

Using Gamification as an Approach to Learning in an EFL Classroom

by

Guillem Miranda Rodríguez

Submitted to the

Department of English and German Studies

in partial fulfillment of the requirements for the degree of

**Master's in Teaching and Learning English as a Foreign
/ Second Language**

at the

UNIVERSITAT ROVIRA I VIRGILI

June 7, 2021



Signature of Author _____



Certified by _____ *Marni Manegre*

Dr Marni Lynne Manegre
Master Thesis Supervisor

Accepted by _____ Isabel Oltra-Massuet

Dr Isabel Oltra-Massuet

Abstract

This thesis addresses the idea that using video game elements in the context of primary school foreign language education will have a positive effect in the student's motivation and language acquisition. This is based on Lander's (2014) gamification theory which stated that in order for the game elements to be effective, the game characteristics must cause a target behavior that must increase learning. The hypotheses of this thesis were that, first, through the use of a gamified tools and other games, the participants would, in result, increase their motivation towards language acquisition and, second, their language acquisition would, also, increase. These hypotheses were tested across a group of nineteen primary school students whose ages ranged from 11- to 13-years old. The results, when analyzing the data, suggest that there is a significant difference between the pretest and the posttest and, when the students were asked for feedback, it was determined that their motivation towards language learning had increased. From this study, we can determine that a gamified approach has a positive effect on motivation and language acquisition.

Acknowledgements

Throughout the writing of this thesis, I have received a great deal of support and assistance.

First and foremost, I would like to thank my supervisor, Dr. Marni Lynne Manegre, for her guidance and feedback throughout this thesis and also for her encouragement and support.

I would also like to thank the school in which the study of this thesis was conducted, Escola St. Pau de Reus. The students and the staff were very welcoming and very helpful throughout the study, and I enjoyed my experience as a student teacher.

Additionally, I would like to thank my mother, Maria del Mar Rodríguez Albaigès, for her sympathetic ear and patience as she watched me walking through our house whenever I could not continue writing or looking for inspiration.

TABLE OF CONTENTS

1. Introduction	1
1.1 Theory of Motivation in EFL	1
1.1.1. Attribution theory	2
1.1.2. Expectancy Value Theory	4
1.1.3. Self-efficacy	5
1.1.4. Self-Determination Theory	6
1.2. Effect of Technology / Gamification on Motivation in EFL Classrooms	8
1.3. What is Gamification / History of Gamification	9
1.4. How can gamification affect learning?.....	16
1.5. Objectives of the Current Study	19
1.5.1. Research Questions	20
2. Method.....	22
2.1. Participants	22
2.2. Materials	22
2.2.1. Classcraft Method.....	23
2.2.2. Classcraft Elements	25
2.2.3. Card Games	30
2.3. Procedure	31
2.4. Statistical Analysis	32
3. Results	33
3.1. Quantitative Analysis	33
3.2. Qualitative Analysis	35
3. Discussion.....	38
4.1. Discussion of the Quantitative Data	38
4.2. Discussion of the Qualitative Data	39
4.3. Limitations of the Study and Implications for Further Research	40
4. Conclusion	41
REFERENCES	42
APPENDIX A.....	47
APPENDIX B.....	50
APPENDIX C.....	53

LIST OF TABLES

Table 1. Paired Samples T-Test for the Reading Section	33
Table 2. Paired Samples T-Test for the Listening Section	33
Table 3. Paired Samples T-Test for the Writing Section	34
Table 4. Paired Samples T-Test for the Overall Results.....	34

LIST OF FIGURES

Figure 1 Game Elements by Werbach and Hunter (2012).....	9
Figure 2. Landers (2014) Theory of Gamified Learning	17
Figure 3 Screen Capture of the Demo Class Dashboard of ClassCraft.....	24
Figure 4 Baseline Guardian (Left) Customized Guardian Avatar (Right).....	24
Figure 5 Screen capture of Classcraft Character creation.....	25
Figure 6 Screen Caption of the Mage's Powers	27
Figure 7 Screen Caption of the Class Tools of Classcraft	27
Figure 8 Screen Caption of the Adventures in the Wild (Boss Battles)	29
Figure 9 Likert-Scales Questionnaire Answers	35

CHAPTER 1

Introduction

Students, through technology, can experience different teaching approaches, methods, and techniques. This has increased more recently due to the introduction of technology in the classroom, such as with the introduction of interactive whiteboards, projectors, in-class internet access, and gamification. This study will focus on one of these methods, gamification. Gamification is defined as using video game elements in a non-gaming context, such as role-playing game elements, more specifically by introducing reward systems, leaderboards, progressive levels, and character creation. Not only does this create a fun learning environment, but the use of gamification also brings a lot of advantages in learning to the EFL classroom. One of these advantages is that gamification promotes *motivation* and also, with the adequate gamified tools, gamification promotes behavior changes that stimulate, in the context of this study, *language acquisition*.

The aim of this study is to investigate the role of gamification on student motivation and language acquisition. This was conducted in a sixth grade EFL classroom in a primary school where the students have either Arabic or Spanish as their native language.

1.1. Theory of Motivation in EFL

Motivation in education is defined by Svinicki and Vogler (2012) as an interaction process between the learner and the environment, which is marked by initiation, increase, selection, or persistence of goal-directed behavior. Motivation has been thought as a characteristic of the activity, the individual and the situation in which the individual is engaged.

Furthermore, motivation is a factor that is used to explain “the increase or decrease in the frequency or the intensity of an individual’s goal-seeking behavior” (Svinicky & Vogler, 2012 p.132). Svinicky and Vogler (2012) also describe motivation as both a quality of an individual and, also, as the result of the individual’s interaction with the situation. As an individual’s characteristic, one could describe a person as being motivated when we imply that the force behind a behavioral change is within the individual regardless of the situation. As a characteristic of the situation, a situation can be described as being motivated when it is implied that the condition in which a person is performing provides the reason for a behavioral change without the intervention of the individual.

Svinicky and Vogler (2012) point out the most helpful theories that could help to understand motivation: (1) attribution theory, (2) expectancy value theory, (3) self-efficacy theory, (4) achievement goal orientation theory, and (5) self-determination theory.

1.1.1. Attribution theory

Weiner (1984) explains that the Attribution theory is based on the idea that people try to explain past events by identifying the possible cause for that past event. Weiner (1984) further explains that these explanations to which are referred to as “Attributions” may change from one person to another. Academically, one student may explain that his/her failure on a test is due to his/her lack of study. However, another student may attribute his/her failure as the instructor’s unfair grading process. All these attributions fall alongside the following dimensions: *locus*, *constancy* and *controllability*.

Locus refers to the external or the internal attribution of the cause of the event. In the previous example, an internal attribution would be attributing the failure to the lack of

studying. And, blaming the teacher's grading process as the factor of ones' failure, would be an external attribution.

Constancy includes the aspects of stability which Weiner (1984) refers as "temporal consistency" and consistency referred as "*cross-situational* consistency" (Weiner 1984, p. 21). In the example mentioned before, lack of studying would be an unstable attribution as the student could have chosen to study more, and the teacher's grading process is "situational" to that class in particular.

And finally, controllability refers to how much control the individual has or believes he/she has over the situation. If the student decided not to study but do other activities like going out with friends, then the student had a high degree of controllability. However, if the student did not study due to, for example, an illness, the student had a low degree of controllability. This dimension differs from the first dimension, locus, as not all internal attributions are controllable, and not all external attributions are uncontrollable.

Motivation, then is affected by one's own perception of an attribution's characteristics. Because they are within one's power to change, the most motivational attributions are internal, inconsistent, and controllable. However, attributions that may suggest the idea that one is powerless against them, due to them being external, consistent, and uncontrollable, are the lowest motivational attributions. So, in a situation with two students, if the first student performs poorly and attributes the outcome to a lack of study, while the second student blames the teacher for his/her unfair grading process, and these students are compared, in terms of motivation, the first attribution empowers the student to change his/her behavior in order to be able to get a better result, and the second student feels

unmotivated to change the outcome due what he/she perceives as an uncontrollable event. To summarize, this theory states that a student will feel more motivated to change the outcome, if the attributions are internal, under the control of the student and are inconsistent. Therefore, if a student presents motivational problems, and they attribute their problems to uncontrollable attributions, a shifting towards a controllable attribution is advised in order to influence their motivational outcome.

