition which results from leaderboard to increase engagement of players and this have a beneficial impression on learning and engagement.

On the other hand competition can have negative effect on learning and students' intrinsic motivation. According to Reeve and Deci (1996), competition is

decreasing students' intrinsic motivation and cause anxiety. Hanus and Fox (2015) state that not regarding students thoughts about competition even if it is positive or negative, it may have negative effect on students' motivation. Also, Šćepanović, Žarić and Matijević (2015) mention that some game elements – time track and competition may have negative effect on students' motivation. Because of being different ideas about competition has negative and positive effect on learning (Buckley & Doyle, 2014). This element should be carefully implemented to gamification application.

2.5.3 Point system in gamification. One of the most common used game elements is points (Glover, 2013). Points can be seen as measurement (Attali & Attali, 2015) in gamification to change behaviors of students in certain way (Boendermaker, Prins & Wiers, 2015). Students can get points in return of completing what is required such as completing a task, participating class activities, solving problems, being helpful to others (Charles et al., 2011).

One of the main functions of using points in gamification is motivation (Mekler, Brühlmann, Opwis & Tuch, 2013). Richter et al. (2015) stated that there is a positive relationship between points and students' intrinsic motivation. Another main function of point system is giving feedback. As stated before, students are given some points to achieve missions or complete tasks. While they are doing this, they have chance to see their mistakes and to get more points they can learn from their mistakes with the help of feedback mechanism (Bleumers et al. 2012).

According to Zichermann and Cunningham (2011), there are 5 different pointing systems as follows:

Karma points : To enhance positive, empathy feelings, players can give some points each other for a certain behavior, in return they do not expect to some points from other side

Reputation points : This point system is used for trust issues of players.

Redeemable points : This point system is different that experience point in terms of going down. It means that players can spend or collect their points to exchange something with others.

Experience points : Students get some points whenever they finish as a mission such as completion of tasks, activities.

Skill points : It can be thought as extra points in special missions such as completion of extra task.

2.5.4 Feedback. Feedback can be regarded as an important game element in gamification (Salen & Zimmerman 2003). Feedback can provide information to students about what they do well and what they do not well. In other words, students can see where they are, what they are doing right, what they are doing wrong. It means that students can keep their trace with the help of feedback mechanism. Nicholson (2012) highlights that when point system is given according to interest of learners it can provide a meaningful gamification environment and enhance learning. Also, Knight et al., (2010) state that feedback can have a chance to alter learning of students and give assistance to changing behavior of students if it is suitable for students needs and interest, well designed. Barata et al., (2013) state that instant feedback through points that students get can improve students' motivation. To increase students' motivation, it is believed that feedback is one of key (Ryan et al. 2006). According to Kapp (2012) to improve learning of students, instead of points, feedback, informative feedback can be used for giving positive information.

2.5.5 Badges. In the literature, there are many different definitions and explanations about badge types such as open badges and digital badges. One of them was classified by Gamrat, Zimmerman, Dudek and Peck (2014) as digital badges. They explain digital badges in this way. Digital badges are like online depiction of students' experiences in terms of learning, engagement, motivation which are giving information about skills and learning outcomes. According to Bills (2003), badges are kind of signals which are ways of being aware of whether our target received information, skills and learning outcomes or not.

In gamification, badges are used for many different purposes such as creating a goal for learners, increasing motivation of learners, certification of achievement, rewards as stated by Knight and Casilli (2012). According to Zicherman and Cunningham (2011) badges can be used to motivate students in terms of participation to given activity or following task. As stated by Gibson, Ostashewski, Flintoff, Grant and Knight (2013) digital badges support engagement of students in a given activity

in terms of time and motivate them to acquire new skills. Furthermore, Finkelstein, Knight and Manning (2013) state that badges are kind of visual progress of students learning, achievement and required skills.

2.5.6 Rewards in gamification. One of the questionable game elements in gamification is rewards. In the literature, it is possible to find that rewards can have negative and positive impacts on learning, motivation, engagement of students. According to Deci et al. (1999), giving rewards to someone in return of what they have done and deserved, enabling extrinsic motivation instead of regarding intrinsic motivation and it does not motivate individuals. Also, in another study of Deci and Ryan (2014) state that if the aim is changing behaviors in long term and rewards is used for changing behaviors of individuals in short-term, it can be dangerous for long term instead of being beneficial.

On the other hand some researchers think that using rewards in gamification has positive, useful impacts. For instance, Hakulinen, Auvinen and Korhonen (2013) stated that even if achievement badges has no single effect on grading, it is thought that these badges can be useful for changing behaviors of students. Especially in online learning environments, according to summary created by Hamari et al. (2014) it can be said that rewarding can have positive outcomes about time management, learning and focusing skills. Also, according to Brewer, Anthony, Brown, Irwin, Nias and Tate (2013), rewarding can motivate students in terms of education outcomes.

2.5.6.1 SAPS model. As stated in the literature before, rewarding can have positive effects and negative effects on changing behaviors of students. Therefore rewarding system, prizes have to be carefully designed according to needs of students, course goal, motivation factors etc. Zichermann and Cunningham (2011) created a rewarding model which is called saps. SAPS is an acronym for status, access, power and status.



Figure 2. SAPS; status, access, power, stuff

Figure 2 shows that SAPS model and categories are designed from the least desired rewards to most desired ones and also it starts with the expensive rewards, ends with the cheapest ones. The system of rewarding is so important for providing loyalty to gamification application.

Stuff: The first one in rewarding category is stuff. Stuff provides tangible rewards which can be directly money or related to money. It is the most expensive but the least desired reward type.

Power: The second one in rewarding system is power. This one gives player some power to use over other players. It can be admin of a forum.

Access: The third one is access. In or outside of the game, players have a chance to access something which can be useful and interesting for them. For example using phone in the class

Status: The forth and the last is status. In the gamification application status can be provided by leaderboards, badges and points. It can be said that players feel that they are different from each other in terms of status. This is the cheapest but the most desired reward type in the system.

2.6 Drawbacks of Gamification

There are some different ideas about gamification suggesting that it has negative and positive effects on learning outcomes, students' motivation, achievement of students, and some game elements are thought to decrease intrinsic motivation such as competition, rewarding, count down timer, leaderboards. Barata et al. (2014) stated that in gamification application, not every player gets the same results which

are expected. In other words, gamification affects individuals in different ways. If applicators of gamification add only few elements such as points, leaderboard by disregarding the meaningfulness, it can be pointification instead of meaningful gamification. Also, it can be seen in the literature that there are some of the successful gamification examples in which no pointing system is used (Werbach & Hunter, 2012). According to Deterding (2013), gamification focuses on extrinsic motivation more than intrinsic motivation because of reward based system. When it is combined with self-determination theory, Deci et al. (2001) stated that it may impact learners' performance and motivation in a negative way.

On the other hand, there are many good examples of gamification which aim to foster learning of students, increasing students' motivation, carefulness, engagement, classroom management in the literature (Domínguez et al., 2013; Hanus & Fox, 2015; Stott & Neustaedter, 2013). For meaningful gamification, Nicholson (2014) declared that game elements and designs can be used better to increase students' intrinsic motivation instead of students' extrinsic motivation for long term behavior changes.

Chapter 3: Methodology

In this chapter, information about research methodology in this study is given. Methodology part consists of research design, settings and participants, implementation procedures, data collection tools, data collection procedures, data analysis procedures, reliability of data instruments and limitations. The purpose of the study is to analyze the differences between gamified and non-gamified instruction in terms of intrinsic motivation, motivation for homework, students' perceptions about gamification, homework completion and students' perceptions about gamification

3.1 Research Design

In this study, a mixed-method in which there were qualitative and quantitative approaches and techniques were applied to overcome the limitation of one single design and because of the research questions' fulfillment (Creswell & Clark, 2011).

For choosing right badges, rewards and leaderboard types, a survey method was used. To get information about students' intrinsic motivation and motivation for homework increase after gamification, intrinsic motivation inventory and motivation for homework scale were used as pre and posttest. Pre and post- tests were applied for each class. Paired T-test was used to compare pre and post- test scores of students. Since paired T-test was parametric test, before applying, normality test was applied to understand whether data normally distributed or not. Students' 4 weeks completed homework numbers before and after gamification were compared to identify whether gamification has any impact on students' completed homework or not.

In addition to quantitative means, a qualitative approach was followed to understand students' perceptions towards gamification. For the data collection tool, a semi-structured interview technique was used. Also, triangulation method was used to increase validity of findings and acquire detailed information (Berker & Zauszniewski, 2012). With the help of triangulation method, it is aimed that understand the phenomena by using more than one method. For this quantitative and

qualitative data are collected at the same time to get deeper information about gamification effects on students' intrinsic motivation.

3.2 Settings and Participants

This study was carried out in one of the private colleges in İstanbul. There were two intact classrooms conveniently used as treatment groups. There is no control group in this study. Both classes are taught by the same instructor. Also, instructor is the researcher in this study. 9-A class consisted of 12 students in which there were 4 female and 8 male students. 9-B class consisted of 10 students in which there were 7 female and 3 male students. The ages of all students were 14. Socio-economic backgrounds of students were similar. When it was asked in the class, most of students stated they liked playing online games. They were all nine grade students who had 16 hours of English lessons in a week. English levels of two classes were different from each other. In the beginning of the school year, students are taken to placement test in order to identify their English level. According to result of the placement test, one of them was A1 and another was A2 level of English according to standards set by Common European Framework for Reference (CEFR). It was observed that some of the students were unwilling to complete their homework or they had some problems with doing their homework on time. To specify the demographic information, Table 1 shows classes, participants' gender and ages.

Table 1. Demographic Information of Participants

| Group | Class | Male | Female | Total |
|---------------------|-------|------|--------|-------|
| Treatment Groups | 9-A | 8 | 4 | 12 |
| | 9-B | 3 | 7 | 10 |
| | Total | 11 | 11 | 22 |

3.3 Procedures

Since there was no control groups in the study, same game elements with same gamification process were applied to two different classes during 4 weeks. Even though same homework types were used in both groups, contents of homework for

two classes were different from each other because of their English level. The contents of homework were designed and arranged carefully according to students' English level. Also, grammar, reading and listening homework were matched with their English courses objectives. In other words, students in both classes were responsible for homework which was related to classroom activity, and in this way, students were familiar with three different homework types.

