REPUBLIC OF TURKEY

ÇUKUROVA UNIVERSITY

INSTITUTE OF SOCIAL SCIENCES

DEPARTMENT OF ENGLISH LANGUAGE TEACHING

MOTIVATING AND ENGAGING EFL LEARNERS IN E-LEARNING WITH GAME ELEMENTS

Mahmut ÖZKAN

PhD DISSERTATION

ADANA / 2016

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- Bu tezde sunduğum çalışmanın özgün olduğunu,

bildirir, aksi bir durumda aleyhime doğabilecek tüm hak kayıplarını kabullendiğimi beyan ederim. 16/06/2016

Mahmut ÖZKAN

ÖZET

İNGİLİZCE ÖĞRENCİLERİNİN E-ÖĞRENMEDE OYUN ÖGELERİYLE MOTİVE EDİLMESİ VE DERSE KATILIMI

Mahmut ÖZKAN

Doktora Tezi, İngiliz Dili Eğitimi Anabilim Dalı
Danışman: Yrd. Doç. Dr. Gülden İLİN
Haziran 2016, 183 sayfa

Eğitim teknolojileri son yıllarda birçok gelişmelere tanıklık etmiştir. Günümüzde gerek sınıf içi gerekse dışında, öğrenim ve öğretim etkinliklerini geliştirme amacı güden çok çeşitli teknolojik araç bulunmaktadır. Bu bağlamda e-öğrenme, sınıf/kurum temelli internet siteleri veya kitlesel açık çevrimiçi kurslar gibi farklı biçimlerde, dünya çapında pek çok eğitim çevresinde popülerlik kazanmıştır. Gittikçe artan ününe rağmen, bu yeni eğitim türüyle ilgili olarak, memnuniyet, soyutlanma (Power & Morven-Gould, 2011), öğrencilerin kursu bırakması, öğrenci kaybı (Atchley, Wingenbach, & Akers, 2013; Yang, Sinha, Adamson, & Rose, 2013), öğrenci sayısını koruma (Allen & Seaman, 2014), dolayısıyla öğrenci motivasyonu ve katılımı gibi konularda birtakım endişeler bulunmaktadır. Şimdilerde, çevrimiçi öğrenmenin potansiyel sorunlarının üstesinden gelmek amacıyla dünya genelinde çok sayıda eğitimci, oyunlaştırma adı verilen, oyun ögelerini ve oyun tasarım tekniklerini oyun dışı bağlamlara uyarlayarak (Werbach & Hunter, 2012) öğrenci motivasyonu ve katılımını artırmayı hedefleyen yeni bir kavrama yönelmektedirler.

Bu çalışmanın amacı, çevrimiçi yabancı dil derslerini oyunlaştırmanın, öğrencilerin motivasyonu ve katılımı üzerindeki etkisini incelemek ve varsa hangi oyun ögelerinin yabancı dil öğrenimine katkıda bulunduğunu araştırmaktır. Çalışma bir sömestr boyunca sürmüş olup, birinci sınıf üniversite öğrencilerine yoğunlaştırılmış genel İngilizce eğitimi sunan hazırlık programı çerçevesinde, harmanlanmış öğrenme ortamında gerçekleşmiştir. Çalışmanın katılımcıları, hazırlık programının bir sınıfını oluşturan 19 öğrencidir. Bu öğrenciler, hazırlık programı çerçevesindeki sınıf temelli derslerinin yanı sıra, araştırmacının gözetiminde haftada 2 saat boyunca bilgisayar laboratuvarında gerçekleşen Bireysel-Erişim Merkezi (BEM) derslerine katılmışlardır.

BEM derslerinde kullanılan e-öğrenme platformu (Moodle) çeşitli oyun ögeleri kullanılarak oyunlaştırılmıştır.

Oyunlaştırmanın etkilerini incelemek için nitel ve nicel araştırma yöntemlerinden faydalanılmıştır. Öncelikle, çalışmanın başlangıcında katılımcılara bilgisayar destekli eğitime hazır bulunmuşluk ölçeği uygulanmıştır. Ayrıca, katılımcılardan belirli aralıklarla çevrimiçi derslerdeki deneyimleriyle ilgili günlük yazmaları istenmiştir. Bunun yanı sıra araştırmacı, gerek çevrimiçi derslerde gerekse bilgisayar laboratuvarında meydana gelen önemli olaylarla ilgili saha notlar tutmuştur. Çalışmanın sonunda, katılımcılar deneyimleriyle ilgili bir anket doldurmuş ve diğer veri toplama araçlarıyla elde edilen verileri desteklemek amacıyla katılımcılarla görüşmeler yapılmıştır. Ayrıca, öğrencilerin katılımlarının farklı boyutlarını değerlendirmek için e-öğrenme platformunun izleme sistemi incelenmiştir. Hazır bulunmuşluk ölçeği, anket ve Moodle izleme sisteminin verileri nicel olarak analiz edilirken, öğrenci günlükleri, görüşmeler ve saha notları, içerik analizi yöntemiyle incelenmiştir.

Çalışmanın sonuçları, oyunlaştırmanın İngilizceyi yabancı dil olarak öğrenen öğrencilerin çevrimiçi derslerdeki motivasyonu ve derse katılımları üzerinde olumlu yönde önemli etkileri olduğunu ortaya koymaktadır. Bunun yanı sıra sonuçlar, oyun ögelerinin e-öğrenmeye eklenmesinin, artan motivasyon, katılım, öz-farkındalık, öz-yönetimli öğrenme, pratik yapma, öğretim desteği ve özgüven gibi birçok açıdan dil öğrenimine dolaylı yollardan katkıda bulunduğunu göstermektedir. Çalışmada ayrıca öğrencilerin, oyunlaştırmayla ilgili akademik çalışmalarda en sık karşılaşılan oyun ögelerinden olan skor tablosu ve rozetler gibi yüzeysel oyun ögelerinin aksine, içerik açma, ilerleme, duygular ve dönütler gibi oyun ögelerine daha fazla anlam yükledikleri belirlenmiştir.

Sonuçlar oyun ögelerinin varlığının birtakım sorunlara neden olabileceğini de göz önüne sermektedir. Örneğin, zayıf nitelikteki eğitsel içerik ve yetersiz denetimle birlikte uygulandığında oyunlaştırmanın, çevrimiçi derslerde içsel motivasyon, anlamlı katılım ve öğrenci başarısının güvenirliği gibi belirli özelliklerin yerine, yüzeysel katılım ve istenmeyen davranışlara neden olabileceği düşünülmektedir. Bu çerçevede, çalışma, oyunlaştırmayı tarafsız bir eğitsel buluş olarak görüp eleştirmeden benimseme yerine, oyunlaştırmanın öğrenim bağlamlarına uygulanması konusunda dikkat gösterilmesi gerektiğini önermektedir. Bununla birlikte, eğitsel olarak kaliteli ve uygun içerikle ve öğretmenin öğrenme ortamında bulunması ve denetimiyle birlikte uygulandığı takdirde, oyunlaştırmanın işlevsel olacağı ve gerek öğrenci motivasyonu ve

katılımı gerekse yabancı dil öğrenim ve gelişimi konularında olumlu sonuçlar doğuracağı değerlendirilmektedir.

Anahtar Kelimeler: Oyunlaştırma, oyun ögeleri, e-öğrenme, motivasyon, katılım.

ABSTRACT

MOTIVATING AND ENGAGING EFL LEARNERS WITH GAME ELEMENTS IN E-LEARNING

Mahmut ÖZKAN

Doctor of Philosophy, English Language Teaching
Supervisor: Assist. Prof. Dr. Gülden İLİN
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Educational technology has seen many developments in recent years. There are various technological tools that aim at improving learning and teaching both inside and outside the physical classroom. E-learning, in this respect, has gained widespread popularity in educational contexts around the world in different forms such as class/institution-based websites and massive open online courses. In spite of its growing reputation, there have been concerns about this new type of education in terms of satisfaction, isolation (Power & Gould-Morven, 2011), withdrawal, attrition (Atchley, Wingenbach, & Akers, 2013; Yang, Sinha, Adamson, & Rose, 2013), student retention (Allen & Seaman, 2014) and thus learner motivation and engagement. In an effort to overcome the pitfalls of online learning, many educators around the globe are now turning their attention to a fairly new concept named gamification, which aims to increase motivation and engagement of students through the inclusion of game elements and game design techniques outside the context of games (Werbach & Hunter, 2012).

The aim of this study is to investigate the effects of gamifying online foreign language courses on the motivation and engagement of learners and to explore which of the game elements can be identified as potentially contributing to foreign language learning, if any. The study took place for one semester in a blended-learning environment within a preparatory program that offered intensive general English education to first-grade university students. The participants of the study, 19 students attending a class in this program, had two-hour Self-Access Center (SAC) classes in the computer laboratory each week under the supervision of the researcher, along with the classroom-based courses in the framework of the preparatory program. The e-learning

platform (Moodle) used in SAC classes was gamified utilizing various gamification elements.

Both qualitative and quantitative research methods were employed to investigate the effects of gamification. First of all, the participants were distributed a computer readiness scale at the beginning of the study. They were also asked to write diaries about their experiences on the gamified online courses at regular intervals. In addition, the researcher took field notes on critical incidents occurring both online and in the computer laboratory. At the end of the study, the participants completed a questionnaire regarding their experiences and were interviewed to triangulate the data received from the other data collection tools. The tracking system of the e-learning platform was also examined in order to explore the extent of student engagement. The results of the computer readiness scale, questionnaire, and Moodle tracking system were analyzed quantitatively, and the student diaries, interviews, and field notes were analyzed through content analysis.

The findings of the study reveal that gamification has significant positive effects on the EFL learners' motivation and engagement in the online course. In addition, the integration of game elements into e-learning seems to have an indirect contribution to language learning in many aspects such as increased motivation, engagement, self-awareness, self-directed learning, practice, scaffolding and self-confidence. It is also found that the students attached more meaning to game elements such as content unlocking, progression, emotions and feedback in terms of language learning, rather than the surface-level game elements like leaderboard and badges, which are among the most frequently used elements in gamification studies.

The findings also indicate that the presence of game elements in the online course could be accompanied by some disadvantages. When applied with a poor educational content and inadequate supervision, for example, gamification will probably produce superficial engagement and unintended behavior at the expense of losing certain qualities in online courses such as intrinsic motivation, meaningful engagement, and reliability of student achievements in the online course. In this respect, the study suggests caution when employing gamification in learning contexts rather than assuming it as a neutral educational breakthrough and uncritical adoption of game elements. On the other hand, when used with pedagogically sound and relevant content as well as the availability and supervision of the teacher, gamification is likely to work

effectively and produce positive results in terms of not only motivation and engagement of learners but also foreign language learning and development.

Keywords: Gamification, game elements, e-learning, motivation, engagement.

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LIST OF ABBREVIATIONS

ARCS: Attention, Relevance, Confidence, Satisfaction

EFL: English as a Foreign Language

ELT: English Language Teaching

MOOC: Massive Open Online Course

PBL: Points, Badges, and Leaderboards

SAC: Self-Access Center

SDT: Self-Determination Theory

SPSS: Statistical Package for the Social Sciences

VLE: Virtual Learning Environment

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CHAPTER I

INTRODUCTION

1.1. Background to the Study

With the help of the developments in technology, the field of education has witnessed plenty of appealing opportunities to improve learning and teaching experiences over the last couple of decades. Today there is a wide range of educational technologies from interactive whiteboards and digital content to e-learning through classroom-based websites or Virtual Learning Environments (aka Learning Management Systems and Course Management Systems) and massive open online courses (MOOCs).

According to Karaim (2011), traditional university enrollment worldwide grew from about 100 million in 2000 to 158 million in 2011, and is expected to reach 263 million by 2025; enrollments for online education programs, on the other hand, are expanding much faster than at traditional universities, in both the developed and developing worlds. Thanks to the Internet, it has been possible for anyone anywhere to pursue education (Pederson, 2015). Today a great many higher education institutes offer e-learning and thus provide access to education for time-and-place-bound learners. Not surprisingly, there has been an increase in the number of students enrolling in online courses throughout the world over the past decade. In the US alone, as Allen and Seaman (2013) indicate, the growth of student enrolments in online courses has been growing substantially faster than the growth rate of student enrolments in overall higher education. Online learning is considered as a ‘disruptive technology’ that will eventually induce dramatic changes in financing and structure of university education (Christensen & Eyring, 2011).

There is a vast literature on the advantages of this new type of education. Studies report on increased motivation and reduced anxiety (Erben, Ban, Eisenhower, Jin, & Summers, 2008), access to instruction without the bounds of time and place, receiving individualized and instant feedback (Nunan, 2010), learner autonomy (Schwienhorst, 2007), flexibility (O'Lawrence, 2006), being able to openly share ideas and communicate without fear of embarrassment (Bathe, 2011). In addition, a recent report by the Babson Survey Research Group (Allen & Seaman, 2014) indicates that more than 70 % of the academics in US higher education institutions rated learning outcomes

in online education as the same as, or better than those in face-to-face instruction. All of these assets seem to justify the ever-increasing popularity of e-learning.

1.2. Statement of the Problem

Despite all its potential and recognition, online learning can also be associated with high rates of student dissatisfaction and isolation, (Power & Gould-Morven, 2011). Student withdrawal and attrition are among other problems encountered in online learning (Atchley, Wingenbach, & Akers, 2013; Yang, Sinha, Adamson, & Rose, 2013). In a similar vein, a recent report published by the Babson Survey Research Group (Allen & Seaman, 2014) indicates that the belief among the academics that it is harder to retain students in online courses has grown to 44.6 % in 2014 from 27,2 % in 2002.

In an effort to avoid the potential pitfalls of e-learning and to increase the motivation and engagement of its users, many educators around the globe are turning their attention to a fairly new concept named *gamification* as a means to increase learner motivation and engagement. Defined as integrating game elements and game design techniques into non-game contexts (Werbach & Hunter, 2012), gamification has originally and frequently been used as a clever way to promote a business or product (Lee & Hammer, 2011). Many global companies, for example, such as amazon.com, American Airlines, Apple, Facebook, McDonald's, Nike and Starbucks, are structuring their marketing strategies with these game mechanics as a basis (Kim & Lee, 2013). In fact, the success of Foursquare and Nike+ mobile services are often attributed to gamification (Huotari & Hamari, 2012). This new trend is predicted to boost in the coming years with estimates that more than 70% of global 2000 organizations will employ at least one gamified application by 2014, and that by 2015, more than 50% of organizations which manage innovation processes will gamify those processes (Gartner Inc., 2011a; 2011b).

Considering its potential to increase the involvement and motivation of participants in a wide range of contexts from business marketing to health care, many researchers have been touting gamification as a new concept to transform education, assuming that by applying gamification in education, learners could be more motivated and enjoy otherwise tedious tasks (Hanus & Fox, 2015).

Despite the fact that some elements of gamification, such as points, grades, progression and challenges, have already been an intrinsic component of schools, (Lee & Hammer, 2011; O'Donovan, Gain, & Marais, 2013), and that teachers commonly

employ games in the classroom (Kapp, 2012), it is only recently that educators have begun investigating the possibility of making the class itself a game (Hanus & Fox, 2015). Taking into account the recent technological advances, new generation of students, who are sometimes referred to as digital natives (Prensky, 2001), and the substantial theoretical support for the benefits of using games in learning and education, gamification seems to be appealing and motivating (Glover, 2013). However, there is mixed empirical support for the effects of various gamification elements (Hanus & Fox). In addition, Hamari, Koivisto, and Sarsa (2014) note several methodological limitations in the studies done on gamification such as small sample sizes, a lack of validated measures and comparison groups, short treatments, a lack of clarity in reporting the results, and singular assessments. Despite its popularity, the effects of various gamification elements have not been sufficiently evaluated (Hanus & Fox).

To the best of our knowledge, in the relevant literature there has been no academic research on using gamification in a virtual language learning environment designed for preparatory English as a foreign language (EFL) programs.

1.3. Aim and Scope of the Study

In the lights of the discussions above, we aimed at building an online language learning platform for a preparatory English class by utilizing various gamification elements. In this platform, we investigated the EFL learners' motivation and engagement, and explored which of the elements of gamification can be identified as able to influence foreign language learning, if any.

1.4. Research Questions

The study attempted to find answers to the following questions:

1- What are the EFL learners' perceptions of the gamified online courses?
2- Do gamified online courses increase the motivation of EFL learners?
3- Do gamified online courses increase the engagement of EFL learners?
4- What sort of gamification elements are appreciated most by EFL learners?
5- Do students think that gamification has an influence on their language learning? If so,
    a) in what ways?

b) which of the components of gamification do learners attribute this influence to?

1.5. Limitations of the Study

This study focuses on evaluating the language learners' perceptions about using a gamified online learning platform. In other words, exploring the relationship between gamification and the learners' language performances is not within the scope of this study.

Another limitation of the study is the number of participants. Identified by convenience sampling strategy, the participants of this study were 19 first-grade undergraduate students attending a class (Prep A1) in the English Preparatory Program of Kahramanmaraş Sütçü İmam University. The findings are related to the participants of the study, and thus they cannot be generalized.

1.6. Operational Definitions (In Alphabetic Order)

The concepts and terms in this study have been used in the following definitions:

Autonomy: "The degree of independence that learners have from traditional teacher fronted classroom approaches and their ability to advance and progress as independent learners." (Halvorsen, 2009, p. 254)

Awareness: "Cognizance of linguistic, mental, or emotional factors through attention and focus; conscious attention." (Brown, 2007, p. 377)

Blended Learning: The combination of instruction from traditional face-to-face learning systems and computer-based technologies (Graham, 2012).

Engagement: A student's involvement in learning, such as studying a subject, practicing, and getting feedback, participating in a discussion or collaborating on solving problems, which contributes to his/her learning and sustains further involvement in course activities (Kuh, 2009; Meyer, 2014).

Extrinsic Motivation: "Choices made and effort expanded on activities in anticipation of a reward from outside and beyond the self." (Brown, 2007, p. 381).

Game/Gamification Elements: The parts of games that make them interesting, engaging, and compelling to players (Wood & Reiners, 2015).

Gamification: "The use of game design elements in non-game contexts." (Deterding, Dixon, Khaled, & Nacke, 2011, pp. 9-15).

Gamify: The process of integrating of game elements and components, mechanics, and dynamics to a process or a service in order to achieve specific outcomes (Wood & Reiners, 2015).

Intrinsic Motivation: "Choices made and effort expanded on activities for which there is no apparent reward except the activity itself." (Brown, 2007, p. 384).

Motivation: "The dynamically changing cumulative arousal in a person that initiates, directs, coordinates, amplifies, terminates, and evaluates the cognitive and motor processes whereby initial wishes and desires are selected, prioritized, operationalized and (successfully or unsuccessfully) acted out." (Dörnyei, 2000, p. 524)

Noticing: "A cognitive process that involves attending to linguistic form in the input learners receive and the output they produce." (Ellis, 2005, p. 49).

Scaffolding: Temporary instructional support that is given to learners, enabling them to perform a task at a level beyond their present competence (Thornbury, 2006).

Virtual Learning Environment: Virtual Learning Environment is a system working over the Internet designed to support teaching and learning in an educational setting, providing a collection of tools such as those for assessment, communication, uploading of content, administration of student groups, collecting and organizing student grades, questionnaires, tracking tools (Menken, 2013).

1.7. Abbreviations (In Alphabetic order)

The abbreviations that are used in this study are as follows:

ARCS: Attention, Relevance, Confidence, Satisfaction
EFL: English as a Foreign Language
ELT: English Language Teaching
MOOC: Massive Open Online Course
PBL: Points, Badges, and Leaderboards
SAC: Self-Access Center
SDT: Self-Determination Theory
SPSS: Statistical Package for the Social Sciences
VLE: Virtual Learning Environment

CHAPTER II

LITERATURE REVIEW

2.1. Introduction

This chapter covers background information about gamification. It begins with an overview of the relationship between games and education. It also deals with the definition and theoretical framework of gamification as well as its design elements and criticisms. Finally, it presents an overview of gamification studies carried out in the field of education and foreign language learning.

2.2. Games and Education

A study published in May 1998 issue of Nature (as cited in Xu, 2012) indicated that during game play, video game players experienced regular releases of dopamine, a neurotransmitter that signals pleasure rewards for food, sex and addictive drugs. This and subsequent research demonstrated that playing games stimulates pleasure centers in the brain (Xu). However, there are more to games than mere pleasure. According to Piaget, Dewey, Vygotsky, and Bruner (as cited in Rouse, 2013), game playing is important in preparation for future life. Play is an important element for healthy physical and cognitive development of children (Ginsburg, 2007; McClarty et al., 2012). Positive influences of games, however, are not exclusive to childhood. They can play an important role in relaxation and stimulation for adults as well by fueling their imagination, emotional well-being, creativity as well as problem-solving abilities (Robinson, Smith, Segal & Shubin, 2016).

Games typically allow the player to restart or play again, with a freedom to fail and making mistakes recoverable (Hanus & Fox, 2015). They can also give the player immediate and frequent feedback, providing them with reflective learning opportunities (Kapp, Blair, & Mesch, 2014). In addition, as Beed, Hawkins, and Rolle (as cited in Hanus & Fox, 2015) put it, it is possible to tailor difficulty levels in a game on an individual basis, keeping players on a particular level until they have demonstrated the required mastery to move forward. In this respect, games could offer opportunities for scaffolded learning, generating instant feedback according to the level and performance of the player. With all these characteristics, games are firmly rooted in human culture and they continue to influence our social and leisure lives (Seaborn & Fels, 2015) as

well as intellectual lives. It is possible to suggest, therefore, that games can be considered as an integral part of learning and physical and intellectual development, rather than a constant distraction from learning (Ke, 2009).

Due to their potential, games as a means of learning have been studied extensively (Codish & Ravid, 2014). Over the years, various studies have claimed that gaming in education could promote more positive attitudes toward learning (Palmer & Rodgers, 1983), enhance motivation (McClarty, 2012), foster higher-order thinking skills such as planning and reasoning (Ke, 2009), and facilitate learning (Kapp et al., 2014; McClarty, 2012). However, there have been studies suggesting that there is only a modest evidence for the effectiveness of games on cognitive and conative outcomes (Hays, 2005) and that there are inconsistent patterns of results concerning the effects of games on motivation and learning (Filsecker & Hickey, 2014).

2.3. Digital Game-Based Learning

Following the spread of computer games in the 1980s, game-based learning has gained a new momentum with the help of the integration of technology. In mid-1990s, educators were getting excited about the potential of 'edutainment' products, which aimed at motivating the new generation of students through the integration of educational content with computer games; however, most of these attempts were unsuccessful, because of a lack of foresight in both educators and game designers who thought that simply integrating educational content with existing game mechanics would just work (de Byl, 2012). Although once praised due to its ability to simultaneously entertain and educate, edutainment was criticized for, relying heavily on behaviorism, combining one of the lowest form of education (drill and practice) with less than entertaining game play (Van Eck, 2006). It is also criticized for suggesting a superficial and problematic construction of learning (Egenfeldt-Nielsen, 2007). In this vein, Okan asks (2003; p. 258) "Should learning be fun?", warning against the unseen danger of trivialization of the learning process brought about by viewing learning solely as fun and entertainment. Especially in the post-secondary education, which is not usually an entertaining undertaking (Okan), students should be able to withstand frustration during learning and stay on track in spite of problems (Egenfeldt-Nielsen). Another concern about edutainment is to teach only lower order thinking skills, facts, concepts, and procedures; it makes little or no attempt at application of knowledge,

analysis of understanding, synthesis of perceptions, or evaluation of learning (Charsky, 2010).

As digital games have advanced from the simplistic to complex and the field of education has emphasized more constructivist approaches, digital game-based learning has experienced a change in focus as well (Charsky, 2010; Van Eck, 2006). There has been a shift in the mid-2000s from edutainment to creating digital games that are based on constructive thinking, where the player could acquire knowledge, analyze problems, and use higher taxonomic levels (Romo, 2011). In Sawyer's words (as cited in de Byl, 2012, p. 256), "edutainment matured into purpose-built serious games", and it quickly found its place in a wide range of contexts from the military, to healthcare and simulator-based training. America's Army, for example, is a digital game platform which aimed at enhancing army recruitment and education by allowing young people to explore the army in a simulation and determine if such a career matches their needs (Yıldırım, 2010). CityOne is another online serious game which is designed to help players solve real-world business, environmental and logistical problems (IMB, 2016). The players also expected to learn how information technology can revolutionize industries and explore ways to accelerate process change, integrate with trading partners, and control costs with a flexible information technology infrastructure.

There is a long history of games and game-related elements being leveraged in various contexts, and today the field of education is witnessing an emerging new trend of including games and game-related elements in education in order to engage and motivate students (de Byl, 2012; Werbach, 2014a), and the movement that is leading the way is called gamification (Zichermann & Cunningham, 2011).

Defined as "a process of making the activities more game-like" by using game elements, game design techniques, game thinking in non-game contexts (Werbach, 2014b, p. 1), gamification is not a new technological device or a program; however, it is a digital strategy, a way of using technological devices and programs to support teaching and learning processes.

2.4. Definition and Purpose of Gamification

The term gamification was coined by Nick Pelling in 2002; however, it was not until 2010 that the concept gained popularity (Zichermann & Cunningham, 2011). It became prominent with several recent books such as Gabe Zichermann's '*Game Based*

Marketing' (2010), Jane McGonial's '*Reality is Broken*' (2011), and Baron Reeve's *Total Engagement'* (2009), all of which advocate the use of game elements for real-world purposes (Xu, 2012).

Although it is difficult to find one agreed-on definition of gamification, it is generally referred to as the "use of game design elements in non-game contexts" (Deterding et.al, 2011a, pp. 9-15). Since 2008, the concept has been widened and defined by others as follows (Miller, 2013, p. 196):

- The process of using game thinking and game mechanics to solve problems. (Deterding et. el, 2011a)
- The use of game mechanics, dynamics, and frameworks to promote desired behaviors. (Lee & Hammer 2011)
- The trend of employing game mechanics to non-game environments such as innovation, marketing, training, employee performance, health, and social change. (Burke, as cited in Gartner Inc., 2011a)
- Gamification is using game-based mechanics, aesthetics, and game thinking to engage people, motivate action, promote learning and solve problems. (Kapp, 2012).

Gamification makes use of the elements, mechanics and dynamics found in games (such as points, badges, leaderboards, competition, and achievements, etc.) and integrates them into other contexts. Among the common implementations of gamification is to earn points and/or badges after completing a certain task, to compare user statistics through leaderboards, and progress through levels.

Stating the game elements are already present in the real world, Werbach (as cited in Business Insider, 2013) suggests that they can be embedded in the real world activities that are not themselves games.

Table 1

Game Concepts in the Real World

Real-World Activity	Game Concept
Monthly sales competition	Challenge
Frequent flyer program tiers	Levels
Weight Watchers group	Team
Free coffee after ten purchases at Starbucks	Reward
American Express platinum card	Badge

Source: Werbach & Hunter, 2012, p. 32

As revealed in Table 1, many business marketing strategies already make use of game concepts (Werbach & Hunter, 2012). The purpose of gamification, therefore, is not to have a full-fledged game as an end product (Deterding, 2012; Deterding, Dixon, & Khaled et al., 2011; Deterding, Sicart, Nacke, O'Hara, & Dixon, 2011), but by the inclusion of the features that make real games fun and attractive (and even addictive), gamification aims at enhancing the users' experience in non-game contexts, such as the workplace, school, a software application, or a web-site (Pedreira, García, Brisaboa, & Piattini, 2015), motivating and engaging users (Dominguez et al., 2013), encouraging desired actions (Hamari & Koivisto, 2013), making the content more attractive, triggering more efficient and effective e-learning (Muntean, 2011), and solving problems (Zichermann & Cunningham, 2011).

Deterding, Dixon, & Khaled et al. (2011) differentiate gamification from other related concepts via the two dimensions of playing/gaming and parts/whole axes (Figure 1).

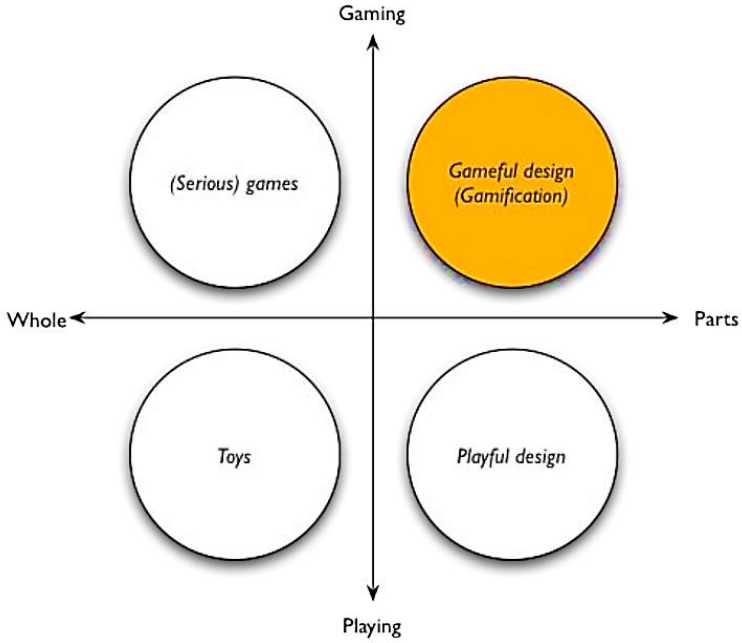

Figure 1. Situating gamification

Source: Deterding, Dixon, & Khaled et al., 2011, p. 5.

As Werbach (2014a) puts it, Figure 1 distinguishes playing and gaming on one axis. On the other axis is the difference between whole artefacts and parts. Gaming is regarded as systematic things involving rules and structures whereas playing is pure exuberant fun, release of exuberant energy. Playing in whole artefacts according to this framework refers to *toys*, and if you play but are not making an entire thing, that is called *playful design*. As for gaming, the whole artefact is full blown *games*, but using parts of games to address non-game uses refers to *gamification* (Werbach, 2014a).

Started as a fashionable business concept, with the engagement of many of the world's most popular companies (Fortune, as cited in Werbach, 2013), gamification was originally used as a smart way to promote a business or product (Lee & Hammer, 2011) with the aim of transforming a boring or mundane task into a fun by applying the elements that make games engaging (Yee, 2013). Now the concept has become a trend which is predicted to boost in the coming years with estimates, according to Gartner Inc. (2011a; 2011b), that more than 70% of global 2000 organizations will employ at least one gamified application by 2014, and that by 2015, more than 50% of organizations which manage innovation processes will gamify those processes. Numerous companies worldwide employ gamification elements in their marketing strategies (Kim & Lee, 2013), and the success of such companies as Foursquare and Nike+ mobile services are often attributed to gamification (Huotari & Hamari, 2012).

Gamification is primarily used in the business context with an aim to engage existing and potential customers, to increase public profile, and to market a new service/product (Pereira, 2014). There are various examples of gamification in this domain, one of the major examples of which is Foursquare, a location-based social networking website for mobile devices (Bax & Woodhouse, 2013). The game layer of Foursquare included engaging users to earn badges, discounts and other rewards for venues such as shops and restaurants and 'checking-in' to the application (Lee & Hammer, 2011), allowing them to give comments and recommendations about the places, as a result of which the service attracted many loyal customers.

Another example aiming at customer engagement and loyalty as well as social and environmental good is Recyclebank. It is a New York-based company that aims to encourage people to recycle and gain environmentally-friendly habits (Recyclebank, n.d.) by awarding its users points for learning how to live more sustainable lifestyles and participating in household recycling. The points could be used for discounted purchases, trips to the movies, and deals at local and national restaurants. It is possible to compare your rank against other users to assess your green-living status as well (Stanley, 2014). Earning up to $165 per year, on average, in rewards value, over four million members could earn hundreds of points by learning how to lead sustainable lifestyles and taking small actions to achieve real impact (B Corporation, 2015).

The above are typical examples of gamification in business context, where the users/players could receive points/badges, compare statistics in leaderboards and gain rewards, as a result of which customer loyalty and engagement is expected to increase.

Gamification is also used as a strategy for improving well-being and keeping fit, as is the case with Nike+. A smartphone application developed by Nike Inc. tracks movements of its users including running and walking, and calculates the calories burned with these activities (Kapp, 2012). However, Nike+ does more than just recording running, it provides incentives and motivations to do more exercise with visual feedback on the progress, with leveling up at certain milestones, with the interface changing colors to reflect the new level, and with a function allowing users to set goals and check their progress against their goals and also their friends (Kapp et al., 2014).

Scientific research is another field gamification is employed. In an attempt to decipher a crystal structure for one of the AIDS-causing viruses called the Mason-Pfizer monkey virus (M-PMV), Biochemistry Department of the University of Washington

created Foldit, an online puzzle game about protein folding, and allowed people from around the globe to play and compete in finding out various protein structures that fit the researchers' criteria (Chou, 2016). With more than 240.000 registered players, the structure of the M-PMV was solved in only 10 days in 2011, making a breakthrough in AIDS research, an unaccomplished goal of scientists for the previous 15 years (Chou).

The concept has attracted the attention outside the workplace and research, and now it has been used in a wide range of contexts from heath care to education. In the next section, we will focus on the theoretical underpinnings of gamification, and then refer to gamification design in education, especially in e-learning, and present related studies in the field of ELT.

2.5. Theoretical Background of Gamification

Gamification is associated with a wide range of theories and models including mainly those of learning, motivation, and psychology (Simpson & Jenkins, 2015). In their review of literature, Landers, Bauer, Callan and Armstrong (2015) identified two major types of psychological theory applicable to gamification: learning theories and motivational theories. Among learning theories, they offered two major frameworks to describe gamification: the theory of gamified learning and behaviorist theory. Expectancy-based theories, goal-setting theory, and self-determination theory were utilized to explain the phenomenon in terms of the motivational theories.

Considering the cognitive, emotional and social areas where gamification may serve as an intervention (Lee & Hammer, 2011), it is possible to suggest additions to the list above. Kapp (2012), for example, discusses the role of cognition in gamification through scaffolding and progressive disclosure. Fogg's Behavior Model and Csikszentmihalyi's concept of Flow, on the other hand, draw attention to different aspects of behavior that could be associated with the concept gamification.

The complete review of these theories is outside the scope of this study; however, we will provide the highlights of each theory and describe its importance to the study of gamification.

2.5.1. Theory of Gamified Instruction

Introduced by Landers (2015), the theory of gamified learning describes two major psychological processes through which game elements can be utilized to affect

learning: a more direct *mediating* process and a less direct *moderating* process. In the mediating process, the behavior or attitude targeted as a result of gamification directly affects learning outcomes. For example, if game goals are integrated into a course in order to increase, say, learners' meta-cognitive activity, the increased meta-cognition should, in turn, lead to increased learning directly (Landers et al., 2015). Similarly, if a narrative is incorporated into a course in order to increase the amount of time students spend at home with course material, the increased time should result in greater learning directly (Landers, 2015).

In the moderating process, on the other hand, gamification affects the learning process more indirectly. For example, game fiction can be integrated in a course to increase learner engagement, and as a result of this, learners have increased motivation to maintain their attention on the instructional content. In this example, game fiction must successfully increase learner engagement, and increased learner engagement, in turn, must reinforce the relationship between instructional content and outcomes (Landers & Landers, 2015). Another example would be having a positive attitude towards anticipated instruction. Put in Landers et al.'s (2015) words,

> [a] student does not learn because they have a positive attitude. Instead, a more positive attitude will encourage the learner to take better advantage of high quality instructional material provided by the instructional designer. If the learner cannot ever reach desired learning outcome levels from the instructional material, increased learner engagement will not fix this problem (p. 167).

Landers et al (2015) claim that if gamification is expected to operate through the mediating process and increased learning does not occur, it is possible to conclude that gamification has been unsuccessful. However, if the aim of gamification is to operate through moderating process and increased learning does not occur, it might be because of poor gamification, or it is may be because of poor quality of the instructional content.

The theory does not suggest which game elements should be more efficient in what contexts, and nor does it mention any specific target attitudes or behaviors; however it provides a framework that describes two specific causal pathways by which gamification can affect learning (Landers, 2015).

2.5.2. Behavioral Psychology

Another theory commonly associated with gamification is behaviorism. Based mainly on the works of Pavlov, Watson, Thorndike and Skinner in the first half of the 20th century, behaviorism focuses on the observable and measurable aspects of behaviors in human beings and animals. Emphasizing the importance of environmental factors rather than the mental mechanisms and processes in determining human behavior (Cooper, 1993), behaviorism proposes that changes in behavior results from stimulus-response associations made by the learner (Standridge, 2002). In other words, an individual gives the same response to different stimuli if they are regularly paired in close succession (Stimulus-response theory, n.d.). Learning a new behavior, therefore, occurs due to conditioning – "either classical conditioning where the behavior becomes a reflex response, as in the case of Pavlov's experiments with dogs, or operant conditioning where behavior is reinforced by a reward or punishment, as in Skinner's experiments" (Murray & Christison, 2011, p. 141).