1.1.2. Expectancy Value Theory

As Eccles and Wigfield (2006) explain that expectancy value is a combination of two linked sources: the individual's belief of their success, *expectancy*, and the value that he/she assigns to the task, *value*. If either expectancy or value are low or missing, motivation will hinder. For example, a student will feel motivated to take a particular subject because he/she enjoys the content, or value, and is good at that subject, or expectancy. However, if either value or expectancy is the opposite, the motivation of the student will be lower.

Expectancy can be affected by several sources like prior or ongoing success at the activity, which would increase a favorable expectancy, or persuasion from a credible source, for example a teacher. So, we can conclude that a student may study a certain subject because he/she is usually successful at it or because a teacher told him/her that he/she would be successful. The value also can be affected by other sources like the match to the learner's goals, the approval of the activity, intrinsic interest, praise, support, and some tangible rewards.

Following the last example, we could say that a person can influence another person's motivation by increasing either their expectancy for success or the value of the task.

However, the interpretation of the situation that determines that a particular action will enhance motivation is determined by the learner, so, what one student may find valuable another may not.

1.1.3. Self-efficacy

Albert Bandura (1986) developed the Social Cognitive Theory (SCT) to describe how learning is present in a social setting that allows for reciprocal interactions with others and the surrounding environment. This was elaborated on by Pintrich and Schunk (2002) when they utilized the motivational components of the theory in their explanation of the self-efficacy theory.

Motivation, in this theory, stems from the individual's own belief on their success on a task. One important characteristic is that this theory is *task-specific*. An individual, for example, might have self-efficacy in one specific area. This means that he/she believes that he/she will be successful in that specific area. If he/she had a low self-efficacy in that specific area, he/she would be more likely to avoid it.

Martin (2001) further expanded on SCT and explains that Self-efficacy constitutes:

“a generative capacity such that students high in self-efficacy tend to generate and test alternative courses of action when they do not meet with initial success, (b) enhances students' functioning through elevated levels of effort and persistence, and (c) enhances students' ability to deal with a problem situation by influencing cognitive and emotional processes related to the situation” (Martin 2001, p.5)

So, students that present low self-efficacy tend to view situations as more difficult than they are in reality, Martin arrives to the idea that self-efficacy and self-belief have been linked to self-regulation, effort, persistence, and achievement. Self-belief is, then, relevant to student motivation.

Therefore, we could say that self-efficacy is developed through prior successes with tasks through observation of another person being successful or through encouragement and feedback from a respected source.

1.1.4. Self-Determination Theory

Ryan and Deci (2000)'s theory explains the concepts of intrinsic and extrinsic motivation, that is doing something for the satisfaction of doing it or doing it for the potential rewards. Ryan and Deci (2000) describe that intrinsic motivation is an internally driven desire to behave in a particular way. According to this theory, a student feels more motivated if he/she is allowed to choose, for example, their own topic for a written assignment (intrinsic motivation). But a student will also feel motivation if the topic that he/she chooses is a valuable topic to improve society (extrinsic motivation).

Martin (2001) explains that when these theories are taken together, as explained above, they tell us: “(a) why students do what they do, (b) how they do it, and (c) their confidence in being able to do it.” (Martin 2001, p.3). He further describes motivation as the students' energy and drive to learn, work hard, and achieve at school. Several research studies have shown that a plethora of factors can impact students' motivation, including the nature of the methods that are being used on them, the relationships that students have with their teachers, the parent's expectations, classmates, school culture and structure, gender and age.

Martin's 2001 study describes the psychometric properties of the Student Motivational Scale as "an instrument measuring school students' motivation" (Martin 2001, p.2). In this scale, motivation is assessed through nine different measures which are separated into what Martin describes as *boosters*, constructs that reflect adaptive motivations, and *guzzlers*, constructs that reflect less adaptive motivation. Boosters are found in thoughts, which are exemplified as self-belief, learning focus, value of schooling and behaviors which are exemplified as persistence and planning, and monitoring. Guzzlers encompass thoughts or feelings, such as low control and anxiety, and behaviors, such as avoidance and self-sabotage.

In order to further explain the concept of Boosters and Guzzlers, Martin (2001) refers to the *need achievement and self-worth theory*. Martin further describes that the need achievement theory was revisited from a self-worth motivation perspective by Covington (1992) who focused more on the students' need to protect their self-worth. According to Martin et al. (2001) *self-handicapping and defensive pessimism theory*, students who tend to avoid failure and protect their self-worth has been shown to reflect in two different ways in students' lives: avoidance and self-sabotage (guzzler – behavior). These behaviors have been shown to impact on the student's motivation and achievement.

According to the attribution theory, the three dimensions: locus, constancy and controllability provide the individual with the necessary information about the controllability of future events. As mentioned above, the students that felt that they had no control or little control over the outcome of a situation are uncertain whether failure can be avoided. In response to this feeling of failure, Martin (2001) states that students may engage in "counterproductive behavior (self-sabotage) or may give up altogether (become learned

helpless) “(Martin 2001, p.4). Martin (2007;2001) concludes that students that perceive that they have low controllability are not inclined in a behavior that guides them towards their achievements. Martin, then, states that the control that the student has over the situation is an important measure when assessing students’ motivation.

In terms of expectation, the notion of self-belief, which was introduced before, can be explained as students who believe that are capable to do a certain task have a positive expectation for their success.

1.2. Effect of Technology / Gamification on Motivation in EFL Classrooms

It is no surprise that the use of technology brings a lot of advantages to the EFL classroom. Ilter (2009) states that with the use of technology, students can see the real world in their classroom. Nowadays, the teaching environment and the teaching strategies need a change because, as Flores (2015) describes, currently, the way in which students process the information is different and the education system does not fit the learners’ needs because learners are aware of the benefits of the information that the Internet provides. Flores (2015) states that Computer Assisted Language Learning (CALL) was instrumental in promoting changes away from the typical classroom setting in L2 acquisition, only gamification promotes a behavioral change that directly relates towards motivation.

Werbach and Hunter (2012a) state that the use of game elements in non-game contexts promote both Intrinsic (the individual’s desire to perform the task for their own sake) and Extrinsic (contingent rewards) motivation, as defined by Benabou and Tirole (2003), which are necessary for L2 learning. In addition, going back to Flores’s (2015) work,

research has found that, in an education context, a gamified approach is somewhat new, but its success in other fields made it adaptable in SLA.

Werbach and Hunter (2012) described how motivation works in conjunction with gamification in three different levels, which they named “elements” in a hierarchy, the Components, at the bottom of the pyramid, generate Mechanics which, in turn, create the Dynamics, which are at the top. In the following figure, Werbach and Hunter (2012) show these game elements with a brief description.

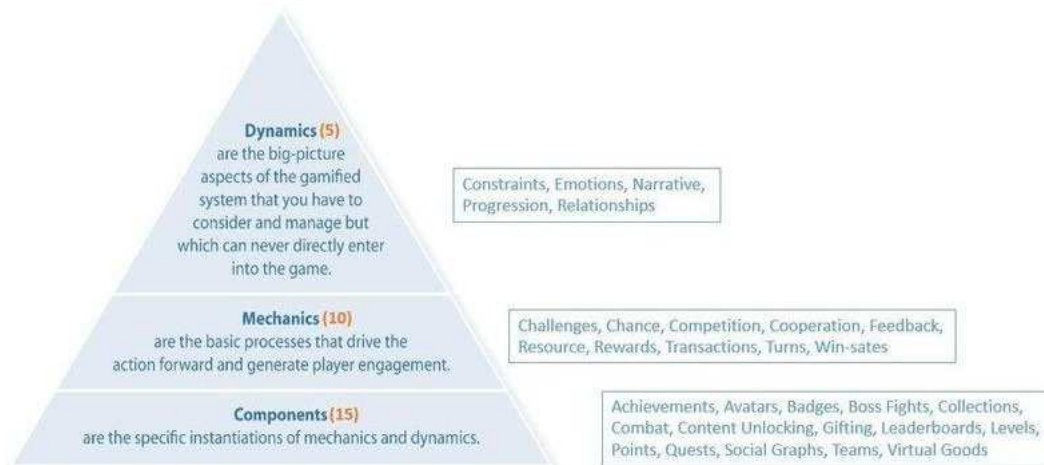


Figure 1 Game Elements by Werbach and Hunter (2012)

According to Azzouz Boudadi, N. and Gutiérrez-Colón, M. (2020), the majority of the gamified systems use reinforcement elements that promote engagement and motivation. The dynamic environments that gamification created through the sense of progress through leveling up create a class environment in which students feel more motivated, and thus, their learning process is enhanced.