Table 2 shows groups, pre-test, treatment and post-test.

Table 2. Design of the Study

| Groups | Pre-Test | Treatment | Post-Test |
|------------------|----------|-----------|-----------|
| Treatment groups | O1+O2 | X1 | O1+O2 |

O1: Intrinsic motivation inventory

O2: Motivation for homework

X1: Gamified homework

Treatment groups: 9-A and 9-B classes

At the beginning and at the end of the study, students were tested with the help of intrinsic motivation inventory (IMI) to understand whether gamification had any positive effects on students' intrinsic motivation or not. This implementation was applied to treatment groups. Also, motivation for homework scale was applied to same group in order to analyze students' motivation about homework before and after gamification process. An interview which consisted of 29 questions was administered to 3 students for each class. Interview questions were created by researcher and gamification subject matter expert. It was designed according to game elements which were used in gamification. In total, 6 students from two classes were interviewed. Students were chosen according to their ranks in leaderboard and

observation of the teacher during gamification process which lasted 4 weeks. Because it was aimed to investigate gamification increased students motivation for different positions in leaderboard. 1 student in top 3 position, 1 student in middle position and 1 student in bottom 3 position were chosen to be interviewed for each class.

3.3.1. Implementation procedures

Students had 3 types of homework which were grammar, reading and listening in a day. Each homework was 10 points and it meant that students could get max 30 points in a day. In a week, they had twelve pieces of homework for four days. Gamification went on for 4 weeks. For each day, after last submission of all students, teacher made a leaderboard chart in Moodle to show their scores for each piece of homework and total scores for position of students in the leaderboard. If they did not submit their homework, it was shown by teacher as “-“ in the leaderboard chart. For late submission, students lost 1 point for each day. If it had happened, it would have been shown as “?” in the leaderboard.

If students had badges (bronze, silver, gold, diamond badges) and they had a right not to do one, two, three or four homework according to badges that they had. When they still wanted to do their homework, they would have extra points by teacher according to homework result of students. It was called by students and researcher as using any badge for homework. It was shown as “9+10=19 (bronze badge)” in the leaderboard. Students had to earn some points to be in the top 3 position in leaderboard. Taking place in top 3 in the leaderboard and completing homework played a very significant role in terms of gamification process because of earning badges and rewards. At the end of each week, students who took place in top 3 in leaderboard had a chance to earn rewards which were mentioned before gamification application.

Learning management system. Moodle is an open source software that enables teachers to create their own material for their classes. It is important to be open source software because of providing some opportunities to teachers such as creating your own materials, providing feedbacks, choosing types of homework, timing and dates of homework etc.

There are 3 main sides of moodle that are administration, teachers or course managers and students. Admin of moodle is creator of the course. The role of admin is creating a course, choosing the format of course such as weekly format, topic format etc, the duration of the course such as a year, six month etc., creating users with user names and passwords, assigning roles for the course; teachers, students, managers, choosing suitable theme for the course, permissions about role of students and teachers, gradebooks for grading in terms of any category that is created. Teachers are responsible for managing course, enrollment of students to course system, uploading learning sources and homework, grading marks and results of students etc. Students are needed to be guided by teachers and they are responsible for following instructions of the course, doing homework etc.

There are two main features in moodle system which are activity module and resource module. There are assignment, chat, choice, database, external tool, feedback, forum, glossary, lesson, quiz, scorm package, survey, wiki and workshop features in activity module. Resource module consists of book, file, folder, label, page, URL, IMS content package and plugins features. In the school, assignment and quiz features are used for homework. The difference between these features is in assignment, students download the worksheet which is uploaded by teacher and re-upload after they complete the homework or instead of downloading, students can have a chance to type answers directly to the system. In quiz feature, while questions are being uploaded one by one, correct answer is marked by teacher. In this way, it is not needed to evaluate every student's paper by teacher. Also, students have a chance to get instant feedback to see what they do wrong or right. In quiz format, there are various type of questions such as multiple choice, true-false, missing word, matching. It gives an opportunity to teachers choose the right type of question for their needs.

Every student has their own user name and password for signing in to Moodle. Weekly format is used in moodle. Teachers upload every source and activity type into a week. In the week, there are 12 homework and 4 quizzes. Homework are done at home but quizzes are completed at the end of the lesson during school time. Teachers have a chance to follow each student's progress with

the help of reporting section in moodle. The reporting section shows how much time students deal with homework, their scores, their correct and wrong answers for questions.

Homework. In our school, moodle system was used as a learning management system and one of its functions is to deliver homework to students and every student had their own user name and password for entering to Moodle. This way, every day except Thursdays, students had certain homework to do. Every day, students had 3 pieces homework which were classified into 3 main categories which were grammar, reading and listening.

Homework policy which includes amount of homework, content of homework was determined by school management, English subject matter and other teachers. According to that policy, students are responsible for homework which is arranged according to lesson hours in a day and in a week and content of the lesson. The excel sheet was prepared to keep record of homework which teacher gave in a day. In this way, it can be seen by teachers that how many homework was given and how much time it required. It was aimed that students have not less or too much homework in a day. It was also discussed by teacher of the 9th grade English teacher and decided to give 3 homework in a day. Homework can be beneficial because it fosters retentions of knowledge, provides feedback and give students a chance to practice about the subject. In the beginning of the year, Also, since students have 14 hours English lessons in a week, homework amount can be appropriate for students. Teacher prepared questions and uploading them to moodle. Since teacher marked correct answer for each question, it is not needed to evaluate every student's homework by teacher. In another words, moodle evaluated every homework automatically. In this way, students have a chance to see their mistakes and correct answers with the help of instant feedback.

The homework was named and numbered according to categories such as homework 45 –Reading-. Each day, 3 pieces of homework were labeled by teacher in Moodle. There are 12 homework in a week and labelling was so important because of the fact that students may have a chance to do wrong homework. Labelling system was shown in Figure 3. When completion of homework was done, each student could

learn their exam results and receive positive and negative feedback about their homework.

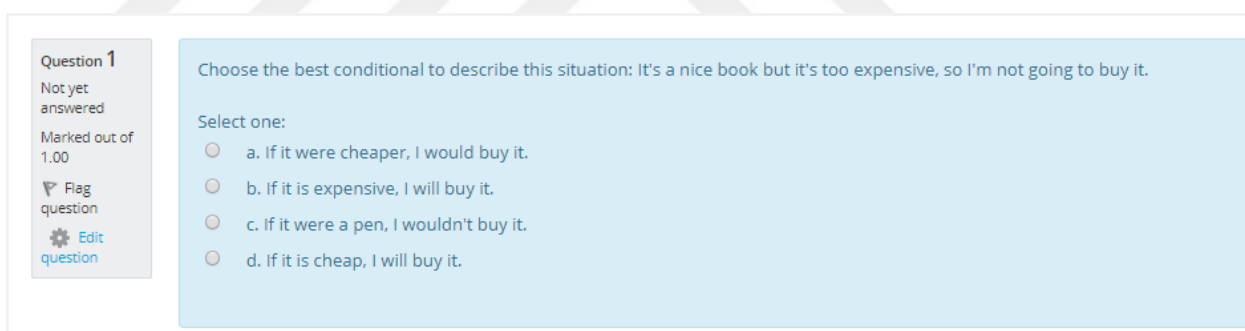
Homework : 02.04.2017 Monday

- [Homework 351 - Present Perfect Tense-](#)
- [Homework 352 -Reading -](#)
- [Homework 353 - Listening-](#)

Figure 3. Labelling system

Grammar

There are 10 multiple questions in moodle system. Grammar topic is related the subject which is taught during school time. There is no time limitation for completing homework. Target grammar topics are if type 1-2, past continuous tense and present perfect tense for 9-A class; if type 3, wish clauses and reported speech for 9-B class. An example of grammar example is shown in figure 4.



The screenshot shows a Moodle question interface. On the left, a sidebar contains the following information: 'Question 1', 'Not yet answered', 'Marked out of 1.00', 'Flag question', and 'Edit question'. The main content area is a light blue box with the text: 'Choose the best conditional to describe this situation: It's a nice book but it's too expensive, so I'm not going to buy it.' Below this text, it says 'Select one:' followed by four radio button options: 'a. If it were cheaper, I would buy it.', 'b. If it is expensive, I will buy it.', 'c. If it were a pen, I wouldn't buy it.', and 'd. If it is cheap, I will buy it.'

Figure 4. Grammar homework example

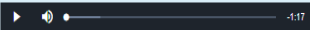
Listening

There is an audio file which is about 2 or 3 minutes. While students they are listening the track, they are expected to solve 10 multiple questions. Students have a chance to listen the audio track as many time as they want. Listening is related to vocabulary, grammar which are taught during English lessons. Listening homework example is shown in figure 5.

Information

Flag question

Edit question



Question 1

Correct

Mark 1.00 out of 1.00

Flag question

Edit question

What does the man want to do?

Select one:

- a. play basketball with friends from work ✓
- b. try out for the company baseball team
- c. get in shape and compete in a cycling race

The correct answer is: play basketball with friends from work

Figure 5. Listening homework example

Reading

There is a reading text with explanation for target vocabulary. Each reading text is related to course book and class activity. Students are familiar to words in the text. Students need to answer 10 multiple questions without time limitation. An example of reading homework is shown in figure6.

The first year of life

A newborn baby can see, hear and feel. By the age of five, a child can talk and ride a bike. How does this development happen? We don't really understand the way language and thinking develop in the brain. Now scientists are using new technology to help them in their studies. They are discovering new information about the way a baby's brain develops.

A study in 2010 showed that the experiences a child has in their first few years are important. These experiences affect the development of the brain. The study showed when children receive more attention, they often have higher IQs. Babies receive information when they see, hear and feel things. This information makes connections between different parts of the brain. There are a hundred trillion connections in the brain of a three-year-old child.

One experiment studied how newborn babies' brains react to different sounds. The sounds were in different patterns. For example, the sounds mu-ba-ba make the pattern 'A-B-B'. And the sounds mu-ba-ge make the pattern 'A-B-C'. The results of the study showed that babies know the two patterns are different. Patterns are important in language. The order of words is important to grammar and meaning. For example, 'John killed the bear' doesn't mean the same as 'The bear killed John.' Both sentences have the same words, but they are in a different order. The experiment shows that babies start to learn grammar rules from the beginning of their life.