Graduate Student Instructor Teaching and Resource Center of Berkeley University (n.d.) explains the implication of behaviorist theory for education as follows:

> a student who receives verbal praise and good grades for correct answers (positive reinforcement) is likely to learn those answers effectively; one who receives little or no positive feedback for the same answers (negative reinforcement) is less likely to learn them as effectively. Likewise, human learners tend to avoid responses that are associated with punishment or unpleasant consequences such as poor grades or adverse feedback. (para. 6)

According to Werbach (2014a), of the two types of conditioning, operant conditioning is more relevant for gamification, and behaviorism is instructive in understanding some aspects of gamification design. The first lesson to take from behaviorism is to look at what people do and watch their external responses to stimuli, rather than focusing on the subjective mental states behind why they do so. The second is the importance of feedback loops. If a person receives some feedback on his/her behavior, s/he tends to produce a response. This circular process of action, feedback and response, known as feedback loops, tends to motivate behavior, which is a powerful process to understand gamification. Another lesson to take from behaviorism is

conditioning through consequences; people learn to associate certain results from what happens in a system, be it a game or another endeavor, as is the case with operant conditioning. And the final notion is reinforcement, either through rewards or punishment. When more and more a learner observes that a particular action produces a particular result, s/he tends to make an association, a neuro connection between those two things, which could lead to learning.

In this context, the concept of reward has a significant role, which has long been used as a strategy to motivate people and change their behavior. It is possible to see that gamification, at least in its behavioristic manifestations, relies heavily on reward structures with the aim of increasing user motivation and engagement, although the types of rewards and the method of delivery vary (Werbach, 2014a). On the other hand, gamifying a learning environment with external rewards, as Landers et al. (2015) put it, involves some risks as well. If, for example, students have insufficient rewards, the system might collapse. Zichermann and Cunningham (2011) state that “once you start giving someone a reward, you have to keep her in that reward loop forever" (p. 27). Another risk is students gamifying the system. Let’s consider an online gamified learning environment where students are given points for browsing web pages. The aim of providing points might be to increase learning by making students more engaged with the content of the web page; however, the reinforcement of point provision for web browsing does not necessarily mean that the students will process the content or learn (Landers et al.).

Werbach (2014a) states stat the lessons learned from behavioral psychology inform many of the gamification examples today; however, it would be wrong to claim that all gamification examples work or should work this way.

2.5.3. Motivation

An important concept in connection with gamification is motivation. It is defined as the willingness or desire to engage in a particular task (Garris, Ahlers & Driskell, 2002). It is traditionally demonstrated by individuals’ choice to engage in an activity, the level of intensity in which they engage in the activity, and their persistence in that activity (Pintrich & Schrauben, 1992). Put in Dörnyei and Otto’s (1998) words, motivation is

> the dynamically changing cumulative arousal in a person that initiates, directs, coordinates, amplifies, terminates, and evaluates the cognitive and motor processes whereby initial wishes and desires are selected, prioritized, operationalized and (successfully or unsuccessfully) acted out (p. 64).

In addition to differences in definitions, as Barker (2005) puts it, it is possible to find different categories and paradigms concerning motivation, and with some characteristics of motivation defying categorization and others fitting into two or more categories.

Deci, Koestner and Ryan (as cited in Richter, Raban & Rafaeli, 2015) note that there are two dominant clusters that play role in determining motivation: extrinsic and intrinsic motivation. Extrinsically motivated behaviors, according to Dörnyei (1994), are the ones that an individual performs to receive some extrinsic reward (e.g. money, grades, and praise) or to avoid punishment. Intrinsically motivated behaviors, on the other hand, are driven by internal factors such as the joy of or interest in doing a certain activity or satisfying one's curiosity, rather than relying on external rewards or incentives (Dörnyei, 1998). Dörnyei and Ushioda (2011) add a third type of motivation to this group: *amotivation*, which refers to the lack of any kind of motivation, whether extrinsic or intrinsic.

Deci and Ryan (2013) claim that intrinsic motivation is a potentially central motivator of the educational process: "Intrinsic motivation is in evidence whenever students' natural curiosity and interest energize their learning. When the educational environment provides optimal challenges, rich sources of stimulation, and a context of autonomy, this motivational wellspring in learning is likely to flourish" (p. 245). Extrinsic motivation, on the other hand, has traditionally been regarded as something that can undermine intrinsic motivation (Dörnyei & Ushioda, 2011). If, for example, students have to do an activity to meet some extrinsic requirement, such as rewards, this will not only undermine their free-choice (Richter et al., 2015) but also result in students' losing their natural intrinsic interest in it (Dörnyei, 1994). However, research also indicates that "under certain circumstances - if they are sufficiently self-determined and internalized - extrinsic rewards can be combined with, or even lead to, intrinsic motivation" as well (Dörnyei, 1998, p. 121).

Filsecker and Hickey (2014) emphasize the importance of context and sociocultural considerations in the debate over external rewards and motivation, and

they note that an individual's participation in practices within a community is driven by a set of collectively negotiated standards and values that define successful participation. Individuals, in this respect, are motivated to engage in these practices to the extent that the limits and affordances imposed by the collective standards. Similarly, informed by the sociocultural theory, contemporary approaches on motivation emphasize the role of individuals in the sociocultural context in the shared construction of motivation (Dörnyei & Ushioda, 2011). Put differently,

> individual motivation is not simply influenced by sociocultural factors in the surrounding context, but the sociocultural context becomes attuned to the goals, standards and values of the collective participants who define that context and shape its practices. Sociocultural theory thus takes the view that people are not just products but also active producers of their own social and cultural environments (Dörnyei & Ushioda, 2011, p. 34).

Proponents of gamification claim that it tries to combine different kinds of motivation; on the one hand using extrinsic rewards such as levels, points, badges, awards and missions while addressing the intrinsic notions of autonomy, cooperation, sense of belonging and so on (Muntean, 2011).

2.5.4. Self-Determination Theory

As an elaboration of the intrinsic/extrinsic dichotomy, Deci and Ryan (as cited in Dörnyei, 1994) introduced a new theory named the Self-Determination Theory (SDT). Central to SDT, according to Gagné and Deci (2005), is the distinction between autonomous motivation and controlled motivation. In this respect, self-determination (autonomy) is regarded as a prerequisite for any behavior to be intrinsically rewarding (Dörnyei). Extrinsic motivation is no longer regarded as an averse counterpart to intrinsic motivation but has been divided into four different types along a continuum from more extrinsic to more intrinsic with the mixture of thereof in between (Landers et al., 2015). On one end of this continuum lies amotivation, or a lack of motivation, and on the other is intrinsic motivation. In between these extremes are different types of extrinsic motivation (i.e., external regulation, introjection, identification, and integration). Dörnyei and Ushioda (2011) elaborate on these four different types as follows:

1. *External regulation* refers to the least self-determined form of extrinsic motivation, coming entirely from external sources such as rewards or threats (e.g. teacher's praise or parental confrontation).
2. *Introjected regulation* involves externally imposed rules that the student accepts as norms to be followed in order not to feel guilty (e.g. rules against playing truant).
3. *Identified regulation* occurs when the person engages in an activity because he or she highly values and identifies with the behaviour, and sees its usefulness (e.g. learning a language which is necessary to pursue one's hobbies or interests).
4. *Integrated regulation* is the most developmentally advanced form of extrinsic motivation, involving choiceful behaviour that is fully assimilated with the individual's other values, needs and identity (e.g. learning English because proficiency in it is part of an educated cosmopolitan culture one has adopted) (p. 24).

To illustrate the SDT continuum, Landers et al. (2015) give an example of an employee who needs to complete a training course. In the state of *amotivation* (Figure 2), the employee would be completely unmotivated to finish the training course, possibly because of feelings of incompetence or a belief that his/her effort will not yield desired outcomes, and therefore the training will not be completed. In introjected regulation, the employee will complete the training to receive the bonus and not to feel guilty for not having participated with the rest of the work group. Therefore, not only external rewards but also self-esteem is in effect in introjected regulation. In the state of identification, the employee uses more self-determination to make his/her decisions to finish the training and participates as s/he believes the knowledge gained as a result of the training will help him/her on the job. Integration is similar to identification, but this time the reasons for finishing the training are more internalized although he/she is still motivated by some external outcomes. The employee, in this case, completes the training as s/he thinks it is vital for his/her development on the job, but regards it as a means to promotion. And the final notion is intrinsic motivation; if the employee were intrinsically motivated s/he would complete the training solely for its merits, with or without any expected outcomes.

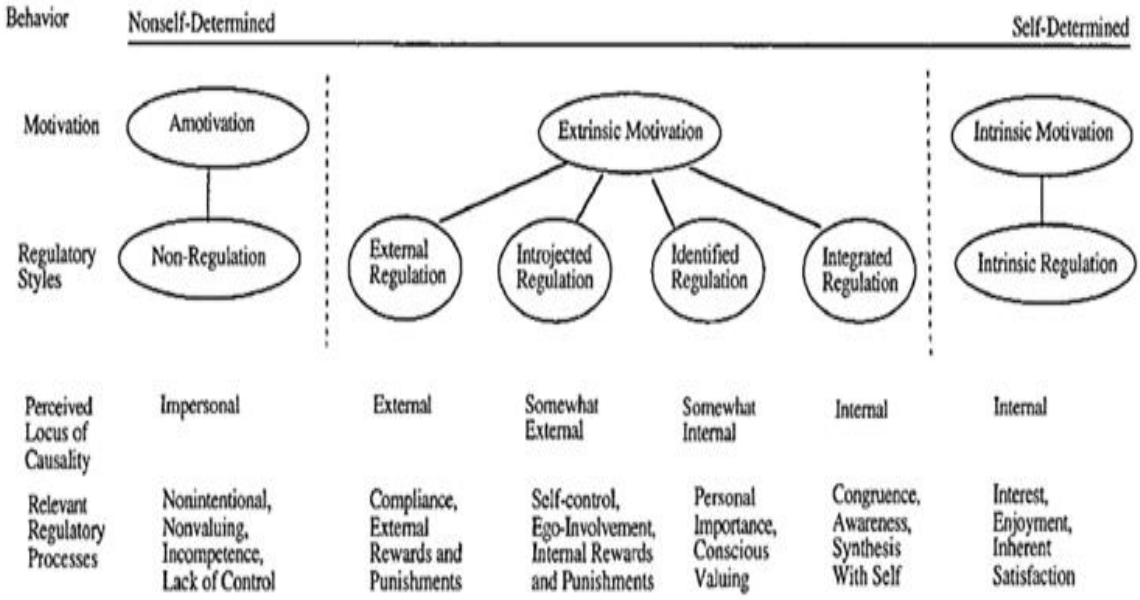

Figure 2. The Self-determination continuum

Source: Ryan & Deci, 2000, p. 72

Dörnyei and Ushioda (2011) note that SDT has generated a rich program of research in different fields of life, especially where individuals are in hierarchical relationships such as parent/child and teacher/student, and a consistent finding has been that individuals will be more self-determined in performing a specific behavior to the extent that the social context supports the following fundamental human needs:

- "autonomy (i.e. experiencing oneself as the origin of one's behaviour),
- competence (i.e. feeling efficacious and having a sense of accomplishment),
- relatedness (i.e. feeling close to and connected to other individuals)" (p. 25).

SDT, therefore, underlines the important role of social processes and influences in shaping motivation as well (Dörnyei & Ushioda, 2011).

Deci and Ryan's work on SDT has been investigated and supported in educational contexts (Richter et al., 2015) and gaming literature (Landers et al., 2015). Satisfaction of the psychological needs, namely the autonomy, competence, and relatedness, not only facilitates deeper and more internalized learning, but also increases the motivation for performing a specific task (Richter et al.).

Landers et al. (2015) claim that SDT motivation taxonomy may apply in the context of gamification as well. For example, creating more room for autonomy is

expected to promote different types of motivation. Similarly, competence satisfaction is associated with improved task performance. Adding a social component similar to the ones used in social networking, with an aim to address the relatedness need, could be especially important when attempting to utilize gamification to improve task performance.

Landers and Callan (as cited in Landers et al., 2015) found that in a social networking site developed for psychology students that included gamification elements such as badges, both intrinsic and extrinsic motivation were influenced. Students could earn badges for performing certain tasks on the site, which were then displayed with their profile each time they posted on the site. The badges would be an extrinsic motivator as the students might be completing the tasks simply to gain them, rather than the enjoyment of performing the tasks. In addition, the social aspect of the site addresses the psychological need for relatedness, and completing the tasks could have addressed the students' need for competence. It is thus possible to claim that gamification applications seem to have the ability to change behavior through either intrinsic or extrinsic motivators as well as a mixture of both (Landers et al.).

2.5.5. Expectancy Theories

Vroom's Expectancy Theory is a motivation-based theory which proposes that an individual is motivated to perform a specific behavior if s/he perceives that the effort will lead to successful performance, the performance will lead to an outcome, and that outcome is of high value (Landers et al., 2015). Put differently, individuals are motivated to choose specific behaviors over others if

- "[t]here is a positive correlation between efforts and performance
- [f]avorable performance will result in a desirable reward.
- [t]he reward will satisfy an important need." (Redmond, 2015, para. 2).

The theory has three components: expectancy, instrumentality, and valence. Expectancy is the belief that the effort an individual invests will result in a desired performance, and it is the *relationship between effort and performance*. Porter and Lawler (as cited in Estes & Polnick, 2012) note that expectancy "is generally based on an individual's past experience, self-efficacy, and the perceived difficulty of the

performance standard or goal" (p. 3.). Instrumentality, on the other hand, is the belief that performance will lead to specific outcomes, and it is the *relationship between performance and reward*. And finally, valence is referred to as affective orientations towards specific outcomes (Estes & Polnick), and it is the value placed by individuals on the outcomes. High grades, peer acceptance, recognition by teachers, or any other reward might have more or less value to individual students, and these outcomes, or rewards, can address intrinsic and extrinsic motivations as well.

A different version of the Expectancy Theory is Expectancy Value Theory. It is different from Vroom's Expectancy Theory in that although the Expectancy Theory was developed as a broad motivational framework with the aim of explaining a variety of behaviors, the Expectancy Value Theory was developed to predict student behavior in an educational environment (Landers et al., 2015). Similar to Expectancy Theory, the Expectancy Value Theory suggests that there are three components to motivation, which could be linked to self-regulated learning: (a) an expectancy component, which refers to students belief about his/her ability to perform a task, (b) a value component, which includes students goals and beliefs about the importance and interest concerning the task, and (c) an affective component, which is related to the students emotional reactions to the task (Pintrich & de Groot, 1990).

In Shepperd's (2001) words, effort motivation especially in group settings "will be low and people will loaf if they perceive little or no contingency between their effort and the performance, if they perceive little or no contingency between performance and the outcome, or if outcome value is low" (p. 5). Student's motivation, in this respect, depends mostly on expectancies of success and the value they place on a specific task. These expectancies and values, as Wigfield and Eccles (2000) put it, are assumed to have a direct impact on achievement choices, performance, effort, and persistence.

Landers et al. (2015) argue that there are three major links between the expectancy-based theories and gamification. The first one is related with the concept of valence. Badges, points, goals setting, reputation, status, and other forms of achievement can be regarded as outcomes that a person may value. If an individual values these outcomes and sees a clear link between effort to performance, and performance to outcome, then s/he is motivated to engage in the action. The second link is about the instrumentality component, i.e. the notion that performance will lead to outcomes. In their study concerning gamification features, Hsu, Chang and Lee (2013) found that users would like to know the immediate consequence of their behavior;

therefore, they liked the gamification most when "the relationship between act and rewards is clear" (p. 431). The final link between the expectancy theories and gamification is related with the affective component. Individuals can gain some status and reputation in gamification applications through the use of leaderboards, which could serve as a source of pride. Increased pride could lead to continued engagement and better learning. It is thus possible to draw a link between emotional reactions of users and their performances in gamification applications.

2.5.6. Goal-Setting Theory

Bandura (1991) states that a person's previous behavior is constantly used as a reference against which ongoing performance is judged. People generally try to surpass their previous accomplishments, and after a given level of performance has been achieved, it is no longer challenging and people try to find new satisfactions by striving for progressive achievements.

Goal-setting theory, in this respect, "is based on what Aristotle called final causality, that is, action caused by a purpose" (Locke, 1996, p. 118) and it implies discontent with a person's present condition and the wish to achieve an object or outcome (Locke & Latham, 2006). As Latham and Locke (1991) state, goals *direct* activity toward goal-relevant actions at the expense of goal-irrelevant actions, *regulate* effort or energy intensity in that people adjust their effort/performance according to the difficulty level of the task/goal, and *affect* persistence (i.e. duration) in circumstances where there are no limits set for people; at times when the above three functions, including the use of previously acquired skills, are insufficient to achieve a goal, a person must develop or discover new strategies if the goal is to be attained. Locke and Latham (2006) go on to state that as long as a person is committed to a goal, and has the necessary ability to achieve it, and does not have clashing goals, there exists a positive, linear relationship between the difficulty of goal and task performance.

It is also important to note the role of self-efficacy (task-specific confidence) in personal goal setting. Goal-setting is influenced by self-efficacy, and goals, in conjunction with self-efficacy, motivate academic attainment both directly and indirectly (Zimmerman, Bandura, & Martinez-Ponz, 1992). In other words, people are most likely to believe that they can obtain a goal when they believe that it is within their capacity (Locke, 1996).

Locke and Latham (2006) state that goal-setting theory proposes four key moderators for goal-setting. The first one is *feedback*, which people need to receive in order to track their progress. The second one is *commitment* to the goal, and it is enhanced by self-efficacy and viewing the goal as important. The third moderator is *task complexity*; it is the extent that task knowledge is harder to acquire on complex tasks. And the final one is *situational constraints*; if a situation can be managed, high goals could motivate a person to overcome obstacles, especially if the person has high commitment and self-efficacy (Latham & Locke, 1991).

Goals have long been regarded as an important element in game design principles and heuristics (Deterding, Dixon, & Khaled et al., 2011). They can be traced in gamification design as well. Landers et al. (2015) indicate that badges, progress bars, and levels are three key links between goal-setting theory and gamification. Badges and levels can be regarded as explicit goals whereas progress bars could serve as feedback to users in gamification. Referring to studies carried out by Singer and Schneider (2012) and Hamari (2013), Landers et al. suggest using badges with a source of feedback like progress bars in order to increase the likelihood of goal attainment (i.e. receiving badges). Consistent with the goal-setting theory, the participants in Singer and Schneider's study found the combination of goals and feedback motivating. Hamari's study, on the other hand, revealed that merely implementing badges did not yield increased activity; it was only when individuals monitored their own badges that they engaged in more and better quality activity in the gamified application.

Landers et al. (2015) also state that having a variety of learning goals might enhance student motivation and learning, and in this respect, they suggest including different and interesting badges that individuals could earn in a gamified environment.

Landers et al. (2015) proposes a final link between the goal-setting theory and gamification: levels or leveling up, which could be viewed as setting small sub-goals within the larger goal in the gamified environment. Locke and Latham (as cited in Landers et al.) note that "beating easier levels may serve to boost self-efficacy in a gamified system, which has been shown to be an important moderator of the goal-performance link by impacting goal level, goal commitment, and task strategies" (p. 176).

2.5.7. Keller's ARCS Model

Keller (1983) suggests that that there are four basic categories of motivational conditions that the instructional designer needs to understand and respond to in order to produce an interesting, meaningful and appropriately challenging instruction. The four essential components for designing motivating instruction are

- (A)ttention: arousing and sustaining curiosity and interest
- (R)elevance: connecting the instruction to important needs and motives
- (C)onfidence: developing positive expectancy of success
- (S)atisfaction: managing extrinsic and intrinsic reinforcement (Keller, 1983).

The ARCS model focuses on designing instruction, and as Kapp (2012) indicates, many of its elements could apply to gamification of learning and instruction. When we consider the advantages brought by the technology, it is possible to create and sustain attention in learning environments by providing novelty, surprise, incongruity or uncertainty. It is also possible to tailor the content as well as the pace of the instruction according to the needs and levels of the learners in order to increase relevance of instruction and confidence of learners. As Small (1997) puts it, by encouraging and supporting intrinsic enjoyment of the learning experience, providing positive reinforcement and motivational feedback, and maintaining consistent standards and consequences for success, there could be a room for satisfaction in a gamified instruction design.

2.5.8. Csikszentmihalyi's Flow Theory

Flow is a state of intense concentration where a person's challenges are matched by his/her ability to solve the challenge which results in a feeling of pleasure (Rouse, 2013). According to Csikszentmihalyi (1990), there is a fine balance between boredom and anxiety, and enjoyment appears at the boundary "when the challenges are just balanced with the person's capacity to act" (p. 52). Flow, as shown in Figure 3, "is the ideal state between boredom and anxiety or frustration" (Kapp, 2012, p. 71).

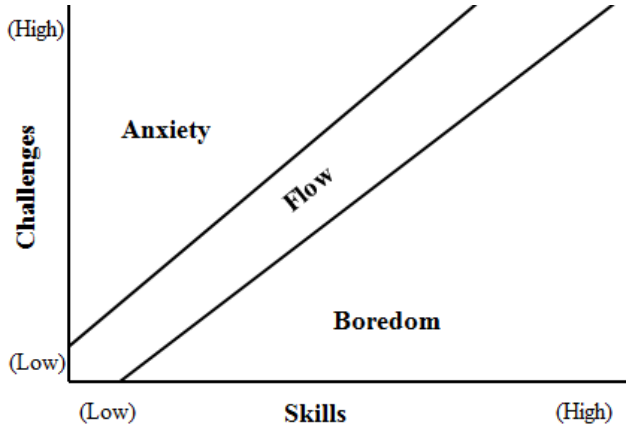

Figure 3. Flow

Source: Csikszentmihalyi, 1990, p. 74

Csikszentmihalyi (1990) suggests eight components for this optimal experience and notes that when people reflect on their positive experiences, they mention at least one, and often all, of these eight components. First, flow usually occurs when people confront tasks they have a chance of completing. Second, they must be able to concentrate on the task. Third and fourth, the concentration is usually possible because the task has clear goals and offers immediate feedback. Fifth, a person does the task with a deep but effortless involvement which removes the worries and frustrations of everyday life from awareness. Sixth, enjoyable experiences allow people to exert a sense of control over their actions. Seventh, a person's concern for his/her self vanishes, but after the flow experience is over, paradoxically, the sense of self emerges stronger. Finally, the sense of the duration of time is changed; hours can pass by in minutes, and minutes can seem like hours.

Kapp (2012) suggests that there are important lesson links between the flow theory and successful game design, and the flow theory serves as a guidepost for gamified instruction. He goes on to state that taking into account the above components of the concept of flow, it could be possible to make the learners in the gamified learning activity mentally involved and continually engaged in the process of activity.

2.5.9. Fogg's Behavior Model

Fogg's Behavior Model suggests that three factors influence any human behavior: motivation, ability and trigger. In O'Donovan et al.'s (2013) words, for any behavior to occur, a person must reach a certain level of motivation and ability, (the

activation threshold). Only when this threshold has been reached, a trigger will be effective and the desired behavior will successfully be induced.

O'Donovan et al. (2013) states that a good gamification takes into account the needs and abilities of the users as well as the incentives that could trigger their motivation in order to increase the likelihood of the desired behavior. Once the balance is right, the system is expected to trigger the user to carry out the behavior, and the trigger in this context could be gamification elements.

2.5.10. Scaffolding and Progressive Disclosure

There are some other concepts which could be related with gamification. Kapp (2012), for example, discusses the role of scaffolding and progressive disclosure in gamified instruction. He indicates that scaffolding is the process of controlling the task elements which are initially beyond the learner's capacity, so that the learner could comprehend and complete the elements within his/her immediate capability. He goes on to state that once the task at hand is accomplished, the learner is then led to achieve another goal that builds on the previous one.

Suggesting a link between the concept of scaffolding and gamification, Kapp (2012) states that the use of scaffolding and levels maintains interest in a gamified activity as the learner moves from one level to another, having different experiences and achieving success as s/he progresses toward the ultimate goal. The levels usually become harder and more challenging as the learner moves toward the end, and the skills s/he exhibits at the final level would not be possible without the experience gained in the preceding levels.

Kapp (2012) claims that progressive disclosure is closely related with gamification too. The idea behind this concept is that information is displayed in small chunks, a little bit at a time so that the player is not overwhelmed by the amount of information provided. As the player becomes more comfortable with the level of display, more information is disclosed. Kapp states that the combination of progressive disclosure and scaffolding provides "subtle but effective methods for moving players through a game in a manner that is consistent with the skill level of the player" (p. 67).

2.5.11. Social Constructivism

Social constructivism is a theory of learning which draws heavily on the work of Lev Vygotsky (1896-1934), and suggests that "learners add to and reshape their mental models of reality through social collaboration, building new understandings as they actively engage in learning experiences" (Pegrum, 2009, p. 40). Roberts (1998) states that "[c]onstructivist theory is framed essentially in terms of individuals. However, . . . each person's development occurs in constant exchange with their social circumstances" (p. 44). Similarly, Wilson (as cited in Lefoe, 1998) describes a constructivist learning environment as "a place where learners may work together and support each other as they use a variety of tools and information resources in their guided pursuit of learning goals and problem-solving activities" (p. 456). The concept scaffolding is important in this theory as well. Scaffolding, or guidance, is provided by teachers or more experienced peers in the learner's zone of proximal development, that is, the zone between what a learner can achieve independently and what s/he may achieve with support (Pegrum).

It is possible to relate some elements of gamification to social constructivism. For example, learners could work together and support each other in cooperative activities within gamification design. In addition, scaffolding function could be provided by the game element activity completion (content unlocking). Allowing the learner to move step by step, leveling up also makes it possible to provide relevant sequencing to develop capabilities of the learner (Huang & Soman, as cited in Game to Learn, n.d.), which links gamification to the concept zone of proximal development as well.

As illustrated above, there are various theories and concepts relating gamification to cognitive, emotional and social aspects of the individual. The lines among these related concepts and gamification may not always be clear, but, as Seaborn and Fels (2015) indicate, gamification seems as a distinct concept under active development.

2.6. Game Design Elements

Gamification design includes a wide range of game elements in order to improve the user experience, and it is possible to find as many as 47 different game elements in the literature (Gåsland, 2011). Although it is possible to see points, badges, and

leaderboards (PBL) in many gamification examples, various authors indicate there are more to gamification than these surface-level elements (Lewis, 2013).

Describing a framework for common game elements found in gamification, Werbach and Hunter (2012) present three categories of game elements that are relevant to gamification: dynamics, mechanics, and components. In their pyramid-shaped hierarchical framework, they organized these categories in descending order of abstraction.

As shown in Figure 4, at the highest level of the pyramid, or abstraction, are dynamics, which are the most high-level conceptual elements in a game or gamified system (Werbach & Hunter, 2012). For example, constraints, emotions, narrative, progression and relationships are classified under the dynamics section of the framework. They are the big-aspects and 'grammar', the implicit structure that makes the experience cohere and have regular patterns.

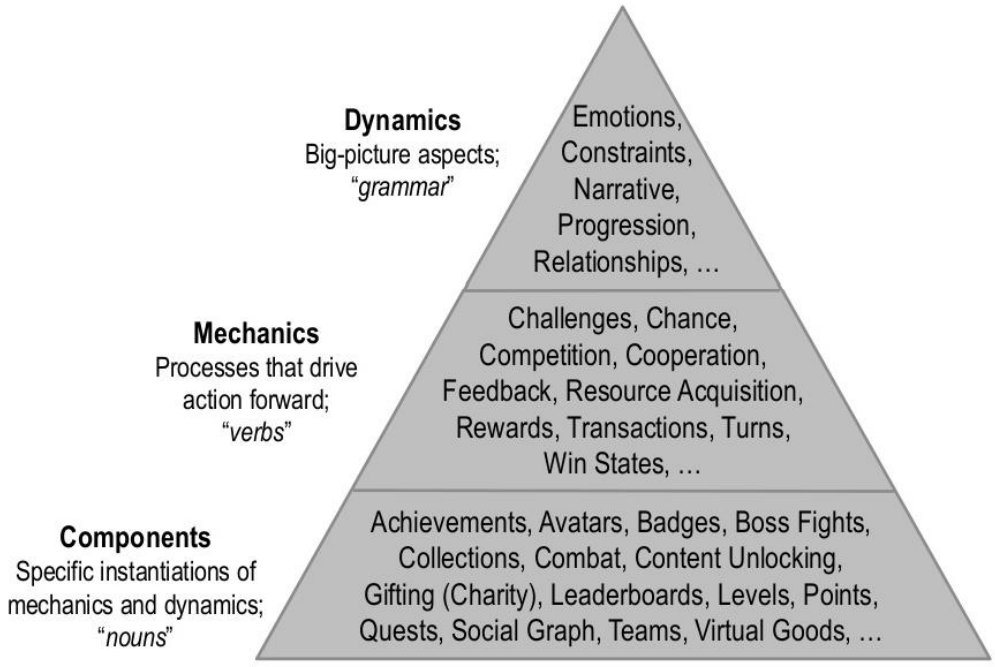

Figure 4. Game element hierarchy

Source: Werbach & Hunter, 2012, p. 82

At the next level are the mechanics, which make up the functioning processes of the game (Zichermann & Cunningham, 2011). Challenges, chance, competition, cooperation, feedback, resource acquisition, rewards, transaction, turns and win states are regarded as the mechanics of gamification (Werbach, 2014a), and each mechanic is

a way of achieving one or more of the dynamics described above (Werbach & Hunter, 2012).

At the lowest level of the pyramid are the game components, which are the more surface-level, specific forms of the mechanics or dynamics can take (Werbach & Hunter, 2012). They are the most surface-level, tangible elements which users can experience and see during game play. Badges, leaderboards, levels and points, for example, are regarded as the components of gamification.

There are other categorizations of gamification elements as well. Zichermann and Cunningham (2011), for example, describe a mechanics, dynamics and aesthetics framework. Mechanics in this framework are the functioning elements in the game, for example points, levels, and leaderboards. Dynamics, on the other hand, are how players interact within those mechanics, and they "determine what each player is doing in response to the mechanics of the system, both individually and with other players" (p. 36). Finally, aesthetics are how the game makes the player feel during his/her interaction within the game, and they are the composite outcome of the mechanics and dynamics.

Aparicio, Vela, Sánchez and Montes (2012) categorize game elements under autonomy, competence and relation needs of human motivation. According to their categorization, Avatars, for example, are related with autonomy of the users. Levels and leaderboards, on the other hand, are about competence. Groups and connection to social networks are about the relation need of human motivation.

Deterding, Dixon, & Khaled et al. (2011) identify five different categories of game design elements, with varying levels of abstraction. Ordered from concrete to abstract, the five levels are:

- interface design patterns (badge, leaderboard, level)
- game design patterns or game mechanics (time constraints, turns)
- design principles, heuristics or lenses (enduring play, clear goals)
- conceptual models of game design units (challenge, curiosity)
- game design methods and design processes (playtesting, playcentric design).

As above examples illustrate it is possible to see different categorizations and conceptualizations of game design elements. There are also differences in the selection of the elements according to the studies. However, it is possible to state that some game elements more commonly used than others in gamification (Werbach, 2014a). Among the most frequently used game elements are points, badges and leaderboards (Hjert, 2015; Seaborn & Fels, 2015).

Although the employment of the game elements is reported to yield positive results in a wide range of contexts, they have received serious criticisms from different fields as well. In the next section, examples of criticisms and responses of the proponents of gamification are presented.

2.7. Criticism

Gamification has been criticized by various academics and game designers who are familiar with the prevalent typical approach to gamification: "pointsification, or gamification that exclusively relies on points, badges and leaderboards" (Seaborn & Fels, 2015, p. 18). Robertson (as cited in Seaborn & Fels) notes that such approaches imply taking the least essential part of the games and representing it as the essence of the experience.

Some critics also claim that gamification is inherently exploitative (Werbach, 2014b). According to Bogost (2011), it offers replacing real incentives with fictional ones, and it is a misuse and simplification of the game medium which is created by marketers and big business for the purpose of easy profit. For example, as Pixie (as cited in Wood & Reiners, 2015) puts it, gamification and game mechanics "can trick or manipulate users into taking certain actions that they are unlikely to take otherwise; e.g., using the credit card to progress in the game play" (p. 3044).

The concept has also been criticized for having a negative impact on intrinsic motivation by providing extrinsic rewards such as badges and points that could undermine intrinsic motivation (Haaranen, Ihantola, Hakulinen, & Korhonen, 2014). Considering the context of education, this could have significant consequences. As Lee and Hammer (2011) indicates, it might teach students that they should learn only when they are provided with external rewards, or it might absorb teacher resources. To reiterate Zichermann and Cunningham's (2011, p. 27) words, "once you start giving someone a reward, you have to keep her in that reward loop forever".

Another drawback of gamification is that it could lead to unintended behavior (Deterding, 2010). In other words, it is possible to have users in a gamified system who could try to trick, cheat, or manipulate the system. Dominguez et al. (2013) give an example from the field of education and report on students' uploading empty screenshots to obtain achievements in order to cheat, which can be considered as gaming the system.

In response to criticisms, proponents of gamification claim that one of the very common misconceptions of gamification is to consider it as simple as adding points, badges, or leaderboard to the existing activities (Wood & Reiners, 2015). Similarly, Seaborn and Fels (2015) suggest that criticisms refer to gamification strategies focusing on extrinsic rewards with the PBL systems, to the neglect of gamification systems designed with intrinsic motivation in mind.

Rewards-based gamification is also criticized by advocates of gamification. Nicholson (2015), for example, states that it might work for short-term goals and situations where the users had no personal connection or intrinsic motivation for engagement. However, the real motivation and joy, as Workman (2015) puts it, comes from the challenge of gameplay and story, rather than overemphasizing simplistic game dynamics as rewards to motivate people. In this respect, Nicholson suggests meaningful gamification which involves using gameful and playful layers to help user find personal connections that motivate engagement for long-term change.

It is also claimed that many of the negative examples of gamification comes from business and marketing (Seaborn & Fels, 2015). In this vein, Tracey (2015) states that gamification is one of the latest buzzwords which was turned by businesspeople into a money making gimmick. The proponents of gamification, on the other hand, indicate that gamification has been used in many other sectors as well (Seaborn & Fels) with numerous successful examples (Hamari et al., 2014).

Another argument proponents articulate for the successful use of gamification is the importance of the quality of the content or product that is offered alongside gamification. In this respect, Zichermann (as cited in Workman, 2013) states that no amount of gamification can save a company that does not offer good content or product. Considering the context of education, Paul (2012) warns that dull or pedagogically poor instruction could be draped in a superficially appealing disguise of a game. The result of such a combination is *chocolate-covered broccoli*, neither of which might taste very good afterwards (Järvilehto, 2015). In this respect, the practice of adding game

elements, for example points or levels, to otherwise pedagogically uninspiring activity makes gamification "a seductive, increasingly overused, and often shallowly construed concept" (Thorne & Watters, 2013, p. 50). For this reason, Sylvester (2014) warns against combining pedagogical content with game elements without thinking through the relation between them and whether or not they match.

As for the gaming and exploitation of the system, Zichermann & Cunningham (2011) claim that "people attempt to exploit any system in which there is something they deem of value" (p. 72). They go on to state that the idea of self-policing is important, but it does not solve all problems and real police are employed because they are needed.

Finally, some proponents state that gamification is nothing new and education system is already gamified with several game-like elements (de Byl, 2012; Lee & Hammer, 2011; O'Donovan et al., 2013). For example, receiving points, or rather grades, for completing assignments could be regarded as receiving badges. In addition, students are rewarded for desired behaviors and punished for the undesired ones, which can be considered as a common reward system. Finally, students level up at the end of every academic year if they perform well. Having said this, the existence of game-like elements in the standard education system does not directly translate into engaged students; therefore, understanding the role of gamification in education involves understanding under what circumstances game elements can make a difference (de Byl; Lee & Hammer).

2.8. Gamification in Education

When we consider the research carried out in the field of education, it is possible to see various studies with positive findings concerning gamification. On the other hand, there are also studies reporting some negative aspects.

In their literature review of studies concerning gamification in education between 2011 and 2014, Caponetto, Earp, and Ott (2014) state that gamification techniques were adopted to support learning in a wide range of educational contexts and subject areas and the main drive for adoption of gamification techniques was to enhance motivation and engagement in the learning tasks. They also note that few of these interventions were in the form of blended learning (comprising both face-to-face and e-

learning sessions), indicating that the majority of them were carried out online through a sort of VLE.