1.3. What is Gamification / History of Gamification

There are several definitions of gamification which be further on described. According to Landers et al. (2018), gamification is: “a design process which intends to augment or alter an

existing real-world process using lessons from the game design research literature to create a revised version of that process that users will experience as game-like” (Landers et al., 2018, p.317).

Werbach and Hunter (2012) defined gamification as the usage of game design techniques in a non-game context, for example, a classroom. As Landers et al., (2018) state, gamification itself is not a product, gamification adds game components to change an already existing process to change what that interaction means for individuals. Therefore, gamification is most similar to *game design* and not to *games*. Thus, a gamified application may not even be intended to be fun, as was proved by Armstrong and Landers (2017) when they demonstrated how adding a narrative to an already existing employee learning activity improved the learners’ reactions.

Deterding et al. (2011) define gamification as “the use of videogame elements in non-gaming systems to improve user experience and user engagement” (Deterding et al., 2011, p. 1). Gamification has become a popular technique used across a variety of contexts in order to stimulate people’s motivation in order to engage in particularly targeted behaviors (Perryer et al., 2016). In education, Landers (2014) states that the use of individual game elements, which he defines as any feature or mechanic that is commonly found in games, is becoming quite trending. Landers (2014) exemplifies this statement by presenting a course that was conducted at the Indiana University, which was gamified by means of converting common course metrics and activities to game-like versions. In that course, students at the beginning were Level 1 (which corresponded to a grade of F) and, by participating in class activities, students gained experience points that allowed them to reach a higher level, which, in turn, gave them a higher grade. Students were able to earn experience by completing activities,

such as: quests, presentations and quizzes. This responsible for the gamified approach of the faculty reported an improved reaction from students as a result of the change. Landers (2014) provides another example of a gamified approach in Nicholson's (2013) gamified course at the Syracuse University; this course was created using the recommendations for gamifying classrooms that Sheldon (2012) provides. Nicholson's gamified course added narrative elements and achievements, which recognized target learner behaviors, which Nicholson characterized as a mix of successes and failures.

Landers (2014) states that with the growing popularity and mixed success in both industry and in teaching, further research is needed to explore the specific processes in which gamification improves learning. Landers continues by saying that without a theoretical model that links gamified learning with the outcomes of the efforts of said gamification, the outcomes of these gamified techniques will never be clear. This gap limits, as Landers (2014) states, the possibility to generalize gamification research and provides misleading recommendations to gamification practitioners.

According to Landers, "research designs that compared gamified versus non-gamified learning contexts suggested that any gamification of learning, will produce desirable outcomes for learners" (Landers, 2014, p.753). This last statement is "as unlikely to be true for gamification as it is for serious games" (Landers, 2014, p.753). As Landers proceeds to state that the effect of the incorporation of game elements into instructional efforts is most likely to vary in "both proximal and distal learning outcomes, depending upon the specific game elements used and the contexts in which they are used" (Landers, 2014, p.753).

Hamari (2017) states that the addition of the most common game elements that are associated with gamification, for example: points, levels, and badges may help in some learning contexts, but would detriment others as the current theoretical models do not provide

a clear path from which research could explore the reason why gamification may help in some learning contexts but cause a detriment in others.

In order to resolve this problem, Landers (2014) pointed out that a model addressing the problem mentioned above was necessary to be developed; at first, the most closely related concepts with established research literature (in order to identify parallel attributes and processes) were explored. The area that is most similar to an already established research literature base for gamification, would be serious games, which are also called, games for learning, learning games, educational games and training games). A serious game is defined as by Michael and Chen's (2005) as "a game in which education is the primary goal, rather than entertainment" (Michael & Chen, 2005, p.17). The definitions of serious games and gamification learning, thus, are somewhat similar if education and employee training are considered as "non-gaming contexts." Landers (2014) points out that if this overlap is not resolved, the research community would risk "construct proliferation" (Landers 2014, p.754) which, as Landers explains, could inhibit the progress of scientific inquiry in the gamification literature. Therefore, by resolving this overlap, researchers will be in a better position to explore and explain the processes in which gamification practitioners can be provided with specific recommendations for their sessions.

With this in mind, Landers (2014) identified the theoretical commonalities between serious games and gamification learning using Bedwell et al.'s (2012) work as the base for the comparison. Landers concluded that serious games and gamification learning are: "similar in that they both incorporate game elements; they differ in that games incorporate a mixture of all game elements, whereas gamification involves the identification, extraction, and application of individual game elements or limited, meaningful combinations of those elements." (Landers, 2014, p.754)

Given this definition, Landers (2014) further states that “the gamification literature has begun to grow apart from the serious games’ literature; thus, researchers have made a theoretical distinction between them” (Landers, 2014, p.755). As it was mentioned before, there is a substantial overlap between serious games and gamification. Landers states that this overlap seems to be a consequence of industry marketing or inertia but not a consequence of scientific reasoning and that this overlap must be resolved in order to facilitate the growth of both works of literature.

In order to resolve this overlap, Landers parsimoniously defined both *serious games* and *gamification*.

From a scientific perspective, serious games have been studied in an unsystematic manner with a huge variety of approaches and terms. As an example, Landers explains in his article that while one researcher examines the notion of challenge in serious games, another one may be researching conflict; as Landers says, it may be unknown to what extent these two (challenge and conflict) may be present in the same game feature.

As the most parsimonious model, Landers (2014) presented the above-mentioned work presented by Bebdwell et al. (2012) in which 19 game attributes were reorganized into nine categories which were based upon empirically derived game player and game developer mental models; these categories were: “action language assessment, conflict/challenge, control, environment, game fiction, human interaction, immersion, and rules/goals” (Landers 2014, p.755)

According to Landers (2014), Bedwell et al. (2012) taxonomy was created using a card sort technique whose goal was to balance theoretical concerns with practical concerns.

Landers (2014) states that this model should be effective “in focusing the heretofore scattered and construct-prolific research on the effect of serious games on learning.” (Landers, 2014, p.755)

In contrast to serious games, the term gamification has existed in the academic literature since at least Van Benthem’s (2002) *What logic games are trying to tell us* in which he states that any logical task can be gamified. Van Benthem used the term “gamified” to explain the conversion of a non-game activity into a game which, in turn, is still the most common definition of gamification. However, even though this definition still sees traction, this definition of gamification is detrimental to the development of the scientific research literature on gamification. Landers (2014) points out another definition instead and states that Deterding et al. (2011) definition should be embraced as it implies that the elements are “identified from games and used in isolation or in limited combinations to improve other processes.” (Landers, 2014, p.757)

In a study conducted by Landers and Callan (2011), the researchers created an online social network site in which they used badges to motivate students to complete a number of optional multiple-choice tests with the purpose of improving their learning through their completion. Students that partook in the study, at the end of the semester reported their reactions towards the gamified system, and, on average, their experience was fun, enjoyable and rewarding. However, it is not mentioned in Landers’ work if their learning was enhanced due to the effect of the gamified or not. However, Landers (2014) remarks that the generalizability of the mentioned study is limited because it treats “gamification much as early serious games research treated games” (Landers 2014, p.757)

Due to this reason, the authors of the above-mentioned study only examined the relationship between the use of the gamified tool as a whole and outcomes of interest instead of considering what specific attributes of gamification led to the success of the study.

For this reason, Landers (2014) concluded that with the use of the above-mentioned study the specific aspects of the gamified approach that led to the increase in the participants' behaviors couldn't be exactly pointed out.

In order to prevent these kinds of ambiguities in future gamification research, Landers (2014) proposed that gamification of learning could be scientifically defined as “as the use of game elements, including action language, assessment, conflict/challenge, control, environment, game fiction, human interaction, immersion, and rules/goals, to facilitate learning and related outcomes.” (Landers 2014, p.757)

By further examining Bedwell et al. (2012) taxonomy, Landers (2014) noted that the attribute categories mentioned above in the definition of gamification of learning are also generally present in all serious games, but these attributes vary in the manner in which they are exposed and to what extent. According to Landers (2014), the manner in which the attributes are exposed and the extent that they are exposed. In serious games, all of the above-mentioned attributes are present but vary in degree. However, in gamified learning, some specific game attributes are “targeted, extracted, and adapted to non-game contexts.” (Landers 2014, p.757)

According to Landers (2014), the goal of the study of gamification should be to adopt and test the above-mentioned attributes individually and in meaningful combinations with “explicit attention paid to attributes chosen” (Landers 2014, p.758)

Landers (2014) states that which combinations are impactful and why are the combinations are impactful still remains unanswered.