Language is important for child development. Babies can hear language in various ways: listening to television, audio books or the Internet and interacting with people. A scientist, Patricia Kuhl, compared two groups of nine-month-old American babies. Both groups heard Mandarin Chinese sounds. The first group watched videos. In the second group, people spoke the same sounds to the babies. Then they tested the babies. The second group recognised the different sounds. The first group learned nothing. Patricia Kuhl said this result was very surprising. It shows that social interaction is important to successful brain development in babies.

Glossary

IQ (n) 'intelligence quotient', level of intelligence

speech (n) the ability to speak

Keywords:

feel (v) to notice something that is near you or is happening to you

hear (v) to be aware of a sound in your ears

listen (v) to give something your attention using your ears

ride (v) to travel on a bicycle, horse, or motorbike

see (v) to notice things with your eyes

sound (n) something that you can hear

speak (v) to say something using your voice or to be able to communicate in a particular language

talk (v) to say something to someone

understand (v) to know the meaning of something such as words or ideas

watch (v) to look at something and give your attention to it

According to the article, which statement is true?

Select one:

- a. Interactive experiences are important in brain development.
- b. Different languages influence the brain in different ways.
- c. Babies can learn Mandarin Chinese easily.

Figure 6. Reading homework example

Point System: Point system was crucial for gamification process. Every day, 3 homework types which had some certain learning objectives were arranged and categorized as grammar, listening and reading. Each homework was 10 points. In a day, students could collect 30 points maximum except they did not want to use their badges for extra points. Extra point system was directly related to badge system. These extra points can not be used for same homework in a day. If students had:

Bronze badge: Students do not have to complete 1 homework that they want but they have 10 points as if they did their homework. If they still want to their 1 homework, score of completed homework is added to their 10 points.

Silver badge: Students does not have to complete 1 homework that they want but they have 10 points as if they did their homework. If they still want to their 2 homework, score of completed homework is added to their 10 points. It can be repeated for two homework that students choose.

Gold badge: Students do not have to complete 3 homework that they want but they have 10 points as if they did their homework. If they still want to their 1 homework, score of completed homework is added to their 10 points. It can be repeated for three homework that students choose.

Platinum badge: Students do not have to complete 1 homework that they want but they have 10 points as if they did their homework. If they still want to their 1 homework, score of completed homework is added to their 10 points. It can be repeated for 4 homework that students choose.

Leaderboard. Leaderboard enabled students to see themselves in which position or rank among the students. Also, it gave a chance to students to challenge with other students. After completion of homework was done by students for each day, teacher announced results with the help of label in Moodle system. It is shown in Figure 3 as an example. It means that leaderboard system was used for each and at the end of the day. It was important to be top 3 in leaderboard, because of rewards and super badges.

| Name, Surname | Day 1,2 | Homework 307 | Homework 308 | Homework 309 | Total |
|---------------|---------|--------------|--------------|--------------|-------|
| Student 1 | 59 | 10 | 10 | 10 | 89 |
| Student 2 | 57 | 9 | 10 | 10 | 86 |
| Student 3 | 53 | 9 | 10 | 10 | 82 |
| Student 4 | 58 | 7 | 8 | 8 | 81 |
| Student 5 | 52 | 10 | 7 | 10 | 79 |
| Student 6 | 51 | 10 | 8 | 6 | 75 |
| Student 7 | 45 | 9 | 10 | 10 | 74 |
| Student 8 | 48 | 9 | 6 | 8 | 71 |
| Student 9 | 45 | 6 | 6 | 4 | 61 |
| Student 10 | 29 | 7 | 8 | 8 | 52 |
| | | | | | |

Figure 7. Leaderboard

Badges. Badges are one of the most important key elements in gamification in terms of rewarding and game flow. Students were expected to fulfil their homework assignments and in return they are rewarded by badges. It was also taught to students as a status that they could show them to another student and to their parents. There were 2 kinds of badges in gamification. One of them was level up badges which enabled students not to do any homework that they wanted. Another one was super badge. Super badges provided some certain rewards that were expected to motivate students in a positive way. Each super badge gave some certain rewards.

Badges were designed by students according to their choices for this survey made by teacher. According to survey results, badge shapes, ranks and rewards were determined. Students' choices were important factors for gamification. Level up badges and super badge functions and models are described below.

Level up badges.



Figure 8. Bronze badge



Figure 9. Silver badge



Figure 10. Gold badge



Figure 11. Diamond badge

Figure 4 shows bronze badge that could be earned by students for completing 12 homework which were total for a week in anytime during 4 weeks. It gave a chance to students not to do 1 homework that they did not want to do for the next week. If students had this badge and they still wanted to do their homework, they earned 10 extra points for their homework points.

Figure 5 demonstrates silver badge and this badge was earned by students for completing 24 homework which were total for a week in anytime during 4 weeks. It gave a chance to students not to do 2 homework that they did not want to do for the next week. If students had this badge and they still wanted to do their 2 homework, they earned +20 points extra to their homework points.

Figure 6 shows gold badge and this badge was earned by students for completing 36 homework which were total for a week in anytime during 4 weeks. It gave a chance to students not to do 3 homework that they did not want to do for the

next week. If students had this badge and they still wanted to do their homework, they earned +30 points extra to their homework points.

Figure 7 demonstrates diamond badge and this badge could be earned by students for completing 48 homework which were total for a week in anytime during 4 weeks. It gave a chance to students not to do 4 homework that they did not want to do for the next week. If students had this badge and they still wanted to do their homework, they earn +40 points extra to their homework points.

Super badges.



Figure 12. Ağla badge



Figure 13. Kudur badge



Figure 14. Haykır badge



Figure 15. Çıldır badge

Figure 9 shows Ağla badge and if students took place in top 3 in the leaderboard in the first week, students earned a tangible prize which they chose before starting of gamification process. Prizes were German chocolate, coffee, cinema ticket or book.

Figure 10 demonstrates Kudur badge and if students took place in top 3 in the leaderboard in the second week, they became admin of Moodle for a week. This badge enabled students to do anything that admin could do except deleting results.

Figure 11 shows Haykır badge and if students took place in top 3 in the leaderboard in the third week, they were free to use their mobile phones in the school for a week.

Figure 12 demonstrates Çıldır badge and if students took place in top 3 in the leaderboard in the fourth week, they came to school by wearing clothes that they wanted for a week.

3.3.2 Data Collection Instruments

Intrinsic motivation inventory. Intrinsic motivation inventory was developed by Deci and Ryan (1985) to assess participants' subjective experience related to a target activity in laboratory experiments. Çalışkur and Demirhan (2013) adapted intrinsic motivation inventory into Turkish for the reason of cultural difference between Turkish people and others. Because of the implementation and translation, some necessary differences from original inventory are seen. These differences are; in pressure/stress aspect, item 20(original) = item 19 (new), item 21=20, item 22=21, item 23=22, in perceived right of choice aspect; item 25=23, item 26=24, item 28=26, item 29=27, in value/benefit aspect; item 27=25, item 30=28, item 31=29, item 32=30, item 33=31, item 34=32. It has 6 different subcategories which are related to intrinsic motivation. These subcategories are identified as interest/enjoyment, perceived competence, effort, value/usefulness, felt pressure and tension, and perceived choice while performing a given activity. Question 1-7 are related to Interest/enjoyment, Question 8-13 are related to Perceived Competence, Question 14-18 are related to Effort, Question 19-22 are related to Pressure/Tension, Question 23-28 are related to Choice, Question 29-32 are related to Value/usefulness. Questions are given in appendix A.

Motivation scale includes demographic information about participants such as age, gender and their jobs. It includes some basic instructions to give short information about what participants are going to do and how they are going to do. Motivation scale is made up of 32 different questions about intrinsic motivation of participants. For each and every question in the motivation scale, participants give only one answer which has some certain points which start from 1 to 7. 1 point refers to “not really necessary”, 4 points refer to “in some degree” and 7 points refer to “it

is so real” Participants answer the questions according to experience during gamification of homework process.

The Turkish version of IMI was scored based on the item score for each item (example; 1 = 1, 7 = 7). However, in the Turkish version of IMI, the items 3, 4, 13, 15, 18, 20, 23, 24, 26 were reversed. That’s why, the item responses are subtracted from 8 and results from the item score for each item are used. This way, a higher score will show more of the concept described in the subscale name. Thus, a higher score on pressure/tension means the person felt more pressured or tense; a higher score on value/benefit means the person benefited more; and so on. The subscale scores are calculated by averaging the item scores for the items on each subscale. The inventory does not offer a total score.

Motivation for homework scale. The original study of motivation for homework which based on self-determination theory of Deci and Ryan (1985) was carried out by Katz, Kaplan and Buzukashvily (2011). Because of the fact that participants are Turkish in this study, Turkish version of motivation for homework scale which was conducted by Duru and Çöğmen (2016). This scale made up 15 different questions with 2 main subcategories which are autonomous and control. 6 of the questions are related to control and rest of the questions is in accordance with autonomous subcategories. It is given appendix B.

A four point Likert type was used in the study. This likert types was named as strongly disagree, partly agree, agree, and strongly agree. Some points are determined according to range of these Likert types from starting 1 to 4 points.

Homework checklists. For a meaningful comparison to understand whether gamification has any positive effect on students’ completed homework, homework checklist was used. Students’ 4 weeks completed homework before gamification and after gamification were listed in excel document. The list consisted of two sections; missing homework numbers which show students’ missing homework numbers before and after gamification during 4 weeks.

Semi-structured interview. In this study, semi structured interview is used to understand perceptions of students towards to gamification. According to Cook (2008), researcher has a chance to guide directions of the questions and debate context than non-directive tools. Interview questions are developed by researcher. In

another words researcher does not have to follow questions that are prepared and if it is necessary, discussion can be used. In this interview, there are 29 questions which are related to gamification, game elements, motivation, homework and achievement. Questions are given in appendix C. There are seven subcategories related to gamification. These are homework and gamification, homework and achievement, leaderboard and motivation, leaderboard and achievement, badges and motivation, competition and rewards. Interview questions are created by the researcher and subject matter expert in the field of gamification.