Another recent survey, carried out by Hamari et al. (2014), which examined the available peer-reviewed empirical studies on gamification, reveals that all the studies in education/learning contexts considered the learning outcomes of gamification as mostly positive. Among the findings of these studies are increased motivation and engagement in the learning tasks as well as enjoyment over them. On the other hand, the studies also reveal some negative aspects of the interventions such as the effects of increased competition, task evaluation difficulties and design features.

In a review carried out to present the directions and tendencies of the conducted research on the application of gamification in education, Dicheva, Dichev, Agre, and Angelova (2015) state that the authors of the studies share the opinion that gamification has the potential to improve learning if it is well designed and used correctly.

Various components of gamification were investigated in different studies. Considering badges as an alternative assessment system that can increase learner motivation, Abramovich, Schunn and Higashi (2013) evaluated the relationship between badges and motivation of 51 secondary school students. They found that badges could have a positive effect on critical learner motivation, stating that different types of badges affected motivation of different learners.

Anderson, Huttenlocher, Kleinberg, and Leskovec (2014) report on a large-scale deployment of badges as incentives for engagement in a MOOC, and they state that making badges more salient produced increases in forum engagement.

Hakulinen, Auvinen, and Korhonen (2013) evaluated the use of achievement badges in the TRAKLA2 online learning environment used by university students (N = 281). The results show that achievement badges can be used to affect the behavior of students even when the badges have no impact on the grading. There were also statistically significant differences in students' behavior with some badge types, while some badges did not seem to have such an effect.

Similarly, Denny (2013) investigated the impact of incorporating a badge-based achievement system within an online learning tool for a large undergraduate course with more than 1000 students. He states that the system had highly significant positive effects on the quantity of students' contributions and that the participants enjoyed being able to earn badges and indicated a strong preference for having them available in the user interface.

Hentenryck and Coffrin (2014) investigated the effect of using leaderboards within a MOOC (n. 622), and found that the participants viewed the leaderboard often (over 61.000 views over the class duration). They also indicate that although the majority of the participants enjoyed the leaderboard and there were only few students who disagreed, an important number of participants (31%) remained indifferent.

Halan, Rossen, Cendan, and Lok (2010) investigated the applicability of leaderboards, narratives and deadlines in a study conducted with medical students (N = 20). They found that inclusion of these strategies was effective in improving user participation.

Mekler, Brühlmann, Tuch and Opwis (in press) examined how points, leaderboards and levels, as well as participants' goal causality orientation influenced intrinsic motivation, competence and performance of 273 students in tertiary education. They found that although game elements did not significantly affect competence or intrinsic motivation, points, and especially leaderboards and levels led to a significantly higher amount of tags generated compared to the control group. They conclude that points, levels and leaderboards functioned as extrinsic incentives, effective only for promoting performance quantity.

Cheong, Cheong and Filippou (2013) developed a gamified quiz software tool for the 76 undergraduate Information Technology class students in an attempt to evaluate the gamified learning activity along the dimensions of learning, engagement, and enjoyment. They found that gamification improved the participants' learning performance, effectiveness, and productivity. Its effects on engagement and enjoyment were also significant but they were not as pronounced as those on learning.

Li, Grossman and Fitzmaurice (2012) evaluated the use of GamiCAD, a gamified interactive tutorial system for first time AutoCAD users (N = 14) that includes such gamification elements as real-time feedback, progression, time constraints, rewards and activity completion. They report on high subjective engagement and performance levels of the participants as well as high completion ratio of the activities.

Da Rocha Seixas, Gomes and de Melo Filho (2016) investigated the effectiveness of gamification platforms as a strategy for the engagement of 8th grade students (N = 61) at an elementary school. They state that gamification had positive effects on the engagement of students, indicating that the students with more badges had highest levels of engagement.

Not all studies report on the positive effects of gamification, though. In their study on the effects of gamification on students with different achievement goal orientations, Hakulinen and Auvinen (2014) investigated the effects of including badges in an online learning environment for the Data Structures and Algorithms course of 132 university students and found that not all high-performing students were motivated by the badges and that the students with mastery intrinsic, performance approach orientation, and lower avoidance orientation were highly motivated by the badges.

In another study carried out on the effects of inclusion of badges in a tertiary level online learning environment (N = 132), Haaranen et al. (2014) found that although the majority of the students liked the look of the badges and they did not think that the badges disturbed their work, the students' emotions towards badges ranged from very negative to very positive with majority of reactions being indifferent.

Comparing tertiary level gamified and non-gamified classrooms both of which offered face-to-face education, Hanus and Fox (2015) investigated the effects of some gamification mechanics (i.e., competitive context, badges and leaderboards). The students in the gamified classroom earned badges by doing some tasks such as going to the library and turning in assignments early, and were able to track their progresses on the class badge leaderboard. The results suggest that the students in the gamified course (n = 80) showed less motivation, satisfaction, and empowerment over time than those in the non-gamified class.

Similarly, de-Marcos, Dominguez, Saenz-de-Navarrete and Pagés (2014) compared the gamified and non-gamified versions of an undergraduate level Information and Communication Technologies course. The results indicate that gamification was appreciated by the students (n = 171) and that it improved their performance on practical assignments. On the other hand, the results also reveal that the students in the gamified version had lower participation levels, which, according to the authors, could have resulted from the fact that this approach may emphasize competition over collaboration and sharing, thus reducing participation of students.

Effect of gamification on learner performance is another controversial issue in gamification studies. Goehle (2013) integrated levels and achievements within an online homework program for 60 students in a calculus class, and found that gamification techniques seemed to improve student engagement and that the students appreciated the system, and yet there was little evidence with regard to its effect on student performance.

Ibanez, Di-Sergio, and Delgado-Kloss (2014) carried out a study on learning effectiveness and engagement appeal of gamified online learning activities of 22 computer science students. They found that the application had positive effects on the engagement of students but a moderate improvement in learning outcomes.

Dominguez et al. (2013) report on 58 undergraduate students' perceptions of the gamified Information Communication Technologies course given through a VLE. They note that there were no significant differences in terms of performances between the students who used gamification and the ones who did not. They also point out the participants' gaming the system by uploading empty screenshots to obtain achievements in an attempt to cheat. The problem could have resulted from students' dissatisfaction as they report on concerns about the design as well as some important technical problems related with the gamification plug-in, but it is clear that solely including game design elements is not a panacea for the online learning endeavors.

Fitz-Walter, Tjondronegoro and Wyeth (2011) explored the use of game achievements and levels within a mobile application designed to help new undergraduate students (N = 26). They suggest that added game elements can be enjoyable but can potentially encourage undesirable use by some students and that they are not as enjoyable if not enforced properly by the technology.

As seen in above examples, in Seaborn & Fels' words (2015), it is possible to state that studies on gamification in general reveal positive-leaning but mixed results of its effectiveness.

2.9. Gamification in Foreign Language Learning

There are few studies conducted on gamification and foreign language learning, and most of them report positive results. Palomo-Duarte, Berns, Dodero, and Cejas (2014), for example, designed a gamified smartphone application, *Guess it!*, for 120 undergraduate students in an A1-level German foreign language course. The gamification included a score system, rankings, a time-limit and a competitive game model. The study reveals that the application had positive effect on learners' foreign language acquisition and that the students dedicated much longer time than they had estimated. It is also found that the learners significantly improved their learning outcomes while using the application.

In another gamification study conducted with a mobile learning tool, Hasegawa, Koshino, and Ban (2015) investigated the effect of using a gamified smartphone application designed for learning simple English vocabulary for tertiary-level students (N = 53). The study included such gamification elements as progression, time trials, ranking and social network connectivity, where the users could compare their scores with others. The results indicated that the system had positive impact on the participants' learning and motivation.

A final example concerning smartphones is Perry (2015), who investigated the effect of gamifying a tertiary-level French language class. In her study, the author used a mobile learning tool, *Explorez*, which offered a quest-based learning and augmented reality for 11 freshmen. Different game elements were included in the learning tool, such as creating avatars, completing quests, collecting badges and collaborating with teammates. The results indicate that the application was found fun, useful, motivating and relevant.

There are some online web-based applications for gamification as well. Osipov, Nikulchev, Volinsky, and Prasikova (2015), for example, used the website i2istudy.com, which provided opportunities to practice foreign language skills with native speakers. The platform included such gamification elements as time banking (earning minutes to use the platform), sequential lessons, achievements and badges, and peer evaluation. Over 40.000 users registered the platform to learn English, Spanish, Russian and German languages, and about 20% of the users participated in the experiment. The findings indicate that the system helped to maintain prolonged dialogue between the users and it was found interesting and motivating by the majority of the participants.

Another web-based study, carried out by Lam (2013), investigated the usefulness of using online games to help students (N = 91) learn vocabulary in a tertiary institution. Time limit, levels, challenges and feedback were employed as gamification elements in the study. The results indicated that the students preferred using technology to learn vocabulary not only because it was more fun and exciting but also because it facilitated vocabulary retention. The study also mentions some disadvantages of using technology. In other words, some of the students were intimidated and frustrated because of the time limit and slow internet connection. Having said this, the author states that gamification improved the students' attitudes towards language learning.

Aksenova, Shepetovsky, Mironova, Stepura, and Pichugova (2015) used Duolingo, a website that provides grammar and translation practice and includes gamification elements, to increase motivation to learn English among students of engineering tertiary school (N = 45). Within the system the students could progress according to their levels, receive feedback from the system, track their own success and compare it with that of their groupmates. The study indicates that although Duolingo gave plenty of educational opportunities for the users with high motivation, it "proved partial success, indicating that the novelty of the approach gave some fruit but it quickly wore off" (p. 245).

In conclusion, studies carried out on gamification and foreign language learning is scarce, and yet it is possible to state that the results were mostly positive.

CHAPTER III

METHODOLOGY

3.1. Introduction

This chapter presents the information about the methodology used for the study. The chapter consists of six sections. These are research design, participants and setting, online learning component, gamification design in Moodle, data collection tools and data analysis.

3.2. Research Design

This is a descriptive study which aims to investigate the effects of gamification of online language courses on the learners' motivation and engagement. The study took place within the English Preparatory Program of the School of Foreign Languages at Kahramanmaraş Sütçü İmam University, Turkey, which provides an intensive general EFL education (24 hours a week) to students of the Faculty of Engineering and the Faculty of Economics and Business Administration throughout an academic year before they start their departmental courses. Table 2 below summarizes the main elements of methodology of the study.

Table 2

Overall Research Design

Research Design	Mixed-type; quantitative and qualitative
Sampling Strategy	Convenience Sampling
Participants	19 freshmen (Convenience sampling)
Data Collection Tools	Computer Readiness Scale, Student Diaries, Questionnaire, Interviews, Field Notes, Moodle Tracking System
Data Analysis Tools	SPSS (for the analysis of the Computer Readiness Scale and Questionnaire) Content analysis (for the analysis of Student Diaries, Field Notes, Interviews) Moodle (for the analysis of its Tracking System)
Syllabus and Tasks	Task-based; course syllabus
Time and Duration	Induction courses: from September 2014 to October 2015 (4 weeks), Study: from October 2015 to January 2015 (12 weeks)

The study was conducted in 16 weeks, from September 2014 to January 2015. The lessons in the first four weeks were induction courses where the participants were

introduced to computers, the Internet, the VLE (i.e. Moodle), and basics of gamification. After the 4-week induction courses, the 12-week online course syllabus (see Appendix 6) was followed in a gamified fashion to find answers to the following research questions:

1- What are the EFL learners' perceptions of the gamified online courses?
2- Do gamified online courses increase the motivation of EFL learners?
3- Do gamified online courses increase the engagement of EFL learners?
4- What sort of gamification elements are appreciated most by EFL learners?
5- Do students think that gamification has an influence on their language learning? If so,
    a) in what ways?
    b) which of the components of gamification do learners attribute this influence to?

A mixed-type research is adopted in the study; both qualitative and quantitative methods were used to collect data regarding the research questions above. At the beginning of the semester, the computer readiness scale was distributed to the participants with an aim of exploring the participants' computer and Internet literacy. The participants also wrote diaries about their experiences of Moodle and gamification at regular intervals throughout the study. At the end of the study, a questionnaire was administered to explore the participants' perceptions of the gamified Moodle. In addition, the researcher took notes of the critical incidences that happened in the classroom and Moodle. After the analysis of the questionnaire and field notes, the participants were interviewed. The tracking system of Moodle was also investigated in order to evaluate the different extents of student participation and engagement. The results of the computer readiness scale and questionnaire were analyzed through SPSS, and the student diaries, interviews, and field notes were analyzed through content analysis. The data from the tracking system were analyzed by Moodle itself.

3.3. Participants and Setting

The participants of the study were 19 first grade non-English major students from the Faculty of Engineering and the Faculty of Economics and Business Administration of Kahramanmaraş Sütçü İmam University, a state university in Turkey.

The students were in the English preparatory program which offered a year-round intensive general EFL education (24 hours a week) before they started their departmental courses. Identified by convenience sampling, the participants of the study were the members of one class within the preparatory program that the researcher was actually teaching. The age, gender and social and English background of the participants were not taken into consideration.

In the fall semester of the 2014-2015 academic year, the researcher and participants had two-hour Self-Access Center (SAC) classes in the computer laboratory each week, where the students used a virtual learning environment, namely Moodle, designed to support and develop language skills. The participants did the online activities by themselves; however, the researcher (the course instructor at the time of the study) was with them in these two class hours each week as a facilitator and supervisor in the learning process and an assistant in case of task-related problems and technological glitches.

3.4. Online Learning Component

The online learning component offered in SAC classes was the Oxford Online Skills Program (OxfordLearn) A1 and A2, provided by the Oxford University Press, which aimed at supporting and developing four language skills, namely listening, speaking, reading, and writing. However, we decided to integrate the content of the online program into another online platform, Moodle, which seemed much more flexible and compatible for the purposes of this study – gamification. By the consent of the Oxford University Press, the content was integrated into Moodle for this particular group of students. Besides, the students were informed about the change in the online platform before the study started, and their consent was also received.

The two online platforms had notable differences in their website interfaces; however, the flexibility of Moodle made it possible to have a visual layout and organization similar to the ones in Oxford Skills Program (see Appendix 5). The next section provides information on how gamification elements were adapted into Moodle.

Each skill in a unit included the following five-activity sequence in order to help students to learn, practice and reflect on their own:

1. Engage: It is the first activity of the skill, and it tries to arouse the learners' interest, activate their prior knowledge and get involved in the topic.
2. Explore: It usually consists of skill-based quizzes in different forms.
3. Task: This is the activity where the learners are expected to carry out tasks related to the skill at hand in a relatively freer manner.
4. Reflect: In this section, the students are expected to reflect on their learning and learn from their peers and their written/oral productions.
5. Can-do Statements: It is the final activity in each skill, and it helps students to both reflect and assess their learning as well as performances aimed at in the whole section.

It is possible to state, therefore, that the content of the online activities, in line with the Bloom's Taxonomy of Educational Objectives (Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956), seemed to be hierarchically organized, starting from lower-order cognitive skills (especially with Engage and Explore Activities) to higher-order skills that require more sophisticated, deeper learning, and creative process (especially with the Tasks).

Following the SAC course syllabus, an online course named Prep A1 was created within Moodle, and all the above online activities were included in the Prep A1 Course in a gamified fashion in the above sequence.

3.5. Gamification Design in Moodle

As stated previously, literature suggests up to 47 different gamification elements (Gåsland, 2011). In an attempt to address the cognitive, emotional and social dimensions of the participants, we tried to integrate as many elements of gamification as possible in a meaningful way into the virtual learning environment. Some elements were left out, either because they were not in accordance with the purposes of EFL education in such an online environment or because they were not simply compatible with the system. There were no boss fights, for example, a component which is found in many online games. They could have been given as tests at the end of unit/course; however, they were not compatible with the course syllabus. In addition, there were no chance factors in the gamification design as they were not compatible with the online environment.

In this study, the online course included eight different gamification elements: activity completion/content unlocking, progression, feedback, constraints, leaderboard, badges, cooperation, competition, and emotions.

3.5.1. Activity Completion (Content Unlocking)

The Oxford Skills Program had step-by-step sequenced activities that included media rich tasks, with video, audio and interactive infographics under four different skills. Independent of one other, each skill had 6 units, and there were 5 activities in each unit. There was no set-sequence among activities in units. In other words, it was possible for a student to do any activity in any skill (Figure 5) in the Oxford Skills Program.

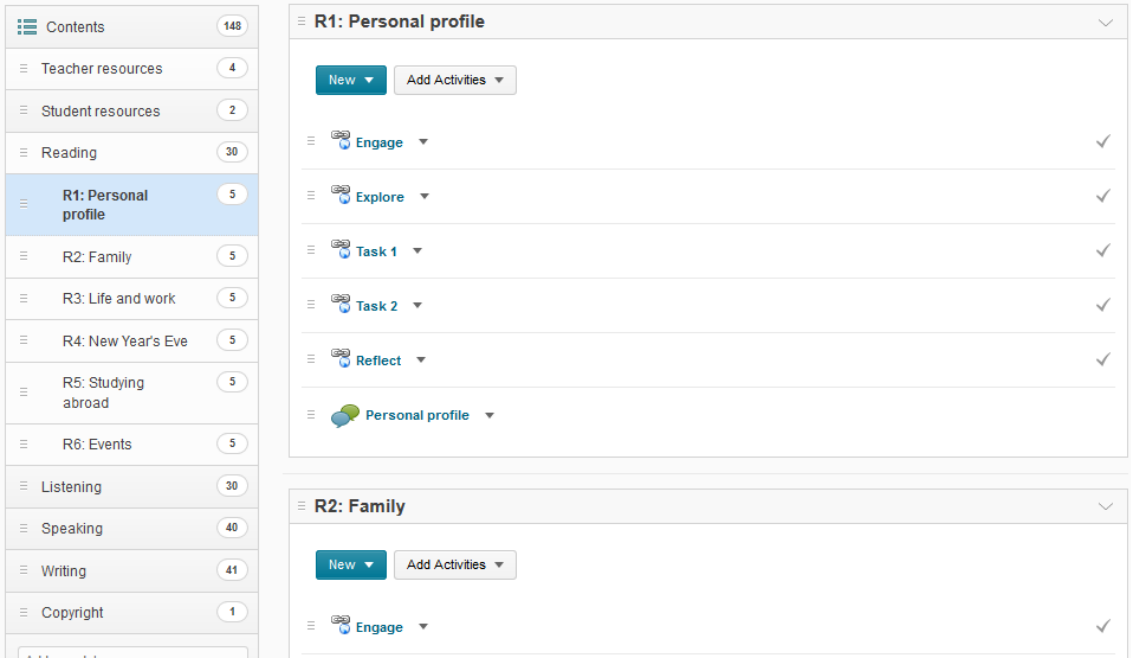

Figure 5. Sequence of activities in the oxford skills program

The syllabus was designed in a fashion that there were two skills, one receptive and one productive, in each week, and that the participants followed a specific sequence doing the activities. After completing the five activities in *Reading 1: Personal Profile*, for example, the participants needed to do *Writing 1: Personal Information* (Figure 6)



Figure 6. Sequence of activities moodle

After sequencing the skills and activities according to the course syllabus, this very sequence was gamified by allowing a student to move to, say, the second activity in a unit only after the first one had been completed. This constitutes the first gamification element: Activity completion. It can be regarded as content unlocking as the participants were able to unlock the following content on condition that the current one had been finished. This feature can be seen in Figure 6 above. The activity *W1. Explore 2*, for example, is grayed out (partially hidden), and it will not be available until *W1. Explore 1* is complete and passed (see Figure 6). Without being able to click on it, the participants could see the name of the partially-hidden activity, and they could see that it would be available upon completing the previous one.

It is also possible to make the activities completely hidden; this time, the activity, or a resource, will still be available upon completion of the previous one, but the participants could not see that they will encounter such an activity/resource. This feature was used especially for the surprise resources and activities (for example, the vocabulary list of the units and online language learning games, etc.), which popped up upon completion of certain activities each week. These surprise resources and activities could also help the participants to explore the platform for such secret achievements.

It is possible to change the activity completion conditions/criteria:

- Viewing an activity
- Receiving a grade
- Posting discussions or replies
- Creating discussions

- Posting replies

Conditions were assigned according to the type of the activity. For example, when there was an image for brainstorming or warm-up, 'viewing an activity' was set as a completion condition. On the other hand, when there was a test, 'receiving a grade' was the condition set for completion. And for the discussions in forums and chats, the participants needed to post discussions or replies in order to complete the activity.

Activity completion feature is accompanied by a check mark on the right hand side of the activity, which allows completion and progress tracking (Figure 7).

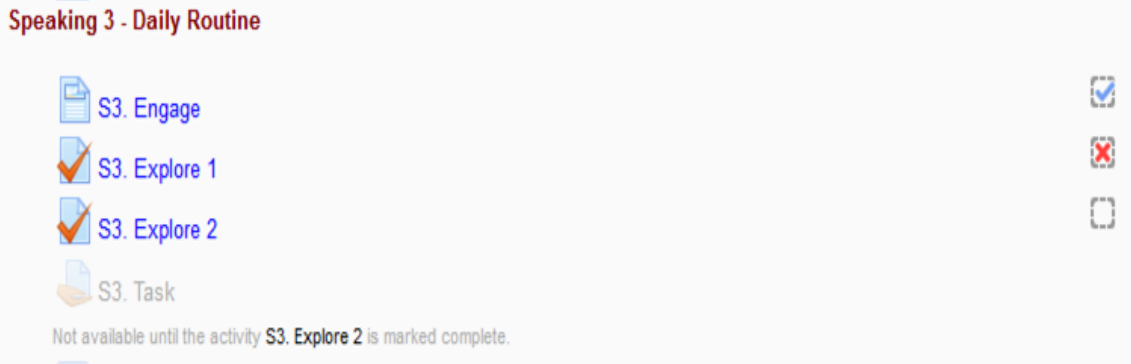

Figure 7. Completion tracking

There are three options for this completion tracking:

- No checks (if we do not want to indicate activity completion check mark next to the activity)
- Students' manually marking the activity as checked (they can do this even without doing the activity)
- Showing activity as complete when conditions are met (the completion criteria are mentioned above.

When the completion criterion of an activity is met, it is indicated with a blue check mark (see Figure 7). When a pass grade is assigned for an activity and a student reaches the pass grade, it is revealed with a green check mark, but if the student passes that activity without achieving the pass grade, it is shown with a red cross in the completion tracking. If an activity has not been completed, it is indicated with a blank box.

3.5.2. Progression

Another gamification element used in this study is progression. The participants were able to track their progress with two major tools. The first one is the check marks mentioned above (see Figure 7), which are located next to the activities. In addition, there were color-coded bars which visually showed the completed activities and the activities waiting to be completed (Figure 8). It is an add-on module, or rather, a block, called Progress Bar, which is maintained by Michael de Raadt (Moodle, Progress Bar, n.d.). It was not found in the default installation software package of the version of Moodle we used, version 2.6.2, so we installed this block manually on the local server of Moodle.

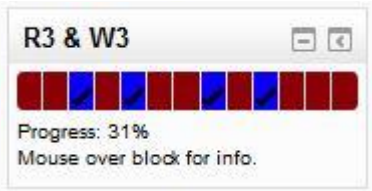

Figure 8. Progress bar (Student version)

The completed activities are shown with blue boxes with check marks, and the incomplete ones are shown with red boxes (Figure 8). The participants were able to see the percentage of their progress, and if they click on the red box they can quickly move to the incomplete activity.

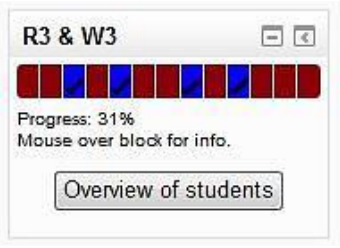

Figure 9. Progress bar (Teacher version)

In addition to the color-codes and percentages, the teacher version of the Progress Bar gave a detailed overview of the progress of the whole class (Figure 9). As shown in Figure 10, it is possible to track the progress of all participants, and to contact them from the Overview Page (Moodle, Progress Bar, n.d.)

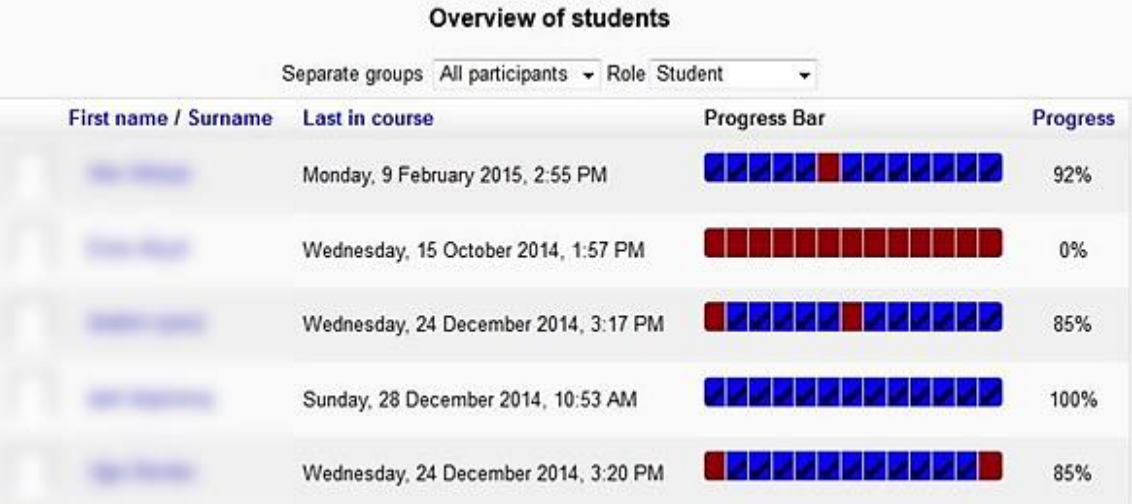

Figure 10. Progress bar (Overview of students)

3.5.3. Feedback

According to the nature of the online course, the participants received feedback from three different sources. The first feedback source was Moodle. At the end of the tests, the system showed the participants their grades as well as their right and wrong answers. Figure 11 below illustrates the feedback a participant received from the system: the grade, time to complete the test, and the right and wrong answers.

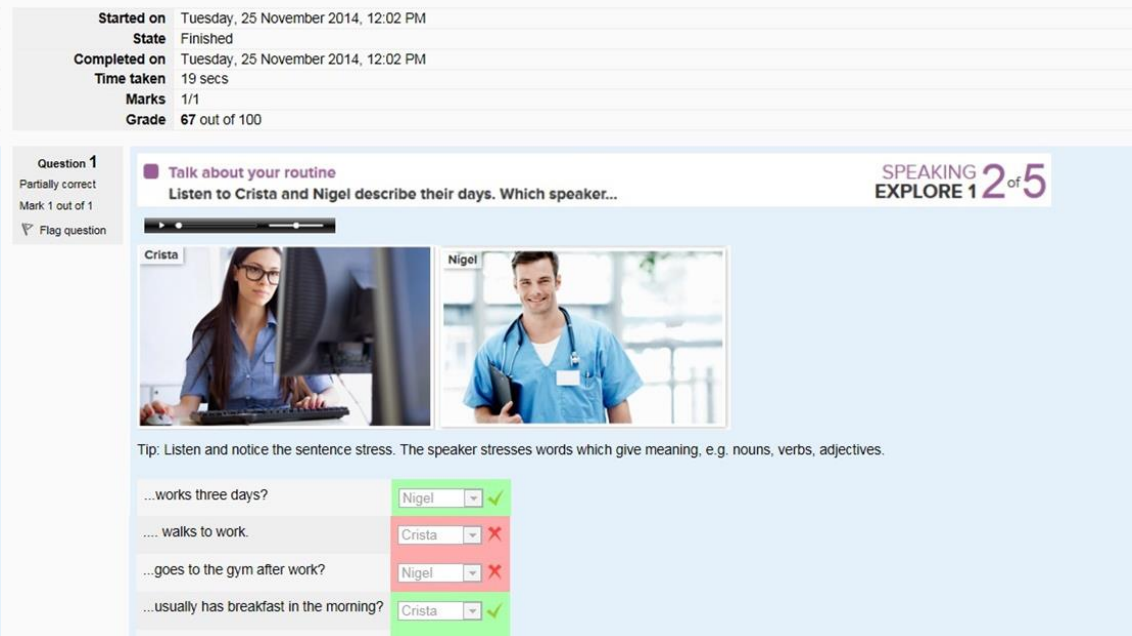

Figure 11. Feedback provided by moodle

Secondly, the participants received feedback from each other especially in forums and chat applications. It was also possible for the participants to send each other private messages using Moodle's messaging service, which could also serve as a feedback source.

Finally, it was possible for the teacher to give feedback to the participants on their performances in any activity, using forums and chats as well as the direct messaging service provided by Moodle.

3.5.4. Constraints

One of the major constraints integrated in the system was time limit. Time limits were set for specific activities, especially listening tests, in Moodle as the participants had similar time-limited tests in their face-to-face preparatory program.



Figure 12. Time limit warning

When the participants attempted to do a time-limited quiz, a pop-up window appeared warning the participants that the quiz had time limit and asking if they were sure they wished to start, as shown in Figure 12.

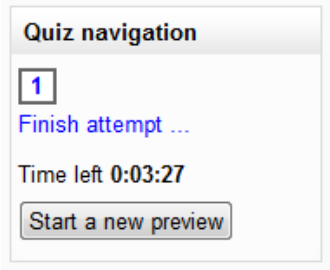

Figure 13. Count-down timer in quiz navigation

When they started taking the quiz, a count-down timer appears in the top-left hand corner within the quiz navigation block showing how much time was left (Figure 13).

Not being able to move to the next activity without completing the current one, not being able to unlock a resource/surprise, and not being able to receive a digital reward such as a badge or a certificate, which will be dealt with in the coming sections, can be regarded as other forms of constraints that can be found in our gamification design. However, the time limit can be regarded as the major constraint provided in our gamification design.

3.5.5. Leaderboards

Leaderboards can be regarded as one of the most frequently used elements of gamification. In our example, the participants' scores were presented in the form of leaderboard at the end of each unit, and the scores covered all four skills within the unit. The leaderboard of Unit 2, for example, displayed the all of the grades as well as their sum received from the activities in Reading 2, Writing 2, Listening 2, and Speaking 2, which were covered in two weeks.

LEADERBOARD UNIT 2

RANK	First name	Surname	Leaderboard Unit 2	Quiz: R2. Explore	Quiz: R2. Task 1	Quiz: R2. Task 2	Quiz: W2. Explore 1	Quiz: W2. Explore 2	Quiz: S2. Explore 1	Quiz: S2. Explore 2	Quiz: L2. Explore	Quiz: L2. Task 1	Quiz: L2. Task 2
1	[redacted]	[redacted]	96	100	100	100	91,67	100	72,22	100	100	100	100
2	[redacted]	[redacted]	93	94,44	100	100	90	100	100	100	80	83,33	84,85
2	[redacted]	[redacted]	93	94,44	87,5	100	100	100	100	100	80	100	72,73
3	[redacted]	[redacted]	92	100	87,5	87,5	100	100	100	88,89	80	100	72,73
4	[redacted]	[redacted]	91	100	100	100	58,33	100	75	88,89	100	100	87,5
5	[redacted]	[redacted]	88	100	100	100	71,67	100	75	66,67	80	100	81,82
6	[redacted]	[redacted]	85	100	100	75	58,33	100	66,67	66,67	100	100	81,82
7	[redacted]	[redacted]	77	100	100	100	91,67	100	-	-	90	100	90,91
7	[redacted]	[redacted]	77	100	100	100	80	100	-	-	100	100	90,91
7	[redacted]	[redacted]	77	100	100	100	83,33	50	50	-	100	83,33	100
8	[redacted]	[redacted]	76	100	100	100	96,67	100	-	-	100	83,33	81,82
9	[redacted]	[redacted]	73	81,48	81,25	75	98,33	100	-	-	100	100	90,91
10	[redacted]	[redacted]	72	100	50	100	90	100	-	-	100	100	81,82
11	[redacted]	[redacted]	71	100	93,75	100	65	100	-	-	80	100	72,73
11	[redacted]	[redacted]	71	88,89	100	87,5	73,33	100	-	-	80	100	81,82
12	[redacted]	[redacted]	66	100	100	87,5	83,33	100	-	-	90	100	0

Figure 14. Leaderboard

As shown in Figure 14, the participants could see their grades, learn their rank in the class and compare their position against their peers. The blanks in the leaderboard showed the participants as well as the teacher which activities were not completed.

The leaderboard of each unit was broadcast just before the following week starts. Therefore, the participants had one week to complete a particular week's activities if they failed to do so during the class hour in the computer lab.

In addition to weekly leaderboards which showed the grades of the participants on just two skills of a unit, there was also a SAC course grade leaderboard as which showed the total sum of grades in all skills in the five units covered throughout the fall semester.

3.5.6. Badges and e-Certificates

Another frequently used gamification element is badges, which are, in our context, digital prizes awarded to the participants according to their scores in the leaderboard and on certain conditions such as accomplishing a difficult task.

The badges received according to the leaderboard indicate the levels of the participants (Figure 15). When the sum of their grades in the leaderboard is between 70 and 79, the participants received a hollow star, the lowest ranking badge. When their score is between 80 and 89, they had a half star. And when the score is between 90 and 100, they got the highest ranking badge, a full star. Considering that there a five units in the fall semester, a participant who maintained a score between 90 and 100 in all 5 units, s/he is supposed to have 5 full star badges.

When the participants met the criteria set for the badge, a pop-up window appeared including the message that the badge was received with a link to find in in the participants' badges menu.

Prep A1: Badges

Number of badges available: 5

Image	Name	Description	Criteria	Issued to me
	A1 Unit 3 Hollow Star	A1 Unit 3 Hollow Star	Users are awarded this badge when they complete the following requirement: • The following activity has to be completed: • **"Resource - Badge of Unit 3 - Hollow Star"**	Date: 1/04/15 ✓
	A1 Unit 3 Half Star	A1 Unit 3 Half Star	Users are awarded this badge when they complete the following requirement: • The following activity has to be completed: • **"Resource - Badge of Unit 3 - Half Star"**	Date: 1/04/15 ✓
	A1 Unit 3 Full Star	A1 Unit 3 Full Star	Users are awarded this badge when they complete the following requirement: • The following activity has to be completed: • **"Resource - Badge of Unit 3 - Full Star"**	Date: 1/04/15 ✓
	Gold Cup	Gold Cup	Users are awarded this badge when they complete the following requirement: • The following activity has to be completed: • **"Resource - Gold Cup"**	Date: 1/01/15 ✓
	Silver Cup	Silver Cup	Users are awarded this badge when they complete the following requirement: • The following activity has to be completed: • **"Resource - Silver Cup"**	Date: 1/04/15 ✓
	Bronze Cup	Bronze Cup	Users are awarded this badge when they complete the following requirement: • The following activity has to be completed: • **"Resource - Bronze Cup"**	Date: 1/01/15 ✓

Figure 15. Badges

Cups, such as bronze, silver and gold cup, were also integrated in the gamification design. They were awarded according to the participants' performances in the tasks in the writing and speaking skills.

The participants whose sum of grades was at least 65 points in the activities in Moodle received the SAC course certificate (Figure 16), which was the identical, electronic copy of the certificate that would be awarded to the students in the preparatory program whose sum of grades is 65 points according to the assessment system.



T.C.
KAHRAMANMARAŞ
SÜTÇÜ İMAM ÜNİVERSİTESİ
YABANCI DİLLER YÜKSEKOKULU

THE REPUBLIC OF TURKEY
KAHRAMANMARAŞ
SÜTÇÜ İMAM UNIVERSITY
SCHOOL OF FOREIGN LANGUAGES

İngilizce Hazırlık Sınıfı
SELF-ACCESS DERSİ
Başarı Belgesi

Aşağıda kimlik bilgileri verilmiş olan öğrenci İngilizce Hazırlık Sınıfı Programını başarılı bir şekilde tamamlayarak bu "Başarı Belgesi"ni almaya hak kazanmıştır.

İsim Soyisim	
Baba Adı	
T.C. Kimlik No.	
Doğum Yeri	
Doğum Tarihi	
Sertifika No.	
Düzenleme Tarihi	
Hazırlık Programının Süresi (toplam ders saati)	
Başarı Düzeyi (Avrupa Birliği Dil Portfolyosu)	

English Prep-School Programme
SELF-ACCESS COURSE
Certificate of Achievement

This is to certify that the student whose identity information given below has successfully completed the "English Preparatory Programme and thus has been awarded this "Certificate of Language Achievement.