As Connolly et al. (2012) state, the objectives of both serious games and gamification are to improve learning outcomes, however, the processes that are involved in achieving this improvement of the learning outcomes are different. In the study of serious games, serious games are theorized to affect learning directly. According to Landers (2014), serious games assume the role of instructor by providing content directly to learners, and Torres-Toukourmidis et al. (2018) also state that even though some games also affect the learner's motivation or engagement, it is not the main purpose of serious games to affect the learner's motivation or engagement without providing the learner with instructional content. In contrast to this information, Landers (2014) states that, instead of influencing the learning process directly, the goal of gamification practitioners is to alter the learner's behavior or attitude in order to improve any pre-existing instruction.

In the Indiana University study mentioned above, the gamification practitioners inserted fantasy elements into the course not to teach students about the inserted fantasy elements but to improve the student's engagement. With increased engagement, the main components of the course should have been more effective. Thus, Landers (2014) concludes practitioners of gamification hope that: game attributes will affect a learning-related behavior that will, in turn, affect learning in some way. (Landers, 2014, p.759)

1.4. How can gamification affect learning?

Landers (2014) proposes two processes by which game elements can affect learning: "a more direct *mediating* process and a less direct *moderating* process." (Landers, 2014, p.760).

These two processes, together, form the foundation of his theory of gamified learning. Landers (2014) presents his model in Figure 2.

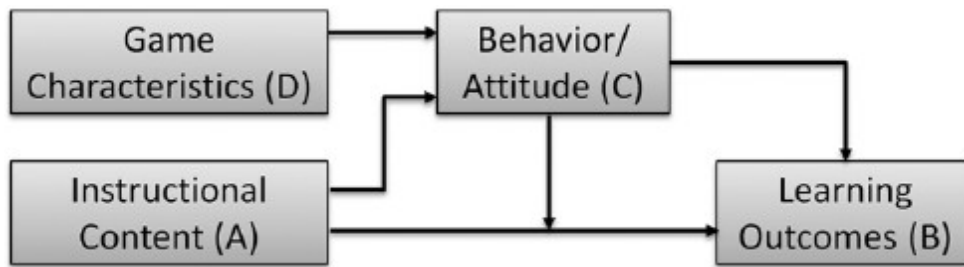


Figure 2. Landers (2014) Theory of Gamified Learning

Landers (2014) proceeds to explain each direct path that is depicted in the above-mentioned model by using five propositions.

Proposition 1: Instructional content influences learning outcomes and behaviors.

The first proposition explains that Instructional Content (A) influences Learning Outcomes (B) and Behavior (C). Landers (2014) states that this path $A \rightarrow C \rightarrow B$ represents the most consistently demonstrated relationships in the educational research literature of gamification. Landers (2014), in this proposition, concludes that the success of any gamification effort is linked to the effectivity of the instructional content in which the gamified approach is taking place. So, the goal of gamification, is to improve the Instructional Content but not replace instruction. “If the instructional content does not already help students learn, gamification of that content cannot itself cause learning.” (Landers 2014, p.760)

Proposition 2: The second proposition explains that Behaviors and attitudes (C) influence Learning (B). Landers (2014) states that learner attitudes and behaviors can create a substantial difference in learning. For gamification to be successful, the behavior or attitude that is targeted by the gamified approach must influence learning. Thus, in this proposition is concluded that the gamification that is likely to improve learning is the one that provides

game rewards in exchange for “high-quality notes or allows learners to control the frequency of meta-cognitive reminders” (Landers 2014, p.761)

Proposition 3: The third proposition explains that Game characteristics (D) influence changes in Behavior/Attitudes (C). In this proposition, Landers (2014) states that game characteristics are theorized to affect the learner’s behaviors and attitudes. It is suggested in this proposition that if the level of adaptation of a game is increased to the learner’s ability, the learner’s cognitive strategies will be increased. In a gamified context, any behavior or attitude could be targeted to promote a change of the learner’s aptitude. As an example, Landers (2014) references, again, the Indiana University study which was mentioned above. In this study, the behavior or attitude that was targeted was *engagement*. However, Landers (2014) mentions that the degree to which gamification can create an increase of those behaviors and attitudes still remains empirically unanswered.

Proposition 4: The fourth proposition explains that Game Characteristics (D) affect Behaviors/Attitudes (C) that moderate instructional effectiveness. Landers (2014) explains that the goal of the gamification practitioner of the Indiana University study was to improve learning-related attitude by conveying the assignments as fun or to increase the student’s effort by incorporating fantasy elements. Like it was previously mentioned, the instructional content must be already effective in order for the gamified approach to have a positive effect. The reason for this is that if the instructional content isn’t effective already, students may be motivated to increase their participation in irrelevant activities.

In the Indiana University study, by incorporating fantasy elements as a game characteristic there was an increase in engagement.

Proposition 5: The fifth and last proposition states that the relationship between Game Characteristics (D) and Learning Outcomes (B) is mediated by Behavior/Attitude (C). In

Landers' (2014) gamification theory, in order for the game elements to be effective, the game characteristics must cause the target behavior, and that target behavior must increase learning. This is clearly explained in this Landers' (2014) quote:

“If *fun* did affect learning, but gamification did not lead to *fun*, game elements would also have no ultimate effect on learning. Therefore, gamification may not succeed at improving learning if either of the two causal relationships within mediation does not hold: The instructor must ensure that the game elements lead to the behavior and also that the behavior leads to learning. If either is false, gamification will fail to produce intended outcomes.” (Landers, 2014, p 763).

In summary, the gamification model of Landers indicates that through one of two processes, gamification can be affected. In both of these processes, the gamified approach intends to influence a learning-related behavior or attitude. Gamification theory affects learning via moderation “when an instructional designer intends to encourage a behavior or attitude that will increase learning outcomes by making pre-existing instruction *better* in some way.” (Landers, 2014, p.763).

1.5. Objectives of the Current Study

According to Azzouz Boudadi, N. and Gutiérrez-Colón, M. (2020), Gamification and Game-Based Learning (GBL) are still confused with one another, GBL uses actual games to achieve the educational goals that the teacher selects, Gamification uses some game elements that promote motivation and engagement.

The most commonly used gamified applications as described by both Flores (2015) and Azzouz Boudadi, N. and Gutiérrez-Colón, M. (2020) are Kahoot and Duolingo. Both of these applications share some traits named reinforcement elements which as stated before, are: points, levels, badges and leader boards. These traits are expanded by Chan, E., Nah, F. F. H., Liu, Q., and Lu, Z. (2018) with the addition of: story/theme, clear goals, feedback, rewards, progress, and challenge. To further understand the impact of the gamified traits mentioned above, an experiment was performed in which a gamified approach was performed and observed in a context of a primary school classroom. For this study, though, instead of using the most commonly gamification applications, a small selection of games and gamified tools were selected to conduct the study.

1.5.1. Research Questions

Regarding the Research Questions, the objective of this study is to be able to see with empirical data the impact that a gamified approach has in language learning, in specific, the impact that a gamified tool has in primary school students in: Reading, Listening and Writing.

Thus, the research questions are:

- Will a gamified approach improve the levels of Reading, Listening and Writing?
- Will a gamified approach improve the student's motivation towards language learning?

Similar to the research questions, the hypotheses of this study are also centered in the improvement of the levels of Reading, Listening and Writing of the students as well as the improvement of the participants' motivation towards language learning.

Thus, the hypotheses are:

- A gamified approach will improve the acquisition of the English language.
- A gamified approach will improve the participants motivation towards English learning.

CHAPTER 2

Method

The data for this study was collected from the primary school St. Pau in the city of Reus during the second trimester. Both in the first and the second trimester the classes were taught by the same instructor and were identical in terms of delivery, although, the content of the classes in the first and the second trimesters was different.

2.1. Participants

The class had a total of 23 students, the participants at the time this study was performed, were a class of 6th graders of the primary school St. Pau in the city of Reus. The participants' age ranged between 11- to 13-years-old as one of the participants was 13-years when the study was conducted. The group selected for this study is a heterogeneous group whose proficiency level ranged between A1 and A2 levels. The participants native languages are varied as a minority of them had Spanish as their mother tongue and none of them had Catalan as their mother tongue, the majority of the participants' mother tongue is Arabic.

2.2. Materials

The materials that were used for the study were a pretest (see Appendix A) and posttest (see Appendix B) done by pen and paper and the Likert Scale questionnaire (see Appendix C). Also, for this experiment two card games were used which will be further detailed.