Students from different ranks are taken to semi structured interview. From each class, 1 students in top 3 position, 1 student in mid position and 1 student from bottom 3 position in leaderboard are chosen. In total, there are 6 students in interview.

Table 3 shows students and their ranks in leaderboard.

Table 3. Students and Ranks

| Students | Ranks |
|-----------|--------------------|
| S2 and S3 | Top 3 positions |
| S4 and S5 | Mid positions |
| S1 and S6 | Bottom 3 positions |

3.3.2 Data analysis procedures

3.3.2.1 Intrinsic motivation inventory. Just before the gamification application, students are expected to answer all the questions in intrinsic motivation inventory regarding homework before gamification. At the end of gamification process, students are asked to complete the inventory again but this time while they are answering questions, they are taking gamification effects into consideration in terms of homework.

This procedure is a must to understand whether gamification has any positive impact on students' motivation or not. It can be seen as if same inventory is used for the sake of pre and post-tests. Therefore, SPSS software was used to evaluate the

data that was gathered from participants who studied at both different classes. In order to learn that whether gamification has any positive impact on students' intrinsic motivation or not, pre and post test data was collected and entered in SPSS software. After this step, paired samples T test was used to compare pre and post test results of students to find out a meaningful difference.

3.3.2.2 Motivation for homework scale. Motivation for homework scales are applied to students before and at the end of the gamification process to see gamification has any positive impact on students' motivation for homework or not. Since this scale consists of two main subcategories, results as pre and post-tests were calculated differently for each subcategories.

Data which were collected from participants were analyzed with the help of Spss software. Just before and after gamification process, motivation for homework scale was used as pre and post-tests to understand whether gamification has any positive effect on students' motivation for homework or not. As it was mentioned before, this scale made up two different sub categories which are autonomous and control. For this reasons these two subcategories scores were analyzed in Spss program differently for each students. For analyzing data and comparing results of pre and post-tests, paired samples T test was used.

3.3.2.3 Homework checklist. A list in which there were students' missing homework number before 4 weeks gamification started and after gamification which lasted for 4 weeks was used with the help of excel. In this way, researcher had a chance to compare two 4 weeks with and without gamification in order to understand whether gamification has any effect on student's completed homework or not.

An excel sheet was designed by researcher to keep tracks of students during homework process and 4 weeks before gamification started. Data was gathered through moodle software. According to moodle report which showed students homework scores, missing or completed homework number, each student's completed homework number was carefully written and recorded in this excel table with students' names. If they had missing homework, it was demonstrated as well. During gamification process, same data analysis steps were conducted by researcher for homework. At the end of gamification application missing homework numbers of students were compared with missing homework numbers of students to understand

whether gamification has positive contribution to students' completed homework or not.

3.3.2.4 Semi-structured interview. 3 students from each classes were chosen according to their positions in the leaderboard at the end of the gamification which lasted 4 weeks. 1 student took place in top 3, 1 students was in middle position and 1 student was in the bottom position. Students were chosen not only their ranks in the leaderboard but also observation of the teacher and performance of students during gamification process.

The interview took place in a class which was not used for lessons and it was quite environment not to distract attention of students during interview. Turkish language was used in interview to get better results and answers since students feel more comfortable because of using their mother tongue to express their opinions.

In semi structured interview, a voice recorder was used to record voice of students. After finishing recording students' voice, a script was written by researcher. In other words, voice of students was transformed into text format. Descriptive analysis was used to analyze data. Main purpose of descriptive analysis is providing interpreted and summarized information through interview (Yıldırım & Şimşek, 2003). Interview questions was categorized into 3 different sections before interview. These are achievement, motivation and game elements. Questions were not only related to each categories but also each other. Also, these 3 main themes consisted of 9 different subthemes. These were Gamification and homework, achievement and gamification, leaderboard and motivation, leaderboard and achievement, badges and motivation, competition and rewards. Content analysis offers some ways to analyze data such as interpreting, counting or categorizing data (Patton, 2002). In this study, as categories for interview is already identified, content analysis was used to interpret data. According to students' answers to interview questions, data was interpreted by researcher for each category.

3.3.3 Reliability of data instruments

3.3.5.1 Intrinsic motivation inventory. Reliability and validity of intrinsic motivation scale which based on self-determination theory (Deci & Ryan, 1985) it

was tested by McAuley, Duncan and Tammen (1989) and internal consistency of the scales was identified as $\alpha = 0.85$. Because of the fact that participants in both classes were Turkish, Turkish version of intrinsic motivation scale was utilized. For Turkish version of the scale was carried out by Çalışkur and Demirhan (2013) and named as İçsel Motivasyon Envanteri (IGE), internal consistency of the study was $\alpha = 0.8694$. There was a positive correlation between scale and total.

3.3.5.2 Motivation for homework scale. The original study of motivation for homework scale was conducted by Katz, Kaplan and Buzukashvily (2011). Since the participants were Turkish in the study, the Turkish version of motivation for homework was used. Reliability and validity of study were carried out by Duru, and Çöğmen (2016). There were two main subscales in the study. One of them was autonomy and another was control. Internal consistency of autonomy scale was found as $\alpha = .82$ and internal consistency of control subscale was identified as $\alpha = .62$. Correlation score of autonomy was between .44 and .68. Correlation score for control subscale was between .27 and .47. In this way items in the study were found that there were a positive relations between each items.

3.3.5.3 Interview. The interview which made up 29 questions with 9 subscales was created by the researcher. Subject matter expert gave support during designing questions process. Because of the fact that only researcher took part in evaluation process, the interview was less reliable. To make this interview more valid, another subject matter was needed.

3.4 Limitations

Despite the fact that this research well designed and carefully carried out by researcher, some limitations have been observed and identified in terms of data collection tools and gamification process. One of these limitations is related to intrinsic motivation inventory. Turkish version of this scale was used in this study and in Turkish version, data for reliability and validity of the study was collected by university students. This study was carried out with high school students whose age are 14. In other words, reliability and validity of Turkish version and this research weren't exactly same.

Second one is related to reliability and validity of motivation for homework scale. Data was collected by researchers from 4th and 5th grades students to provide

enough reliability and validity scores. As in the intrinsic motivation inventory, because of the fact that participants are high school students, it may not provide enough information about students' motivation for homework.

Third one is dealing with semi structured interview. Even if questions were prepared and designed by researcher with the help of subject matter expert, in evaluation part and subject matter expert is need to get better results.

Forth one is related to time. Even if gamification does not only focus on short-term objectives but also long terms objectives. In this study gamification goes on only 4 weeks. This may lead to get insufficient information about research questions. Since one of the researcher aims is changing behavior of his students in terms of completing homework, 4 weeks may not enough for that.

Fifth one is generalization of the study. Before gamification application, rewards are identified by students and it plays very significant role in terms of students' intrinsic motivation and motivation for homework. Students want to play because they want to get some rewards that they want so much. In other words, if another researcher applied this gamification application to different participants with same rewards, the result may change in positive or negative way.

Last one is related to homework result. In this study, homework is a core of the all gamification because of the fact that it is related to all the game elements such as points, rewards, leaderboard. If students cheated while they were doing their homework, result would be affected in a negative way.

Chapter 4: Findings

In this section results are shown according to research questions. It is aimed to find out whether gamification has any positive impact on intrinsic students' motivation, students' homework motivation, students' completed homework rate and students' perceptions about gamification.

4.1 Findings about Students Intrinsic Motivation

Intrinsic motivation inventory was used to determine whether there is a meaningful increase about students' motivation when gamification applied to teaching and learning process. Questions in intrinsic motivation inventory were asked to students who studied in two different classes before and after gamification process. Results of intrinsic motivation were presented for each class and combination of two classes.

Table 4 shows the results of normality test for intrinsic motivation inventory for 9-A class

Table 4. Normality Test for Intrinsic Motivation Results for 9-A Class

| Test | Kolmogorov-Smirnov | | | Shapiro-Wilk | | |
|------|--------------------|----|------|--------------|----|------|
| | K-S | df | p | S-W | df | p |
| IMI | .171 | 12 | .200 | .933 | 12 | .410 |

Since it is found $p (.200) > 0.05$, $p (.410) > 0.05$ for Kolmogorov-Smirnov test and Shapiro-Wilk test and Skewness .027 (SE= .637) and Kurtosis -.862 (SE= 1.232) are between +1.96 and -1.96, it can be said that scores of students are normally distributed and it can be applied to parametric tests.

Table 5 shows intrinsic motivation inventory results of 9-A class students in terms of intrinsic motivation before and after gamification application.

Table 5. Intrinsic Motivation Inventory Pre and Post Results for 9-A Class

| IMI | N | M | SD | SE | df | t | Sig.(2-tailed) |
|-----------|----|--------|-------|------|----|--------|----------------|
| Pre-test | 12 | 70.50 | 28.92 | 8.34 | 11 | -11.90 | .00 |
| Post-test | 12 | 175.83 | 11.36 | 3.28 | | | |

Significance value which was found as .00 ($p < .05$) shows that there is significant difference in intrinsic motivation of students. For 9-A class, there was a significant difference in the scores for gamification effect on students' intrinsic motivation ($M=175.83$, $SD=11.36$) and non-gamification effect on intrinsic motivation of students ($M=70.50$, $SD=28.92$) conditions; $t(11)=-11.90$, $p=.00$

Table 6 shows the results of intrinsic motivation inventory normality for homework scale for 9-B class

Table 6. Normality test for Intrinsic Motivation results for 9-B class

| Test | Kolmogorov-Smirnov | | | Shapiro-Wilk | | |
|------|--------------------|----|------|--------------|----|------|
| | K-S | df | p | S-W | df | p |
| IMI | .189 | 10 | .200 | .938 | 10 | .529 |

Since it is found $p (.200) > 0.05$, $p (.529) > 0.05$ for Kolmogorov-Smirnov test and Shapiro-Wilk test and Skewness .336 ($SE= .687$) and Kurtosis -1.044 ($SE= 1.334$) are between +1.96 and -1.96, it can be said that scores of students are normally distributed and it can be applied to parametric tests.

Table 7 shows intrinsic motivation inventory results of 9-B class students in terms of intrinsic motivation before and after gamification application.