Name and Surname	
Father's Name	
National I.D. Number	
Place of Birth	
Date of Birth	
Certificate No.	
Date of Issue	
Length of the Prep Programme (total hours of lectures taken)	
Level of Achievement (Common EU Language Framework)	

Temel Yabancı Diller Bölümü Başkanı
Head of Basic Foreign Languages Department

Rector/ Rektör

Yabancı Diller Yüksekokulu Müdürü
Director of School of Foreign Languages

Figure 16. e-Certificate

In this respect, the e-certificate could be regarded as a meaningful, important reward for the participants in the preparatory program. In addition to being a reward, it is possible to consider it as a target to reach for the students in the online course as well.

3.5.7. Cooperation

As already discussed above, cooperation is regarded as a game mechanic (Werbach, 2014a), and it is a commonly found trait in games. In our online gamification design, we tried to create a room for cooperation especially with a wiki writing application as well as the forum and chat functions.

In the wiki writing task, the participants were required to write in groups about a famous person they chose (Figure 17).



Figure 17. Wiki writing

Using the wiki writing, each member in a group was able to contribute to and edit the content and delete the errors and unnecessary material on it. The content was created collaboratively by the individuals and it belonged to the whole group.

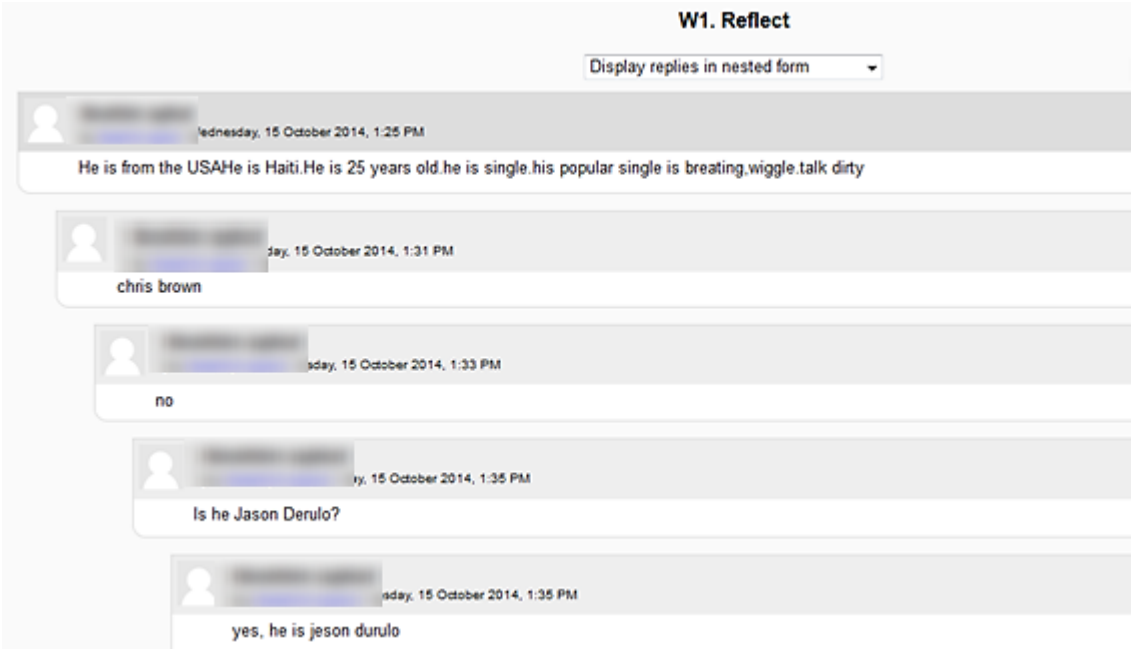

Figure 18. Wiki writing

Figure 18 illustrates an example from the reflect activity, one of the five stable activities in each skill. The reflect activities are presented within online forums where the contributions of each participant could be seen by their peers and teacher. By definition, the forum enabled the participants to learn from each other's work, write comments on them, and to ask/answer questions.

3.5.8. Emotions

The final gamification element used in the study is emotions. As Werbach (2014a) puts it, they are considered as among the dynamics, big picture aspects, of gamification framework. Although it is possible to see a wide range of emotions, from joy to sadness, in our gamification design, we tried to build a platform that could create positive emotions on progression, activity completion, content unlocking, receiving a rank in the leaderboard, collecting badges, and obtaining the digital certificate, which could lead to increased motivation and engagement in doing these activities. In addition to above positive emotions and feelings, it is also possible to experience negative emotions when failing to meet these criteria and, as a result, the participants could be unmotivated and disengaged.

The online Prep A1 Course was created according to the content and syllabus of the SAC classes. The eight gamification elements above were integrated into this course without interfering the content and syllabus of the SAC classes.

3.6. Data Collection Tools

Six different data collection tools were used in this study:

- Computer Readiness Scale
- Student Diaries
- Questionnaire
- Teacher's Field Notes
- Interviews
- Tracking system of the VLE

The computer readiness scale was administered to the participants at the beginning of the study. The participants wrote diaries on their experiences of the system at regular intervals. At the end of the study, they were distributed a questionnaire on their motivation and engagement in the gamified online language learning. Due to the low proficiency level of the participants, the participant copies of the computer readiness scale and questionnaire were in the first language of the participants, namely Turkish (see Appendices 1 & 3). The English translations of the scale and questionnaires are also provided at the end of the dissertation (see Appendices 2 & 4).

In addition to the scale and questionnaire, the researcher took field notes on the critical incidences both in the online system and classroom, and the participants were interviewed after the analysis of the questionnaire and field notes. The tracking system of Moodle was also explored in order to evaluate the extent of the student participation and engagement.

3.6.1. Computer Readiness Scale

The computer readiness scale was constructed for two main purposes. The first one is to check the participants' online learning background and design the online courses according to their needs, which led us to include 4-week induction courses at the beginning of the study where the participants were introduced to computers, the Internet, the VLE (i.e. Moodle), and basics of gamification. The second aim was to gain more insight about the participants.

Many resources were reviewed in the development of a computer readiness scale; however, the studies conducted by Brown (2002), Clinch, Jackson and Wakefield (2006), and İnözü and İlin (2007) were utilized to develop the computer readiness scale used in this study (see Appendices 1 & 2) due to the similarities of research questions and aims of the study. Most of the items in the computer readiness scale were composed of 3-5 Likert scale questions along with some open-ended ones which aimed at gathering information about the participants' computer and Internet literacy and use, readiness to computer-assisted language learning, and previous experiences with these systems. After piloting the scale with students from a different class of the preparatory program who used the online learning program, some of the items in the scale were refined in case they might lead to ambiguity, and they took their present form.

3.6.2. Students' Diaries

The second data gathering tool of the study is the students' diaries. The students wrote diaries on their experiences in the gamified learning environment at the end of each month after the induction courses, namely at the end of October, December and November. In these semi-structured diaries, the participants were asked to reflect on their experiences in the online course. The first subject of the diaries was the students' perceptions of the gamified online course. After that, the students were invited to talk about the elements of gamification. Finally, the students were asked to reflect on the

problems encountered in the online courses if any, and other topics the students wished to indicate. The diaries were written in Turkish due to the low English proficiency level of the participants, and they were analyzed through content analysis technique.

3.6.3. Questionnaire

At the end of the study in December, a questionnaire was administered in order to investigate the participants' motivation and engagement in the gamified Virtual Learning Environment. Again, different resources were investigated in the development of the questionnaire, and it was developed using the Student Questionnaire of O'Donovan, Gain, and Marais (2013) and Game Mechanics Questionnaire of Codish and Ravid (2014) due to their similarities with the purposes of this study. Including 3-5 Likert scale questions as well as open-ended ones, the questionnaire analyzed some general information about the participants, such as the frequency of their Internet and Moodle use, as well as their perceptions of the gamification elements and the relationship between gamification and language learning.

3.6.4. The Teacher's Field Notes

In addition to the students' diaries, the researcher (also the course instructor at the time of the study) also took notes about the experiences. They included the critical incidences occurring in the online system as well as the classroom, describing the participants' motivation, engagement and reactions in the gamified online language learning.

3.6.5. Interviews

In order to support the data received from the above instruments, the researcher conducted a face-to-face, semi-structured interview with an emergent design with all the participants. The participants were interviewed at the end of November, when they had better grasp of the system, and at the end of December, when the study was completed. Both interviews were carried out in groups. Following the advice of McMillan and Schumacher (1997) and Patton (2002), the interviews were tape-recorded with the permission of the interviewees and transcribed afterwards so that the researcher could be more focused on the interview and interviewees and would not have any information loss.

3.6.6. Moodle Tracking System

The default report system of Moodle detailed information about the participants' use and actions in the online courses. The tracking system provides reports on the participants'

- logs and live logs
- activity report,
- course participation,
- and activity completion.

Logs give data on the actions of the individual students on the online course. It is possible to see whether a particular activity has been viewed, attempted, reviewed and closed at any time throughout the study. Live Logs, on the other hand, give real-time data about the participants' above actions.

Activity Report displays the total number of views of each activity in the online courses. Similar to Activity Report, Course Participation feature allows us to analyze the actions of the participants in the different activity modules and to see the incomplete activities.

Activity Completion generates in one web page the list of all the participants and all the activities in an online course, displaying which activities are complete, incomplete, and unattempted with check marks, crosses, and blank boxes, respectively. It is the detailed version of the activity completion marks and progress bars that show which activities are complete in an individual participant's Moodle page.

For the purposes of our study, we evaluated the data from two of the above tracking tools, namely Logs and Activity Completion. The Activity Report was excluded as the total number of views is already covered, along with the other user activity tracks, within the Logs. In addition, the results from the Course Participation were not taken into consideration as the Activity Completion provides us with more detailed information about the user actions than the Course Participation.

In addition to the above two default tracking tools, we made use of an add-on plugin named Course Dedication, which we manually installed on Moodle to see the estimated time each participant dedicated for the online course and we analyzed the

total dedication time, mean dedication time and connections per day for the online course.

The data from the Moodle Tracking System, therefore, were gathered from the

- Logs,
- Activity Completion and
- Course Dedication tools of the Moodle Tracking System.

3.7. Data Analysis

Both quantitative and qualitative data analysis techniques were employed to analyze the data. The computer readiness scale and questionnaire were analyzed through the SPSS 21 (Statistical Package for the Social Sciences) program. The qualitative data from the questionnaire, student diaries, teacher field notes, and interviews were subjected to content analysis. The data from the tracking system were analyzed by Moodle itself.

CHAPTER IV

FINDINGS

4.1. Introduction

This chapter presents the findings acquired from the statistical and content analyses of the data gathered in the study. First of all, the data gathered from the Computer Readiness Scale and the results of the questionnaire were analyzed. After that, the students' diaries, interviews and teacher's field notes were explored. Finally, the findings from the tracking data of the VLE were presented.

4.2. Computer Readiness Scale

The Computer Readiness Scale (Cronbach's alpha coefficient = .73) includes questions concerning general information about the participants, their computer ownership, skills, Internet access and use. In addition, the scale focuses on the participants' previous computer, Internet and online learning experiences, their motivation to learn English through the Internet, and their perception of usefulness of learning English in this context.

4.2.1. Information about the Participants

The gender and age variables were not taken into consideration while analyzing the data obtained from the other data gathering tools, but they are presented here in order to give a more detailed description of the participants of the study.

Consisting of 9 female and 10 male students, 19 participants took part in the study. They were all first grade non-English major students from the Faculty of Engineering and the Faculty of Economics and Business Administration of Kahramanmaraş Sütçü İmam University, and they were attending the same class, Prep A1, within the English preparatory program. The majority of the participants were under the age of 20, with only five of them being 20 years old.

4.2.2. Computer Ownership and Skills

The participants were asked if they had a personal computer or laptop and whether it was with them in Kahramanmaraş. As indicated in Table 3, the majority of

the participants had a personal computer or laptop. In addition, 10 participants stated that they had their computers with them in Kahramanmaraş.

Table 3

Participants' Computer/Laptop Ownership

OWNERSHIP	f	%
Yes	14	74
No	5	26

Although most of the participants had a computer to work with, finding a place to go online seemed a problem for some of them. Seven participants stated that they had problems finding a place to go online, and yet it was possible for the majority to reach the Internet using a computer or a mobile phone. The SAC computer laboratory and the facilities in the places where they stay were the options to go online for most of the participants.

When asked about their computer literacy and skills, the results show that almost half the participants thought that they had low computer skills (Table 4) although the majority of the participants used computers and the Internet before coming to university.

Table 4

Computer Skills

SKILLS	f	%
Very good	2	11
Good	8	42
Not very good	8	42
Bad	-	-
Very bad	1	5

These results are confirmed by the questions in the scale concerning the participants' basic skills with the computer and Internet such as the ability to send and receive emails and attachments. That is, 8 participants stated that they might have problems with these skills. When asked whether or not studying on the computer disturbed them, the majority of the participants (n. 14, 74%) stated that it did not. However, the remaining 5 participants were somewhat uncomfortable with studying on the computer.

4.2.3. Internet Use and Online Learning Experience

The frequency of the Internet usage also varies among the participants; 7 participants stated that they used the Internet frequently on a daily basis, and 12 of them noted that they did not go online that often. As for the purpose of the Internet usage, surfing on the web was the first choice of the participants, and it was followed by listening to music, watching videos, chatting, sending and receiving emails, and downloading stuff.

As for the previous online learning experience, only 4 participants stated that they had taken a course through a virtual learning environment and a vast majority of the participants (n. 15, %79) had no previous online learning experience.

Discomfort about studying with computers, low computer skill levels and lack of previous online learning experience necessitated giving induction courses for the purposes of preparing the participants for using the computers and Internet as well as the Virtual Learning Environment.

4.2.4. Motivation for and Usefulness of Learning English through the Internet

The participants were also asked if they were interested in learning English using the Internet. The results indicate that a vast majority of the participants (n. 16, 84%) were interested in learning English through the Internet, with only three of them being undecided about the endeavor (Table 5).

Table 5

Interest in Learning English through the Internet

INTEREST	f	%
Definitely agree	5	26
Agree	11	58
Undecided	3	16
Disagree	-	-
Definitely disagree	-	-

The participants were also asked whether they thought online English education would be useful. Along with the four undecided and two disagreeing participants, as

shown in Table 6, the vast majority thought that the online language learning would be useful.

Table 6

Usefulness of Online English Education in Students' Opinions (Before the Study)

USEFULNESS	f	%
Definitely agree	5	26
Agree	8	42
Undecided	4	21
Disagree	2	11
Definitely disagree	0	0

It should be noted, though, that these results were obtained before the study started. The same question was asked after the study was completed; and the results are presented in the next section; the results indicate that apart from 1 undecided student, all the participants found the gamified online English education useful (See Table 39).

4.2.5. Perception of Digital Games and Game Playing

The participants were also asked about their inclination towards digital game playing. The majority of them (n. 12, %63) stated that they liked playing digital games. However, there were 2 undecided and 5 disagreeing participants as well.

Table 7

Frequency of Digital Game Playing

FREQUENCY	f	%
Often	1	5
Sometimes	9	47
Rarely	5	56
Never	4	21

As Table 7 indicated, the participants' responses reflected a greater diversity when they were asked about the frequency of their digital game playing. It is possible to see that playing games was not a common practice among the participants.

4.3. Findings from the Students' Diaries

The participants wrote diaries on their experiences in the gamified learning environment three times, at the end of October, December and November. In these semi-structured diaries, the participants were asked to reflect on the gamified online language learning, elements of gamification, the problems they encountered, and other topics they wished to indicate. The diaries were written in Turkish due to the low proficiency level of the participants, and they were analyzed through content analysis technique.

4.3.1. Overall Perception of the Gamified VLE

The participants' perceptions were generally positive about the online English learning course, as shown in Table 8 below.

Table 8

Overall Perception

Key Words	f
Facilitating English learning	28
Appreciation	25
Fun	11
Motivation	6
Awareness	7
Technical glitches	3
Competition	2
Gamification facilitating the use of the system	2
Good for exam preparation	2

Learning English with the online course was found successful and the system was appreciated by the most of the students. The following excerpt depicts this appreciation and facilitating role of the system:

Excerpt 1:

"I really liked it. They were the activities that could improve our English. I do it every week. I hope I'll be the first."

The participants were supposed to do the online activities individually most of the time and the nature of the first-person approach of the online course was found useful as well. This is evidenced in the next excerpt where a participant compares the online activities with the ones in the face-to-face classroom and recognizes the value of personal engagement:

Excerpt 2:

"We have the same (activities) in the (face-to-face) classroom, but it is better now as we do them individually."

The structure of the design was one of the reasons behind the appreciation of the online course as indicated in the following excerpt:

Excerpt 3:

"The course is quite successful, well-organized and enjoyable, and it provides us with opportunities to practice English more."

The fun is another important factor behind the participants' positive. The following quote in this respect is a typical example of what students say when they liked a lesson:

Excerpt 4:

"The lesson ends very quickly."

The participants also noted the motivation the online course generated. One participant related the motivation to unlocking activities (surprises) in the online course:

Excerpt 5:

"Moodle motivates us with surprises."

In addition to generating motivation, the online course was also appreciated because there was a room for self-assessment and assessment by the system. A participant elaborates on how the course raised his/her awareness as follows:

Excerpt 6:

"I am using such an application for the first time, but my progression is very good. Being graded after the activities are very important in my opinion."

Some participants also regarded such awareness-raising elements as an important contributor for their language learning and development, as indicated by one of the students in the following excerpt:

Excerpt 7:

"These applications and evaluations are very important for our personal development."

As for the problems they encountered, there were no negative comments about the gamification or the online learning course; however, some participants noted such technical glitches as low internet speed and problems with the headphones.

There is definitely competition in the online course, which will be dealt with in the coming sections. The students wanted to be on the top of the leaderboard, as indicated in Excerpt 1 above.

There were also comments on the easiness of using the online course due to the gamification elements. As indicated in the following excerpt, one participant relates this facilitation to two of the gamification elements:

Excerpt 8:

"I appreciate unlocking activities one by one and progress bars as they facilitate the use of the system."

To sum, it is possible to suggest that the gamified online English course was found successful according to the diaries and that the VLE was appreciated by the majority of the participants.

4.3.2. Gamification Elements in Students' Diaries

The students were invited to express their opinions about the gamification elements in the diaries. The first element was **activity completion (content unlocking)**. In line with the questionnaire results, the diaries showed that the participants found this element useful for their language development.

Table 9

Activity Completion (Content Unlocking)

Key Words	f
Scaffolding	8
Urging to succeed	4
Novelty	1

As shown in Table 9, one of the frequently cited reasons is that it provides scaffolding. The students also thought that it helped them improve according to their levels. The following excerpt addresses these features of the activity completion:

Excerpt 9:

"Activity completion is good because if I was able to move forward and do the activities in further levels with insufficient knowledge, I would be discouraged as a person who has just started learning English."

Activity completion is also regarded by some students as a facilitator which makes students successful in the online course. The excerpt below displays the facilitating role of this gamification element:

Excerpt 10:

"Being unable to unlock the next level before completing the current one urges us to complete the current level and this makes us do the activities in the level again and facilitates learning."

Having to complete activities at hand to move forward and do the next ones might be regarded as a concern, which will be dealt with especially in the interviews. However, as indicated in the next excerpt, there were many comments about the usefulness of this feature:

Excerpt 11:

"It's good that we cannot move forward before completing the activity at hand."

Each time the students finished an activity in the online course, they saw a new one. A final excerpt in this respect mentions the novelty aspect of the endeavor:

Excerpt 12:

"Unlocking new activities and progression bring novelty and they make the system pleasant."

To sum, activity completion is appreciated in the students' comments. It is also found useful by many students.

The next element evaluated in the students' diaries is **progression**. The students indicated their appreciation of this element. As indicated in Table 10, they also mentioned various functions of progression.

Table 10

Progression

Key Words	**f**
Noticing incomplete activities	4
Self-awareness	4
Facilitates learning	2
Useful	2
Autonomy	1
Motivation	1
Not useful	1

One of the commonly expressed functions is that progression showed the students their incomplete activities, and thus helped them to quickly find and do these activities. They also indicated that it helped them become aware of their progression within the course. In the following excerpt, a student demonstrates this function clearly:

Excerpt 13:

"With the progress bar, you can see your English level and how much you have improved your level."

The students also regarded progression as a facilitator of learning, a motivator, and a guide for autonomy, which is expressed by one of the students as follows:

Excerpt 14:

"You become aware of the areas where you have improved as well as your weaknesses."

There are negative comments about the progress bar as well. As revealed in the following excerpt, it could be regarded as useless:

Excerpt 15:

"I don't think it is really necessary to see the progress bars because activity completion already makes you unable to go to the next activity."

To conclude, it is clear that progression is highly appreciated in the students' diaries. This game element is also reported to have various functions.

Another game element used in the study was **badges**. When we have a look at the findings from the students' diaries, we can see that there are many positive comments about this element (Table 11).

Table 11

Badges

Key Words	f
Motivation	6
Excitement	3
Competition	2
Curiosity	1
Engagement	1
Facilitating learning	1
Useless	1

Most of the comments concerning the badges refer to the motivation it created. Provision of badges seemed to motivate students as demonstrated in the excerpt below:

Excerpt 16:

"Receiving small rewards as we make progress motivates us."

It appears that badges also create engagement and excitement according to the students' diaries:

Excerpt 17:

"Cups and rewards are great! They make us engaged in the course. They create excitement."

There are also comments about the curiosity the badges brought as the following excerpt indicates:

Excerpt 18:

"Rewards make the activities more enjoyable; we are curious about (what it is going to happen at) the end and we are not bored…. I like the rewards."

Badges were also thought to create competition and to have a positive effect on learning as revealed in the next excerpt:

Excerpt 19:

"Badges and cups will increase our pace of learning by increasing the competition among us."

There was, however, a negative comment about the badges. They are found useless by one of the participants, a notion that is expressed in the questionnaire and interviews as well:

Excerpt 20:

"Cups are unnecessary in my opinion."

To sum, badges were thought to have numerous functions in the online course. They are also highly appreciated by the students.

When it comes to the comments in the diaries about the **leaderboard**, we can see that it is also appreciated by many of the students. The following key words emerged from the learners' diaries (Table 12):

Table 12

Leaderboard

Key Words	f
Competition	6
Leading to more effort	5
Fun	3
Awareness	2
Determination	1
Useful	1

As its name suggests, one of the most prominent characteristics of leaderboard is that it generates competition. The next excerpt is an example of the competitive atmosphere created by the leaderboard:

Excerpt 21:

"We see our levels, and having low scores creates a competitive atmosphere among friends."

Fun and becoming aware of the progress and understanding of a unit were also noted among the characteristics of the leaderboard mentioned in the student's comments.

Excerpt 22:

"(It) shows how much a person has improved himself/herself and how much s/he has learned in a topic."

As the following excerpt reveals, it is possible to refer to planning of self-directed learning as a result of the leaderboard scores:

Excerpt 23:

"Leaderboard increases our determination to learn and put more effort in order to see ourselves at the top of the list."

In conclusion, the students' comments in the diaries reveal their appreciation of this element. There were also many comments about the practical aspect of this element.

Constrains are the next gamification element to be evaluated in the diaries. Although it was a controversial element, as revealed in Table 13, most of the comments on the constraints were positive.

Table 13

Constraints

Key Words	f
Appreciated	5
Good for exam preparation	3
Help learning	2
Technical glitch	1

It was generally appreciated and was regarded as a support for the exams the students had in the preparatory program. As indicated in the following excerpt, some students think that it is a good way to get prepared for the face-to-face exams in the preparatory program, which also had time limits:

Excerpt 24:

"The time-limited quizzes will be very helpful for us because I have difficulty in the real exams."

Some students also noted its facilitating role for learning, as demonstrated in the following excerpt:

Excerpt 25:

"Having-time limited activities make us think quickly and learn efficiently."

There was only one negative comment on the constraints, and it was related with low Internet speed:

Excerpt 26:

"I had enough time for the time-limited activity, but as the Internet speed was low, time was up."

The next gamification element is **cooperation**. Although there were few comments about it, it is possible to suggest that it was also appreciated by the students.

These comments addressed the practical function of the element, as indicated in the following extract:

Excerpt 27:

"I found it fun and instructive."

The final gamification element evaluated in the students' diaries is **feedback** given by the system. It is possible to see that it was generally regarded positively by many participants as shown in Table 14.

Table 14

Feedback

Key Words	f
Redoing	7
Awareness	3

Feedback given by the system led many students to go over the activities again as illustrated in the next excerpt:

Excerpt 28:

"After the system gave me feedback, I took my chance in the same level."

As revealed in the next excerpt, feedback also had an awareness-raising function for some of the participants:

Excerpt 29:

"After seeing my level at the end of each activity, I do the other activities more carefully."

To conclude, although there were a few negative comments about the gamification elements in the students' diaries, it is possible to suggest that they were appreciated and found useful by the students in general.

4.4. Findings from the Questionnaire

At the end of the study, a questionnaire was administered in order to investigate the students' motivation and engagement in the online course. In the questionnaire, the

students' perception of the VLE, gamification, and the relationship between gamification and language learning was also investigated.

4.4.1. Perception of the Virtual Learning Environment

The first items in the questionnaire focused on the students' perceptions of the ease of learning and using the VLE. All the participants stated that it was easy to learn and use it, with no opinions to the contrary.

The questionnaire also investigated how often the participants logged into Moodle. The answers reveal that although they had SAC classes only two hours a week in the computer laboratory, the majority logged into the VLE more than just once a week (Table 15).

Table 15

Frequency of Logging into the VLE

FREQUENCY	f	%
Every day	1	5
Several times a week	12	63
Once a week	6	32

The participants were also asked whether they liked learning English with the VLE.

Table 16

Appreciation of English Learning with the VLE

APPRECIATION	f	%
Definitely agree	10	53
Agree	8	42
Undecided	1	5
Disagree	-	-
Definitely disagree	-	-

As shown in Table 16, with only one undecided participant, an overwhelming majority of the participants stated that they liked English learning with the VLE.

4.4.2. Perceptions of Gamification Elements within the VLE

Due to the nature of the study, eight different gamification elements were integrated into the VLE. These were activity completion, progression, feedback, constraints, leaderboard, badges, cooperation, and emotions and feelings. Each of these gamification elements will be dealt with in detail in the coming sections.

4.4.2.1. Activity Completion (Content Unlocking)

The first gamification element is activity completion (content unlocking). As revealed in Table 17, with only one disagreeing participant, all the students appreciated this element.

Table 17

Perception of Activity Completion (Content Unlocking)

ACTIVITY COMPLETION	f	%
Definitely agree	11	58
Agree	7	37
Undecided	-	-
Disagree	-	-
Definitely disagree	1	5

In addition, all the participants, apart from one undecided student, agreed to the following statement: “Unlocking activities increases my motivation towards the online course”.

The students were also asked if they preferred to see all the activities, without any limitation like activity completion condition. There were 2 students who agreed, and 3 undecided ones; on the other hand, the majority (n. 14, 74%) replied to the contrary.

It is possible to conclude from these findings that although some students were eager to do the online activities regardless of activity completion condition, the majority noted that this gamification element had an important role in their motivation in the online course.

4.4.2.2. Progression

The next game element is progression, which is indicated by progress bars in the VLE. Most of the participants liked their progression being shown with marks in the progression bar, with only one of them being undecided (Table 18).

Table 18

Perception of Progression

PROGRESSION	f	%
Definitely agree	10	53
Agree	8	42
Undecided	1	5
Disagree	-	-
Definitely disagree	-	-

The majority of the participants (n. 17, 90%) thought that it is important to see their progression, with 2 undecided students. In addition, 16 participants stated that they tried to complete all the activities in the course.

4.4.2.3. Feedback

The VLE provided feedback for the participants on whether their answers are correct and their scores out of 100. Sixteen participants liked the feedback feature in the VLE; however, there were two undecided and one disagreeing participants too (Table 19).

Table 19

Perception of Feedback

FEEDBACK	f	%
Definitely agree	9	47
Agree	7	67
Undecided	2	11
Disagree	-	-
Definitely disagree	1	5

Most of the participants (n. 17, 90%) thought that it was useful to receive feedback on their work; however, there were 2 undecided and 1 disagreeing participants as well.

The VLE allowed the participants to redo the online activities as many times as they wished, and this feature was found to be useful by all the participants with no exceptions. In fact, as the leaderboards were generated according to the scores of the participants, all the students in the study stated that they repeated the activities to increase their scores although the frequency of the repetition varies (Table 20).

Table 20

Repeating the Online Activities

REPETITION	f	%
Always	5	26
Most of the time	13	68
Sometimes	-	-
Rarely	1	5
Never	-	-

4.4.2.4. Constraints

The constraints – time-limited activities – received relatively low level of appreciation from the participants compared to the other elements of gamification. There were 13 participants who liked working with time-limited activities; however, there were also 3 undecided and 3 disagreeing participants (Table 21).

Table 21

Constraints

CONSTRAINTS	f	%
Definitely agree	5	26
Agree	8	42
Undecided	3	16
Disagree	3	16
Definitely disagree	-	-

In addition, 12 students found the time-limited activities useful; however, there were 6 undecided and 1 disagreeing participants in terms of its usefulness.

4.4.2.5. Leaderboard

Leaderboard is one the most frequently used elements in gamification studies. In this study, the majority (n. 16, %84) liked the leaderboard application, with 2 undecided and 1 disagreeing participants (Table 22).

Table 22

Leaderboard

LEADERBOARD	f	%
Definitely agree	11	58
Agree	5	26
Undecided	2	11
Disagree	1	5
Definitely disagree	-	-

Seventeen participants (90%) stated that it increased their motivation towards the online course; there were 1 undecided and 1 disagreeing students though. In addition, 15 participants indicated that they tried to be in the highest places on the leaderboard, and 16 participants stated that comparing their statistics with their peers motivated them to do the online activities, and there were only 2 undecided participants.

Although the participants appreciated the leaderboard and put extra effort to have a high rank on the leaderboard, many of them (n. 8, 42%) were undecided about whether the scores on the leaderboard reflected their real achievements in the class, and 2 students believed that the ranks on the leaderboard were not realistic. On the other hand, here were 9 students who thought that the leaderboard ranks reflected their real success in the classroom.

The participants were asked if it disturbed them to have their scores shown in the leaderboards: there were 5 students who replied in the affirmative, 4 undecided students, and the remaining 9 students said that it did not disturbed them at all.

The participants were also asked whether they thought they would put the same effort in the online course if there had been no leaderboards. There were 7 students who said they would not be as engaged as they are now; however, there were 7 undecided students, and 5 participants who said they would be as active as they are now without the leaderboard.

4.4.2.6. Badges

Another element that is commonly used gamification studies is badges. As shown in Table 23, they received a high level of appreciation from the majority of the participants in our study (n. 15, 79%); however, there were also 1 undecided and 3 disagreeing participants too.

Table 23

Badges

BADGES	f	%
Definitely agree	10	53
Agree	5	26
Undecided	1	5
Disagree	3	16
Definitely disagree	-	-

The participants received a hollow, half, or a full star badges when their score in the leaderboard was more than 70, 80, or 90 out of a 100 points, respectively. The participants were asked if they tried to gain a higher quality badge when they received a lower one. Most of the participants (n. 15, 79%) indicated that they did. There were two undecided students and 2 students who stated that they did not put extra effort to receive a better badge (Table 24).

Table 24

Redoing for Badges

REDOING	f	%
Agree	15	78
Undecided	2	11
Disagree	2	11

When asked if badges increased their motivation in the online courses, the majority of the participants (n. 13, 68%) replied in the affirmative. In addition, there were 6 undecided participants (32%), but there were no negative responses.

Another item in the questionnaire investigated whether the participants thought they would put the same effort in the online course without the badges. There were 6 students who stated that they would be as engaged as they are now; however, there were

9 undecided students, and 4 participants who said they would not be as active as they are now without the badges.

These findings could imply that whether the VLE provided with them badges as a result of their scores or not, there were some students who thought they could be as motivated and engaged in the online course; however, the findings reached may also be interpreted as an indication that the badges were likely to serve as a contributory factor in terms of motivation and engagement for most of the participants.

4.4.2.7.Cooperation

Another gamification element used in the study was cooperation. The analysis of the data obtained from the questionnaire reveals that cooperation was appreciated by the majority of the participants.

Table 25

Cooperation

COOPERATION	f	%
Definitely agree	6	32
Agree	9	47
Undecided	1	5
Disagree	3	16
Definitely disagree	-	-

Fifteen participants stated that they liked cooperating with others in the online activities, and there were 1 undecided and 3 disagreeing participants (Table 25).

When asked if they found the wiki writing activity useful, the majority of the participants (n. 15, 79%) stated that they did, with 4 undecided students and no replies to the contrary. Reflect activities have exactly the same scores: 15 participants found cooperating with classmates in such activities useful, and there were only 4 undecided students, with no opposing participants.

4.4.2.8. Emotions and Feelings

Emotions and feelings such as comfort, anxiety, fun and competition were regarded as gamification elements that the participants could face when working on the VLE. The results of the questionnaire indicate that the majority of the participants

thought that it was useful to have online activities in such a way that they could arouse these feelings.

When asked about whether they felt comfortable while doing the online activities, most of the participants replied in the affirmative; however, there were 4 participants who stated that they sometimes felt the other way round (Table 26).

Table 26

Comfort vs Anxiety

	COMFORT		**ANXIETY**	
	f	**%**	**f**	**%**
Always	4	21	-	-
Most of the time	11	58	3	16
Sometimes	4	21	6	32
Rarely	-	-	5	26
Never	-	-	5	26

The participants were also asked if they felt anxious while doing the activities, a relatively small number of them stated that they felt anxious most of the time. When we investigated the reason behind the anxiety, we found that the constraints, namely the time-limited activities, were likely to bother some participants, as indicated in the following excerpt:

Excerpt 30:

"The time-limited activities sometimes made me anxious because I was worried if I could finish (the activity) in time."

Having said this, there were a greater number of participants who stated that it was useful to have time-limited activities (Table 21). Such constraints seemed to have aroused positive feelings for these students. The following excerpt demonstrates this attitude towards the constraints:

Excerpt 31:

"To the contrary, it made me comfortable. I overcame my fear of making mistakes."

Fun was another feeling found in the online course. The online activities were found to be fun by a significant number of participants (n. 17, 90%); however, there were 2 undecided participants as well (Table 27).

Table 27

Fun

FUN	f	%
Agree	17	90
Undecided	2	10
Disagree	-	-

As displayed in Table 28, competition was regarded as a positive feeling that increased their motivation by the majority of the participants (n. 15, 79%), with only 4 undecided students.

Table 28

Competition

COMPETITION	f	%
Agree	15	79
Undecided	4	21
Disagree	-	-

Most of the participants liked fun and competition and linked them to motivation, as put by one of the students:

Excerpt 32:

"Fun and competitive atmosphere make us more motivated."

To sum, the gamification elements were appreciated by the students in general. However, the degree of appreciation varies according to the gamification elements.

4.4.2.9. Comparison of Gamification Elements

In order to find out which gamification element was appreciated most, the participants were asked to rank the gamification elements from the most favorite to the least. The results reveal that leaderboard, chosen by 13 participants, was the most favorite gamification element (Table 29). It has a very close runner-up; activity

completion, with 12 participants. And next come feedback (9 participants), emotions (8 participants) and badges (7 participants). Progress bars, cooperation and constraints were chosen as the most favorite element by 4, 3, and 2 participants, respectively.

As for the least favorite gamification element, constraints were at the top of the list; 14 participants regarded them as the most unpopular element. The wikis and reflect sections, which were regarded as cooperative elements of gamification, were found the least favorite element by 12 participants. The remaining elements, namely feedback, badges, emotions, leaderboard and activity completion, had close scores ranging from 6 to 4.

Table 29

Comparison of the Appreciation of Gamification Elements

	Top Ranking f	**Least Favorite f**
Leaderboard	13	4
Activity Completion	12	5
Feedback	9	6
Emotions	8	5
Badges	7	5
Progression	4	4
Cooperation	3	12
Constraints	2	14

The participants were invited to make elaborations on their answers during the interviews. The answers reached may shed more light to the study findings. For example, the following excerpt demonstrates the positive effect of the competition created by the leaderboard.

Excerpt 33:

"I like seeing myself at the top of the leaderboard."

Other than the contribution of the competitive atmosphere the leaderboard brought to the study context, some participants appreciated the activity completion as it had an awareness-raising and motivating function, as the following participant illustrates:

Excerpt 34:

"I liked activity completion because unlocking new activities showed me that I had made progress and this made me motivated."

Contrary to the above advantages the activity completion brought, it seemed to have an important drawback: it appears that some of the students were disturbed by the notion that they are not able to move forward before completing the activity at hand. The following excerpt demonstrates a student's concern about this element:

Excerpt 35:

"I cannot move on if I am bored (with an activity)."

There seems to be a controversy over the badges as well. They seemed to be motivating for some students; however, there were some others who regarded them as unrealistic, unnecessary and even childish. A student cited a reason behind his/her negative perception of badges as follows:

Excerpt 36:

"Badges do not seem realistic as we can do the activities as many times as we want and increase our scores."