At the beginning of the second trimester the participants were introduced to the main gamified tool that has been used throughout the study: *Classcraft*.

In its core, *Classcraft*, according to Sanchez et al. (2017) is a role-playing gamified tool developed for classroom management at the high school level. However, for this study *Classcraft* was used at a primary school level.

2.2.1. *Classcraft Method*

Teachers can use this tool to create teams in the game and allow their students to create an avatar which will receive points and powers as rewards for correct classroom behavior. The objective of this tool is to differ and conduct the attitude in which the students experience their classroom experience by adding a different and playful connotation.

Classcraft, as Sanchez et al. (2017) mention, operates on a real-time web engine and no installation is required, except if the mobile app is to be used. As it has been mentioned before, the objective of the usage of *Classcraft* in the classroom was to transform it into a role-playing game for the duration of the study and to guide students into a desired behavior. This desired behavior is made clearer with a system of rewards and penalties which depend on the school rules or the rules that the teacher sees appropriate. Displaying a positive behavior allows the students to earn experience points which gets them closer to their goal of gaining levels and acquire new powers which will make their avatar stronger to be able to support their team.

The use of *Classcraft* is not related to any specific school subject. However, for this experiment the use of *Classcraft* was restricted to English classes as none of the other teachers of the school knew about this gamified tool's existence or how to use it.

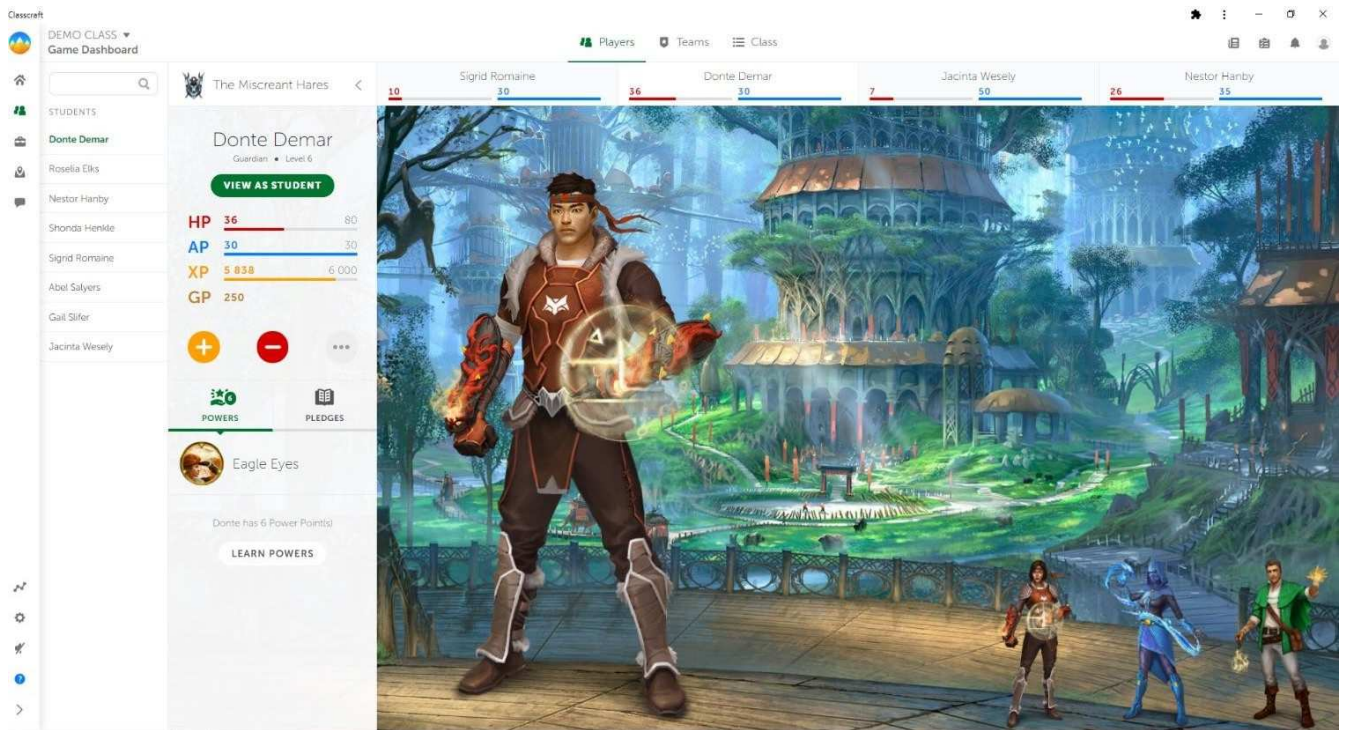


Figure 3 Screen Capture of the Demo Class Dashboard of ClassCraft

As it was previously mentioned before and also stated in Sanchez et al. (2017) *Classcraft* players have to demonstrate a positive behavior that is expected of them by the school. The teacher plays the role of a Gamemaster who controls the distribution of the Experience points (XP). These Experience points, as mentioned before, allow students to level up and earn powers and Gold (GP) which can be utilized to customize the avatar's appearance



Figure 4 Baseline Guardian (Left) Customized Guardian Avatar (Right)

However, if a player displays an unappropriated behavior, the teacher can remove HP (Health Points) from that player. If a player loses all of their HP, they receive a punishment, which is called a *sentence* in the game, and their teammates also lose some of their HP. These punishments are real-life punishments such as getting a note from the teacher or extra-homework

2.2.2. *Classcraft Elements*

2.2.2.1. *Avatars*

An avatar represents each player. *Classcraft* allows students to create their own avatar by choosing from one of the three classes: Guardian, Mage and Healer

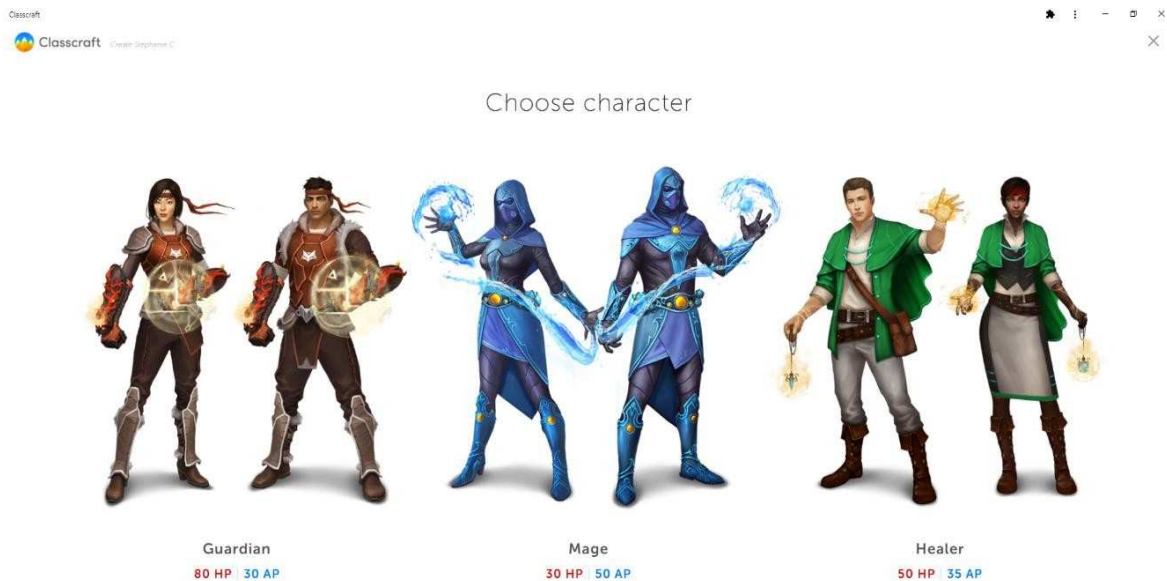


Figure 5 Screen capture of *Classcraft* Character creation

As it can be seen in the image above, the Guardian has more HP than the other classes as the Guardian is specialized in protecting their teammates in case of taking damage by receiving a portion of the damage that their teammate would have been dealt.

Although more fragile than the Guardian the Mage specializes in powers that refill their teammates AP (Action Points) which are used to use the other powers. Also, the Mage is a class that can control some aspects of the classroom, for example who gets chosen to answer a question or who gets to be first in an activity.

Lastly, the Healer is a class that specializes in healing their teammates and also has some control on some aspects of the classroom, for example the seating arrangement.