Table 7. Intrinsic Motivation Inventory Pre and Post Test Results for 9-B class

| IMI | N | M | SD | SE | df | t | Sig.(2-tailed) |
|-----------|----|--------|-------|-------|----|-------|----------------|
| Pre-test | 10 | 92.50 | 33.40 | 10.56 | 9 | -5.67 | .00 |
| Post-test | 10 | 173.80 | 18.89 | 5.97 | | | |

Significance value which was found as 00 ($p < .05$) shows that there is a significant difference in intrinsic motivation of students. For 9-B class, there was a significant difference in the scores for gamification effect on students' intrinsic motivation ($M=173.80$, $SD=18.89$) and non-gamification effect on intrinsic motivation of students ($M=92.50$, $SD=18.89$) conditions; $t(11)=-5.67$, $p=.00$

Table 8 shows the results of normality test for motivation for homework scale for 9-A and 9-B classes.

Table 8. Normality Test for Intrinsic Motivation Results for 9-A and 9-B Classes

| Test | Kolmogorov-Smirnov | | | Shapiro-Wilk | | |
|------|--------------------|----|------|--------------|----|------|
| | K-S | df | p | S-W | df | p |
| IMI | 1.21 | 22 | .200 | .945 | 22 | .254 |

Since it is found $p (.200) > 0.05$, $p (.254) > 0.05$ for Kolmogorov-Smirnov test and Shapiro-Wilk test and Skewness $-.143$ ($SE= .491$) and Kurtosis $-.831$ ($SE= .953$) are between $+1.96$ and -1.96 , it can be said that scores of students are normally distributed and it can be applied to parametric tests.

Table 9 shows intrinsic motivation inventory results of 9-A and 9-B class students in terms of intrinsic motivation before and after gamification application.

Table 9. Intrinsic Motivation Inventory Pre and Post Results for class 9-A and 9-B Classes

| IMI | N | M | SD | SE | df | t | Sig.(2-tailed) |
|-----------|----|--------|-------|------|----|--------|----------------|
| Pre-test | 22 | 80.50 | 32.28 | 6.88 | 21 | -11.35 | .00 |
| Post-test | 22 | 174.90 | 14.88 | 3.17 | | | |

Significance value which was found as $p < .05$ shows that there is a significant difference in intrinsic motivation of students. For 9-A and 9-B classes there was a significant difference in the scores for gamification effect on students' intrinsic motivation ($M=174.90$, $SD=14.88$) and non-gamification effect on intrinsic motivation of students ($M=80.50$, $SD=32.28$) conditions; $t(11)=-11.35$, $p=.00$.

4.2 Findings about Motivation for Homework

Motivation for homework scale was utilized to understand whether gamification has any positive impact on students' motivation for homework. To understand gamification effect, results of motivation for homework scale were given for each class and combination of two classes.

Table 10 shows the results of normality test for motivation for homework scale for 9-A class.

Table 10. Normality Test for Motivation for Homework Results for 9-A Class

| Test | Kolmogorov-Smirnov | | | Shapiro-Wilk | | |
|------|--------------------|----|------|--------------|----|------|
| | K-S | df | p | S-W | df | p |
| HFM | .146 | 12 | .200 | .968 | 12 | .886 |

Since it is found $p (.200) > 0.05$, $p (.886) > 0.05$ for Kolmogorov-Smirnov test and Shapiro-Wilk test and Skewness $-.451$ ($SE=.637$) and Kurtosis 0.96 ($SE=.1232$) are between $+1.96$ and -1.96 , it can be said that scores of students are normally distributed and it can be applied to parametric tests.

Table 11 shows motivation for homework scale results of 9-A class students in terms of intrinsic motivation before and after gamification application.

Table 11. Motivation For Homework Pre and Post Tests Results For 9-A Class

| HFM | N | M | SD | SE | df | t | Sig.(2-tailed) |
|-----------|----|-------|------|-----|----|-------|----------------|
| Pre-test | 12 | 33.25 | 2.70 | .77 | 11 | -8.86 | .00 |
| Post-test | 12 | 42.66 | 1.92 | .55 | | | |

Significance value which was found as 00 ($p < .05$) shows that there is a significant difference in intrinsic motivation of students. For 9-A class, there was a significant difference in the scores for gamification effect on students' motivation for homework ($M=42.66$, $SD=1.92$) and non-gamification effect on motivation for homework of students ($M=33.25$, $SD=2.70$) conditions; $t(11)=-8.86$, $p=.00$.

Table 12 shows the results of normality test for motivation for homework scale for 9-B class.

Table 12. Normality Test for Motivation for Homework Results for 9-B Class

| Test | Kolmogorov-Smirnov | | | Shapiro-Wilk | | |
|------|--------------------|----|------|--------------|----|------|
| | K-S | df | p | S-W | df | p |
| HFM | .209 | 10 | .200 | .889 | 10 | .166 |

Since it is found $p (.200) > 0.05$, $p (.166) > 0.05$ for Kolmogorov-Smirnov test and Shapiro-Wilk test and Skewness $-.790$ ($SE= .687$) and Kurtosis $-.557$ ($SE= 1.334$) are between $+1.96$ and -1.96 , it can be said that scores of students are normally distributed and it can be applied to parametric tests.

Table 13 shows motivation for homework scale results of 9-B class students in terms of intrinsic motivation before and after gamification application.

Table 13 Motivation For Homework Pre and Post Results for 9-B Class

| HFM | N | M | SD | SE | df | t | Sig.(2-tailed) |
|-----------|----|-------|------|------|----|-------|----------------|
| Pre-test | 10 | 33.50 | 3.24 | 1.02 | 9 | -7.35 | .00 |
| Post-test | 10 | 43.40 | 2.17 | .68 | | | |

Significance value which was found as 00 ($p < .05$) shows that there is a significant difference in intrinsic motivation of students. For 9-B class, there was a significant difference in the scores for gamification effect on students' motivation for homework ($M=43.40$, $SD=2.17$) and non-gamification effect on motivation for homework of students ($M=33.50$, $SD=3.24$) conditions; $t(11)=-7.35$, $p=.00$.

Table 14 shows the results of normality test for motivation for homework scale for 9-A and 9-B classes.

Table 14. Normality Test for Motivation for Homework Results for 9-A and 9-B Classes

| Test | Kolmogorov-Smirnov | | | Shapiro-Wilk | | |
|------|--------------------|----|------|--------------|----|------|
| | K-S | df | p | S-W | df | p |
| IMI | .174 | 22 | .082 | .934 | 22 | .149 |

Since it is found $p (.082) > 0.05$, $p (.149) > 0.05$ for Kolmogorov-Smirnov test and Shapiro-Wilk test and Skewness $-.558$ ($SE= .491$) and Kurtosis $-.540$ ($SE=.953$) are between $+1.96$ and -1.96 , it can be said that scores of students are normally distributed and it can be applied to parametric tests.

Table 15 shows intrinsic motivation inventory results of 9-A and 9-B class students in terms of intrinsic motivation before and after gamification application.

Table 15. Motivation For Homework Pre and Post Results for class 9-A and 9-B Classes

| MFH | N | M | SD | SE | df | t | Sig.(2-tailed) |
|-----------|----|-------|------|-----|----|--------|----------------|
| Pre-test | 22 | 33.36 | 2.88 | .61 | 21 | -11.70 | .00 |
| Post-test | 22 | 43.00 | 2.02 | .43 | | | |

Significance value which was found as $p < .05$ shows that there is a significant difference in intrinsic motivation of students. For 9-A and 9-B classes, it can be said that there was a significant difference in the scores for gamification effect on students' motivation for homework ($M=43.00$ $SD=2.02$) and non-gamification effect on students' motivation for homework ($M=33.36$, $SD=2.88$) conditions; $t(11)=-11.70$, $p = .00$.

4.3 Findings about Homework Checklist

Homework checklist is beneficial for determining gamification has positive effect on students' completed homework. As it is seen in table 16, gamification increased students' completed homework after 4 weeks gamification process when it was compared to before 4 weeks gamification started. There are 48 homework which consist of grammar, reading and listening.

Table 16 shows missing homework numbers of treatment groups for 4 weeks before and after gamification. It can be said that gamified homework implementation increased almost all of the students' completed homework numbers when it is compared to non-gamified context.

*Table 16.*Missing Homework Number Before and After Gamification for 9-A and 9-B Classes

| Students | Number of Missing Homework Before Gamification out of 48 homework | Number of Missing Homework After Gamification out of 48 homework |
|------------|---|--|
| Student 1 | 3 | 0 |
| Student 2 | 9 | 0 |
| Student 3 | 7 | 0 |
| Student 4 | 23 | 0 |
| Student 5 | 36 | 0 |
| Student 6 | 18 | 0 |
| Student 7 | 8 | 0 |
| Student 8 | 16 | 0 |
| Student 9 | 48 | 0 |
| Student 10 | 33 | 0 |
| Student 11 | 45 | 0 |
| Student 12 | 5 | 0 |
| Student 13 | 7 | 0 |
| Student 14 | 39 | 0 |
| Student 15 | 19 | 0 |
| Student 16 | 4 | 0 |
| Student 17 | 9 | 0 |
| Student 18 | 6 | 0 |
| Student 19 | 17 | 0 |
| Student 20 | 18 | 0 |
| Student 21 | 15 | 0 |
| Student 22 | 0 | 0 |

4.4 Findings about Semi-structured Interview

In this study semi structured interview was used to identify perceptions of students about gamification. Since both game elements and gamification are applied to both classes, 3 students from each class are chosen for interview. There are 7 subcategories which are basically related to achievement, motivation and game elements. These subcategories are Gamification and homework, achievement and gamification, leaderboard and motivation, leaderboard and achievement, badges and motivation, competition, rewards.