The next element is cooperation, which created such an atmosphere that the students could learn from each other, which was appreciated by many students. The following excerpt demonstrates this appreciation with an emphasis on the awareness-raising function of the element:

Excerpt 37:

"I liked the activities in which we cooperated best because we noticed that there were many errors which I and my friends thought were correct."

There were, however, some students who disliked the activities including cooperation as these students seemed to be more competition-oriented as seen in the excerpt below:

Excerpt 38:

"I don't like writing with a group because I want to be over the top of the leaderboard."

Constraints (time-limited activities) were another controversial gamification element. The students in general thought that such activities helped them in their exams in the classroom. As indicated by the following excerpt, time management is considered one of the advantages brought by constraints:

Excerpt 39:

"Time-limited activities make me use the time more efficiently."

As opposed to such advantages the constraints could bring, there might be some disadvantages as well. The excerpt below displays the concern some of the participants felt regarding the time-limited activities:

Excerpt 40:

"Time passes so quickly and this demoralizes us."

To conclude, it is possible to suggest that the leaderboard and activity completion were the most favorite gamification elements. They are followed by feedback, emotions and badges. At the end of the list are progression, cooperation and constraints.

4.4.3. Motivation and Engagement in the Gamified VLE

The questionnaire also investigated the students' perceptions of their motivation and engagement in the gamified online course. When asked whether gamification increased their motivation to do the online activities, 17 students replied in the affirmative whereas there were only 2 undecided participants, with no opinions to the contrary (Table 30).

Table 30

Motivation in the Gamified VLE

MOTIVATION	f	%
Definitely agree	6	32
Agree	11	58
Undecided	2	11
Disagree	-	-
Definitely disagree	-	-

The following excerpt provides an example of the participants' perception of how gamification increased their motivation:

Excerpt 41:

"It motivated me to see that I made progress by having activities available upon completion of the previous ones."

When it came to engagement in the gamified VLE, there were higher rates (Table 31). All the participants in the study stated that gamification increased their engagement in the online courses.

Table 31

Engagement in the Gamified VLE

ENGAGEMENT	f	%
Definitely agree	6	32
Agree	13	69
Undecided	-	-
Disagree	-	-
Definitely disagree	-	-

A student commented on the engaging characteristic of gamification as follows:

Excerpt 42:

"Having new activities available after completing the previous ones leads us to complete them all."

These results indicate that, according to the participants, gamification seems to influence the students' motivation and engagement mostly in a positive way. It is also possible to state that although there were 2 undecided students in terms of the motivational effect of gamification, all the students found gamification elements engaging, with no opposing or undecided students.

As this is an online platform that the students could reach any time anywhere, it is possible to do the activities with the help of others, by simply copying from someone else in the class, and by having the activities done by someone else. In this respect, the participants were asked if they did the online activities by themselves.

Table 32

Doing the Activities by Oneself

BY ONESELF	f	%
Always	2	11
Most of the time	16	84
Sometimes	1	5
Rarely	-	-
Never	-	-

The majority of the participants stated that they did the activities by themselves most of the time, with 2 students who always did them on their own, and 1 participant who sometimes did the activities by himself/herself (Table 32).

In order to support the findings from the questions above concerning motivation and engagement, the participants were asked if they agreed to the following statement "Without gamification, I would not be motivated in the online course as much as I am now".

Table 33

Motivation in the Gamified VLE - II

MOTIVATION - II	f	%
Definitely agree	4	21
Agree	11	58
Undecided	3	16
Disagree	1	5
Definitely disagree	-	-

The results show that although there was only one student who thought that s/he would feel just as motivated in a 'non-gamified' course, and for whom the form of the online course – gamified or non-gamified – did not matter, gamification seems to have had a major influence for the rest of the participants (Table 33).

Similarly, the participants were asked if they agreed to the following statement "Without gamification, I would not be engaged in the online course as much as I am now".

Table 34

Engagement in the Gamified VLE - II

ENGAGEMENT - II	f	%
Definitely agree	3	16
Agree	7	37
Undecided	7	37
Disagree	2	11
Definitely disagree	-	-

As shown in Table 34, only 2 participants thought that the form of the online course did not matter - they thought they would be just as engaged. However, there were 7 undecided participants, and 10 students thought that they would not be as engaged in a non-gamified online course. This suggests that there were students who might think they would spend as much time in the online course as they do now if the online course were not gamified. On the other hand, it is clear that gamification was an important factor for the engagement of the majority of the participants.

In this respect, the participants were asked if they preferred to have the online activities without gamification. The findings, as revealed in Table 35, indicate that non-gamified version of the online course was not the preference for the majority of the participants.

Table 35

Preference for Non-Gamified Course

PREFERENCE	f	%
Definitely agree	1	5
Agree	2	11
Undecided	2	11
Disagree	10	53
Definitely disagree	4	21

There were 3 students who preferred to have the online activities without gamification; however, there were 2 undecided students, and the remaining 14 participants noted that they preferred the gamified version.

The participants were invited to elaborate on their answers. Fun, comfort and enjoyment factors found in the gamified course were mentioned as the factors behind

this preference. The following excerpt is an example that demonstrates some of the aspects of the gamified online course:

Excerpt 43:

"It was the most enjoyable lesson we've had, the lesson in which I felt myself comfortable, because I was able to do the activities in the course comfortably."

In addition to the fun quotient of the online course brought by gamification, some participants also noted the possibility of boredom without gamification.

Excerpt 44:

"I would not feel interested in Moodle if it weren't for gamification."

As this was an online platform which the students could reach outside the computer laboratory, the participants were asked if they logged into the course to do the online activities outside the usual class hours.

Table 36

Extra Time

EXTRA TIME	**f**	**%**
Always	1	5
Most of the time	3	16
Sometimes	9	47
Rarely	4	21
Never	2	11

The majority of the participants stated that they spent extra time outside the class hours to do the activities, and yet the amount of time varies according to the individuals. As indicated in Table 36, only two participants stated that they did not spare extra time for the online course outside the regular class hours; however, the rest of the participants indicated that they were engaged, with differences in the amount of time, in the online course outside the school lab.

Another item in the questionnaire aimed at investigating if the participants redid the activities in order to increase the score they had received.

Table 37

Scores and Redoing the Activities

REDOING	f	%
Always	5	26
Most of the time	13	68
Sometimes	-	-
Rarely	1	5
Never	-	-

As seen in Table 37, only one participant indicated that s/he rarely redid the activities for a better grade, and rest of the participants redid the online activities for the same purpose more frequently. It is, therefore, possible to conclude that it was a common practice for all the participants to redo the activities, with differences in frequency, in order to have a higher score.

Being able to make such multiple attempts at the activities was regarded as important by many students. The following excerpt demonstrates how a student benefits from redoing the activities:

Excerpt 45:

"I saved my previous answers, understood my mistakes and redid (the activity) and got the correct answers."

As the above results indicate, a significant majority of the participants appreciated these gamification elements and thought that the elements had an important contribution for their motivation and engagement.

4.4.4. Gamification and English Language Learning in the VLE

The questionnaire also delved into the participants' perceptions regarding the relationship between gamification and ELT. When asked if they liked the overall gamified English language learning course, all the participants, except 1 undecided student, replied in the affirmative, as shown in Table 38.

Table 38

Appreciation of Online Gamified English Learning Courses

APPRECIATION	f	%
Definitely agree	10	53
Agree	8	42
Undecided	1	5
Disagree	-	-
Definitely disagree	-	-

The undecided student explained his/her stance as follows:

Excerpt 46:

"(Gamifying) doesn't matter. If a person wants to learn, s/he learns anyway. I don't like playing games, and I slightly didn't like it as it is gamification."

The participants were also asked whether they found the gamified English courses useful for language learning.

Table 39

Usefulness of Gamified Online English Courses (At the end of the Study)

USEFULNESS	f	%
Definitely agree	8	42
Agree	10	53
Undecided	1	5
Disagree	-	-
Definitely disagree	-	-

Regarding this question, as displayed in Table 39, it was found that the participants replied in a similar fashion: there were 18 participants who found the gamified English courses useful, with only one undecided student.

The results indicate that the online gamified English learning course was appreciated and found useful by all the participants of the study except one undecided student. There were no responses to the contrary.

4.4.5. Contribution of Gamification to English Language Learning

The final items in the questionnaire asked whether gamification contributed to the participants' development as foreign language learners. The findings indicate that all the participants agreed on its contribution to their foreign language development, with no undecided or disagreeing students (Table 40).

Table 40

Contribution of Gamification to Foreign Language Learning

Gamification and ELT	f	%
Definitely agree	10	53
Agree	9	47
Undecided	-	-
Disagree	-	-
Definitely disagree	-	-

The content analysis of the questionnaire suggests that gamification had, in students' perceptions, a positive effect on the foreign language learning. The effects can be grouped under the following key words:

Table 41

Effects of Gamification on ELT

Key Words	f
Fun, enjoyment	15
Motivation	13
Awareness	10
Competition	6
Practice	6
Facilitation	4
Comfort	2
Curiosity	2

As demonstrated in Table 41, fun and enjoyment, as opposed to boredom, are the most frequently cited effects of gamification on ELT. They are followed by

motivation. It appears that gamification combined these two notions and many students related them to language learning endeavor as seen in the following excerpt:

Excerpt 47:

"Gamification makes us motivated. I would not have learned English with fun and pleasure without gamification."

In the following excerpt, another participant connects motivation created by gamification with completing the online activities and, eventually, with language learning:

Excerpt 48:

"They motivate us to complete the activities, and this promotes effective and faster learning."

Another effect of gamification on language learning is awareness-raising. Leaderboard, for example, seemed to raise students' awareness of their present state of knowledge and allowed them to compare it to the rest of the class, which led to the planning of self-directed learning, which is illustrated in the following excerpt:

Excerpt 49:

"Because leaderboard showed my general position inside the classroom, it was a list that motivated me to study lesson."

Another awareness-raising element in gamification is cooperation, which helped some students notice their errors. The following excerpt displays this relationship clearly:

Excerpt 50:

"The activities in which we cooperated were my favorite ones because we as a group noticed that we had many errors which we thought were correct."

Feedback is also regarded as an awareness-raising element as well. This is evidenced in the following excerpt where one of the participants appreciated the value of learning lessons from the feedback provided by the online course:

Excerpt 51:

"Feedback in the system showed my mistakes, and this helped me not to repeat these mistakes."

There was definitely competitive atmosphere for some participants especially when it came to leaderboards. The next excerpt illustrates one of the positive effects of competition created by the leaderboard on ELT:

Excerpt 52:

"I thought to myself: 'What if I make mistakes?' and I competed (with my friends). And the competition made me study harder."

The relationship between the leaderboard scores and the students' practice is another contribution of gamification. Some students stated that the leaderboard increased their practice in the foreign language, as illustrated in the following excerpt:

Excerpt 53:

"I did (the activities) again and again; my knowledge was reinforced."

Facilitation is regarded as another contribution of gamification. According to some students, gamification facilitated their language learning endeavor as demonstrated in the following excerpt:

Excerpt 54:

"Gamification not only makes English more appealing, but it also makes learning easier."

Gamification elements seemed to have a scaffolding function as well. As put by one of the participants, it could help students' production outside the online course:

Excerpt 55:

"I checked my errors in the (feedback) system, and as I checked, I learned the structures etc. And this helped me speak and write in the exams and classroom."

Comfort in the online course, as opposed to anxiety, was also linked to language learning in some students' responses. One of the participants summarized an outcome of feeling comfortable as follows:

Excerpt 56:

"(Gamification) made me comfortable. I overcame my fear of making mistakes."

Curiosity was also linked to language learning. It seemed to help students be engaged with the system and increase their motivation, as demonstrated in the next excerpt:

Excerpt 57:

"Rewards make the activities more enjoyable; we are curious about (what it is going to happen at) the end and we are not bored…. I like the rewards."

The participants were also asked which gamification element(s) they thought contributed to their language development.

Table 42

Comparison of the Contribution of Gamification Elements

	Agree		**Undecided**		**Disagree**	
	f	**%**	**f**	**%**	**f**	**%**
Activity Completion	18	95	1	5	-	-
Progression	15	79	4	21	-	-
Emotions	15	79	3	16	1	5
Feedback	15	79	3	16	1	5
Leaderboard	14	74	3	16	2	11
Badges	13	68	2	11	4	21
Cooperation	12	63	6	32	1	5
Constraints	10	52	6	32	3	16

As shown in Table 42, all the elements of gamification were thought to have a positive effect in the participants' foreign language learning, with some having higher rates than others. At the top of the list is activity completion; it was regarded as the element which contributed to the participants' development as language learners most (n. 18, 95%). There was only one undecided participant, with no disagreeing students. It is followed by progression (n. 15, 79%), which had only 4 undecided students, and there were no disagreeing participants either. The remaining elements, namely emotions, feedback, leaderboard, badges, cooperation, had slightly similar rates.

An interesting finding is that leaderboard was regarded as the most favorite one of the elements (Table 29), and yet it is in the middle of the list showing the elements with most contribution to ELT. Similarly, although progression was not a highly favorable element, it is thought to have a significant contribution to the students'

foreign language learning. Constraints were at the bottom of both lists and it is followed by cooperation.

4.5. Findings from the Teacher's Notes

Three major findings emerged from the teacher's observations and notes. First, as demonstrated in the findings above, most of the students were eager to do the online activities throughout the semester. The students started doing the activities right from the beginning of the lesson each week and stayed on track until they finished them. In other words, the students could have surfed on the Internet for other purposes such as watching videos or doing some personal stuff rather than logging into the online English course and doing the activities thereof; however, we did not have such a problem throughout the semester. This does not mean that the students did not surf on the other websites. In fact, there were a number of occasions where the students logged on other websites, but when we examine the Moodle logs and activity completion tracks, it is possible to claim that such extra activities did not impede the students' engagement in the online course.

The other finding was related with the students' scores in the leaderboard. As indicated above, it was possible to redo the activities in the online course. For some students, redoing the tasks could reinforce learning, as was stated in Excerpt 16; however, we observed that there were some others who wanted to be on the top of the leaderboard every week and thus beat their classmates. It may be quite normal to have a competitive atmosphere in the classroom especially when the leaderboards were announced, but as all the students in the study stated that they redid the activities to receive higher grades, with differences in frequency (See Table 37), the scores in the leaderboard could be *misleading*.

Finally, it was a common phenomenon to see some students help each other while doing the online activities, especially with the unknown words and sometimes with the correct answers of the quizzes. Again, this could lead us to question the reliability of the scores in the leaderboard, and, more importantly, of the quality of engagement for at least some of the students. When we investigated this issue in the questionnaires and interviews, we found that although there were many students who did the activities with the help of other students, it does not necessarily translate into cheating and low-quality engagement for the majority of the participants (See Table 32).

4.6. Findings from the Interviews

The participants were interviewed at the end of November, when they had better grasp of the system, and at the end of December, when the study was completed. Both interviews were carried out in groups.

The interview questions were designed in accordance with the research questions and according to the findings received from the questionnaire, and they focused on the following:

- the participants' perceptions of the gamified VLE
- the gamification elements and
- the relationship between gamification and English language learning.

The participants indicated that they appreciated the application for several reasons as shown in Table 43.

Table 43

Overall Perception of the Gamified VLE

Key Words	f
Fun	7
Instructive	1
Memorable	1
Technical glitches	1

The most commonly expressed reason in the interviews is that the gamified online course was fun. There were also comments on the system being instructive and memorable, but it was also noted that it included some technical glitches such as the problems with the headphones.

The participants were also asked about their perceptions of the gamification elements. The first element is **activity completion (content unlocking)**:

Table 44

Perception of Activity Completion (Content Unlocking)

Key Words	f
Appreciation	10
Would skip without it	9
Engaging	5
Motivation	2
Scaffolding	2
More effort	1
Boring	1

As shown in Table 44, the participants' perceptions of the activity completion were mainly positive. There were many comments depicting the participants' appreciation of this element.

Excerpt 58:

"(It is) instructive and fun."

The participants were invited to think about the consequences of having all the activities available, without the activity completion condition. The reactions were mostly negative. It was stated that activity completion established an effective organization and helped the participants follow a sequence. In addition, many participants indicated that they would skip the activities without activity completion, as revealed in the next excerpt:

Excerpt 59:

"We once experienced that (when all the activities were available); we skipped some activities. But when there was a sequence, we couldn't do one before finishing the other. Students' psychology!"

There were many comments from the participants about skipping the activities. Some students stated that they would skip the speaking activities and some others noted the risk of passing the activities without understanding them. At this point, a student stated that activity completion set a target for them:

Excerpt 60:

"(Without activity completion) I would not try to do (the activities); there wouldn't be an aim."

In response, we reminded the student: "But you already have an aim: to learn." The student's response emphasized the motivating function of the activity completion element:

Excerpt 61:

"Yes, but when you move to a new section, you become more motivated."

This is another commonly expressed feature of activity completion; as revealed in the following excerpt, it motivated the students to complete the activities:

Excerpt 62:

"If, for example, the first unit is available and you have completed it, you have a desire to do the second unit as well."

In addition, surprise and curiosity aroused by the obscurity of the next activity to unlock seemed to have an engaging function for some students:

Excerpt 63:

"You constantly give us different things; we don't know what it will be. We have to receive a grade for that, and it requires more effort. They are facilitating learning at the same time."

Moving step by step in the online course as a result of activity completion was also appreciated. The following excerpt displays appreciation of the scaffolding provided by this element clearly:

Excerpt 64:

"You cannot have a building without a foundation. We cannot move to an activity without completing the one (at hand). The first activities each week are easy, and then they gradually become harder."

In spite of all the above positive perceptions, activity completion condition received a serious criticism from one of the participants. As illustrated in the following excerpt, having to pass an activity in order to move forward might be boring as well:

Excerpt 65:

"Sometimes you become bored and want to move from one activity to the other, but you can't, so you want to log out. I do the ones that I know, and turn back (for the rest), of course. But this is a problem."

The next gamification element to be discussed in the interviews was **progression**. It was shown by two boxes in the online course: the ones next to the activities and the ones in the Progress Bars. The check and cross marks in these boxes revealed the complete and incomplete activities in the online course, respectively. The participants' perceptions of the element of progression were mostly positive (Table 45).

Table 45

Perception of Progression

Key Words	f
Checking	6
Appreciation	5
Noticing incomplete activities	5

Several students stated they looked at both of these check marks. In this respect, it is possible to state that the check marks were used as a guide by many participants, as indicated in the following excerpt:

Excerpt 66:

"I check the incomplete ones, and I do (the activities) by following them."

The cross mark in the boxes not only revealed the incomplete activity, but also led the students to the activity when clicked. As demonstrated in the next excerpt, the participants appreciated the easiness of navigating to the incomplete activities:

Excerpt 67:

"It (clicking on the cross mark) directly opens (activity); we don't have to search (for it)."

In line with the findings of activity completion, progression seemed to make an important contribution to their engagement in the online activities. Many students sated that they would skip or miss some of the activities if there had not been the check marks next to them, as indicated clearly in the following excerpt:

Excerpt 68:

"(Without the progress bars) we would just glance over (the activities) and could not find them (the incomplete ones) back."

Similar to progression, **leaderboard** was also perceived positively by most of the participants. As revealed in Table 46, the most frequently expressed notion is that the participants redid the activities after they had checked their scores and rank in the leaderboard.

Table 46

Perception of Leaderboard

Key Words	f
Redoing the activities	7
Checks	5
Fun	5
Awareness	4
Competition	3
Noticing mistakes	2
Cheating	1

Many students stated that they did the activities in order to increase their scores and thus their position in the leaderboard, as shown in the next excerpt:

Excerpt 69:

"If (my score is) bad, I redo the activities many times."

Fun is also regarded as an important aspect of leaderboard. Many participants stated that leaderboard added fun into the online course. In addition to having fun, some students also noted the awareness-raising function of leaderboard, as shown the excerpt below:

Excerpt 70:

"We see how much we have learned. We look at (the scores of) the activities of the previous weeks, and check if we can make progress in terms of listening etc."

As its name suggests, leaderboard is usually characterized by the competitive atmosphere it creates. This particular feature is criticized by a student as demonstrated in the following excerpt:

Excerpt 71:

"It is much more motivating to log in (to the course) in order to learn rather than to compete with someone."

As a response, another student stated that they could do them both at the same time:

Excerpt 72:

"We log in (to the course) in order to learn; we compete as we learn."

A final excerpt in this respect shows another dimension of the competition; it is possible to compete with self using the leaderboard:

Excerpt 73:

"I use the leaderboard not just for competing, but I use it to see where I am. And I evaluate my position not according to my friends, but according to the grades I received."

Another benefit of the leaderboard according to the students' responses is that as the students redid the activities they were able to notice their mistakes and to improve themselves, as the next excerpt suggests:

Excerpt 74:

"You see your mistakes. By redoing the activity next time you can correct your mistake."

Similar to the questionnaire results (see Tables 20, 24 & 37), the findings of the interviews reveal that redoing the activities is a common practice among the participants, and one of the reasons is increasing the scores received in the activities, and consequently the grades and ranks in the leaderboard. However, the participants admitted that there might be a room for cheating in the online course. In this respect, one student criticized the way of redoing the activities as follows:

Excerpt 75:

"You write down (the answers), take note, and you can cheat."

In response, some students stated that they did not simply copy and paste but were actually involved in the activity again:

Excerpt 76:

"No, I don't take notes. I redo. I re-listen."

Another student noted the noted the facilitating aspect of these multiple attempts:

Excerpt 77:

"We constantly do this (repetition), but we also learn when we redo."

As can be seen in the students' comments above, leaderboard is a controversial gamification element. However, it is possible to state that it was highly appreciated and found useful by many students as well.

After the leaderboard, the **badges** were discussed in the interviews, which also seem to be a controversial element of gamification. As shown in Table 47, they are regarded as motivating by some students, and yet some others criticized it for being not so necessary.

Table 47

Perception of Badges

Key Words	f
Motivating	3
Unnecessary	3
Needs variety	2
Not salient	1

Badges were also criticized for lacking diversity and for not being salient. A student compared some gamification elements, namely leaderboard, progress bars and badges, in terms of their saliency. As shown in the excerpt below, badges were regarded as the least noticeable of the three:

Excerpt 78:

"These things tell you where a student is, and they attract the attention of everyone, but the badges are the weakest of them. Leaderboard is the most striking one; everyone takes a look at it, but badges are the least salient."

The **constraints** were the next element of gamification that was discussed in the interviews. The students expressed their appreciation of this element due to its role in helping the students to prepare for the exams in the classroom (Table 48).

Table 48

Perception of Constraints

Key Words	f
Preparation for exams	4
Concerns	2

They wanted to have time-limited activities in the online course as there were similar tests in the preparatory program, and such activities helped the students to think and act in a limited time. On the other hand, there were some concerns about the time-limited activities too. Some participants reported technical problems regarding the headphones and low Internet speed, which seemed to increase the extent of the constraint for them.

Another topic that was discussed in the interviews was the preference of the format of the online course. The participants were asked whether they would prefer to have the non-gamified version of the online course in the spring semester (Table 49). Many students stated that it would be better to continue in the same fashion.

Table 49

Perceptions of Non-Gamified Version

Key Words	f
Not preferable	9
Boring	8

The following excerpt illustrates the common reaction of the students against the non-gamified version:

Excerpt 79:

"Non-gamified? There is nothing (in it) then!"

An interesting quote from one of the students demonstrates how gamification could change the way students perceive the online course:

Excerpt 80:

"It would become a test."

The student likened the *non-gamified* online course to a test although most of the activities in the *gamified* version are already in the form of a test. Similarly, another

student likened the *non-gamified* online activities to a Word document, referring to the possibility of boredom without the gamification elements:

Excerpt 81:

"It would be a Word file then."

A final excerpt in this line summarizes many participants' perceptions of the non-gamified version, which again refers to the potential dullness of the application:

Excerpt 82:

"We would be having here exactly the same things in our books."

In addition to the previous questions, the interview also explored the relationship between gamification and ELT. The participants were invited to evaluate whether the presentation of the online course in a gamified fashion contributed to their foreign language learning and development. The following key words were extracted from the participants' expressions:

Table 50

Gamification and ELT

Key Words	**f**
Motivation	6
Facilitation	4
Awareness	2
Fun	2

As revealed in Table 50, there were positive comments on the effects of gamification on foreign language learning and the most commonly stated traits of the system is motivation. The increased motivation, in the students' perceptions, seemed to have an indirect contribution to language learning as indicated in the extract below:

Excerpt 83:

"As games (elements) attract our attention, they lead us to the language. Gamification had a contribution in this respect."

The increased practice opportunities were regarded as another contribution of gamification according to the students. One of the participants noted the facilitating effect of gamification on language practice as follows:

Excerpt 84:

"We always do the activities, and we learn as we do them."

Confirming the above advantages of gamification in terms of increased opportunities to practice the foreign language, another student stated that gamified online course provided more listening practice than the face-to-face classroom, as indicated in the following excerpt:

Excerpt 85:

"One of our teachers said 'Train your ears.' We don't have so many chances to listen in the classroom lessons; we only listen twice and move on. But here, it's different."

Fun is regarded as another dimension of the contribution of gamification, as indicated in the following excerpt:

Excerpt 86:

"Such things are a little more enjoyable. Adding fun, they showed us how we could learn."

Gamification is considered to have an awareness-raising function as well. The students noted that they were able to compare their positions not only with their classmates but also with their own previous performances:

Excerpt 87:

"We see our level, how much we have learned. Besides, we look at the previous week's activities to see if we have made a progress in terms of listening etc. We could make comparisons with the previous weeks. Moreover, we could compare ourselves with the others."

Another dimension of awareness-raising is to learn from the mistakes. As it is possible and a common practice for many students to redo the activities, it seemed to help the students learn lessons in these repetitions, as indicated in the following excerpt:

Excerpt 88:

"We learn our mistakes when we repeat (the activities)."

Two of our concerns about gamification were also touched on in the interviews. The first one is related with the quality of the repeating the activities, and, more

specifically, the possibility of cheating, especially when redoing the activities for higher grades. Some participants' responses confirmed that it was possible to cheat in the online course, as shown in the next excerpt:

Excerpt 89:

"Sometimes one of the students tries out and the others could select the correct answers by looking at him/her."

On the other hand, parallel to the findings in Table 32, most students in the interviews stated that they had done the activities by themselves.

The other concern was related with the anxiety in the online course. Five participants stated that they felt anxious in the time-limited activities. In addition, leaderboard seemed to create anxiety for three participants in the interviews. One of the students indicated this concern as follows:

Excerpt 90:

"It disturbed to see (myself) at the bottom."

It was expressed by the students that anxiety was also related with the teacher. When we reminded that this was actually a personal undertaking, regardless of the teacher taking the class, they stated that a strict teacher would increase the anxiety level in the online course as well, as the next excerpt indicates:

Excerpt 91:

"Anxiety is a bit related with the teacher as well. If teacher (A) were here, I would turn the monitor to me (away from him/her to hide my scores)."

The teacher's attitudes, in this respect, could be regarded as a contributory factor in online learning. Although the students were enthusiastic about the gamified online learning, they referred to the teacher factor without being asked about it.

4.7. Findings from the Moodle Tracking System

Moodle Tracking System computed data from three tracking tools, namely the Logs, Activity Completion Report and Course Dedication. The following sections present the findings obtained by means of these tools.

4.7.1. Findings from the Logs

The logs display the total number of user activities in the online course, such as views, attempts, continued attempts, reviews, submissions, posts, and closing. The findings of the logs indicate, in the first place, that the participants stayed on track until the end of the semester and there were no dropouts or a significant decline in the number of logs throughout the 12-week, 5-Unit gamified online course.

Secondly, the *measured logs* of the participants were compared with the *estimated logs*. In other words, the actual number logs of the users calculated by the Moodle tracking system were compared with the projected number of logs calculated with the assumption that all the participants have completed all the activities in each skill with one attempt. As stated previously, there were five different types of activities in each skill: *Engage*, *Explore*, *Task*, *Reflect* and *Can-do Statements*, with some skills including two *Tasks* and others having two *Explore* activities. The content of the online activities, in line with the Bloom's Taxonomy of Educational Objectives (Bloom et al., 1956), were hierarchically organized, starting from lower-order cognitive skills to higher-order skills that require more sophisticated, deeper learning, and creative process, which were appreciated by the students. Table 51 below demonstrates the activities in each skill as well as the number and types of logs that are necessary to regard these activities as completed.

Table 51

Estimated Minimum Number of Logs for a Skill

Activity	n of Logs	Type of Logs
Engage	1	View
Explore	4	View, Attempt, Review, Close
Task 1	4	View, Attempt, Review, Close
Task 2	3	View, Submit, Review
Reflect	4	View, Add, Review, Close
Can-do Statements	2	View, Submit
Total	**18**	**-**

The total number of logs equals 18 when all the activities in a particular skill are assumed to have been completed with minimum number of logs – in one attempt. As there are four skills in each unit and five units in the online course, the total number of

logs of a student who has completed all the activities in each unit should be 72, and the total number of logs for the whole online course should be 360 (Table 52).

When these figures were estimated for all the participants of the study, again with the assumption that all 19 students have done the activities, there should be 1368 logs for each unit, 6840 logs for the whole online course.

Table 52

Estimated and Measured Number of Logs

	1 Skill		**1 Unit**		**5 Units**	
	Estimated	**Measured**	**Estimated**	**Measured**	**Estimated**	**Measured**
Individual	18	50 (a)	72	200 (a)	360	998 (a)
All Participants	342	950 (a)	1368	3793 (a)	6840	18966

The number of measured results of logs, however, is substantially different from the estimated numbers (Table 52). First of all, apart from one exception (see Appendix 7), all the students in the study had more logs in each unit than the estimated logs. In addition, the measured logs indicate that on average the participants had almost three times as many logs as the estimated number of logs when we take into account the figures for the whole five units of the online course. an interesting finding at this point is that when examined on an individual basis, the measured logs suggest that even the student with the fewest logs had almost twice as many logs as the estimated individual numbers, considering the five units (see Appendix 7).

In addition to the above comparisons of estimated and measured logs, the total number of logs within units was also analyzed and fluctuations were observed in the number of logs (Figure 19), with some units having more logs than others.

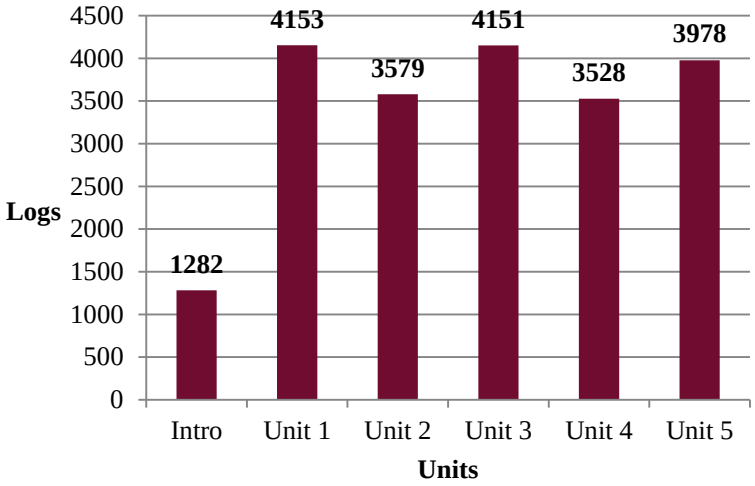

Figure 19. Logs and units

When the units are examined more closely, it can be seen that there are also differences in the number of logs even between weeks (Figure 20).

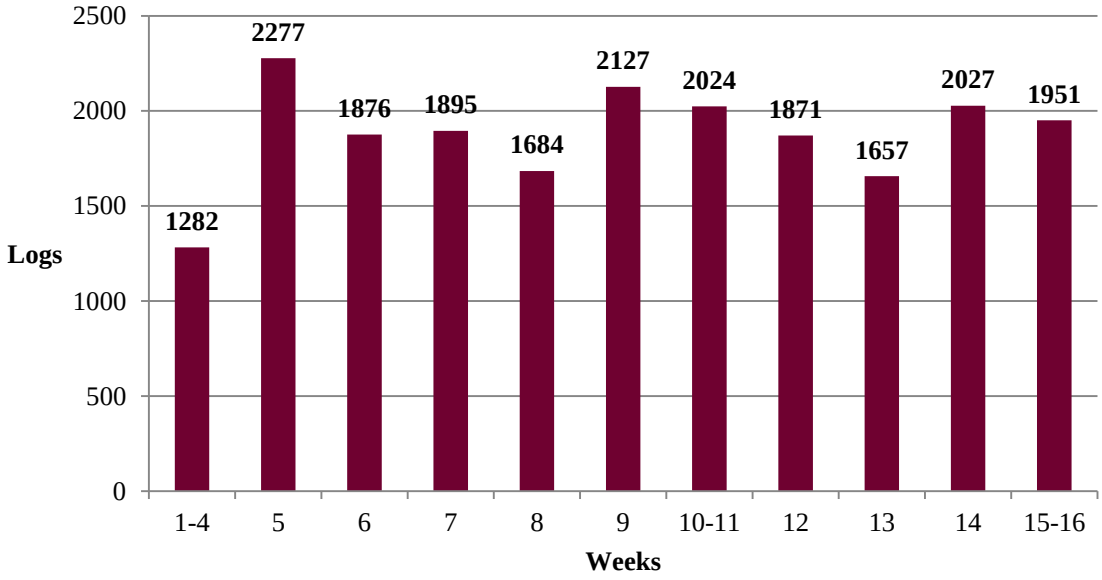

Figure 20. Logs and weeks

The sharp rise in Week 5 could be explained by the excitement of the first encounter with gamification after the first four weeks of induction courses. As for the other weeks, the differences were systematic, and they seemed to result from the skills dealt with in each particular week. To be more precise, the first set of skills in each unit, reading and writing, (Weeks 5, 7, 9, 12, and 14) were viewed more than the second set, listening and speaking, (Weeks 6, 8, 10-11, 13 and 15-16).

Regarding the above analyses, it should be noted that the findings from Weeks 10-11 and 15-16 were evaluated together in Figure 20 because only one skill was covered instead of two during these weeks due to the curricular requirements. For example, Listening 3 was dealt with in Week 10 and Speaking 3 was covered in Week 11.

A final analysis made by the logs relates to how many times the participants viewed the badges, leaderboards, cups and certificate, which were not taken above in the above analyses.

Table 53

Number of Views of the Badges

	Unit 1	**Unit 2**	**Unit 3**	**Unit 4**	**Unit 5**
Full Star	15	16	4	11	15
Half Star	6	13	10	7	4
Hollow Star	7	7	3	10	1
Total	**28**	**36**	**17**	**28**	**20**

The results in general seem to confirm the findings in the questionnaire and interviews concerning redoing the activities in order to get a better badge. Table 53 reveals that many participants received more than one badge. As the badges could only be seen if awarded, this could possibly mean that these participants tried to get a higher ranking badge when they received a lower one. Considering that there were 19 students in the online course, the total number of views of the badges also appears to support this conclusion.

Table 54

Number of Views of the Leaderboards

	Unit 1	**Unit 2**	**Unit 3**	**Unit 4**	**Unit 5**	**Overall**
Leaderboard	57	85	99	53	26	49

The leaderboards were also viewed more than once by many students, as indicated in Table 54. Again, the number of logs differs according to the week, but the results seem to confirm the participants' positive perception of the leaderboard (see Tables 22 & 46).

Finally, the gold cup was viewed 17 times, and the course certificate was seen 41 times by the participants. It is, therefore, possible to suggest that these external rewards attracted the attention of the participants and that the participants were more interested in the course certificate.

4.7.2. Findings from the Activity Completion Report

The Activity Completion Report generates in one web page the list of all the participants and all the activities in an online course, displaying which activities are complete, incomplete, and unattempted, with check marks, crosses, and blank boxes, respectively. It is the detailed version of the activity completion marks and progress bars that show which activities are complete in an individual participant's Moodle page.

There were 137 activities in the online course in total, and the Activity Completion Report reveals the completion conditions of these activities, including the views of badges and leaderboards.

Table 55

Activity Completion Report

137 Activities	**Number of Completing Participants**
130 and above	12
120-129	4
100-119	2
Fewer than 100	1

The findings indicate that out of a total of 137 activities, only a few remained incomplete for the vast majority of the participants (Table 55). Only one student had 80 complete activities and the rest of the participants completed more than 100 activities.