Surprisingly enough, when the participants were creating their avatars, the students who presented a high degree of Self-efficacy in their success in the English subject preferred to choose Mage as their class. Furthermore, the Guardian class was chosen by those students that had a low-level of self-efficacy and saw the higher value of HP of the Guardian as a safety measure to ensure that their mistakes wouldn't hurt their teammates.

2.2.2.2. Powers

In terms of the development of this study the Powers represent the extrinsic rewards in exchange of the correct behavior of the participants. Based on their character class students have access to powers that can be used when they see fit as long as they have enough Action Points (AP) to use that power. The powers may be related to game mechanics like healing

another player, or have an impact on the players' real lives for example being able to change seats, stand up or handing an assignment a day later.

Learn powers



Figure 6 Screen Caption of the Mage's Powers

2.2.2.3 Class Tools

Classcraft allows teachers the use of a number of features to gamify additional aspects of the classroom to drive students to a more fun and engaged learning experience. Three of the eight class tools are only available for Premium users. This study was conducted using a free account of Classcraft so the premium features

By rewarding correct behaviors with Experience Points which in turn transform into powers this experiment aims to promote a behavior that stimulates motivation. When players use some of their powers, they are rewarded with Experience Points. Thus, students are also rewarded when they help their teammates which creates an environment that encourages communication and collaboration.



Figure 7 Screen Caption of the Class Tools of Classcraft

were not available, thus, the premium tools will not be explained in this section. The Class Tools are as follows:

- The Wheel of Destiny (Random Picker): Automatically chooses a random student or a team to answer questions, for group activity and more.
- Shrine of the Ancients (Kudos): Students can use the kudos space to publish messages, which are monitored by the teacher, to one another. This tool promotes positive interaction between students as well as rewarding them with some Experience Points (XP) for every message that the teacher approves to be published.
- The Makus Valley (Volume Meter): This tool allows the teacher to measure the volume of the classroom and encourages students to remain quiet to be able to gain a reward at the end of the class.
- The Riders of Vay (Random Events): This tool allows the teacher to add some surprises and positive expectations at the start of the class by starting the class with a fun and sometimes challenging event that can be created by the teacher.
- Adventures in the Wild (Boss Battles): This tool can be used as review of the current lesson or to create an in-class pop quiz.

The Class Tools explained above were used in the classroom using the classroom computer and also by means of a tablet. These Class Tools were used regularly and, when deemed necessary. At the beginning of each session, an event from *The Riders of Vay* was randomly selected. The usage of these random events created a sense of expectation in the participants.

One of the most important tools that was continuously used in this experiment was the *Adventures in the Wild* also known as *Boss Battles*. These Boss Battles were used at the end of each session as a manner to assess the participants and also to get their feedback. This tool is, in its core a multiple-choice test that the teacher is able to create and change at will. Depending on the setting of the Boss Battle, students are presented with questions to which they may respond alone or in teams. The objective is to provide correct answers to defeat the boss, each correct answer will deal damage to the boss but if the answer given is incorrect it will be the student or the team who will receive the damage. If the students manage to defeat the boss, all of them will receive a substantial reward, which the teacher can control, of Experience Points (XP) and Gold Pieces (GP)



Figure 8 Screen Caption of the *Adventures in the Wild* (Boss Battles) ClassCraft feature.

2.2.2.4. *Quests*

Another one of the options that ClassCraft gives is to create Quests. Quests enable the teacher to turn the lesson into a personalized and self-pace learning experience which students can complete on their own using their own devices. These quests take the form of an interactive map which contains points of interest that the students must completed in order to go further.

When a student completes one of the nodes of the Quest, he/she will receive a certain amount of Experience Points (XP). When the Quest is complete the student will gain a higher amount of Experience Points. This creates an environment in which the student feels extrinsically motivated to complete the quests in order to receive the extra Experience Points as a reward

In this study Quests were used to give students extra homework activities in order to reinforce their language acquisition.

2.2.3. Card Games

In the speaking session in order to improve the student's motivation, participation, and speaking proficiency, two card games were used in this study.

In two sessions in particular, the first one and one that the students particularly asked to play, the cards of the game Dixit were used. Even though the official rules of the game Dixit were not followed due to the number of students in the classroom, in the first session that Dixit was used, students were given three different cards and were asked to describe them to the others. This was used to get an idea of the proficiency level that each student had at the current moment.

The card game that was used in the vast majority of the speaking sessions during this experiment was a variation of the card game *Mafia* which is also known as *Werewolf*, it's a social deduction game that was created by Dimitry Davidoff in 1986¹. In its simplest form this game is played by two teams: The mafia and the villagers. The villagers have to find who the mafia players are and, in the debate stage of the game, vote them out. The mafia, in the

¹ François Haffner (22 February 1999). "Questions to Dimitry Davidoff about the creation of Mafia on the French website". Jeuxsoc.fr. Retrieved 2011-04-11.

night stage, can select a number of players that will be eliminated from the game thus achieving victory when all the town players have been eliminated. The teacher, in this particular game, assumes the role of the gamemaster and doesn't participate as a player. At the start of the game, the gamemaster hands cards with their identities to all the players and conducts the game through the use of a narrative.

2.3. Procedure

This study used a pretest and posttest design where the students were evaluated in listening, reading comprehension and writing. As it can be seen in Appendix A, students were tested on their listening skills using two activities in which they were tasked to listen and tick or cross and, in the second listening activity, students were asked to answer questions in a multiple-choice and a true/false questionnaire. For their reading comprehension, students were asked to complete two activities. The first one consisted in a read and circle activity in which students had to select the correct option. The second activity, like the second activity in the listening, consisted in a reading and a multiple-choice and true/false questionnaire.

Finally, the last activities of the pretest where the Writing activities in which students were takes to write sentences, complete a description and to write a description.

Following the pretest, the students were introduced to the gamified tool *Classcraft*, which was used as a background element, and the students prompted to create their own avatars and form their teams. After the avatars and teams were created students received an explanation of their roles and powers. As a student teacher, during subsequent the classes, I maintained a secondary role in which the teacher managed the classes and I managed the use of the gamified tool and, at the end of each session, students partook in a small multiple-

choice test that used the *Classcraft* function of the *Boss Battles* as a way to obtain feedback. However, in the speaking sessions I partook a main role in the classroom as the two card games were used. After a few number of session students were introduced to the Quests mechanic of *Classcraft* and were prompted to complete the Quests at their own pace awarding experience to those students that completed them.

Finally, the students took a posttest that followed the same structure of the pretest but the content that was asked was different. After the posttest, students were asked to answer a Likert Scales questionnaire.

2.4. Statistical Analysis

As this is a pretest posttest design with one experimental group, a t test was used to determine the difference in scores or growth in English production after the procedure was completed.

As the focus of the study is to see an improvement in the English level of the participants, the data that will be collected will be divided into three different sections, which are reading, listening and writing, which will be, then, analyzed by using a paired samples t test.

CHAPTER 4

Results

Looking at only the participants that took the “challenge test,” the pretest is compared to the posttest. Following the quantitative analysis, the questionnaire results will be discussed in the qualitative analysis section.

3.1. Quantitative Analysis

When analyzing individually the Reading section, the result of this section shows that there is a significant difference between pretest ($M = 7.105$, $SD = 1.214$) and the posttest ($M = 8.053$, $SD = 1.079$), $t(18) = -3.562$, $p = .002$.

Table 1. *Paired Samples T-Test for the Reading Section*

Measure 1	Measure 2	t	df	p
Pretest	- Posttest	-3.562	18	0.002

Descriptives

	N	Mean	SD	SE
Pretest	19	7.105	1.214	0.279
Posttest	19	8.053	1.079	0.247

When analyzing the Listening section, the results show that there is no significant difference between pretest ($M = 8.842$, $SD = 1.259$) and the posttest ($M = 9.079$, $SD = 0.947$), $t(18) = -1.057$, $p = .305$

Table 2. *Paired Samples T-Test for the Listening Section*

Measure 1	Measure 2	t	df	p
Pretest	- Posttest	-1.057	18	0.305

Note. Student's t-test.

Descriptives

	N	Mean	SD	SE
Pretest	19	8.842	1.259	0.289
Posttest	19	9.079	0.947	0.217

When analyzing the writing section, the results show that there is no significant difference between the pretest (M = 7,276, SD = 1,728) and the posttest (M = 7,753, SD = 1,353), $t(18) = -1.413$, $p = .175$.

Table 3. *Paired Samples T-Test for the Writing Section.*

Measure 1	Measure 2	t	df	p
Pretest	- Posttest	-1.413	18	0.175

Note. Student's t-test.