4.4.1 Gamification and homework. 6 students from different ranks in leaderboard think that gamification is so motivating, useful and enjoyable, beneficial

for them in terms of doing their homework, they want to apply and use gamification application for other lessons. None of students states that they have negative or opposite ideas, beliefs about gamification. About benefits of gamification the students express their opinions as follows;

[...] gamification was important for me because before this, I couldn't give enough importance my homework and I just did my homework for the sake of doing. With gamification, I did my homework carefully and take my homework more serious to get more points. (Student 2, Interview, 18th May, 2017)

Gamification is so useful for me because in normal conditions I don't like doing my homework but with gamification I did it on the topic of fun and motivation. (Student 1, Interview, 18th May, 2017)

[...] it was motivating and I did my homework while having fun. (Student 5, Interview, 18th May, 2017)

I want to use gamification in mathematic because it is difficult for me. (Student 4, Interview, 18th May, 2017)

4.4.2 Achievement and gamification. All the students who take part in interview state that gamification increase the number of homework that they did when they compared to their completed homework in previous 4 weeks. Also, it can be said that gamification increased the homework scores of students. Only one of the students, (S6) is not sure about gamification increased the homework score. Gamification plays very important role in terms of academic achievement of students. The students express their opinions as follows;

[...] well maybe, it did or it didn't increase my score but I can say that it increased the things that I had learned. (Student 6, Interview, 18th May, 2017)

[...] I did my homework because I need some points. (Student 4, Interview, 18th May, 2017)

Gamification increased my completed homework number that I did because I didn't feel it was compulsory. I want to do it for myself. (Student 5, Interview, 18th May, 2017)

I made a great effort while I was doing my homework, I was spending more time like 1 hour for my reading homework than before gamification. (Student 3, Interview, 18th May, 2017)

[...] yes, I did more homework than previous time. Because there was a goal in gamification. At the end there were some rewards. (Student 1, Interview, 18th May, 2017)

I was motivated and I focused on my homework more than previous. It fosters my reading and listening skills. (Student 2, Interview, 18th May, 2017)

[...] well, I can say that it increased my achievement because my points and scores increased so much. (Student 5, Interview, 18th May, 2017)

4.4.3 Leaderboard and motivation. As mention in literature review part, leaderboard is one of the core game elements used in gamification. All the students which took part in interview were effected in positive way for leaderboard in terms of motivation. It is expected to think that when students who are in top ranks are more motivated when compared to students who are in lower positions. But also students who are in lower positions are not demotivated. The students who took place in lower positons express their opinions as follows;

I feel sad, I wanted to be number one or two in leaderboard but learning is more important than ranks. I felt I learned a lot of things. I wasn't jealous or I hadn't any bad thoughts or beliefs about my friends who were ahead of me and it didn't affect me in negative way. Because I was aware of that it was up to me to be in top positions. (Student 6, Interview, 18th May, 2017)

I didn't feel anything bad. Because my aim was learning so I felt that I was more successful than previous. We were motivating each other by kidding each other. (Student 1, Interview, 18th May, 2017)

Also, it can be said that leaderboard enables a competition among students and it effects motivation in positive way with the help of leaderboard. One of the students expresses their opinions as follows;

I had a strong ambition when I saw my friends who were superior position than me. I thought that I could do it too. That's why I studied a lot, I tried to give more correct answers in later homework. (Student 5, Interview, 18th May, 2017)

[...] when I saw my result in leaderboard, I felt that I was in good position in leaderboard and I wanted to do my homework. The desire of doing homework increased. (Student 5, Interview, 18th May, 2017)

One of the important topic which is related to leaderboard is feeling. All the students were satisfied their ranks in leaderboard and they have good feelings. One of the students expresses their opinions as follows;

I spent a great deal of time while I was doing my homework. Getting good results and being in good positions in leaderboard made me happy (Student 2, Interview, 18th May, 2017)

4.4.4 Leaderboard and achievement. Leaderboard is a system in which students get some certain points to complete tasks and activities. It is normal to think that students who are upper positions are more successful than lower ones. On the other hand students who are in lower or middle positions call themselves successful too. The students express their opinions as follows;

[...] you can't be unsuccessful to be a number one in leaderboard. (Student 2, Interview, 18th May, 2017)

I called myself as a successful student even if I was in bottom position in leaderboard. I improved my skills and my knowledge, I can understand it from my exam results. (Student 1, Interview, 18th May, 2017)

I called myself successful because I made a great effort. Struggling means winning to me rather than getting always good results. (Student 6, Interview, 18th May, 2017)

Also, students think that leaderboard is so important for them in terms of increasing their achievement. The students express their opinions as follows;

[...] when you compared my previous homework results and now, you can understand it now. Teacher uploaded leaderboard to system every night and when I saw myself and my friends result, I felt that I must do my homework (Student 3, Interview, 18th May, 2017)

4.4.5 Badges and motivation. Badges can be important for students for different reasons such as status, signal for achievement in terms of motivation. Getting badges are important for all the students in interview. Badges can be a motivational factor for students.

[...] it was important for me because it was motivating. (Student 4 and 6, Interview, 18th May, 2017)

[...] when I got badges, I told to my friends, I shared my badges in Instagram. (Student 4, Interview, 18th May, 2017)

When you get or earn a badge, you can start better for a new week. It was satisfying because badge showed me that I did it or I could do it. (Student 1, Interview, 18th May, 2017)

One of the aims of badges is providing status for participants. When they see their status in a group, it can be motivating. The students express their opinions as follows;

I thought that badges were a symbol of achievement and I felt that I was successful. I was happy to say my friends to I had this badge but you didn't have.” (Student 3, Interview, 18th May, 2017)

I shared my badges in social media environments such as Instagram story and snapchat because I wanted my friends to see my achievements.” (Student 6, Interview, 18th May, 2017)

4.4.6 Competition. Competition as a game element in gamification is questioned by many researcher as mentioned literature review part. Some of the researchers think that competition is harmful for intrinsic motivation and some of them do not agree them on this point. All the students in the interview stated that they have feeling of competition. The students express their opinions as follows;

[...] while I was doing homework, I couldn't feel of competition but when I came to school in the morning, everyone asked each other their positions or points. There was a competition environment. (Student 2, Interview, 18th May, 2017)

[...] there was an atmosphere in which everyone asked each other how you did that. (Student 5, Interview, 18th May, 2017)

[...] it was like a real competition. (Student 4, Interview, 18th May, 2017)

When students compared their points and ranks in leaderboard, In general they are motivated instead of having bad feelings. Even if students take part in bottom position, they are still motivated. The students express their opinions as follows;

[...] when I got bad results and my friends got better results than me, I knew that I could do the same like them. (Student 5, Interview, 18th May, 2017)

I compared my scores with top 1 student but I know myself and my English is fine. (Student 6, Interview, 18th May, 2017)

It is asked to students that whether competition affected you in negative or positive way. All students from all ranks in leaderboard states positive comments about competition in gamification. The students express their opinions as follows;

[...] as I stated before I didn't like doing my homework but with gamification and competition we established a dialogue and it made me more engaged. (Student 1, Interview, 18th May, 2017)

[...] with the help of competition and gamification I learned my responsibilities. (Student 6, Interview, 18th May, 2017)

[...] with the help of competition, I raised my level of target. (Student 3, Interview, 18th May, 2017)

All the students except from one (S3) never give up competing each other in gamification application. Even if students took place in bottom position, they were still struggling. The students express their opinions as follows;

I preferred to fight until it ended. (Student 6, Interview, 18th May, 2017)

I went on to the end because at the end of this I could learn something. (Student 4, Interview, 18th May, 2017)

[...] in last homework I gave up compete with my friends because I was number 1 all the time. (Student 3, Interview, 18th May, 2017)

4.6.7 Rewards. Rewards are one of the significant game elements in gamification. They are not only motivating or demotivating students but also they are providing some targets to students. In this interview every student like rewards and rewarding system because they have a chance to choose their rewards before gamification starts. The students express their opinions as follows;

[...] they were the best rewards that someone could give us. Because we chose them. (Student 5, Interview, 18th May, 2017)

We competed with each other amazingly to get rewards because we chose and desire them. (Student 1, Interview, 18th May, 2017)

Rewarding students can be important for them and so motivating. The students express their opinions as follows;

Rewards that I got were important for me because only 3 people could do this and because of being one of them, it made me happy. (Student 5, Interview, 18th May, 2017)

I wanted to take a book as a reward. Normally I could buy a new book but this was different feelings. You had to make an effort to get this. It was more satisfying in this way. (Student 1, Interview, 18th May, 2017)

On the other hand since the rules in gamification, only 3 students can get rewards. For 3 students it is so natural to think that rewards are motivating but what about others? It was asked to students what they felt when they didn't get a reward. The students express their opinions as follows;

Using telephone in the school was the best reward for me, I couldn't get it but I felt that I needed to study more. (Student 4, Interview, 18th May, 2017)

[...] I was a bit jealous but I told myself that I would study more and I get next reward. (Student 5, Interview, 18th May, 2017)

There is a point reward system in gamification and when they complete a certain amount of homework, they are free not to do some homework they want in anytime but they will get 10 point. If they do have that badges but they still want to do their homework, they will be rewarded with extra 10 points. All of students in gamification preferred to do their homework instead of not doing. The students express their opinions as follows;

[...] there was a possibility of going down in leaderboard, that's why I did my homework. (Student 2, Interview, 18th May, 2017)

I did my homework to get extra points to climb up in leaderboard. (Student 6, Interview, 18th May, 2017)

Chapter 5: Discussion and Conclusion

This chapter gives information about discussions of findings according to research questions and recommendation for researcher and practitioners. Findings about research questions are discussed with previous studies findings which are given literature review part.

5.1 Discussion of Findings RQ1

In this study one of the aims is to determine gamification has any positive impact on students' intrinsic motivation or not. There are two classes in which there are 10 nine grades students in one class and 12 nine grades students in another class. Despite the fact that students' levels of English are different from each other, same game elements are applied to both classes during 4 weeks. Intrinsic motivation inventory is used as a pre and posttest in the beginning and at the end of the gamification. Also, 3 students from each class are chosen for interview to learn their thoughts about gamification.

A paired-sample t-test was applied to both classes to compare gamification effect on students' intrinsic motivation and non-gamification effect on students' intrinsic motivation conditions. For 9-A and 9-B classes there was a significant difference in the scores for gamification effect on intrinsic motivation of students ($M=174.90$, $SD=14.88$) and non-gamification effect on intrinsic motivation of students ($M=80.50$, $SD=32.28$) conditions; $t(11)=-11.35$, $p<.00$. These results show that gamification has positive impact on students' intrinsic motivation. In other words, gamification application increased students' intrinsic motivation when it is compared to non-gamification context.

Also, interview with 3 students from each class indicates that gamification is so useful to increase students' intrinsic motivation. According to responses of students, students are motivated in a positive way in terms of doing homework.