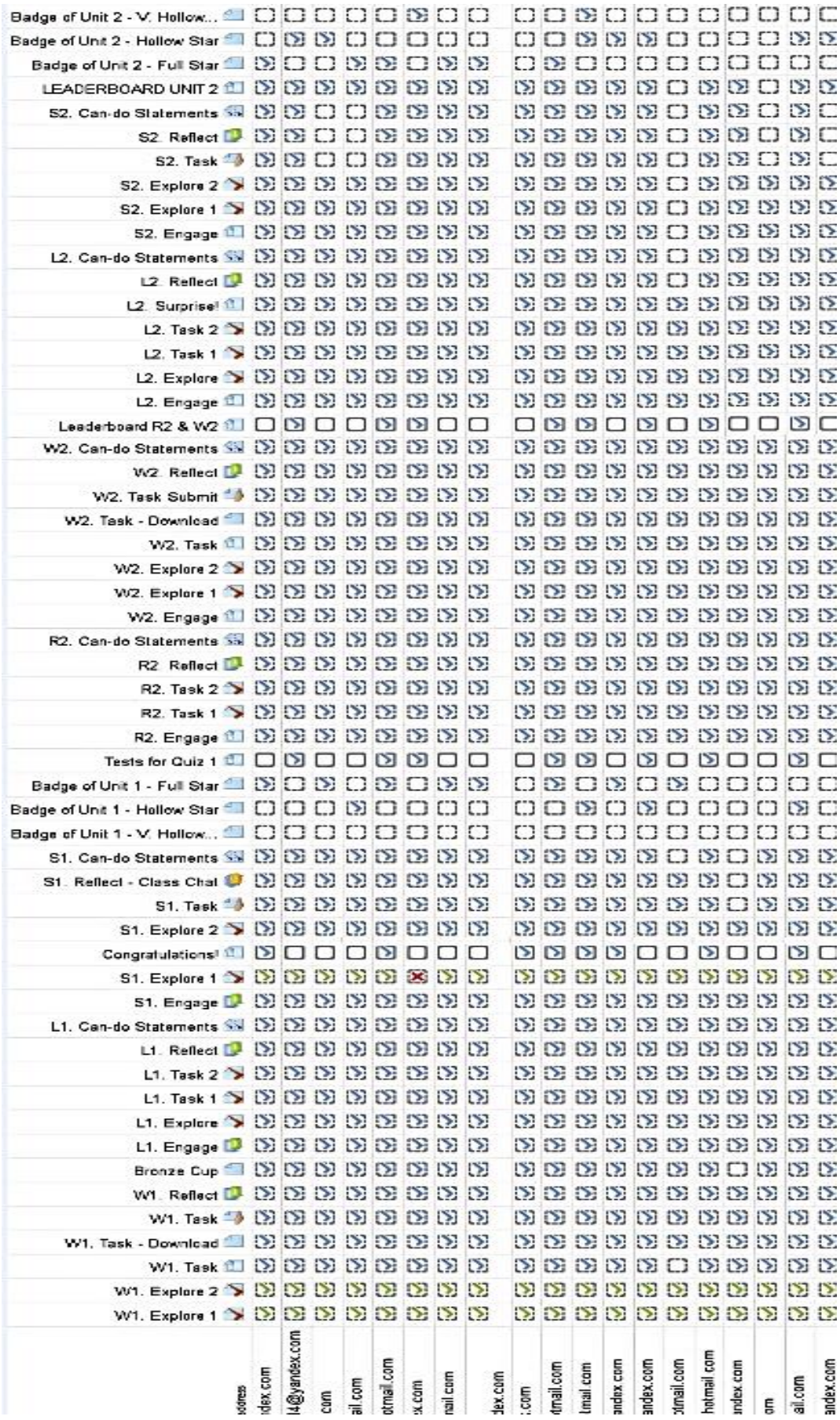

Figure 21. Activity completion report

Figure 21 illustrates a small section of the Activity Completion Report covering only the Units 1 and 2, which enables us to see the conditions of activities. The whole report (see Appendix 8) generates a visual representation of the progress of participants, which supports the finding that the participants completed a vast majority of the online activities.

4.7.3. Findings from the Course Dedication

The Course Dedication displays the estimated time each participant dedicated for the online course and helps us to analyze the total dedication time, mean dedication time and connections per day within the online course. The findings reveal that the students spent a total of 328 hours, with an average of 17 hours and 20 minutes, on the online course.

Table 56

Course Dedication Time

Students	Dedicated Time
Student 1	31 hours 40 mins
Student 2	21 hours 58 mins
Student 3	19 hours 59 mins
Student 4	19 hours 12 mins
Student 5	19 hours 12 mins
Student 6	19 hours 8 mins
Student 7	18 hours 38 mins
Student 8	17 hours 47 mins
Student 9	17 hours 8 mins
Student 10	17 hours 2 mins
Student 11	16 hours 59 mins
Student 12	16 hours 36 mins
Student 13	15 hours 34 mins
Student 14	14 hours 39 mins
Student 15	13 hours 46 mins
Student 16	13 hours 14 mins
Student 17	12 hours 9 mins
Student 18	12 hours 2 mins
Student 19	11 hours 35 mins

Table 56 displays, in descending order, the total dedication time for each student throughout the study. In order to have a clearer understanding of the dedication time, we estimated a total dedication time a student is supposed to devote for the online course when s/he is to complete all the activities thereof, considering all the activities have been completed with minimum number of logs – one attempt.

Table 57

Estimated Minimum Course Dedication Time per Skill

Activity	Minute	Type of Logs
Engage	2	View
Explore	5	View, Attempt, Review, Close
Task 1	5	View, Attempt, Review, Close
Task 2	7	View, Submit, Review
Reflect	5	View, Add, Review, Close
Can-do Statements	2	View, Submit
Other (Leaderboard, Badges, etc.)	4	View
Total	**30 mins**	**-**

As illustrated in Table 57, a student is supposed to spend 30 minutes on a skill, 2 hours on a unit, and, therefore, a total of 10 hours on the entire online course.

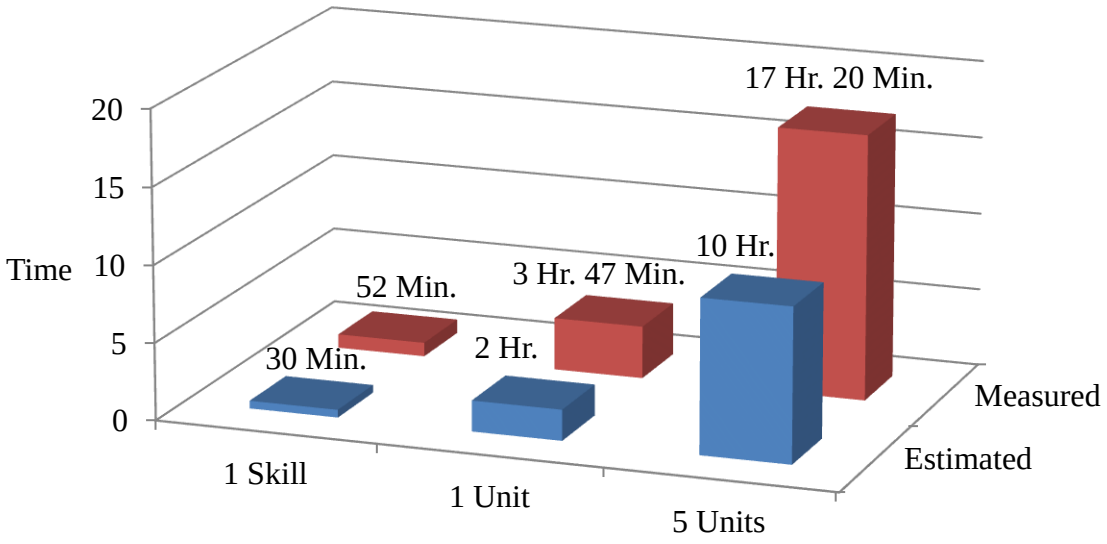

Figure 22. Estimated and measured dedication time (in hours)

The measured course dedication time, on the other hand, is considerably higher than these figures, with an average of 17 hours and 20 minutes (Figure 22). Even the

student who spent least time on the online course dedicated more time (11 hours and 35 minutes, see Table 56) than the estimated average time (10 hours) for the entire course. These results suggest that the students devoted extra time to the online course, confirming the findings concerning the increased engagement of the students (see Tables 31 & 34).

CHAPTER V

DISCUSSION

5.1. Introduction

This is a descriptive study that aims to investigate effects of gamifying online foreign language courses on the motivation and engagement of learners. The study was further concerned with the effects of different game elements on foreign language learning. The following research questions were explored in the study:

1- What are the EFL learners' perceptions of the gamified online courses?
2- Do gamified online courses increase the motivation of EFL learners?
3- Do gamified online courses increase the engagement of EFL learners?
4- What sort of gamification elements are appreciated most by EFL learners?
5- Do students think that gamification has an influence on their language learning? If so,
    a) in what ways?
    b) which of the components of gamification do learners attribute this influence to?

In order to find out answers to these questions, six data collection tools were administered. These were a computer readiness scale, student diaries, questionnaire, teacher's field notes, interviews and online tracking system.

5.2. Evaluation of the Research Questions

In this section, the findings obtained from the data will be evaluated using the research questions as a framework. The findings of the study will also be discussed on the basis of their relevance to the theories proposed on gamification as presented in the literature review.

Research Question 1: What are the EFL learners' perceptions of the gamified online courses?

The results obtained by means of the students' diaries, questionnaires, interviews and teacher's field notes indicate that a vast majority of the participants appreciated the gamified online language learning course, a result which coheres with

the findings of the gamification studies in educational contexts (Hamari et al., 2014). Besides, the online course was regarded as useful, facilitating learning, appealing, fun, motivating, awareness-raising, competitive, memorable, and good for exam preparation (see Tables 8 & 43).

Apart from a few technical glitches such as the low Internet speed and problems with the headphones, there were no any significant systemic problems concerning the VLE. Furthermore, all the participants stated that the online system was easy to learn and use.

The results reveal a strong preference for the gamified version of the online course, compared to the non-gamified version (see Tables 35 & 49). A combination of different factors such as fun, comfort and enjoyment found in the gamified course seemed to have affected this preference. In addition to these findings, the possibility of boredom in the non-gamified version is one of the most commonly cited concerns of the participants. Some of the participants' preference for the non-gamified version seems to result from the differences in their learning styles as well as personality types and their indifference to the game concept.

To sum, we may suggest that the participants held positive views toward the gamified online courses. This finding may have its roots from the above qualities of the gamified online courses. In addition, the ages of the students as well as their interest in and familiarity with the technology and games could also have contributed to their positive perception of gamified online courses.

Research Question 2: Do gamified online courses increase the motivation of EFL learners?

The results of the study point out that the gamified online course increased the motivation of the vast majority of the participants (see Tables 30 & 33), which confirms the positive findings of previous research concerning the relationship between gamification and motivation (Abramovich, Schunn & Higashi, 2013; Hamari et al., 2014; Hasegawa, Koshino, & Ban, 2015; Osipov, Nikulchev, Volinsky & Prasikova, 2015; Perry, 2015). Among the game elements, activity completion (content unlocking), progression, leaderboard, badges, feedback, fun and competition were regarded as the common motivators by the majority of the participants.

An interesting finding concerning motivation is that a few students stated that they would be as motivated as they were in the online course if had not been gamified.

In other words, the form of the online course – gamified or non-gamified – did not matter for only a few students. For the majority of the participants, however, gamification seemed to have had a significant positive influence on their motivation (see Table 33).

The reason behind these findings might be that game elements contributed to motivation of students by satisfying different psychological needs, namely autonomy, competence and relatedness, as indicated in SDT framework (Landers et al., 2015; Richter et al., 2015). For example, activity completion, progression, feedback, leaderboard and badges seemed to address the students' *autonomy needs* by helping them to realize their current position and to plan their future studies accordingly and advance as independent learners. These very elements may also have referred to the students' *competence needs*, which is associated with improved task performance (Landers et al.). In other words, the students expressed that they felt competent as they saw themselves unlocking new activities and progressing through the activity steps, which created a desire to go through the next levels. Receiving feedback on their correct and incorrect answers and trying not to repeat the mistakes may also have contributed the students' competence needs. Receiving higher level badges and higher ranks in the leaderboard can be regarded as a contributory factor to the competence need as well. As for the *relatedness needs,* the cooperative activities, and to some extent leaderboards, seemed to help students feel close to and connected to other learners in the online classroom.

It is also possible to refer to Fogg's Behavior Model to understand the increased motivation of the students in the gamified online course. According to this model, as suggested by O'Donovan et al. (2013), for any behavior to occur, a person has to have a certain level of ability and motivation (activation threshold). Once this threshold has been reached, a trigger will be effective and the desired behavior will be induced. Gamified online course can be said to work within this model. First of all, the activities in the gamified online course were relevant to the needs and abilities of the students. Different gamification elements, such as activity completion, progression, leaderboards, badges, feedback, seemed to serve as triggers that activated the motivation of the students to carry out the activities in the online course.

Within the gamified online courses, as suggested by Muntean (2011), it was possible to find two kinds of motivation, extrinsic and intrinsic. On one hand, some participants noted the positive influence of external rewards such as badges and cups.

On the other hand, activity completion and progression seemed to enhance intrinsic motivation of the participants by building sense of achievement and mastery. These elements were reported to help the learners realize that they were making progress and that they could succeed, and they seemed to arouse interest and increased confidence and satisfaction as suggested in Keller's ARCS model (Keller, 1983). Other elements such as feedback, leaderboard and cooperation were also likely to increase intrinsic motivation as they addressed the autonomy, competence, self-determination, and sense of belonging of the participants, as indicated in SDT motivation taxonomy (Landers et al., 2015).

Contrary to the general criticism directed at gamification for having a negative effect on intrinsic motivation by providing extrinsic rewards (Haaranen et al., 2014), it is difficult to establish such a negative correlation according to the findings of this study. It is possible to cite some reasons for this conclusion. First, considering the badges and cups, the reason might be the age factor. Although the extrinsic rewards such as badges and cups were appreciated and found useful for motivation and engagement, they were also regarded by some learners as childish, unrealistic, and unnecessary. Moreover, a significant number of participants noted that they would be just as engaged and motivated without the badges. Therefore, it is possible to suggest that such reward conditions were not regarded as a fundamental component of the gamified online course by the majority of the tertiary level students. Besides, feedback – in the form of grades and correct and incorrect answers – can also be regarded as an external reward, but as Brown (2007) puts it, it seems to have led to increased feelings of competence and self-determination and furthered intrinsic motivation for many participants. Therefore, it is possible to suggest that the presence of such external rewards did not seem to be necessarily detrimental to intrinsic motivation of the learners.

To conclude, gamified online courses seemed to improve the students' motivation and it is possible to see both extrinsic and intrinsic motivation, and sometimes a mixture of both, as indicated by Landers et al. (2015), operating within gamification design.

Research Question 3: Do gamified online courses increase the engagement of EFL learners?

There were few participants who disagreed that and were undecided whether gamification increased their *motivation*, but when it comes to *engagement* there were no exceptions: all the participants in the study agreed that gamification increased their engagement in the online course (see Table 31). The findings are parallel with the previous research findings which indicate that gamification had positive effects on student engagement (Anderson et al., 2014; Cheong et al., 2013; Da Rocha Seixas, 2016; Hamari et al., 2014; Ibanez et al., 2014; Li et al, 2012; Osipov et al., 2014; Palomo-Duarte et al., 2014).

As stated above in Research Question 2, gamification made an important contribution to the participants' motivation; however, it is possible to claim that its contribution to their engagement is relatively bigger. A significant number of participants were undecided about whether they would be as engaged as they were if the online course had not been gamified (see Table 33). It is clear that although there were some students for whom the form of the online course – gamified or non-gamified – did not matter, gamification had an important influence on the engagement levels of a significant number of participants. The findings obtained from the diaries, questionnaires, and interviews reveal that the possibility of boredom as well as the risk of skipping the activities without gamification seemed to play a decisive role in the preference of the gamified version over the non-gamified one.

The active engagement of the students is confirmed by observations and the data from the tracking system. There were no dropouts or a significant decline in the number of logs throughout the study (see Table 52). In addition, most of the students stayed on track, doing the online activities, from the beginning of the online course to the end in each lesson throughout the semester. The presence of possible distractions like other websites did not seem to impede the students' engagement in the online course.

Apart from one exception, all the students in the study had more logs than the estimated logs – a calculation that assumes all the participants have completed all the activities in the online course with one attempt (see Appendix 7). Furthermore, out of a total of 137 activities, only one student had 80 complete activities, and the rest of the participants completed more than 100 activities (see Table 55). Finally, all the students in the study dedicated much more time (17 hours and 20 minutes on average) than the estimated time necessary for completing all the activities (10 hours on average) in the entire course (see Table 56). Similar to the figures presented above, the majority of the

participants stated that they spent extra time outside the class hours to do the online activities (see Table 35).

It is possible to cite several reasons for the high engagement rates of the students in the gamified online course. First of all, the students seemed to perceive, as suggested in Vroom's Expectancy Theory (Landers et al., 2015), that their effort in the online course led to successful performance, this performance led to an outcome, and this outcome was valuable in their opinions. In other words, the students appear to have found a positive correlation between their effort and performance in the online course. If the students had thought that they would fail no matter how hard they tried, they would probably have loafed around in the computer laboratory surfing the Web, with low motivational levels (Shepperd, 2001). The students also seemed to perceive that their performance would result in a desirable reward, which appeared to address an important need (Redmond, 2015). As for the role of gamification in this respect, it is possible to suggest, as put by Landers et al. (2015), that badges, cups, certificate, reputation in the leaderboard, increased pride, a high grade in the feedback, and other forms of achievement can be regarded as the outcomes the students valued. Many students valued these outcomes and saw a clear link between their effort to their performance, and performance to the outcomes, and were motivated to engage in the action.

A second reason behind the high engagement might be the value the students attached to the gamified online course, as indicated in the Expectance Value Theory (Landers et al., 2015). The students seemed to place considerable importance on the online course in general and to express a genuine interest in the online activities, which appeared to increase not only their motivation but also engagement in the online course. The reason behind this strong belief about the importance and interest could be, in addition to above qualities concerning the gamification elements, the content of the online course. It appears that the students appreciated the content and regarded it as able to contribute to their foreign language learning and development. The content issue will be further evaluated in the Research Question 4 and 5 below.

Another link between the gamification and the engagement of the students may be goal-setting behavior (Bandura, 1991) in the online course. Various game elements seemed to help the students set goals in the online course. For example, it is a commonly expressed notion that the activities might have been skipped without the activity completion condition. The new content being unlocked after the completion of

the previous activities seemed to generate a feeling of accomplishment and competence and to provide a target to go through and finish the remaining activities in each level of the online course. Furthermore, the previous scores in the leaderboards served as a reference against which the students judged their ongoing performance, directing them to goal-relevant actions, regulating the intensity of their effort, and setting a new goal to attain each week. Badges, cups and certificate may also be regarded as goals to achieve, for which the students regulated their effort in the online course. Finally, progression or leveling-up, as suggested by Landers et al. (2015), were likely to serve as small sub-goals within the larger goal in the gamified online course. In this linear progression, beating easier levels, as indicated by Locke and Latham (as cited in Landers et al.), may also have served to boost the students' self-efficacy in the gamified online course.

A final link between gamification and the students' engagement can be explained by Csikszentmihalyi's Flow Theory (1990). The students reported that they confronted with tasks that they had a chance of completing, and that the difficulty of the tasks gradually increased with the organization of activity completion condition. These tasks had clear goals and the system immediately offered the students feedback on their performances, which helped maintain the concentration of the students throughout the activities. Moreover, the students frequently mentioned enjoyable experiences in the online course. Finally, it appeared that the sense of the duration of time was changed in the online course, with comments indicating the hours passed by in a relatively short time. All these features show the presence of a state of *flow* in the gamified online course.

In conclusion, the students were highly engaged in the online course and there were several possible reasons for their engagement. However, the quality of the student engagement might also vary, which will be discussed in Research Question 5 below.

Research Question 4: What sort of gamification elements are appreciated most by EFL learners?

Regarding the gamification elements appreciated most by the participants in this study, we found that leaderboard and activity completion were considered as the most favorite elements of gamification (see Table 29). They are followed by feedback, emotions and badges. Progression, cooperation, and constraints are in the most favorite list of only a few students.

Leaderboard is appreciated by many students as it created a competitive atmosphere which in turn led many students to put more effort, study and learn. This is in line with Landers et al. (2015), who, drawing a link between the expectancy theories and gamification, state that individuals are motivated to do specific behaviors if they value their outcomes and see a clear link between effort to performance and performance to effort. In addition, gaining some status and reputation through leaderboard in this study seemed to serve as a source of pride, which led to continued motivation, engagement and better learning, as indicated by Landers et al.

Leaderboard has its own drawbacks as well. All the students in the study stated that they redid the activities to receive higher grades, with differences in frequency (see Table 20); therefore, the scores in the leaderboard could be misleading. In addition, some students felt disturbed because of their scores being reflected in the leaderboards. Despite these disadvantages, leaderboard is regarded as the most appreciated gamification element in the study. Motivational effects of the leaderboard as well as the student characteristics and personality, such as being competitive, seemed to play a role in this high level of appreciation.

Activity completion is also a highly popular element of gamification, with many comments from the participants on its scaffolding function and on the possibility of 'skipping the activities' without it. As indicated by Kapp (2012), the scaffolding function of this element as well as the progression that comes along with it seemed to maintain interest of the students in the online activities as they moved from one activity/level to another, having different experiences and achieving success as they progressed through the online course. It is also possible to draw a link between the activity completion element of gamification and Csikszentmihalyi's Flow Theory (1990). In other words, it is possible to tailor the level of difficulty with the activity completion condition, designing the online course in a well-organized succession of the activities with gradually increasing difficulty.

The only drawback found in the study concerning activity completion is that it might be boring for some students to get stuck in an activity. In other words, having to pass an activity in order to move forward seemed disturbing for some students. This might be a case especially if the difficulty level of the activity is far below/above the skill level of the student or if a student simply does not want to do that specific activity. This brings up a rather obvious conclusion that the content of the online course is as important as, if not more so than, the design elements of the e-learning. If the content of

the online course is not relevant and efficient, as indicated in the discussion of the Research Question 3 above, activity completion is more likely to be criticized rather than appreciated by language learners. Apart from this disadvantage, overall results of the study suggest that activity completion (content unlocking) element was mostly appreciated and that it played a significant role in students' motivation and engagement in the online course.

Feedback, provided in the form of correct and incorrect answers as well as the scores after the activities were completed, was found useful by all the students with no exceptions. This corroborates the findings of Hsu et al. (2013), who state that users would like to know the immediate consequence of their behavior and they liked the gamification most when "the relationship between act and rewards is clear" (p. 431).

Being able to do the online activities as many times as a student wishes, along with the feedback provided by the system, seems to have an awareness-raising function and it helped all the students to go over the activities again when they needed. However, the concern about the leaderboard could be reiterated here; the findings indicate that it was a common practice for all the participants to redo the activities, with differences in frequency, in order to have a higher score (see Table 20). This too might be problematic in terms of the reliability of the scores and some students' gaming the system. Nevertheless, it is also stated by the participants that being able to make multiple attempts at the activities and receive feedback on them was important for their language learning. Moreover, if the students were granted a limited number of attempts, the concerns over the reliability of the scores and gaming the system could have been heightened, not to mention the increased anxiety and reduced risk-taking behavior on the students' part.

When we have a look at the affective aspect of the online course, we find that the participants made mostly positive comments about their **emotions** and **feelings** in the gamified online course. For example, majority of the participants felt comfortable in the gamified online course (see Table 26). In the same vein as the findings of Shatz (2015), freedom to fail and making mistakes recoverable not only made online course a comfortable platform but also promoted risk-taking among students. As indicated by many students, being able to make multiple attempts at the online activities helped them to overcome the fear of making mistakes and to learn from those mistakes. There was a moderate level of anxiety especially in time-limited activities; however, such constraints were appreciated and found useful by the majority due to their role in helping the

students to prepare for the exams in the classroom and to think and act within a limited time (see Table 48). It is also possible to mention the positive effects of curiosity and excitement created by gamification. Besides, a vast majority of the participants found the online course fun (see Table 27) and competitive (see Table 28). Experiencing such positive emotions in the online course seemed one of the reasons why the online course was regarded as effective by the vast majority of the participants (see Tables 39 & 40).

It should also be noted that although the students were working with one of the latest instructional designs in the field of computer-assisted language learning, they still make comments about the presence and effect of the teacher in the online course. The presence of the teacher in the e-learning and his/her attitudes toward the students as well as the online course could have an enormous effect not only on the learners' emotions and feelings but also on their behavior in the online course. As indicated by some of the students, strict attitudes from the teacher are likely to increase the anxiety level in the online course. It is possible, therefore, to suggest that the human factor will continue to shape the e-learning endeavors more than it is conceived to do.

As for the **badges**, they are appreciated by the majority of the students (see Table 23) and seemed to positively contribute to their motivation and engagement, a result that echoes in the previous work concerning badges (Abramovich, 2013; Anderson, 2014). Some students also recommended making badges more diverse, as suggested by Haaranen et al. (2014). This might be due to the limited number of the badges offered in the system. There were six different types of badges (three types of stars and cups) awarded according to different performances in the online course, but it appears that a greater number of badges are asked for by some students. Another suggestion by the students about the badges is to make them more salient, the reason for which seems to be the desire to display the badge earned in the online course. According to the nature of the VLE, it is impossible to see the other students' badges as the notification of badge provision is received by the nominee only. Although it is impossible, with the software version used in this study, to make the badges more salient by displaying a miniature version of them under the profile pictures of each user, the subsequent software versions might provide a practical solution to this problem.

An interesting finding concerning badges is that despite their appreciation, a significant number of participants stated that they could be just as motivated and engaged in the online course if there had been no badges in the system. Moreover, badges were regarded by many students as unnecessary, unrealistic, and even childish.

In this respect, including badges in a tertiary level online EFL course does not necessarily have to translate into undermining intrinsic motivation of the learners.

Although not among the most highly appreciated elements of gamification in the study, **progression** is considered useful by most of the participants in many ways (see Table 10). First of all, progress bars showed the students the incomplete activities. As the vast majority of the students indicated that they tried to complete all the activities and found the incomplete activities with the help of the progress bars. That is, some students used these bars as a guide for themselves and planned their future actions in the online course according to them. Secondly, it is thought to facilitate learning and to increase self-awareness, autonomy and motivation. It is therefore possible to claim that progress bars had a contribution for the motivation and engagement of the participants. There was, however, a comment indicating that the progress bars were unnecessary as the activity completion condition already makes it impossible to go to the next activity without completing the one at hand. Having said this, visual representation of progression and incomplete activities in the form of small checks and crosses seems to have worked for many of the participants of the study.

Majority of the participants noted that they liked cooperating with their classmates in wiki and forum activities and that **cooperation** contributed to their learning; however, cooperation was not among the most favorite elements of gamification. It is possible that, as stated by one of the participants, the participants preferred to compete with each other rather than cooperate, which could have resulted from the nature of such gamification elements as leaderboard and badges. In addition, mostly first-person-centered approach of the online activities as well as the traditional background of the learners (Bada & Okan, 2000) could have influenced the perception of cooperative activities and moved cooperation toward the end of the most favorite gamification element list.

Constraints, or time limited activities, received relatively low level of appreciation from the participants compared to the other elements of gamification. However, they were found useful by the majority as they helped the learners to prepare for the exams in the preparatory program and to use time more efficiently by thinking and acting in a limited time. In this respect, the contribution to time management and strategy building for the exams can be regarded as a fringe benefit the constraints provided for the students.

There were, however, some drawbacks brought by the constraints. For example, time-limits might be demoralizing for some students especially with low English skills. Besides, technical problems such as low internet speed could increase the extent of the constraint for some students.

To conclude, it is possible to state that although all the gamification elements used in the study were appreciated by the participants, some of the elements favored over the others. The reasons behind the preferences seem to have their roots in practical reasons. The favored gamification elements appear to be more useful for the students in the online course and to have fewer disadvantages in the students' opinions.

Research Question 5: Do students think that gamification has an influence on their language learning? If so,

a) in what ways?

b) which of the components of gamification do learners attribute this influence to?

The results of the study indicate that the online gamified English learning course was appreciated and found useful by all the participants except one undecided student, who stated that s/he did not like playing games (see Table 38). On the other hand, when it comes to the contribution of gamification to participants' foreign language learning, there were no exceptions; all the participants indicated that gamification contributed to their language learning, with no undecided or disagreeing students (see Table 40). The findings also suggest that the use of game elements had a significant positive influence on language learning of the students, which coheres with the previous gamification studies on foreign language learning (Hasegawa, 2015; Lam, 2013; Osipov et al., 2015; Palomo-Duarte et al., 2014; Perry, 2015).

As indicated in Research Question 4 above, the most appreciated elements are leaderboard and activity completion, and progression is close to the least favorite group, which is comprised of cooperation and constraints (see Table 29). When it comes to the contribution of gamification elements to foreign language learning, though, activity completion and progression are at the top of the list, followed by emotions and feedback (see Table 42). After these four elements come leaderboards and badges. At the end of both lists are cooperation and constraints. It is, therefore, possible to suggest that the students attached more meaning to activity completion, progression, emotions and feedback in terms of foreign language learning, rather than the surface-level game

elements leaderboard and badges, which are in fact among the most frequently used elements in gamification studies. There might be cultural reasons behind the low rating of cooperation; the students might have preferred to work individually rather than in groups as a result of their traditional educational background (Bada & Okan, 2000). In addition, the mostly-first-person-centered approach of the online activities as well as the ubiquitous competition could have shaped this preference too. Constraints are regarded as the element with least contribution to language learning. In fact, it is stated that constraints had a direct connection with the testing system in the preparatory program; however, the other elements are thought to have contributed to language learning more than the constraints.

Various reasons were cited for the positive influence of these elements. One of the most voiced reasons is the congenial atmosphere created by gamification. Fun and enjoyment were often referred to as important factors that contributed to language learning in the study. The participants were able to do the online activities in an appealing and comfortable environment, which, as opposed to anxiety that could correlate negatively with language learning (Arnold & Brown, 1999; MacIntyre & Garden, 1991), is likely to positively influence learner motivation and engagement in the online language course.

In addition to fun and enjoyment, it possible to state that motivation made a significant contribution to EFL as well. In fact, as Flores (2015) puts it, motivation is the common denominator between second language learning and gamification. Confirming this relationship, the findings of this study indicate that motivation enhanced by gamification was often connected to language learning. Many students noted that gamification increased their motivation and helped them complete the online activities, which in turn led to increased learning. In this respect, it is possible to draw a link between gamification and expectancy theories. Gamification seemed to contribute to the expectancies of success and the value the students placed on the online activities, their outcomes (Wigfield & Eccles, 2000) as the students' motivation, performances, effort, and persistence could have been quite low if they had perceived little or no contingency between their efforts, performance and outcome values (Shepperd, 2001).

Another contribution made by gamification is that it raised the students' awareness of their own processes of learning and helped them assess their own strengths and weaknesses, as a result of which they took action to improve their learning. Gamification elements, especially**,** **progression**, **feedback**, **leaderboard** and

cooperation, seemed to play a significant role in this contribution. Brown (2007) suggests that language classrooms should provide more opportunities for consciousness-raising to help learners develop a metacognitive awareness of their ongoing learning. He goes on to suggest that the learner should take appropriate action as the awareness without action will be relatively useless. It is possible to track many examples of such action in the study, especially in the form of planning of self-directed learning and taking actions as a result of the above elements.

Competition is also considered as a factor contributing positively to language learning. Created especially by the game element **leaderboard**, competition helped students compare their performances not only with the ones of their classmates' but also with their own previous positions, which led to increased self-awareness and action, and enhanced learning for many students. It should be noted, though, that competition might have downsides. As indicated above, reflecting the grades of all students might potentially be disturbing. Moreover, the students tried to increase their grades by redoing the activities in order to be on the top of the leaderboard. Therefore, this calls into question the consequences of including leaderboards in the online course design as well as the reliability of the scores. It may be quite normal to have a competitive atmosphere in the online classroom especially when the leaderboards were announced, but it can be criticized for creating an unrealistic image of student success, with some students gaming the system by redoing the activities and sometimes even by cheating in order to receive high scores and be on the top of the leaderboard, which casts doubts on the quality of the engagement of these students in the online course.

In the literature, it is possible to see examples of students' gaming the system, or cheating, in the gamified online learning. Dominguez et al. (2013), for example, state that the students reported that they could upload empty screenshots to obtain achievements in an attempt to cheat. In our study, redoing the activities in order to be over the top of the leaderboard can be regarded as an example of gamifying the system. Including leaderboards, and thus competition, in the online course might lead to such undesired behavior. This reminds us Postman's metaphor (as cited in Olson & Clough, 2003, p. 190), which suggests that "all technological change is a Faustian bargain". In other words, every advantage it brings is tied to a corresponding disadvantage.

Having said this, leaderboards and competition did not necessarily lead to such unintended behavior for all students in the study. As indicated in Chapter 4, leaderboard could reinforce learning and raise self-awareness in students by allowing them to

compare their positions not only, and necessarily, with their friends but also with their own previous performances. How students appreciate and make use of the leaderboard, therefore, depends on establishing a mutual understanding and value with the contribution of the whole class including the teacher.

It should also be noted that it was also possible for the participants in this study to upload empty files in order to pass an activity, especially the tasks, as in Dominguez et al.'s example (2013), but such attempts were not encountered. In addition to the feedback provided by the system and the teacher's monitoring and being responsive to the students' work, as Sheridan and Kelly (2010) indicates, might have played a role in the prevention of such behavior. This reminds us the importance of the presence of the teacher in e-learning, as Brenton (2009) puts it, the teacher's role in online learning "is just as important to student learning as it is in the seminar room or lecture hall" (p. 97). The degree of this presence, on the other hand, should also be taken into account as it might be more important for the teacher to be simply available for learners through a well-structured course rather than asserting his/her presence in the online classroom (Preisman, 2014), which could be detrimental to the learner-centered nature of the online course and autonomy of learners.

Increased engagement with the online activities, and thus encountering with and practicing the target language, is considered as another contribution gamification made for EFL. There is a vast literature concerning the importance of meaningful exposure to (Brown, 2007) and use of the target language (Mitchell & Myles, 2004) in terms of second language learning and development. In this study, the significant majority of the online activities were completed (see Table 55), which suggests that the students had the opportunities that could promote comprehension of input in the target language and production of target language utterances. Considering the students' statements as well as the observations of the teacher, it is possible to suggest that gamification had a significant role in the extent of engagement of the students with the activities. The motive behind the engagement might vary: the novelty the students faced when **unlocking new content (activity completion)** and the desire to move forward, sense of confidence, achievement, and mastery created by making **progress**, different **feelings** such as curiosity, interest, competition, comfort and fun, **feedback** in the form of a correct and incorrect answer or a high and low score, a high and low rank in the **leaderboard**, a higher and lower ranking **badge**, **cooperating** with others, desire to overcome **constraints**, or a sort of combination of these game elements seemed to

interact, but it is clear that gamification had a significant indirect effect on foreign language learning and development by increasing the opportunities for exposure to and production of the target language.

The facilitation is voiced as another contribution made by gamification elements for foreign language learning. It is a baldly stated phenomenon that gamification enhanced learning by scaffolding the students' efforts and giving feedback on their work. Among the main gamification elements that seemed to have an effect on this contribution are **activity completion** and **feedback.** These elements could lead the students from an activity within their immediate capability to another that builds on the previous one. Such a design is important for improving the learners' self-confidence, as a result of which they could establish a sense of achievement which could take them to the next, more difficult step (Brown, 2007). In line with the concept zone of proximal development, such leveling up makes it possible to provide relevant sequencing to develop capabilities of learners (Huang & Soman, as cited in Game to Learn, n.d.). In addition to activity completion and feedback, the participants also noted the facilitating and scaffolding function of the **cooperative activities**, indicating that this element enhanced their language learning. These results also echo in the findings of Jacobs (as cited in Ellis, 2005), who indicates that language learning is enhanced in group work as students could scaffold each other's efforts in such activities.

Comfort the students had in the gamified online course was also linked to EFL. Gamification seems to have provided the students with a comfortable environment and to help them overcome their fear of making mistakes. It is possible to see students in the online course who were willing to take risks, made errors, and learned from their mistakes as they were able to access and do the online activities as many times as they wished and to receive feedback on their performances. Considering the drawbacks of the traditional educational culture in which mistakes are stigmatized and students try not to make errors and learn to hide their failures (Lawrence-Lightfoot, 2009), providing learners with an environment in which they can try out and use newly acquired language, venture responses, and not to wait for someone else to volunteer language is likely to positively contribute to foreign language learning and development (Brown, 2007; Cervantes, 2013; Shatz, 2015). The gamified online course, in this respect, seems to create such an environment.

Finally, curiosity in the gamified online course was linked to language learning too. The findings indicate that the novelty brought by moving to new sections and

unlocking a new activity/resource aroused curiosity and increased students' motivation. **Activity completion** seems to have played a significant role in this respect.