Descriptives

	N	Mean	SD	SE
Pretest	19	7.276	1.728	0.396
Posttest	19	7.753	1.353	0.310

Having analyzed all the individual sections, when the results are put together the results show that there is a significant different between the pretest (M = 7.526, SD = 1.219) and the posttest (M = 8.105, SD = 1.243), $t(18) = -3.644$, $p = .002$

Table 4. *Paired Samples T-Test for the Overall Results.*

Measure 1	Measure 2	t	df	p
Pretest	- Posttest	-3.644	18	0.002

Note. Student's t-test.

Descriptives

	N	Mean	SD	SE
Pretest	19	7.526	1.219	0.280
Posttest	19	8.105	1.243	0.285

3.2. Qualitative Analysis

In regard to the qualitative data, a Likert Scale questionnaire was performed in combination with an open answer questionnaire. The Likert Scale questionnaire contained eight questions, which are discussed in section 3.2.1 below and the open answer questionnaire contained 3 questions, which are discussed in section 3.2.2. below.

3.2.1. Likert Scale Analysis

When the Likert Scales questionnaires data is analyzed, see Appendix C, the results are as follows:

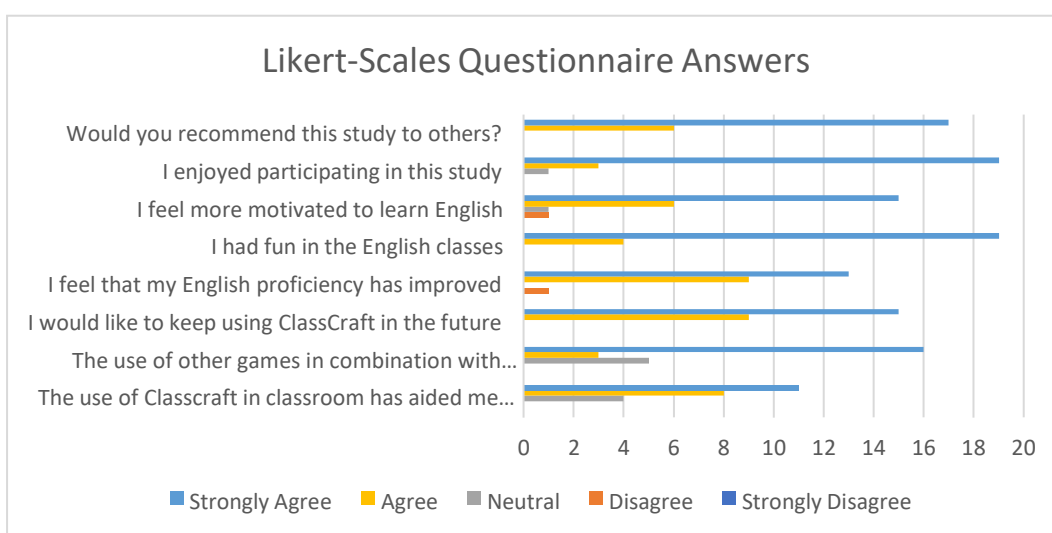


Figure 9. *Likert-Scales Questionnaire Answers.*

The questions have been classified into three types, which are effectiveness, enjoyment, and recommendations. The responses to these questions are discussed below in each category.

3.2.1.1. Effectiveness

When asked if the use of *Classcraft* in classroom has aided them to learn English, the majority of the students answered, as it can be seen in Figure 8 above, that they strongly agree with the statement, meaning that they feel that the use of *Classcraft* has had a positive effect in language learning. Similarly, when asked if the use of other games, such as card games, in combination with the use of *Classcraft* has aided them to learn English, the results in the table also show that the students do feel that the combination of *Classcraft* and other card games has also had a positive effect in language learning on them.

When the students were asked if they felt that with this study, they felt that their English proficiency has improved, the results show that the majority of students think that their proficiency has improved with the implementation of the methodology used in this study.

When asked if they felt more motivated to learn English after this study was completed, the majority of students' answers were that they indeed feel more motivated to learn English.

3.2.1.2. Enjoyment

In response to the question whether the students would like to continue using *Classcraft* after this study has finished, the results show that the majority of students want to keep using *Classcraft*. This suggests that they enjoyed using this gamified tool and they had a positive experience with the gamified tool.

When the students were asked if by participating in this study, they had fun, the results show that the vast majority of the students had fun while participating in the study; and, when

the students were asked if they enjoyed their participation, the majority of the students agreed that they had enjoyed participating in the study.

3.2.1.3. Recommendations

Finally, when the students were asked if they would recommend this study to other students in their age range, the participants answered that they would recommend this study. This is likely due to their perceptions of both enjoyment and effectiveness.

3.2.2. Open-Answer Questionnaire

When the data of the open-answer questionnaire was analyzed, the most common answers are as follows:

When asked what their favorite element of *Classcraft* was, the majority of the students pointed out that the customization of avatars, the quests, and the rewards system were their favorite elements.

When asked what could be improved in this study, most students pointed out that they would have liked to have more options to customize their characters, which could be easily solved by using the premium features of *Classcraft*.

Finally, when the participants were asked which their favorite activity was, the vast majority answered that their favorite activity was the variant of the card game *Mafia* that was used in the speaking sessions.

CHAPTER 4

Discussion

In the context of Education, the theory of motivation is stated as an interaction process between the learner and the environment. In this study the environment of the participants had been changed with the inclusion of the gamified tool *Classcraft*. The inclusion of this gamified tool in combination with the different elements that have been deeply analyzed in their own sections, were proven by the qualitative data to have increased the motivation of the students towards language learning. This will further be addressed below where the following sections will deeply discuss the results of the quantitative data and qualitative.

4.1. Discussion of the Quantitative Data

The objective of the study was to investigate the impact that a gamified approach has in language learning. The hypothesis was that a gamified approach will increase the performance of the English language in a foreign language classroom.

When the overall results were analyzed, the results showed that there has been a significant improvement in the English level of the participants which would confirm the hypothesis that a gamified approach improves the acquisition of the English language $t(18) = -3.644, p = .002$.

However, when doing a deeper analysis, each section of the pretest and posttest were analyzed for improvement. The results of the statistics show that there has been a significant improvement in reading section $t(18) = -3.562, p = .002$. However, the statistical results of the writing section $t(18) = -1.413, p = .175$ and the listening section $t(18) = -1.057, p = .305$ show that there has not been a significant improvement. The reason for the lack of a

significant improvement in the writing and listening sections may be due to there not being enough focus on it through the study. The gamified approach used in this study mainly focused on reading and speaking and not on writing and listening. As one of the goals of the study was to not hinder the participants' evaluation, a gamified approach could not be completely accommodated for these two other aspects of English learning.

For each individual section the hypotheses that a gamified approach will improve the acquisition of the English language has been confirmed in the in the reading section. However, the null-hypotheses has been confirmed in the writing and listening sections where a significant improvement was not detected, most likely for the reasons mentioned above.

4.2. Discussion of the Qualitative Data

Another hypothesis, that a gamified approach to teaching would lead to an increase in motivation, can be also confirmed. Through the analysis of the qualitative data, it can be established that the participants felt more motivated to learn English when the gamified elements were introduced in their classroom. The answers of the Likert-Scales questionnaire, as it can be seen above, were divided into three sections effectiveness, enjoyment, and recommendations.

The study has been proven effective for the participants as the responses that they gave in the Likert-Scales questionnaire were positive. The use of card games, in combination with the use of *Classcraft* improved their English acquisition. The increase on their English level can be also associated to the increase in motivation towards language learning that the qualitative data also proved. In regard to their level of enjoyment, the participants showed a predisposition towards continue using *Classcraft* in their future and they positively

responded when asked about their enjoyment throughout the study. This positive response in enjoyment may be due to the gamified nature of the study and the gamified tool that was implemented. The elements and the games used in the study aimed towards an increase in motivation that would lead to an increase in language acquisition but also towards an increase in enjoyment. Finally, regarding the recommendations section, it can be established that the student's positive responses, which mirror the positive responses of the enjoyment section, show that they would recommend this study to other students in their age range.

4.3. Limitations of the Study and Implications for Further Research

In this study there were some limitations. One of the most important ones is that the manner in which the classes were conducted was not in one's control and the curriculum was not accommodated for the use of gamification. With more time and a tailored curriculum for the ease of use of a gamified approach the results could vary. Another important limitation is that there was no control group to which one could compare the results of a gamified approach with. Also, the time for the experiment was short which implies the possibility that with the application of the same gamified approach but with more feasible time to apply it different results may be achieved.