The term gamification is used as the indication of digital game based learning and serious games in general as the definition Kapp (2012) brings out, gamification is the use of game-based mechanics, aesthetics and game thinking for engagement, motivation provide learning and problem-solving. ($p < .01$). In this study similar to

that 01 explanation, it is aimed to increase motivation and engagement of students for learning outcomes in terms of homework. Game elements are key to enable the fact that increasing motivation and engagement of individuals. One of game elements in gamification is leaderboard. To be ranked in top positions, it is expected from players to compete with each other and it enables players to feel highly motivated as stated by Barata et al. (2013). In the semi structured interview one of the students states “Teacher uploaded leaderboard to system every night and when I saw me and my friends’ result, I felt that I must do my homework.” Also, when students get more instant feedback about what they have done in gamification, they have chance to understand and correct their mistakes as stated by Li, Grossman, and Fitzmaurice (2012). It can be done with the help of leaderboard in gamification. One of the students who has same ideas with these researchers states that “I had a strong ambition when I saw my friends who were superior position than me. I thought that I could do it too. That’s why I studied a lot, I tried to give more correct answers in later homework.”

Another game element which is used in this study is rewards, especially in online learning environments, according to summary created by Hamari et al. (2014). It can be said that rewarding can have positive outcomes about time management, learning and focusing skills. About time management, learning and focusing skills, one of the students state that “after a while I started to do my homework by the time I came home”. Another student states that “with the help of gamification I learned my responsibilities.” According to Dominguez et al. (2013) leaderboard can promote motivation and engagement of individuals in positive way. One of the students agrees on the researchers and states “we competed with each other amazingly to get rewards because we chose and desire them”.

One of the game elements in this study is badge. In gamification badges are used for many different purposes such as creating a goal for learners, increasing motivation of learners, certification of achievement, rewards as stated by Knight and Casilli (2012). For increasing motivation one of the students states that “badges were important for me because they were motivating” For certification of achievement,

one of the students states that “badges were satisfying because badge showed me that I did it or I could do it.”

Another game element in this study is competition. Competition is an event that more than one side are struggling for winning or achievement (Liu et al. 2013). In this study, competition is provided through leaderboard, rewards and points. Hanus and Fox (2015) state that leaderboards can be used to promote competition between players to engage and motivate them. In this study one of students has same thoughts with these researchers by saying that as I stated before I didn't like doing my homework but with gamification and competition we established a dialogue between me and my friends and it made me more engaged.” Unlike some researchers who thought that competition can harm intrinsic motivation theory (Hanus & Fox, 2015; Šćepanović et al. 2015), students in this study found competition useful and motivating. One of the students states “when I got bad results and my friends got better results than me, I knew that I could do the same like them.”

Barata et al. (2014) state that in gamification application, not every player gets the same results which are expected. In other words, gamification affects individuals in different ways. It can be understand from the results of intrinsic motivation inventory. Despite fact that all the students are affected by gamification in positive way, their affection scores are different from each other. One the other hand gamification can be bad effects on students' motivation. one of the students who was in the top positions states “in last homework I gave up compete with my friends because I was number 1 all the time” it resulted from novelty effect as stated by (Attali & Attali, 2015).

5.2 Discussion of Findings RQ2

Another aims of this study is determining whether gamification has any effect on students' motivation for homework, motivation for homework scale is used. Before and after gamification, this scale was conducted to both classes. To compare results of before and after gamification, a paired sample t-test used. For 9-A and 9-B classes, it can be said that there was a significant difference in the scores for gamification effect on students' motivation for homework ($M=43.00$, $SD=2.02$) and non-gamification effect on students' motivation for homework ($M=33.36$, $SD=2.88$)

conditions; $t(11)=-11.70$, $p = .00$. The results of paired sample t-test suggest that gamification affected students' motivation in a positive way when it was compared to beginning. Their motivations for homework increased by using gamification application.

There are many good examples of gamification which aim to foster learning of students, increasing students' motivation, carefulness, engagement, socializing and classroom management in the literature. (Domínguez et al., 2013; Hanus & Fox, 2015; Stott & Neustaedter 2013). In this study, it is aimed to increase students' motivation for homework. Results of pre and post-test can be a proof on this point. Despite the fact that homework numbers and content were similar to previous 4 weeks, scores and missing homework of students were not same at the end of gamification. According to Cheong et al. (2013) motivation is a must in terms of education because of providing engagement in learning tasks. As stated by these researchers, there is positive relation between motivation and engagement of students in this study. The number of homework which were done by students increased significantly when it was compared to previous 4 weeks. Also, there was a slightly increase in homework scores of students.

5.3 Discussion of Findings RQ3

Another aim of study is to understand whether gamification has any impact on engagement of students for homework and their homework scores. To measure that, homework checklist is used. Students 4 weeks homework scores and missing homework numbers before and during gamification process were recorded and kept by teacher. For class 9-A, every student in the class did more homework than before and their scores increased when it was compared to previous 4 weeks performance. For 9-B class, except from one student, all the students are missing homework number decreased. Their scores in terms of homework increased in positive way. It can be said that gamification has affected students' performance for homework and gamification has positive effect on engagement of students for the number of homework that they did.

Brewer et al. (2013) used scoring and rewarding system to increase students' task completion rate. Since gamification affected students in positive way in terms of

motivation, task completion rate of students increased significantly. Similar results were found with these researchers in terms of completing homework. In this study, 21 students out of 22 completed more homework with certain scores than previous 4 weeks.

5.4 Discussion of Findings RQ4

All of the students in the semi-structured interview found that with the help of gamification, they are quite motivated. This motivation comes from both inside factors such as making effort, giving importance and outside factors such as rewards, points, badges. It can be said that these factors are related to self-determination (Deci & Ryan 1985). Competence, relatedness and autonomy are keys for intrinsic motivation (Ryan & Deci, 2000).

Competence is such a concept that in which students have a feeling of mastery. It is feeling of confidence while showing performance (Ryan & Deci, 2000). In another words, students feels that they can do or they accomplish certain tasks required by course needs and teacher. On this topic, in the semi-structured interview all the students mentioned that they have enough courage and confidence to able to perform a task. One of the students (S5) states that *“when I got bad results and my friends got better results than me I knew that I could do the same like them.”* It can be said that (S5) has a self-confidence and when it is needed, student is ready to do his or her job. Even if some students’ ranks were in the bottom position, they were still motivated by showing self-confidence. (S1) states that *“I called myself as a successful student even if I was in bottom position in leaderboard. I improved my skills and my knowledge, I can understand it from my exam results.”* (S1) is aware of his/her success and mastery. Also, (S3) *“if I hadn’t been ill for a week, I was aware that I could do better. That’s why I called myself successful.”*

Autonomy is related to choice of freedom as well as doing something because of individuals own willingness and values. It can be said that individuals are responsible for own actions in terms self-regulations skills for clear purposes (Ryan & Deci, 2000). All the students in the semi-structured interview found gamification was useful and valuable for them and they want to use of benefits of gamification. In the interview, (S2) states that *“gamification was important for me because before*

this, I couldn't give enough importance my homework and I just did my homework for the sake of doing.” Also, for self-regulation (S2) added “I focused on homework when it was compared to previous homework” According to responses of (S2), it can be said that (S2) chose to use gamification not by forcing because of the fact (S2) found that it was useful for homework completion and motivation. Also, (S4) states that “I did extra homework because I thought that it was useful for me” There are some benefits of homework completion in terms of self-regulation skills such as time management, identifying a goal (Grodner & Rupp, 2013). Also, Homework play a significant role in terms of students' self-confidence and self-discipline (Brewster& Fager, 2000). On this point (S6) states “*“with the help of competition and gamification I learned my responsibilities”* and (S2) added “after a while I started doing my homework just after I went home” It can be said that homework completion can be important for self-regulation skills of students. When there is a goal in the homework, homework completion rate of students increased. (S1) states “*I did more homework than previous time. Because there was a goal in gamification.*” Also, (S3) mentions that “*with the help of competition, I raised my level of target.*”

Relatedness is related to a feeling of connection and interactions with others and belonging. It is about belonging and devotion feelings to a group (Ryan & Deci, 2000). In this study, for a feeling of belonging to classroom is provided by game elements such as leaderboard, competition. Students had some feeling such as ambition in the competition which was found useful by them. Related to this topic, in the interview (S5) mentions, “*there was an atmosphere in which everyone asked each other how you did that.*” Also, (S2) mentions that “*while I was doing homework, I couldn't feel of competition but when I came to school in the morning, everyone asked each other their positions or points. There was a competition environment.*” With the help of competition, students' homework completion rate increased because of the fact that they need some points to be a good position in leaderboard. Another important point for relatedness is interaction and connection. (S1) states that “*as I stated before I didn't like doing my homework but with gamification and competition we established a dialogue and it made me more*

engaged.” It can be said that with the help of connections and communications, students’ homework completion rates increased.

Meaningful homework can be important for homework completion rates. One of the main elements for meaningfulness is homework amount. As Cooper (2007) mentioned giving some shorter homework instead of longer one is better for students. On this topic (S5) states that *“I preferred shorter homework, in other lessons, teachers give us 10 pages homework but in gamification homework every homework is short and clear.”* It can be said that doing shorter homework can be useful for homework completion. One of the motivating factors about homework completion at college level is extra credit (Ryan & Hemmes, 2005). Students do their homework for the sake of getting some extra points which can be important for them. In gamification, There is a privilege to not do homework according to badges that students have. If students have badges and they still want to do homework, extra points can be earned. Instead of not doing, most of the students completed their homework for extra credit. All the students except 2 do their homework although they have privilege to not do. 2 students are in 9-B class and their ranks are in top 3 positions in leaderboard. (S6) mentions that *“I did my homework to get extra points to climb up in leaderboard.”* Also, (S3) states that *“I did all extra homework because my points increased.”*

5.5 Recommendations and Suggestions

5.5.1 Recommendations for Researchers. Because of the population of school, gamification application was conducted to small number of students. Next time it can be applied to larger population to get accurate results in terms of motivation.

For future research, some of the data collection tools can be revised in terms of validity and reliability scores. The Turkish version of intrinsic motivation inventory was applied to university students. In another words, it can be said that validity and reliability of scale are valid for university students not for high school students. Another similar problem is related to motivation for homework scale. For validity and reliability of scale, it was conducted to 4th grade and secondary school students. Next time, it will be revised in terms of reliability and validity. For these

reasons, before using these scales, it should be noted that validity and reliability of scales must be done for high school students.