In addition to the above findings concerning the *gamified design* of the online English course, we should also note the importance of the *content* of the instruction as well. The online English course in this study was appreciated by an overwhelming majority of the students (see Table 16); however, it is fairly unlikely to obtain such positive findings as the ones presented above if the content of the online English course were not relevant to and effective for the learners. In this context, it should be noted that adding superficially appealing game elements into pedagogically poor content and instruction will possibly make gamification a seductive and shallowly constructed concept (Järvilehto, 2015; Paul, 2015; Thorne & Watters, 2013).

In the light of the discussions above, it is important to bear in mind that "[t]echnology is not a panacea or a magic bullet that suddenly transforms all learning. The effectiveness of educational technology depends on how it is employed to meet educational goals for particular kinds of students in specific language learning environments" (Oxford et al., as cited in Torut, 1999, p. 1). Assuming gamification as a neutral educational breakthrough and uncritical adoption of gamification, as in many PBL examples of gamification (Werbach, 2014a), will probably produce superficial engagement and unintended behavior at the expense of losing certain qualities in online courses such as intrinsic motivation, meaningful engagement and reliability. It is possible to suggest, though, that gamification, when applied with pedagogically sound and relevant content as well as the availability and supervision of the teacher, could work effectively and produce positive results in terms of not only motivation and engagement of learners but also foreign language learning and development.

CHAPTER VI

CONCLUSION

6.1. Introduction

This chapter initially presents the conclusion of the study. It also draws out the implications for the field of ELT. Finally, following the limitations of the study, it covers the suggestions for future research and practice.

6.2. Conclusions

The aim of the study is to investigate the effects of gamifying online language courses on the motivation and engagement of EFL learners within the context of tertiary level preparatory English program. In order to explore the effects, various data collection tools, namely, the diaries written by the students, a questionnaire, interviews, observations and tracking system of the web site, were employed.

The overall results indicate that the learners in general appreciated the gamified online course and found it successful (see Tables 8 & 43). Various factors, including facilitating learning, effective organization, personal engagement, motivation and fun, seemed to contribute to this perception. The online course was also regarded as awareness-raising and competitive. In addition, the students found the application easy to learn and use.

Apart from some technical problems concerning the low Internet speed and headphones, there was no negative evaluation of the overall gamified online course. When asked to choose between gamified and non-gamified online course, majority of the students preferred the gamified version (see Tables 34 & 48). Multiple aspects of the gamified online course such as fun, comfort and enjoyment as well as the perceived boredom of the non-gamified version seem to interact in this preference.

The vast majority of the students were motivated to do the online activities and they were engaged in the online course throughout the semester, for which the gamification elements could be regarded as a key factor. There were no dropouts or a significant decline in the number of logs throughout the study (see Table 52). Out of a total of 137 online activities, 12 students completed more than 130 activities, and there was only one student with fewer than 100 complete activities (see Table 55). In addition, the students dedicated much more time (17 hours and 20 minutes on average)

than the estimated time necessary for completing all the activities (10 hours on average) in the entire online course (see Table 56). Although there were some students who stated that they would be as motivated and engaged in the online course without gamification, it is clear that the integration of the game elements played a significant role in the motivation and engagement of the majority of the participants.

Game elements are highly appreciated by EFL learners, and the most favorite ones are leaderboard and activity completion. They are followed by feedback, emotions and badges. Only a few students chose progression, cooperation and constraints as the most favorite game elements.

As its name suggests, leaderboard created a competitive atmosphere in the online class, which encouraged many students to put more effort to study and learn. On the other hand, the competition and especially the low scores in the leaderboard also encouraged the students to redo the activities several times in order to increase their scores, which could be regarded as an example of gaming the system and thus as a drawback caused by leaderboard. The scores in the leaderboards, therefore, may not reflect the real achievements of the students and thus they are likely to be, at least for some students, unrealistic. Another disadvantage of implementing leaderboards is that some of the students felt disturbed because of their scores being reflected in the leaderboards. In spite of these drawbacks, it is regarded as a useful tool that could reinforce learning and raise self-awareness in students by allowing them to compare their positions not only, and necessarily, with their friends but also with their own previous performances.

Activity completion (content unlocking) is another highly appreciated gamification element. Not only did it scaffold the instruction, but it also generated motivation, aroused curiosity by moving to new sections, and built a sense of achievement and mastery for many students. Another important function of this element is that it helped create an effective organization; providing the students with a sequence to follow, it prevented the sense of being lost or confused within the website. It appears that without this element, many of the online activities could have been skipped. The only concern about this element is that not being able to move forward without completing the activity at hand might be boring at times for some students.

Feedback was found useful by all the students. It had an awareness-raising function, helping the students to learn their mistakes as well as correct answers. On the other hand, being able to make multiple attempts at the online activities and receiving

feedback on performances might be problematic in terms of the reliability of the scores as well as some students' gaming the system, a similar concern about leaderboard. Nevertheless, considering the increased anxiety, unreliability of scores, abuse of the system, and reduced risk-taking behavior when there is a limited number of attempts and no feedback from the system, the feedback method as is seems to be more suitable for the purposes of the online language course.

Gamification elements evoked different emotions and feelings, most of which were regarded as positive. There was a plenty of room for fun, which seemed to increase the students' motivation in the online course. The students also felt mostly comfortable in the online course. Freedom to fail and making mistakes recoverable by being able to make multiple attempts at the activities not only created a sense of comfort but also allowed the students to take risks, try out language, overcome the fear of making mistakes, and learn from those mistakes. Time-limited activities brought a moderate level of anxiety, and such constraints were appreciated and found useful for language learning by the majority due to their role in exam preparation. Curiosity and excitement generated by gamification also had positive effects on many learners, setting a target for them and encouraging them to move forward and do the rest of the activities after having completed the first ones. Finally, the online course was found fun and competitive. Competition is generally regarded as a useful aspect of the online course, but, as indicated above, it might be disadvantageous in some cases as there were students trying to be on the top by manipulating the scores with multiple attempts at the activities (see Table 20).

Badges are commonly found in gamification studies. However, although the presence of badges was appreciated by most of the students in this study, they were regarded by many as unnecessary, unrealistic, and even childish. Besides, many students stated that they would be just as motivated and engaged in the online course without the badges. Implementing badges in the online course, therefore, did not necessarily mean that they undermined intrinsic motivation of the learners.

The progress bars (progression) is appreciated and found useful by most of the students. Visual representation of progression and incomplete activities in the form of small checks and crosses were regarded as a guide for autonomy with an awareness-raising function. It is also thought to have increased motivation and facilitated learning.

Although cooperation was not among the most favorite elements of gamification, majority of the participants indicated that they liked cooperating with their

classmates in the forum and wiki activities and that it contributed to their language learning. Having said this, there was more room for solitary achievement and competition in the online course than cooperation, which could have placed cooperation among the gamification elements at end of the most appreciated list. It is also possible to cite the students' traditional educational background as another reason why the students might have preferred to work individually rather than in groups (Bada & Okan, 2000).

Constraints were at the end of the most favorite gamification element list. Time limits might be demoralizing for some students. Besides, when the time limits were accompanied by technical problems such as low Internet speed, it becomes more difficult to benefit from the activity for the students. Apart from these drawbacks, the students experienced important gains through constraints such as practicing using time more efficiently by thinking and acting in a limited time.

As for the contribution of gamification to foreign language learning, it is possible to suggest that it has significant indirect positive effects on language learning and development (see Tables 40 & 41). All the participants indicated that the gamification elements had a positive influence on language learning, with varying degrees of contribution.

There are also significant differences between the list of most appreciated gamification elements and the list of elements with most contribution to foreign language learning. Leaderboard and activity completion are the most appreciated gamification elements, and progression is close to the least favorite group, which is comprised of cooperation and constraints. However, when it comes to the contribution of gamification elements to foreign language learning, activity completion and progression are at the top of the list, followed by emotions and feedback. After these four elements come leaderboards and badges. Cooperation and constraints were at the end of both lists. It is, therefore, possible to suggest that the students attached more meaning to activity completion, progression, emotions and feedback in terms of foreign language learning, rather than the surface-level game elements leaderboard and badges, which are in fact among the most frequently used elements in gamification studies. In addition, although cooperation and constraints were also found useful, the other elements were thought to have more contribution to language learning.

Among the most prominent features of gamification elements in terms of their contribution to language learning are fun and enjoyment. Having fun and being able to

do the activities in a pleasant environment, as opposed to boredom and anxiety, seemed to influence the learner motivation and engagement in the online course in a positive way.

Another salient feature of the gamification in its relationship with language learning is motivation. It is a commonly expressed as well as observed phenomenon that the learners were motivated in the online course, which helped them complete the activities and thus enhanced learning. As indicated in 5.2 (Research Question 5), although it is possible to suggest that both extrinsic and intrinsic motivation were operating as a result of the gamification elements, the students' perceptions signal that the elements that created intrinsic motivation (activity completion and progression, for example) had more contribution to EFL than the elements that could be associated with extrinsic motivation (namely leaderboards and badges). The findings of the study in this respect suggest that the inclusion of gamification elements associated with extrinsic motivation does not necessarily have to translate into undermining intrinsic motivation of the learners.

Gamification elements also had an awareness-raising function, which is regarded as a contribution to language learning. Progression, feedback, leaderboard and cooperation were reported to help the students evaluate their own processes of learning, strengths and weaknesses, as a result of which they took action to improve their learning.

Competition created especially by the gamification element leaderboard is also considered to have a positive contribution to language learning. It was a common practice for the students to compare their ranks with their classmates in the leaderboards, which led to increased self-awareness and prompted future action, and thus enhanced learning for many students. There were also some disadvantages of competition as described above; however, it appears it offers many advantages as well. In addition to competing with classmates, for example, some students also reported instances where they compared their present achievements with own previous performances using the leaderboards, which helped them take necessary actions accordingly.

Doing the online activities, and thus engaging in and practicing the target language, is considered as another contribution of gamification to language learning. By making students engaged and motivated in the online course with its various elements, gamification seemed to increase opportunities to be exposed to and use the target

language. Novelty of unlocking new content and desire to move forward, sense of confidence, achievement and mastery, different feelings such as curiosity, interest, competition, comfort and fun, feedback in the form of a correct and incorrect answer or a high and low score, a high and low rank in the leaderboard, a higher and lower ranking badge, cooperating with others, desire to overcome constraints, or a sort of combination of these gamification elements appeared to interact to increase the opportunities for exposure to and production of the target language.

Another contribution of gamification elements is facilitation. Activity completion and feedback elements in particular are reported to enhance learning by scaffolding the students' efforts and giving feedback on their work. In addition, cooperative activities were also thought to enhance learning by providing scaffolding for the students in groups.

Being comfortable in the online course was also linked to language learning. In other words, it is stated that gamified online course constituted a comfortable environment which helped the students overcome the fear of making mistakes, take risks, learn from their mistakes as it was possible to access and do the online activities as many times as they wished and to receive feedback on their performances.

Another feeling that is related to language learning is curiosity. The students indicated that the novelty brought by moving to new sections and the desire to continue and unlock a new activity/resource aroused curiosity and increased the learners' motivation. It is possible to suggest that activity completion had an important function in this respect.

In conclusion, the study reveals that integrating gamification elements into online language learning course had positive effects on the motivation and engagement of the students and on foreign language learning. However, there were also serious concerns about the implementation of the gamification elements especially on the reliability of the performances of the students as well as the quality of their engagement in the online course.

6.3. Implications of the Study

The present study has shown that the vast majority of the students were motivated to do the online activities and they were engaged in the online course throughout the semester. The students devoted much more time to the online course than the average time estimated for the completion of the activities. There were no

dropouts or a significant decline in the number of logs throughout the study. In addition, all the students in the study indicated that gamification had a positive contribution to their foreign language learning. One of the major implications of the study is, therefore, that integrating gamification elements in an online platform in a blended learning environment for tertiary level English preparatory class students could have significant positive effects in terms of motivation and engagement as well as language learning.

The extent of contribution varies widely depending on the gamification element being used. Activity completion and progression elements in particular played a central role in the effectiveness of the application. Progression and feedback are thought to have important contributions as well. However, leaderboard and badges, two of the frequently used gamification elements in many studies, were placed towards the end of the gamification elements list with most contribution to language learning. At the end of the list are cooperation and constraints. The second implication of the study, thus, relates to the selection of the gamification elements to be used in online EFL courses. The students in our study attached more meaning to activity completion, progression, emotions and feedback than surface-level gamification elements, say, leaderboards and badges in terms of foreign language learning. It may be advisable to choose gamification elements in online courses that could be regarded as meaningful for and contributive to language learning, rather than the ubiquitous surface-level gamification elements.

The third implication concerns the presence and supervision of the teacher in the gamified online course. It is very likely that the teacher's presence and supervision in the online course played an important role in the prevention of undesired behavior such as uploading of empty files to pass an activity. The teacher's attitudes in this respect seemed to influence the students as well. As indicated in section 4.5, although the students were enthusiastic about the gamified online learning, they referred to the teacher factor without being asked about it. This reminds us Brenton (2009), who suggests that the teacher's role in online learning is just as important in a face-to-face classroom. The importance given to the teacher's role and presence is not exclusive to online EFL courses. For instance, in her study with 3rd year student-teachers in an ELT Department taking a blended Teaching English to Young Learners Course, İlin (2013) notes that the participants found the online course successful and valuable in academic terms. She goes on to state that one of the most important reasons behind the participants' positive attitudes toward the blended course was the instructor's presence

in the online component. The degree of this presence, on the other hand, should also be taken into account as it might be more important for the teacher to be simply available for learners through a well-structured course rather than asserting his/her presence in the online classroom (Preisman, 2014), which could be detrimental to the learner-centered nature of the online course and autonomy of learners.

Another implication of the study relates to the format of the online course. In addition to the design of online courses (gamified or non-gamified), its format (purely online or blended learning) could also influence the perception and effectiveness of gamification. In other words, this study was carried out in a blended learning environment and also the teacher was with the students in the computer lab throughout the semester. The findings of the study could have been quiet different if the online course had been offered purely online or the students had been on their own in the online course without the teacher's availability and responsiveness to their work. In order to increase the effectiveness of gamified online learning, therefore, it may be advisable to offer it in blended learning. If it is to be offered in purely online courses, it is highly recommended for the teacher to be available and to supervise when needed.

The other implication concerns some personal reflections as the designer and teacher of the gamified online course. It may be useful to share the experiences a teacher can face when designing and supervising in these courses:

- Technical difficulties: It is highly recommended for the teacher to receive help from an information technologies expert during the installation phase and first weeks of the application. Although Moodle might be easy to learn and use, every teacher may not be a technology savvy to make the most of the opportunities it offers. Furthermore, teachers might want to integrate the functionality of numerous add-on modules and plug-ins into the online course, especially the ones related with gamification, in which case the role of the IT staff may gain more importance.
- Long login time: The students spent 17 hours and 20 minutes in the online course on average (see Table 56 & Figure 22). However, the teacher, as the designer and supervisor of the online course, spent more than 60 hours in the online course. Almost one-third of this amount of time was spent on the design of the online content and gamification elements. Supervision activities, on the other hand, were not so time-consuming. Having said this,

we should note that being the designer and supervisor of the gamified online course is likely to increase the workload of the teacher, unless, of course, the content and gamification design has already been created by the institution or a third-party source.

- Occupational satisfaction: In spite of the above difficulties, it is possible to talk about enjoyment, one of the commonly referred concepts in the students' comments, from the teacher's perspective as well. Having motivated and engaged students in the online course and receiving from them various comments on the usefulness of this undertaking contribute to occupational satisfaction.

The next important implication is about the content of the instruction, which is another accompanying factor for the perception and effectiveness of gamification. An overwhelming majority of the participants appreciated the online English course and found it useful (see Tables 38 & 39). As Keller's (1983) ARCS model indicates, an interesting, meaningful and appropriately challenging instruction needs to arouse and sustain curiosity and interest of the learners, to be relevant to their needs and motives, to develop positive expectancies of success, and to manage extrinsic and intrinsic reinforcement. It appears fairly unlikely to obtain mostly positive findings as the ones presented in this study if the content of the online English course had not been effective for and relevant to the learners.

It should also be taken into account that even with a relevant content and the teacher's presence in a blended environment, as discussed above, there could be some problems and unintended behavior as a result of some gamification elements. Competition, for example, seemed to lead some students to redo the activities, sometimes by cheating, in order to be on the top of the leaderboard. Reflection of the grades of all students in the leaderboards was found disturbing by some students as well. In addition, having to pass an activity to move forward, although a highly appreciated feature, seemed to be boring for some students. Being able to make multiple attempts at the activities could also have some drawbacks; the scores of the students might be unrealistic as they could do the activities as many times as they wished. Besides, implementing constraints such as time limits could be disturbing for some students. Therefore, it should also be taken into account that integration of gamification

elements into a poor educational content is likely to increase such instances of unintended behavior.

A final implication in this respect follows that caution is needed when implementing gamification elements in online learning. In Postman's words (as cited in Olson & Clough, 2013, p. 190), "all technological change is a Faustian bargain". In other words, every advantage it brings is tied to a corresponding disadvantage. Therefore, it is important to bear in mind that the advantages of the gamification elements might also be accompanied by potential disadvantages. Rather than assuming gamification a neutral educational breakthrough and integrating gamification elements uncritically into any online learning context, it is important to bear in mind that the inclusion of game elements could bring disadvantages alongside advantages and that when applied with a poor educational content and inadequate supervision, gamification will probably produce superficial engagement and unintended behavior at the expense of losing certain qualities in online courses such as intrinsic motivation, meaningful engagement, and reliability. It is possible to suggest, though, that gamification, when applied with pedagogically sound and relevant content as well as the availability and supervision of the teacher, could work effectively and produce mostly positive results in terms of not only motivation and engagement of learners but also foreign language learning and development.

6.4. Limitations and Suggestions for Further Research

This study was carried out with 19 participants from the preparatory class of a School of Foreign Languages at a state university, and the findings are related to the participants of the study, and thus they cannot be generalized. Considering the learning outcomes and performances of language learners with a larger population, further studies are required to achieve more generalizable results. In addition, replications of this study with a higher number of gamification elements and with learners at different age levels and educational contexts could possibly lead to a better understanding of the concept gamification and its relationship with the field of English language teaching and learning.

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APPENDICES

Appendix 1. Computer Readiness Scale (Turkish)

Web-Temelli Dil Öğrenimi için Öğrencilerin Hazır Bulunmuşluk Ölçeği

Lütfen her soru için size en uygun seçeneği daire içine alın. Bu anketin tamamlanması 5 dakikadan fazla sürmeyecektir. Zaman ayırdığınız için teşekkürler.

Bölüm 1: Genel Bilgiler
Bu ilk bölümde lütfen kendiniz ve bilgisayar kullanım geçmişinizle ilgili bilgiler verin.

1. Cinsiyetim *...*

☐ Kadın ☐ Erkek

2. Yaşım *....*

☐ 20'den aşağı ☐ 20-25 ☐ 25'ten yukarı

3. Kişisel bilgisayarım (masaüstü) veya dizüstü bilgisayarım var.

☐ Evet ☐ Hayır

4. Bilgisayarım Kahramanmaraş'ta, yanımda.

☐ Evet ☐ Hayır

5. İnternete girecek yer bulma konusunda sıkıntı yaşıyorum.

☐ Evet ☐ Hayır

6. Gün içerisinde interneti ....

☐ sık sık kullanırım ☐ bazen kullanırım ☐ nadiren kullanırım ☐ hiç kullanmam

7. İnterneti ……. kullanıyorum. (Birden fazla seçeneği işaretleyebilirsiniz)

☐ üniversitenin bilgisayar laboratuvarında

☐ internet kafede

☐ evde veya yurtta

☐ kafe, restoran vb. kablosuz bağlantı olan yerlerde

☐ diğer yerlerde (lütfen belirtin)
.....

8. İnternete ….. erişiyorum. (Birden fazla seçeneği işaretleyebilirsiniz)

☐ bilgisayar üzerinden ☐ cep telefonumdan

9. İnterneti … kullanıyorum. (Birden fazla seçeneği işaretleyebilirsiniz)

☐ (ödev, haber vb.) bilgi edinmek amacıyla web'de gezinmek için

☐ kaynak indirmek amacıyla

☐ e-posta için

☐ video, film vb. izlemek için

☐ müzik dinlemek için

☐ sohbet (chat) ve (Facebook, Whatsapp, Twitter vb.) sosyal paylaşım siteleri için

☐ SAC İngilizce dersim için

☐ diğer amaçlarla (Lütfen belirtin)
…….....

10. Bilgisayar kullanma becerim …..

☐ çok iyidir ☐ iyidir ☐ çok iyi değildir ☐ kötüdür ☐ çok kötüdür

11. Dijital oyunları oynamayı severim.

☐ Kesinlikle katılıyorum ☐ Katılıyorum ☐ Kararsızım ☐ Katılmıyorum ☐ Kesinlikle katılmıyorum

12. *Dijital oyunları …..*

☐ sık sık oynarım ☐ bazen oynarım ☐ nadiren oynarım ☐ hiç oynamam

13. Eposta hesabım var.
☐ Evet ☐ Hayır

14. Bilgisayara eposta alma gönderme işlemlerini yapabilirim.

☐ Kesinlikle katılıyorum ☐ Katılıyorum ☐ Kararsızım ☐ Katılmıyorum ☐ Kesinlikle katılmıyorum

15. Epostaya eklenmiş dosya alma/gönderme işlemlerini yapabilirim.

☐ Kesinlikle katılıyorum ☐ Katılıyorum ☐ Kararsızım ☐ Katılmıyorum ☐ Kesinlikle katılmıyorum

Bölüm 2: Daha önceki bilgisayar ve sanal öğrenme ortamı deneyiminiz
Lütfen üniversiteye gelmeden önce, bilgisayara ve sanal öğrenme ortamlarıyla ilgili deneyimleriniz ve bakış açınızı genel olarak belirtiniz.

16. Üniversiteye gelmeden önce bilgisayar kullandım.

☐ Evet ☐ Hayır

17. ..... bilgisayar kullanıyorum.

☐ 1 yıldan az süredir ☐ 1 – 2 yıldır ☐ 2 yıldan fazla süredir

18. Üniversiteye gelmeden önce interneti kullandım.

☐ Evet ☐ Hayır

19. ..... internet kullanıyorum.

☐ 1 yıldan az süredir ☐ 1 – 2 yıldır ☐ 2 yıldan fazla süredir

20. Bilgisayar kullanırken kendimi rahat hissediyorum.

☐ Kesinlikle katılıyorum ☐ Katılıyorum ☐ Kararsızım ☐ Katılmıyorum ☐ Kesinlikle katılmıyorum

21. Üniversiteye gelmeden önce, sanal öğrenme ortamında bir derse katılmıştım.

☐ Evet ☐ Hayır

Cevabınız evetse, nerede, ne kadar süreyle, haftada kaç saat, nasıl bir dersti açıklar mısınız?
……..... .....
……..... .....

22. İnterneti dil öğreniminde kullanma konusu ilgimi çekiyor.

☐ Kesinlikle katılıyorum ☐ Katılıyorum ☐ Kararsızım ☐ Katılmıyorum ☐ Kesinlikle katılmıyorum

23. Bence internet üzerinden İngilizce eğitimi faydalı olur.

☐ Kesinlikle katılıyorum ☐ Katılıyorum ☐ Kararsızım ☐ Katılmıyorum ☐ Kesinlikle katılmıyorum

Appendix 2. Computer Readiness Scale (English)

Computer-Readiness Scale for Web-Based Language Learning

Please circle the answer that you feel is the best choice for each question. It will not take more than 5 min. to complete this survey. Thank you for your time.

Section 1: General Information
Please give us some information about yourself and your computer experience in this first section.

1. I am a *...*

☐ female ☐ male

2. I am *....*

☐ below 20 ☐ between 20-25 ☐ above 25

3. I have a personal computer (PC) or a laptop.

☐ Yes ☐ No

4. My computer is with me in Kahramanmaraş.

☐ Yes ☐ No

5. I have problem finding a place to go online.

☐ Yes ☐ No

6. I ….. use the Internet during the day.

☐ often ☐ sometimes ☐ rarely ☐ never

7. I use the Internet ….. (You can circle more than one option).

☐ in the computer laboratory of the university.

☐ in an Internet café.

☐ at home or dormitory.

☐ at a place with Wi-Fi service, such as a café, restaurant, etc.

☐ at other places (please specify)
.....

8. I access the Internet via….. (You can choose more than one option)

☐ computer ☐ mobile phone

9. I use the Internet for ….. (You can choose more than one option)

☐ surfing on the web for gaining information (for homework, news, etc.).

☐ downloading resources.

☐ email.

☐ watching videos, films, etc.

☐ listening to music.

☐ chat and/or social networking sites (Facebook, WhatsApp, Twitter, etc.)

☐ English SAC class

☐ other purposes (please specify)…….....

10. My computer skills are …..

☐ very good ☐ good ☐ not very good ☐ bad ☐ very bad

11. I like playing digital games.

☐ Definitely agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Definitely disagree

12. *I ….. play digital games.*

☐ often ☐ sometimes ☐ rarely ☐ never

13. I have an email account.

☐ Yes ☐ No

14. I can send/receive emails.

☐ Definitely agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Definitely disagree

15. I can send/receive email attachments.

☐ Definitely agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Definitely disagree

Section 2: Previous computer and virtual learning environment experience.
Please indicate your previous experiences and perceptions about computers and virtual learning environments before coming to university.

16. I used computers before coming to university.

☐ Yes ☐ No

17. I have been using computers for .....

☐ less than a year ☐ 1 – 2 years ☐ more than 2 years

18. I used the Internet before coming to university.

☐ Yes ☐ No

19. I have been using the Internet for .....

☐ less than a year ☐ 1 – 2 years ☐ more than 2 years

20. I feel comfortable while using the computer.

☐ Definitely agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Definitely disagree

21. I took an online course in a virtual learning environment before coming to university.

☐ Yes ☐ No

If your answer is 'yes', could you please specify where, how long, how many hours a week, etc.?

……..... .....

……..... .....

22. I am interested in using the Internet for language learning.

☐ Definitely agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Definitely disagree

23. I think English education on the Internet will be useful.

☐ Definitely agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Definitely disagree

Appendix 3. Questionnaire (Turkish)

Oyunlaştırılmış Sanal Öğrenme Ortamı Anketi

Aşağıda SAC dersinde kullanmış olduğumuz oyunlaştırılmış sanal öğrenme ortamı ve etkinliklerle ilgili birtakım soruları bulacaksınız.
Lütfen size en yakın seçeneği işaretleyin.
Bu anketi tamamlamak 5 dakikadan fazla sürmeyecektir. Zaman ayırdığınız ve katkınız için teşekkür ederim.

Bölüm 1: Genel Bilgiler
Bu bölümde lütfen kendiniz ve bilgisayar kullanımınızla ilgili bilgiler verin.

1. ***Cinsiyetim*** *...*

☐ kadın ☐ erkek

2. ***Yaşım*** *....*

☐ 20'nin altında ☐ 20-25 arası ☐ 25'ten yukarı

3. ***İnternete .... girerim.***

☐ her gün ☐ haftada birkaç kez ☐ haftada bir kez ☐ Diğer (belirtiniz): ……

4. ***İnternete ….. erişiyorum. (Birden fazla seçeneği işaretleyebilirsiniz)***

☐ bilgisayar üzerinden ☐ cep telefonu üzerinden

5. ***Dijital oyun oynamayı severim.***

☐ Kesinlikle katılıyorum ☐ Katılıyorum ☐ Kararsızım ☐ Katılmıyorum ☐ Kesinlikle katılmıyorum

6. ***Dijital oyunları …..***

☐ sık sık oynarım ☐ bazen oynarım ☐ nadiren oynarım ☐ hiç oynamam

7. ***Online İngilizce dersine ……..... girerim.***

☐ her gün ☐ haftada birkaç kez ☐ haftada bir kez ☐ Diğer (belirtiniz): ……..……

8. ***Online İngilizce dersinden zevk aldım.***

☐ Kesinlikle katılıyorum ☐ Katılıyorum ☐ Kararsızım ☐ Katılmıyorum ☐ Kesinlikle katılmıyorum

9. ***Moodle'ın öğrenilmesi kolaydı***

☐ Kesinlikle katılıyorum ☐ Katılıyorum ☐ Kararsızım ☐ Katılmıyorum ☐ Kesinlikle katılmıyorum

10. ***Moodle'ın kullanımı kolaydı.***

☐ Kesinlikle katılıyorum ☐ Katılıyorum ☐ Kararsızım ☐ Katılmıyorum ☐ Kesinlikle katılmıyorum

Bölüm 2: Oyunlaştırmayla Ögelerinin Değerlendirilmesi
Moodle Sanal Öğrenme Ortamı'nda kullanılan oyunlaştırma ögeleriyle ilgili aşağıdaki ifadeye katılıyor musunuz?

Sanal Öğrenme Ortamı'nda kullanılan aşağıdaki oyunlaştırma ögelerini seviyorum:

11. ***Etkinliklerin tamamlandıkça açılması.***

☐ Kesinlikle katılıyorum ☐ Katılıyorum ☐ Kararsızım ☐ Katılmıyorum ☐ Kesinlikle katılmıyorum

12. ***Progress Bar (İlerleme durumumuzu gösteren kutular*** ☑, ☒, ☐)

☐ Kesinlikle katılıyorum ☐ Katılıyorum ☐ Kararsızım ☐ Katılmıyorum ☐ Kesinlikle katılmıyorum

13. ***Etkinlikleri tamamlayınca aldığımız dönütler (100 üzerinden puan ve doğru/yanlış yanıtların gösterilmesi).***

☐ Kesinlikle katılıyorum ☐ Katılıyorum ☐ Kararsızım ☐ Katılmıyorum ☐ Kesinlikle katılmıyorum

14. ***Süre sınırı olan etkinlikler.***

☐ Kesinlikle katılıyorum ☐ Katılıyorum ☐ Kararsızım ☐ Katılmıyorum ☐ Kesinlikle katılmıyorum

15. ***Leaderboard (Puan Tablosu).***

☐ Kesinlikle katılıyorum ☐ Katılıyorum ☐ Kararsızım ☐ Katılmıyorum ☐ Kesinlikle katılmıyorum

16. ***Badge (Yıldız, Kupa, Sertifika vb dijital ödüller).***

☐ Kesinlikle katılıyorum ☐ Katılıyorum ☐ Kararsızım ☐ Katılmıyorum ☐ Kesinlikle katılmıyorum

17. ***Diğerleriyle işbirliği.***

☐ Kesinlikle katılıyorum ☐ Katılıyorum ☐ Kararsızım ☐ Katılmıyorum ☐ Kesinlikle katılmıyorum

Bölüm 3: Oyunlaştırılmış Online Dersler
Oyunlaştırılmış online derslerle ilgili aşağıdaki soruları yanıtlar mısınız?

18. ***Oyunlaştırılmış online İngilizce dersini sevdim.***

☐ Kesinlikle katılıyorum ☐ Katılıyorum ☐ Kararsızım ☐ Katılmıyorum ☐ Kesinlikle katılmıyorum

19. ***Oyunlaştırılmış online dersler İngilizce öğrenmek için faydalıdır.***

☐ Kesinlikle katılıyorum ☐ Katılıyorum ☐ Kararsızım ☐ Katılmıyorum ☐ Kesinlikle katılmıyorum

20. ***Oyunlaştırma, online etkinlikleri yapma konusunda motivasyonumu artırdı.***

☐ Kesinlikle katılıyorum ☐ Katılıyorum ☐ Kararsızım ☐ Katılmıyorum ☐ Kesinlikle katılmıyorum

21. ***Oyunlaştırma, online derslere katılımımı artırdı.***

☐ Kesinlikle katılıyorum ☐ Katılıyorum ☐ Kararsızım ☐ Katılmıyorum ☐ Kesinlikle katılmıyorum

22. ***Online etkinlikleri kendi başıma yaptım.***

☐ Her zaman ☐ Çoğu zaman ☐ Bazen ☐ Nadiren ☐ Hiçbir zaman

23. ***Oyunlaştırma olmasaydı online derslere şimdiki kadar motive olmazdım.***

☐ Kesinlikle katılıyorum ☐ Katılıyorum ☐ Kararsızım ☐ Katılmıyorum ☐ Kesinlikle katılmıyorum

24. ***Oyunlaştırma olmasaydı online derslere şimdiki kadar katılmazdım.***

☐ Kesinlikle katılıyorum ☐ Katılıyorum ☐ Kararsızım ☐ Katılmıyorum ☐ Kesinlikle katılmıyorum

25. ***Online etkinlikleri, oyunlaştırma olmadan yapmış olmayı tercih ederdim.***

☐ Kesinlikle katılıyorum ☐ Katılıyorum ☐ Kararsızım ☐ Katılmıyorum ☐ Kesinlikle katılmıyorum

Yanıtınızı kısaca açıklayabilir misiniz?
……...……
……..…….

26. ***Oyunlaştırma, online etkinlikleri yaparken endişe duymama neden odu.***

☐ Her zaman ☐ Çoğu zaman ☐ Bazen ☐ Nadiren ☐ Hiçbir zaman

Yanıtınızı kısaca açıklayabilir misiniz?

……...……
……...…….

27. ***Oyunlaştırılmış online etkinlikleri yaparken kendimi rahat hissettim.***

☐ Her zaman ☐ Çoğu zaman ☐ Bazen ☐ Nadiren ☐ Hiçbir zaman

28. ***Online etkinlikleri yapmak için SAC dersi dışında da zaman harcadım.***

☐ Her zaman ☐ Çoğu zaman ☐ Bazen ☐ Nadiren ☐ Hiçbir zaman

29. ***Online etkinliklerden düşük puan aldığımda etkinliği tekrar yaparak puanımı yükseltmeye çalıştım.***

☐ Her zaman ☐ Çoğu zaman ☐ Bazen ☐ Nadiren ☐ Hiçbir zaman

Yanıtınızı kısaca açıklayabilir misiniz?

……...……
……...…….
……..…

Bölüm 4: Oyunlaştırma Ögeleri

*Oyunlaştırma ögeleriyle ilgili aşağıdaki sorulara yönelik düşüncelerinizle ilgili olarak "**1. Katılıyorum, 2. Kararsızım, 3. Katılmıyorum**" seçeneklerinden size göre en uygun olanı işaretleyiniz.*

		1. Katılıyorum 2. Kararsızım 3. Katılmıyorum
1 Etkinliklerin Tamamlandıkça Açılması	***Etkinliklerin tamamlandıkça açılması online derslere yönelik motivasyonumu artırıyor.***	**1☐ 2☐ 3☐**
	Etkinliklerin tamamlandıkça açılması yerine, tüm etkinlikleri bir sınırlama olmadan görmeyi tercih ederdim.	**1☐ 2☐ 3☐**
2 İlerleme Kutuları	***Hangi etkinlikleri tamamlamadığımı görmem önemlidir.***	**1☐ 2☐ 3☐**
	Online etkinliklerin hepsini tamamlamaya çalıştım.	**1☐ 2☐ 3☐**
3 Sistemin Dönüt Vermesi	***Etkinlikleri tamamlayınca aldığımız dönütlerin (100 üzerinden puan ve doğru/yanlış yanıtların gösterilmesi) faydalı olduğuna inanıyorum.***	**1☐ 2☐ 3☐**
	Sistemin, etkinlikleri tekrar yapmamıza izin vermesinin faydalı olduğunu düşünüyorum.	**1☐ 2☐ 3☐**
4 Süre Sınırlı Etkinlikler	***Süre sınırlı etkinliklerin faydalı olduğunu düşünüyorum.***	**1☐ 2☐ 3☐**
5 Leaderboard (Puan Tablosu)	***Puan tablosu (Leaderboard) uygulaması online derslere yönelik motivasyonumu artırıyor.***	**1☐ 2☐ 3☐**
	Puan tablosunda ilk sıralarda yer almaya çalıştım.	**1☐ 2☐ 3☐**
	Puan tablosundaki sıralamamı arkadaşlarımın sıralamasıyla karşılaştırmak beni online etkinlikleri yapmaya teşvik etti.	**1☐ 2☐ 3☐**
	Puan tablosundaki sıralamamın dersteki gerçek başarımı yansıttığına inanıyorum.	**1☐ 2☐ 3☐**
	Puan tablosunun yayınlanmasından rahatsız oldum.	**1☐ 2☐ 3☐**
	Puan tablosu olmasaydı da online derslerde aynı çabayı ortaya koyardım.	**1☐ 2☐ 3☐**
6 Badge (Yıldız, kupa, sertifika gibi dijital ödüller)	***Sistemdeki Badge (yıldız/kupa/sertifika) uygulaması online derslere yönelik motivasyonumu artırıyor.***	**1☐ 2☐ 3☐**
	Düşük seviyede bir badge kazandığımda daha iyisini kazanmak için ekstra çaba harcadım.	**1☐ 2☐ 3☐**
	Badge olmasa da aynı online derslerde çabayı ortaya koyardım.	**1☐ 2☐ 3☐**
7 Diğerleriyle İşbirliği	***Wiki writing (grupla yazma) etkinliğinin faydalı olduğunu düşünüyorum.***	**1☐ 2☐ 3☐**
	Reflect etkinliğinin faydalı olduğunu düşünüyorum.	**1☐ 2☐ 3☐**
8 Duygular	***Online dersleri eğlenceli buluyorum.***	**1☐ 2☐ 3☐**
	Online derslerde öğrenciler arasındaki rekabet bu derse yönelik motivasyonumu artırıyor.	**1☐ 2☐ 3☐**

Bölüm 5: Oyunlaştırma Ögeleri Tercihiniz

Aşağıda verilen oyunlaştırma ögelerinden en çok hangisini sevdiniz? Cevabınızı soldaki örnekte olduğu gibi 1-8 arası sıralayarak belirtin.