For semi-structured interview, only 3 students who take place in different positions in leaderboard are interviewed. Number of students may not show the accurate results in terms of perceptions of students towards to gamification. Next time, researcher may have a chance to interview with all students in gamification. Also, for evaluation of students, another researcher can be helpful and needed.

Rewards are identified and chosen by students. It can be said that this gamification with game elements can be valid for students of researcher. If it applied to another group of students, the results may change. It may not be generalized because of the fact that rewards in this gamification may effect motivation of other students in positive or negative way.

The period of gamification process is only 4 weeks. It may not be enough for getting good results. Because of the fact that criticism towards to intrinsic motivation for longer term by another researchers, next time it will be better to design for a long period to get clear results in terms of motivation increase or decrease. For future research, to identify whether gamification has positive or negative effect on students motivation for a long term, another study can be carried out.

Since the school was new and there were only 9th grade students in the school. Achievement test couldn't be prepared by the researcher. Next time to measure gamification has any impact on academic performance of students or not, academic achievement test can be prepared and applied to students.

During gamification, it can be concluded that it has a potential to increase homework completion rates. For future studies, after gamification effect studies can be conducted to understand how gamification affects students' behavior.

Since target population is so small, there is no control group to compare two or more groups in terms of motivation and academic achievement. For future research, with the help comparing two or more groups, researcher can get deeper information about whether gamification has any positive effect on motivation or not.

5.5.2. Recommendations for Practitioners

In this research, it is found that gamification increased participants' motivation in terms of completing homework. Therefore it can be said that teachers who think that their participants are lack of motivation can use gamification according to their needs. It can be about participation, homework completion etc.

While practitioners are using gamification in their classrooms, they have to take participants' need, participants' characteristics. In the literature review part, it can be seen that gamification has disadvantages if it is not well-designed. Because of that practitioners need to know what participants like and don't like. If participants do not like competition or badges, gamification may not be useful for increasing motivation.

Also, it is observed that, personalized gamification is useful for participants in terms of practitioners' aims. To do this, practitioners can ask participants about game elements such as badges, prizes. Participants really want to play to reach their goals (getting badge or prize) because they design gamification together with practitioners and they are aware of game elements are so charming for them.

Implementing digital tools into gamification can decrease the burden of teachers (Samur, 2015). As in this study, teachers can use digital tools such as digital badges, digital leaderboard. This is a way of saving time and being more effective instead of recording every data about gamification and showing participants.

In this study, there are two different classes whose English levels are different than each other. Another research can be carried out to determine how gamification effect on motivation according to language proficiency levels of students.

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APPENDICES

A. Intrinsic Motivation Inventory

1 Yaşınız: _____

2 Cinsiyetiniz: Erkek Kadın

3 Mesleğiniz: _____

GÜDÜLENME ENVANTERİ

Bu envanter iş güdülenmesi ile ilgilidir. Aşağıdaki ifadelerden her birinin sizin için ne ölçüde geçerli olduğunu (işiniz çerçevesinde) düşünerek 1'den 7'ye kadar olan numaralardan uygun olanını işaretleyiniz.

| | Hiç gerçek değil (1) | 2 | 3 | Bir dereceye kadar (4) | 5 | 6 | Çok gerçek (7) |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1 Bu işi yapmak çok hoşuma gitti. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 Bu işi yapmak eğlenceliydi. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 Bunun sıkıcı bir iş olduğunu düşündüm. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 Bu iş hiç ilgimi çekmedi. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 Bu işi çok ilginç buldum. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 Bu iş bence hayli eğlenceli. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 Bu işi yaparken çok zevk aldım. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 Bu işte iyi olduğumu düşünüyorum. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| | | | | | | | | |
|----|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 9 | Diğer çalışanlarla kıyaslandığında bu işte oldukça iyi olduğumu düşünüyorum. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10 | Bir süre çalıştıktan sonra bu işte epeyce yeterli olduğumu hissettim. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11 | Bu işteki performansımdan memnunum. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12 | Bu işte olabildiğince ustayım. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13 | Bu, benim pek iyi yapamadığım bir iştir. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14 | Bu iş için çok çaba sarf ettim. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15 | Bu iş için kendimi zorlamadım (çok çaba sarf etmedim). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16 | Bu iş için çok çabaladım. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17 | Bu işi iyi yapmak benim için önemliydi. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18 | Bu iş için fazla enerji harcamadım. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

B. Motivation For Homework Scale

İSİM SOYAD

Cinsiyetiniz: Erkek Kadın

Yaş

EV ÖDEVLERİ MOTİVASYON ÖLÇEĞİ

| | Kesinlikle Katılmıyorum (1) | Kısmen katılmıyorum (2) | Katılıyorum (3) | Tamamen Katılıyorum (4) |
|--|-----------------------------------|-------------------------------|--------------------------|-------------------------------|
| 1. Ev ödevlerimi yapıyorum çünkü yapmadığımda kendimi kötü hissediyorum. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Ev ödevlerimi ailem beni cezalandırmasın diye yapıyorum | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Ev ödevlerimi yapıyorum çünkü ödevleri yapabildiğimi görmek hoşuma gidiyor. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Ev ödevlerimi eğlenceli olduğu için yapıyorum | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Ev ödevlerimi öğretmenim bana kızmasın diye yapıyorum | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Ev ödevlerimi yeni şeyler öğrenmek için yapıyorum | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Ev ödevlerimi okul başarıyı artırdığı için yapıyorum | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Ev ödevlerimi öğrenmeme yardım ettiği için yapıyorum | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Ev ödevlerimi daha iyi notlar almak için yapıyorum | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Ev ödevlerimi öğretmenim bana artı puan versin diye yapıyorum. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Ev ödevlerimi ödev yapmak önemli olduğu için yapıyorum | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. Ev ödevlerimi bana ilginç geldiği için yapıyorum | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. Ev ödevlerimi konuyu anlamamı kolaylaştırdığı için yapıyorum | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. Ev ödevlerimi yapıyorum çünkü öğretmenim ödev yapan ve yapmayanlara farklı davranıyor. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. Ev ödevlerimi yapıyorum çünkü ödev yapmadığım öğretmenim, ailem veya arkadaşlarım tarafından fark edilirse utanırım. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. Ev ödevlerimi öğrenmeyi sevdiğim için yapıyorum | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. Ev ödevlerimi kendimi iyi hissettiğim için yapıyorum. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

C. Interview Questions

1. Oyunlaştırma süreci hakkında ne düşünüyorsun? ödev yapma sürecini
2. Oyunlaştırma süreci öncesi ve sonrasını düşünerek oyunlaştırma nasıl etkiledi?
3. Oyunlaştırma sürecinden keyif aldın mı?
4. Oyunlaştırmayı diğer derslerinde kullanmak ister misin? Hangi ders ve neden?
5. Oyunlaştırmayı bir kelime ile özetlesen, ne dersin?
6. Oyunlaştırma öncesi yaptığın ödevleri düşününce ödev yapma sayın arttı mı? Neden?
7. Oyunlaştırma öncesi yaptığın ödevleri düşününce ödevlerden aldığın puanlar arttı mı? Neden?
8. Ödevleri yaparken hiç yardım aldın mı?
9. Ödevleri puan almak için mi yaptın yoksa öğrenmek için mi?
10. Ödevlerinin İngilizce başarısına bir katkısı oldu mu? Bunu nasıl anlıyorsun?
11. Liderlik tablosunu kaçınıcı bitirdin kaç puan topladın?
12. Liderlik tablosunda birinci/ikinci/üçüncü bitirdiğinde neler hissettin?
13. Liderlik tablosunda arkadaşlarının önüne geçtiğinde ya da gerisine düştüğünde neler hissettin?
14. Liderlik tablosunda diğer arkadaşların hakkında iyi/kotu şeyler hissettin mi? Bunlar nelerdi?
15. Liderlik tablosundaki sonucunu düşündüğünde kendine başarılı olarak adlandır mıydın? Neden?
16. Ne yapsaydın daha başarılı olurdu?
17. Liderlik tablosu başarıyı arttırdı mı? Bunu nasıl anlarsın?
18. Hiç rozet kazandın mı? Bu seni mutlu etti mi? Bronze silver gold diamond
19. En çok hangi rozeti kazanmak istedin? Bunu başardığında ya da başaramadığında neler hissettin?
20. Rozet kazanmak senin için önemli miydi?
21. Gerçekten yarıştığını hissettin mi? Nasıl?
22. Arkadaşlarının puanı ile kendi puanını karşılaştırdığında hiç moralin bozuldu mu?
23. Oyunlaştırma içindeki yarışma seni pozitif/negatif anlamda nasıl etkiledi?
24. Yarışma isteğini hiç bıraktın mı?
25. Ödüller hakkında neler düşünüyorsun?
26. En çok kazanmak istediğin ödül hangisiydi, kazandın mı, kazanamadın mı? Neden?

27. Kazandıđın ya da kazanamadıđın ödüller motivasyonunu nasıl etkiledi?
28. Ödül kazanmak senin için önemli miydi?
29. Ekstra ödev hakkı kazandıđında ne hissettin ve bunu kullandın mı?



CURRICULUM VITAE

PERSONAL INFORMATION

Surname, Name: Selvaslı, Hakan

Nationality: Turkish (T.C.)

Date and Place of Birth: 1 March 1991, Adana

Marital Status: Married

Phone: +90 506 609 30 02

Email: hakanselvasli@gmail.com

EDUCATION

| Degree | Institution | Year of Graduation |
|-------------|---------------------------------|--------------------|
| BS | Istanbul University | 2013 |
| High School | Bozüyük Anadolu Öğretmen Lisesi | 2009 |

WORK EXPERIENCE

| Year | Place | Enrollment |
|-----------|--------------|-----------------|
| 2013-2015 | Doga College | English Teacher |
| 2015-2018 | Aci College | English Teacher |

FOREIGN LANGUAGES

Advanced English, Pre-intermediate German

CERTIFICATES

Oxford University Press (English as a Foreign Language) Antalya/ TURKEY

HOBBIES

Movies, Games, Books, Volleyball