1 (en çok sevdiğim) – 8 (en az sevdiğim)

Örnek

Etkinliklerin tamamlandıkça açılması	***1***
İlerleme kutuları	***2***
Sistemin Dönüt Vermesi (puan ve doğru/yanlış yanıtlar)	***3***
Süre Sınırlı Etkinlikler	***4***
Leaderboard (puan tablosu)	***5***
Badge (yıldız, kupa, sertifika)	***6***
İşbirliği (wiki/grupla yazma, reflect)	***7***
Duygular (Eğlence, rekabet, vb.)	***8***

Sizin cevabınız

Etkinliklerin tamamlandıkça açılması	
İlerleme göstergeleri	
Sistemin Dönüt Vermesi (doğru/yanlış yanıtlar)	
Süre Sınırlı Etkinlikler	
Leaderboard (puan tablosu)	
Badge (yıldız/kupa	
İşbirliği (wiki grupla yazma, reflect)	
Duygular (Eğlence, rekabet)	

30. ***Yukarıdaki soruya verdiğiniz yanıtı kısaca açıklayınız. Hangisi, neden en çok/en az sevdiğiniz öge?***

.....
.....
.....
.....

31. ***Yukarıda verilen oyunlaştırma ögelerinden sizi en çok ve en az motive eden hangisiydi, neden?***

.....
.....
.....
.....

Bölüm 6: Oyunlaştırma ve Dil Öğrenimi İlişkisi

Oyunlaştırma ve İngilizce öğrenme ilişkisiyle ilgili soruları yanıtlayınız.

32. ***Oyunlaştırmanın yabancı dil öğrenimime katkısı olduğunu düşünüyorum.***

☐ Kesinlikle katılıyorum ☐ Katılıyorum ☐ Kararsızım ☐ Katılmıyorum ☐ Kesinlikle katılmıyorum

33. ***Bir önceki (32.) soruya verdiğiniz yanıt olumluysa, <u>bu katkıda hangi oyunlaştırma ögelerinin payının olduğunu düşünüyorsunuz</u>?***

1. Katılıyorum, 2. Kararsızım, 3. Katılmıyorum*" seçeneklerinden size göre en uygun olanı işaretleyiniz.*

1. Katılıyorum, 2. Kararsızım, 3.Katılmıyorum.

Etkinliklerin tamamlandıkça açılması	**1**☐	**2**☐	**3**☐
İlerleme kutuları	**1**☐	**2**☐	**3**☐
Sistemin Dönüt Vermesi (doğru/yanlış yanıtlar)	**1**☐	**2**☐	**3**☐
Süre Sınırlı Etkinlikler	**1**☐	**2**☐	**3**☐
Leaderboard (puan tablosu)	**1**☐	**2**☐	**3**☐
Badge (yıldız/kupa/sertifika)	**1**☐	**2**☐	**3**☐
İşbirliği (wiki/grupla yazma, reflect)	**1**☐	**2**☐	**3**☐
Duygular (Eğlence, rekabet, vb.)	**1**☐	**2**☐	**3**☐

Katılımınız için teşekkür ederim.

Appendix 4. Questionnaire (English)

Questionnaire for the Gamified Virtual Learning Environment

There are some questions below concerning the gamified virtual learning environment and online activities. Please circle the answer that you feel is the best choice for each question. It will not take more than 5 min. to complete this survey. Thank you for your time.

Section 1: General Information
Please give some information about yourself and your computer experience.

1. ***Gender***

☐ Female ☐ Male

2. ***Age***

☐ Below 20 ☐ between 20-25 ☐ above 25

3. ***I log on the Internet …..***

☐ every day ☐ a few times a week ☐ once a week ☐ Other (please specify)

……

4. ***I access the Internet via…..(You can choose more than one option)***

☐ computer ☐ mobile phone

5. ***I like playing digital games.***

☐ Definitely agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Definitely disagree

6. ***I ….. play digital games.***

☐ often ☐ sometimes ☐ rarely ☐ never

7. ***I log into the online English course…..***

☐ every day ☐ a few times a week ☐ once a week ☐ Other (please specify)

……

8. ***I liked the online English course.***

☐ Definitely agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Definitely disagree

9. ***Moodle was easy to learn.***

☐ Definitely agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Definitely disagree

10. ***Moodle was easy to use.***

☐ Definitely agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Definitely disagree

Section 2: Appreciation of Gamification Elements
Do you agree with the following statements concerning the gamification elements used in the Moodle Virtual Learning Environment.

I liked the gamification elements used in the Virtual Learning Environment:

11. ***Activity completion (unlocking content).***

☐ Definitely agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Definitely disagree

12. ***Progress Bars (Boxes showing progression*** ☑, ☒, ☐)

☐ Definitely agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Definitely disagree

13. ***Feedback received after completing the activities (in the form of grades out of 100 points/correct and incorrect answers)***

☐ Definitely agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Definitely disagree

14. ***Time-limited activities.***

☐ Definitely agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Definitely disagree

15. ***Leaderboard.***

☐ Definitely agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Definitely disagree

16. ***Badge (digital rewards such as stars, cups, certificate).***

☐ Definitely agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Definitely disagree

17. ***Cooperation with others.***

☐ Definitely agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Definitely disagree

Section 3: Gamified Online Courses
Could you please answer the questions about the gamified online course?

18. ***I liked the gamified online English course.***

☐ Definitely agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Definitely disagree

19. ***Gamified online courses were useful for learning English.***

☐ Definitely agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Definitely disagree

20. ***Gamification increased my motivation to do the online activities.***

☐ Definitely agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Definitely disagree

21. ***Gamification increased my engagement in the online course.***

☐ Definitely agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Definitely disagree

22. ***I …..did the online activities by myself.***

☐ always ☐ most of the time ☐ sometimes ☐ rarely ☐ never

23. ***I <u>would not</u> be as motivated as I am without gamification.***

☐ Definitely agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Definitely disagree

24. ***I would not be as engaged in the online course as I am now without gamification.***

☐ Definitely agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Definitely disagree

25. ***I would prefer to have the online activities without gamification.***

☐ Definitely agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Definitely disagree

Could you please briefly explain your answer?……...……
……...…….
…….

26. ***Gamification made me anxious while doing the online activities.***

☐ Always ☐ Most of the time ☐ Sometimes ☐ Rarely ☐ Never

Could you please briefly explain your answer?……...……
……...……
……

27. ***I felt comfortable while doing the gamified online activities.***

☐ Always ☐ Most of the time ☐ Sometimes ☐ Rarely ☐ Never

28. ***I spent extra time outside the SAC class in order to do the online activities***

☐ Always ☐ Most of the time ☐ Sometimes ☐ Rarely ☐ Never

29. ***I tried to increase my grade when I received a low grade in the online activities by redoing the activity.***

☐ Always ☐ Most of the time ☐ Sometimes ☐ Rarely ☐ Never

Could you please briefly explain your answer?……...……
……...……
……

Section 4: Gamification Elements

Please circle the best option that describes your opinions about the gamification elements according to the following options: ***1. Agree, 2. Undecided, 3. Disagree***

		1. Agree 2. Undecided 3. Disagree
1 Activity Completion	***Activity completion increases my motivation in the online courses.***	**1☐ 2☐ 3☐**
	I would prefer to see all the activities without a limitation like activity completion condition.	**1☐ 2☐ 3☐**
2 Progress Bars	***It is important to see which activities I have completed.***	**1☐ 2☐ 3☐**
	I tried to complete all the online activities.	**1☐ 2☐ 3☐**
3 Feedback	***I believe the feedback I received after the completion of activities (such as grades out of 100 points and correct/incorrect answers) is useful.***	**1☐ 2☐ 3☐**
	I think it is useful to be allowed to do the activities again.	**1☐ 2☐ 3☐**
4 Time-limited activities	***I think the time-limited activities are useful.***	**1☐ 2☐ 3☐**
5 Leaderboard	***Leaderboard increases my motivation in the online courses.***	**1☐ 2☐ 3☐**
	I tried to achieve the top ranks in the leaderboard.	**1☐ 2☐ 3☐**
	Comparing my ranking with my classmates in the leaderboard motivated me to do the online activities.	**1☐ 2☐ 3☐**
	I believe my ranking in the leaderboard reflects my real success in the classroom.	**1☐ 2☐ 3☐**
	I felt disturbed by the leaderboard.	**1☐ 2☐ 3☐**
	I would put the same effort as I do now if there weren't a leaderboard in the online course.	**1☐ 2☐ 3☐**
6 Badge (digital rewards such as stars, cups, and certificate)	***Badges in the system (stars/cups/certificate) increase my motivation in the online courses.***	**1☐ 2☐ 3☐**
	When I received a lower ranking badge, I put extra effort to gain a higher ranking one.	**1☐ 2☐ 3☐**
	I would put the same effort as I do now is there weren't badges in the online course.	**1☐ 2☐ 3☐**
7 Cooperation with others	***I think wiki (group) writing activity is useful.***	**1☐ 2☐ 3☐**
	I think reflect activity is useful.	**1☐ 2☐ 3☐**
8 Emotions	***I think the online courses are fun.***	**1☐ 2☐ 3☐**
	Competition between students increases the motivation in the online courses.	**1☐ 2☐ 3☐**

Section 5: Preference regarding the Gamification Elements

Which of the following gamification elements did you like most? Please indicate your answer by ranking the gamification elements from 1 (most favorite) to 8 (least favorite) as in the example on the left.

1 (most favorite) – 8 (least favorite)

Example

Activity Completion	***1***
Progress Bars	***2***
Feedback (grades & correct/incorrect answers)	***3***
Time-limited activities	***4***
Leaderboard	***5***
Badge (stars, cups & certificate)	***6***
Cooperation (wiki/group writing & reflect)	***7***
Emotions (Fun, competition, etc.)	***8***

Your Answer

Activity Completion	
Progress Bars	
Feedback (grades & correct/incorrect answers)	
Time-limited activities	
Leaderboard	
Badge (stars, cups & certificate)	
Cooperation (wiki/group writing & reflect)	
Emotions (Fun, competition, etc.)	

30. ***Please briefly explain your answer to the above question. Which one is your most and least favorite element and why?***

.....
.....
.....

31. ***Which of the above gamification elements motivated you most and least? Why?***

.....
.....

Section 6: Relationship between Gamification and Language Learning

Please answer the questions regarding the relationship between gamification and English language learning.

32. ***I think gamification has a contribution to language learning.***

☐ Definitely agree ☐ Agree ☐ Undecided ☐ Disagree ☐ Definitely disagree

33. ***If your answer to the previous question (32) is positive, which of the gamification elements do you think contributes to language learning?***

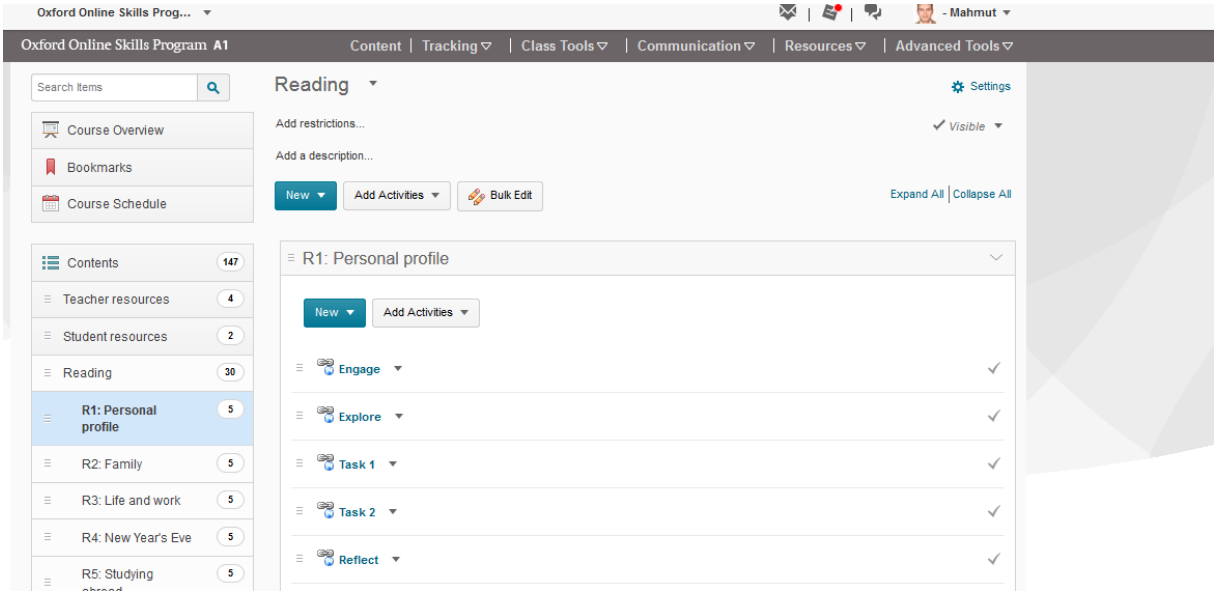
Please circle the best option that describes your opinions about this relationship according to the following options: ***1. Agree, 2. Undecided, 3. Disagree****.*

	1. Agree, 2. Undecided, 3. Disagree*.*
Activity Completion	**1☐ 2☐ 3☐**
Progress Bars	**1☐ 2☐ 3☐**
Feedback (grades & correct/incorrect answers)	**1☐ 2☐ 3☐**
Time-limited activities	**1☐ 2☐ 3☐**
Leaderboard	**1☐ 2☐ 3☐**
Badge (stars, cups & certificate)	**1☐ 2☐ 3☐**
Cooperation (wiki/group writing & reflect)	**1☐ 2☐ 3☐**
Emotions (Fun, competition, etc.)	**1☐ 2☐ 3☐**

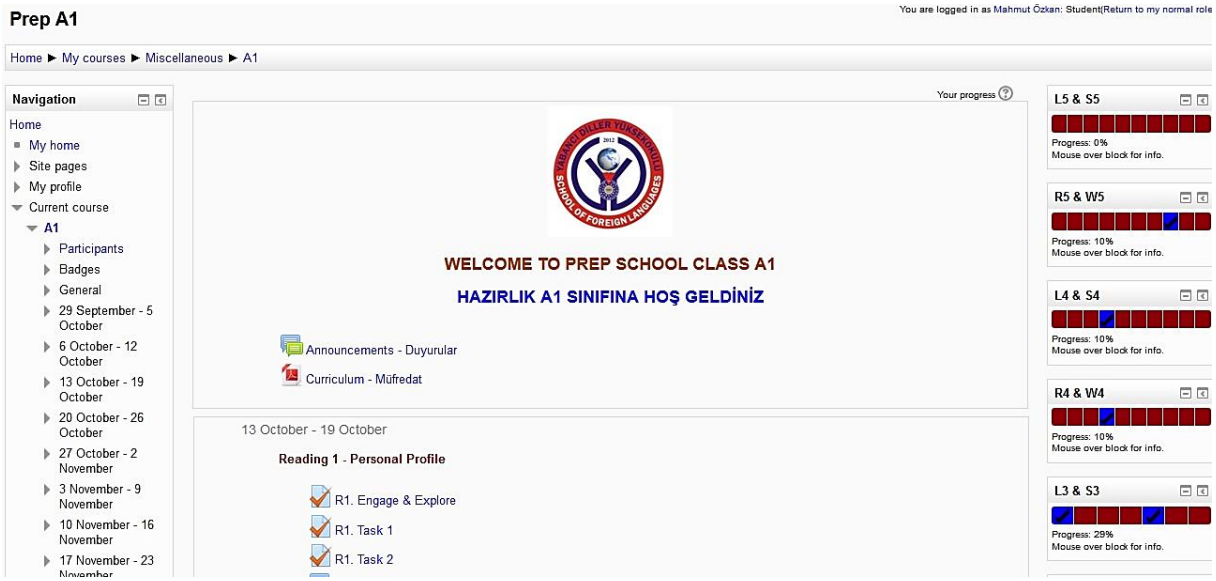
Thank you for your contribution.

Appendix 5. Website Layouts

Layout of the Oxford Learn website:



Layout of the Moodle website:



Appendix 6. Academic Calendar of the Preparatory Program and Syllabus of the SAC Course

SCHOOL OF FOREIGN LANGUAGES

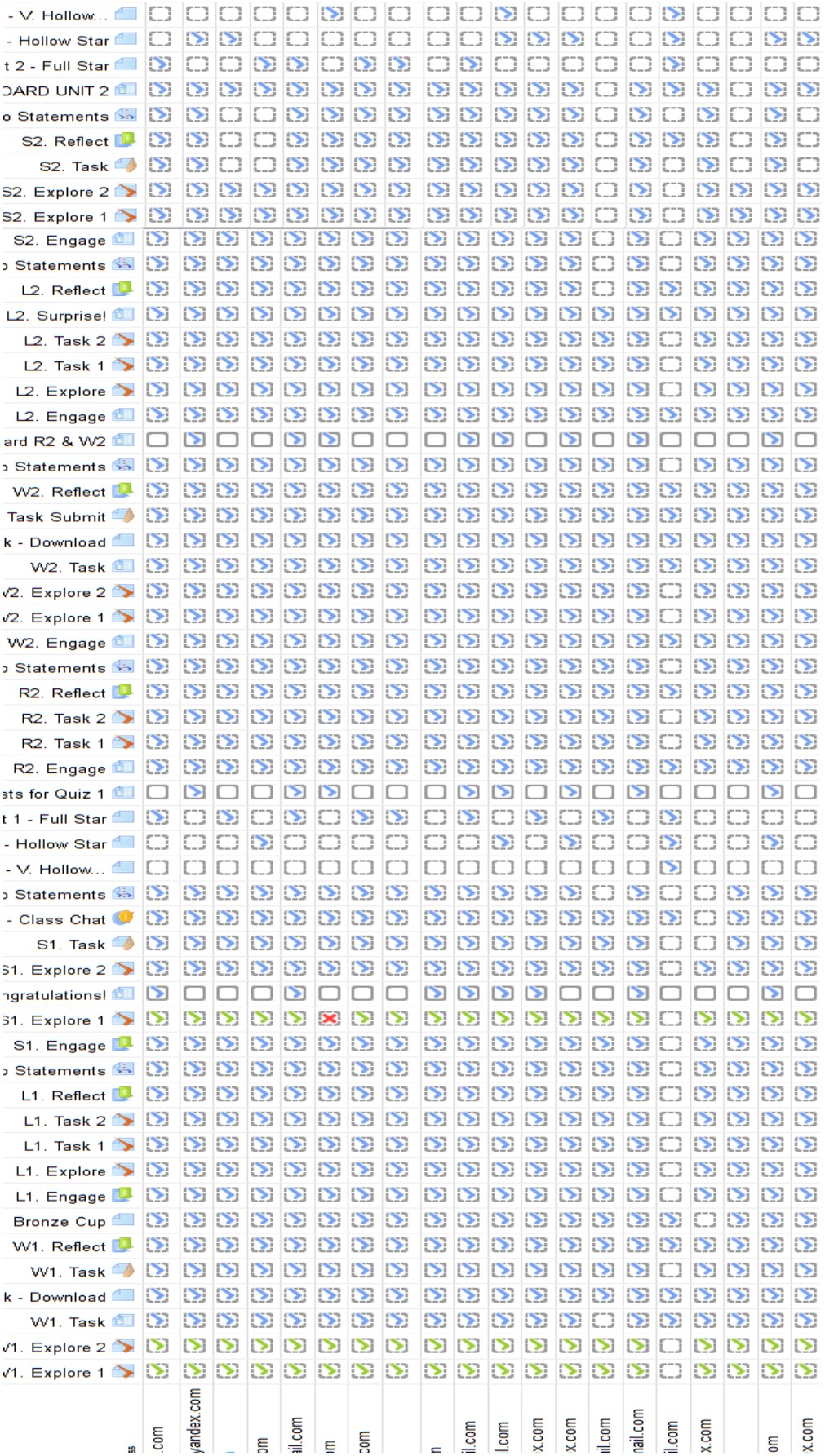
2014-2015 ACADEMIC CALENDAR

FALL SEMESTER				
WEEK	**MC (New) English File**	**WORKBOOK (New) English File**	**SPEAKING Speak Now 1**	**SAC**
1 **15-19 Sept.**	Orientation Week	Orientation Week	Orientation Week	Orientation Week
2 **22-26 Sept.**	Beginner Unit 1	Beginner Unit 1	Speak Now 1 Unit 1-2	Registration
3 **29 Sept.-3 Oct.**	Beginner Unit 2	Beginner Unit 1	Speak Now 1 Unit 3-4	Induction Courses Oxford Learn & Moodle
4 **6-10 Oct.**	Beginner Unit 3 **BAYRAM**	Beginner Unit 2	Speak Now 1 Unit Revision-5	Induction Courses Oxford Learn & Moodle
5 **13-17 Oct.**	Beginner Unit 3 **Pop Quiz 1**	Beginner Unit 3	Speak Now 1 Unit 6-7	**A1** Reading 1 Writing 1
6 **20-24 Oct.**	Beginner Unit 4 **Portfolio 1 (Written)**	Beginner Unit 3	Speak Now 1 Unit Revision-8	Listening 1 Speaking 1
7 **27-31 Oct.**	Beginner Unit 5 **(QUIZ 1 Progress)**	Beginner Unit 4	Speak Now 1 Unit 9-10	Reading 2 Writing 2
8 **3-7 Nov.**	Beginner Unit 5-6	Beginner Unit 4-5	Speak Now 1 Unit 11-12	Listening 2 Speaking 2
9 **10-14 Nov.**	Beginner Unit 7 **(Midterm 1)**	Beginner Unit 5-6	Speak Now 1 Unit Revision- 13	Reading 3 Writing 3
10 **17-21 Nov.**	Beginner Unit 7/ Elementary Unit 1 **Pop Quiz 2**	Beginner Unit 7	Speak Now 1 Unit 14-15	Reading 3 - Listening 3 Writing 3 - Speaking 3
11 **24-28 Nov.**	Elementary Unit 2 **Portfolio 2 (Spoken)**	Elementary Unit 1	Speak Now 1 Unit 16- Revision	Listening 3 Speaking 3
12 **1-5 Dec.**	Elementary Unit 3 - 4 **(QUIZ 2 Progress)**	Elementary Unit 2	Speak Now 1 Unit 17-18	Reading 4 Writing 4
13 **8-12 Dec.**	Elementary Unit 4 – 5	Elementary Unit 3	Speak Now 1 Unit 19-20	Listening 4 Speaking 4
14 **15-19 Dec.**	Elementary Unit 5 - 6 **Portfolio 3 (Written)**	Elementary Unit 4	Speak Now 1 Unit Revision- 21	Reading 5 Writing 5
15 **22-26 Dec.**	Elementary Unit 6 - 7 **Pop Quiz 3**	Elementary Unit 5	Speak Now 1 Unit 22-23	Listening 5 Speaking 5
16 **29 Dec.-2 Jan.**	Elementary Unit 7 **(Midterm 2)**	Elementary Unit 6	Speak Now 1 Unit 24- Revision	Revision
END OF SEMESTER				

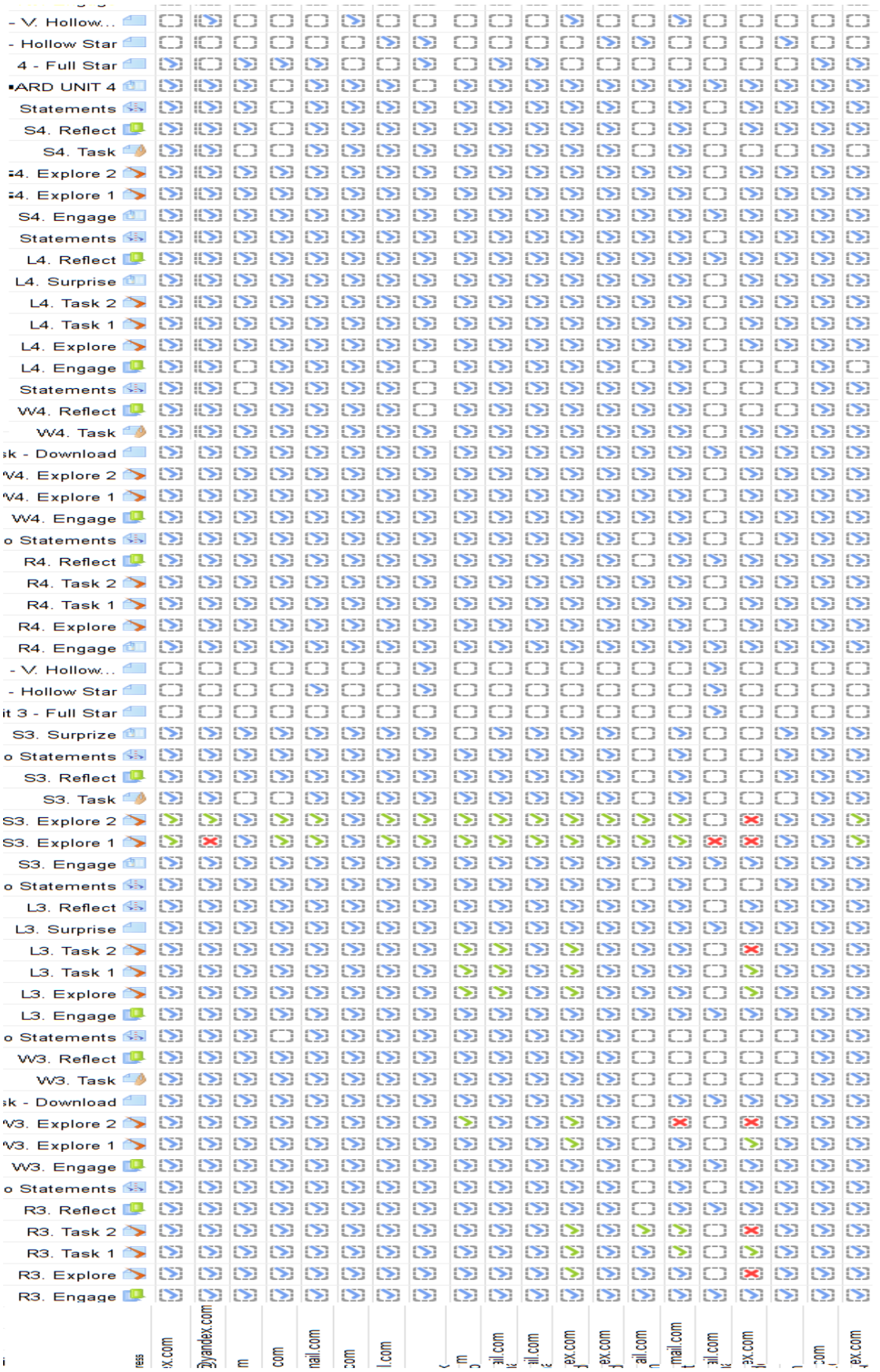
Appendix 7. Measured Number of Logs for All Units

Students	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Measured Total	Difference %
Student 1	280	351	314	326	278	1549	430
Student 2	271	229	279	361	390	1530	425
Student 3	215	230	342	249	277	1313	365
Student 4	221	269	304	217	237	1248	347
Student 5	269	239	305	165	179	1157	321
Student 6	232	173	225	174	270	1074	298
Student 7	257	148	278	188	185	1056	293
Student 8	264	147	194	173	249	1027	285
Student 9	234	168	154	176	229	961	267
Student 10	223	151	194	146	186	900	250
Student 11	248	180	179	132	157	896	249
Student 12	183	145	202	156	182	868	241
Student 13	180	166	199	133	170	848	236
Student 14	184	122	204	234	71	815	226
Student 15	194	146	131	124	177	772	214
Student 16	217	137	144	134	140	772	214
Student 17	191	158	160	136	127	772	214
Student 18	100	224	168	124	141	757	210
Student 19	165	119	130	123	114	651	181
Student Total	**4128**	**3502**	**4106**	**3471**	**3759**	**18966**	**277 (Mean)**

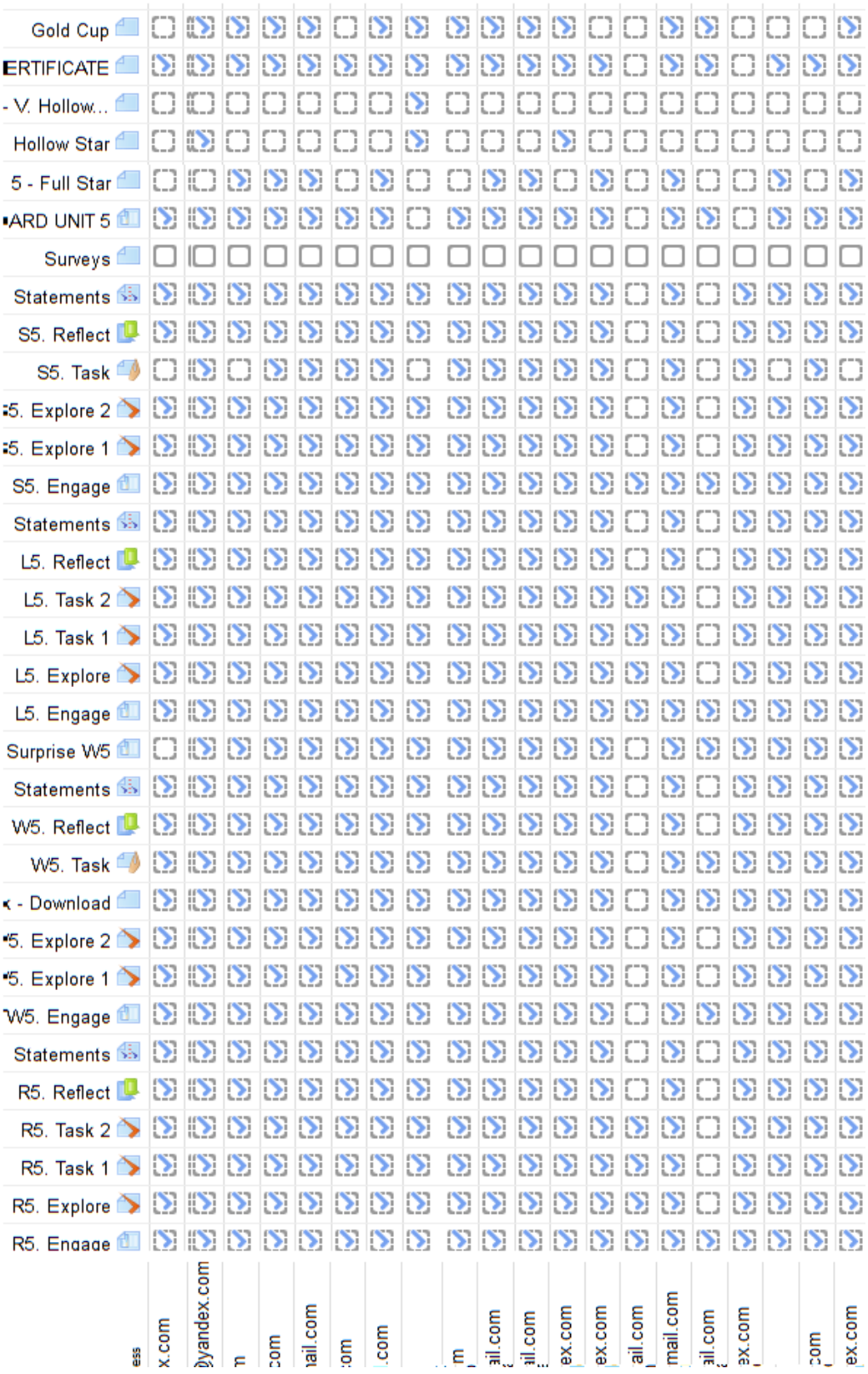
Appendix 8. The Whole Activity Completion Report (1/3)



Appendix 8. Continued (2/3)



Appendix 8. Continued (3/3)



CURRICULUM VITAE

PERSONAL DETAILS

Name : Mahmut ÖZKAN
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Marital Status : Married
Email : ozkanmahmut@gmail.com

EDUCATIONAL BACKGROUND

2011 – 2016 : PhD, Çukurova University, Institute of Social Sciences, English Language Teaching
2009 – 2011 : MA, Çukurova University, Institute of Social Sciences, English Language Teaching
1995 – 1999 : BA, Çukurova University, Faculty of Education, English Language Teaching

WORK EXPERIENCE

2012 – …. : K.Maraş Sütçü İmam University (English Instructor)
2009 – 2012 : Kilis 7 Aralık University (English Instructor)
1999 – 2009 : Primary and Secondary Schools, Ministry of National Education (English Teacher)

ACADEMIC PARTICIPATIONS AND PUBLICATIONS

A. Papers Presented in International Scientific Conferences and Published in Conference Proceedings:

A1. Özkan, M. & İlin, G. (2012). Effects of Social Constructivist Virtual Learning Environments on the Productive Skills. In Köksal, D. (Ed.), *The 7th International ELT Research Conference "Philosophical Perspectives in ELT Research"*, 27-28 Nisan (pp. 171-180). Çanakkale 18 Mart University, Çanakkale: Nobel Akademik Yayıncılık.

A2. Özkan, M. (2015). Online Exams Instead of the Finals: Computer-Assisted Language Testing as Perceived by Non-English-Major University Students. Paper presented at *The International Conference on Technology, Science, Social Sciences and Humanities - ICTeSSHI*, June, 5, (pp. 122-126), New York City, NY, USA.

A3. Özkan, M. (2015). Wikis and Blogs in Foreign Language Learning from the Perspectives of Learners. The Proceedings of 2nd Global Conference on Conference on Linguistics and Foreign Language Teaching. *Procedia - Social and Behavioral Sciences, 192,* 672-678. doi: http://dx.doi.org/10.1016/j.sbspro.2015.06.102

A4. Ağçam, R., & Özkan, M. (2015). A Corpus-based Study on Evaluation Adjectives in Academic English. The Proceedings of the 1st GlobELT Conference on Teaching and Learning English as an Additional Language. *Procedia - Social and Behavioral Sciences, 199,* 3-11. doi: http://dx.doi.org/10.1016/j.sbspro.2015.07.480

A5. Ağçam, R. & Özkan, M. (2015). Investigating Author Stance in Academic Writing: A Corpus-Based Study on Modal Verbs. In Stojković, N. & Nejković, V. (Eds.), *Synergies of Language Learning*. Niš, Serbia,

B. Papers Presented in International Scientific Conferences :

B1. Özkan, M. (2013, November). *Introduction of Blended Learning into Preparatory Classes – An Institutional* Experience. Paper presented at the 16th International INGED ELT Conference. 9 Eylül University, İzmir, Turkey.

B2. Özkan, M. & Ağçam, R. (2015, March). *Integrating Game Elements into Online Language Learning*. Paper presented at LIF2015 - Language in Focus: Contemporary Perspectives on Theory, Research, and Praxis in ELT and SLA. Nevşehir, Turkey.

B3. Ağçam, R. & Özkan, M. (2015, March). *Second Language Writing Development of English Elementary Students*. Paper presented at LIF2015 - Language in Focus: Contemporary Perspectives on Theory, Research, and Praxis in ELT and SLA. Nevşehir, Turkey.

B4. Özkan, M. & Ağçam, R. (2015, May). *Gamification in Online EFL Education: Does It Make a Difference?* Paper presented at Çukurova International English Language Teachers Conference. Çukurova University, Adana, Turkey.

B5. Ağçam, R. & Özkan, M. (2015, May). *Investigating Students' Perceptions of Language Testing and Assessment in Higher Education*. Paper presented at Çukurova International English Language Teachers Conference. Çukurova University, Adana, Turkey.

B6. Özkan, M. (2016, May). *Integrating Game Elements into Online English Education in Prep Programs*. Paper presented at International ELT Conference Cultivation of Quality Culture in ELT in Higher Education. Ege University, İzmir, Turkey.