Should this study be replicated, it is recommended that the same amount of time is allocated, the group size is held consistent, and the testing similar to what was used in this study. However, there should be a control group to compare to the experimental group and the classes should be controlled for the appropriate curriculum. Additionally, more focus in the gamified approach should be paid to listening and writing activities.

CHAPTER 5

Conclusion

This study found that a gamified approach had a positive effect in EFL classes in the context of sixth graders in a primary school. When the overall results were analyzed, there was a significant improvement between the pretest and the posttest, additionally, there was a significant difference in the performance of EFL reading. In contrast, there was a lack of improvement found in the listening and writing sections of the testing, which is likely due to a focus in the experimental design on reading and speaking and not on listening and writing. However, from the general test scores and the reading scores, it can be concluded that by combining technology with effective EFL activities, such as in form of a gamified tool and card games, EFL performance increases in the tested sections relevant to the classroom activities. Most of the students who participated in the study showed an increase their motivation when interacting with a gamified tool as it can be seen in the responses. The students' responses also show that there is a relationship between motivational factors that increase language-learning and the use of technology and gamified tools.

In conclusion, the use of gamification, in the context that this study has been conducted, provides a meaningful and more interesting process in language learning. The participating students generally found the class activities to be more engaging and more motivating because of the use of the major elements of *Classcraft* tools and *Classcraft* elements that were described in the method and theoretical background.

REFERENCES

- Armstrong, M. & Landers, R. (2017). An Evaluation of Gamified Training: Using Narrative to Improve Reactions and Learning. *Simulation & Gaming*, 48. <https://doi.org/10.1177/1046878117703749>.
- Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. New Jersey: Prentice Hall
- Bedwell, W. L., Pavlas, D., Heyne, K., Lazzara, E. H., & Salas, E. (2012). Toward a taxonomy linking game attributes to learning: An empirical study. *Simulation & Gaming: An Interdisciplinary Journal*, 43, 729-760. <https://doi.org/10.1177/1046878112439444>
- Covington, M.V. (1992). *Making the grade: A self-worth perspective on motivation and school reform*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9781139173582>
- Deterding, S., Sicart, M., Nacke, L., O'Hara, K., & Dixon, D. (2011). Gamification: Using Game Design Elements in Non-Gaming Contexts. *CHI 2011 Workshop*, May, 2011. <https://doi.org/10.1145/1979742.1979575>
- Eccles, J., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology*, 53, 109–132. <https://doi.org/10.1146/annurev.psych.53.100901.135153>
- Hamari, J. (2017). Do badges increase user activity? A field experiment on the effects of

gamification. *Computers in human behavior* 71: 469-478.
<https://doi.org/10.1016/j.chb.2015.03.036>

Ilter, B. G. (2009). Effect of technology on motivation in EFL classrooms. *The Turkish Online Journal of Distance Education*, 10(4), 136-158.
<https://doi.org/10.17718/TOJDE.37730>

Landers, R. N. (2014). *Developing a theory of gamified learning: Linking serious games and gamification of learning*. *Simulation & gaming*, 45(6), 752-768.
<https://doi.org/10.1177/1046878114563660>

Landers, R. N., & Callan, R. C. (2011). Casual social games as serious games: The psychology of gamification in undergraduate education and employee training. In M. Ma, A. Oikonomou, & L. C. Jain (Eds.), *Serious games and edutainment applications*: 399-424. Surrey, UK: Springer. https://doi.org/10.1007/978-1-4471-2161-9_20

Landers, R. N., Auer, E. M., Collmus, A. B., & Armstrong, M. B. (2018). *Gamification science, its history and future: Definitions and a research agenda*. *Simulation & Gaming*, 49(3), 315-337. <https://doi.org/10.1177/1046878118774385>

Landers, R. N., & Armstrong, M. B. (2017) *Enhancing instructional outcomes with gamification: An empirical test of the Technology-Enhanced Training Effectiveness Model*. *Computers in human behavior* 71: 499-507.
<https://doi.org/10.1016/j.chb.2015.07.031>

- Martin, A. J. (2001). The Student Motivation Scale: A tool for measuring and enhancing motivation. *Australian Journal of guidance and Counselling*, 11(1), 1-20. <https://doi.org/10.1017/S1037291100004301>
- Martin, A. J. (2007). *Examining a multidimensional model of student motivation and engagement using a construct validation approach*. *British Journal of Educational Psychology*, 77, 413–440.
- Martin, A.J. Marsh, H.W., & Debus, R.L. (2001). *Self-handicapping and defensive pessimism: Exploring a model of predictors and outcomes from a self-protection perspective*. *Journal of Educational Psychology*, 93, 87-102. <https://doi.org/10.1037/0022-0663.93.1.87>
- Michael, D., & Chen, S. (2005). *Serious games: Games that educate, train, and inform*. Boston, MA: Thomson Course Technology
- Nicholson, S. (2013). Exploring gamification techniques for classroom management. *Games Learning Society*, 9, 21-27.
- Perryer, C., Celestine, N. A., Scott-Ladd, B., & Leighton, C. (2016) Enhancing workplace motivation through gamification: Transferrable lessons from pedagogy. *The International Journal of Management Education* 14(3): 327-335. <https://doi.org/10.1016/j.ijme.2016.07.001>
- Pintrich, P., & Schunk, D. (2002). *Motivation in education: Theory, research, and*

- application* (2nd ed.). Upper Saddle River: Merrill Prentice Hall
- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25, 54–67.
<https://doi.org/10.1006/ceps.1999.1020>
- Sanchez, E., Young, S., and Jouneau-Sion, C. (2017) Classcraft: from gamification to ludicization of classroom management. *Education and Information Technologies* (22)2 497-513. <https://doi.org/10.1007/s10639-016-9489-6>
- Sheldon, L. (2012). *The Multiplayer Classroom: Designing Coursework as a Game*. Boston, MA: Cengage Learning. <https://doi.org/10.1201/9780429285035>
- Svinicki M.D., Vogler J.S. (2012) Motivation and Learning: Modern Theories. In: Seel N.M. (eds) *Encyclopedia of the Sciences of Learning*. Springer, Boston, MA.
https://doi.org/10.1007/978-1-4419-1428-6_392
- Torres-Toukoumidis, A., Romero Rodriguez, L. M., & Perez Rodriguez, A. (2018). Gamification and its possibilities in the blended learning environment: literature review. *RIED-REVISTA IBEROAMERICANA DE EDUCACION A DISTANCIA* 21(1): 95-111. <https://doi.org/10.5944/ried.20.2.18792>
- Van Benthem, J. F. A. K. (2002). *What logic games are trying to tell us*. Amsterdam, The Netherlands: ILLC Publications. Retrieved from <http://www.illc.uva.nl/Research/Publications/Reports/PP-2003-05.text.pdf>

Weiner, B. (1984). Principles for a theory of student motivation and their application within an attributional framework. In R. Ames & C. Ames (Eds.), *Research on motivation in education (Student motivation, Vol. 1)*. San Diego: Academic

Werbach, K., & Hunter, D. (2012). The Gamification Toolkit Game Elements. *For the Win:*


How Game Thinking Can Revolutionize Your Business.

<https://doi.org/10.1017/CBO9781107415324.004>

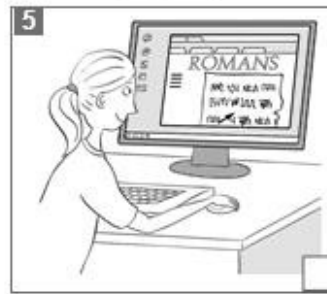
APPENDIX A


Preliminary Test - Unit 2 Challenge Test

Listening

1 Listen and tick ✓ or cross X.  CUS 25

/ 10 marks



2 Listen to Tom and answer the questions.  CUS 28

/ 10 marks

- 1 Tom went on the dig with his
a school.
b friends.
c family.

- 2 He found information
a on his computer.
b at the library.
c at the museum.

- 3 He looked up information about
a transport.
b food.
c houses.

- | | | |
|--------------------------------------|------|-------|
| 4 They found a knife on the dig. | True | False |
| 5 Tom found a comb. | True | False |
| 6 Tom found some coins. | True | False |
| 7 The Romans wore bracelets. | True | False |
| 8 Tom found a necklace. | True | False |
| 9 Tom didn't like the dig. | True | False |
| 10 Tom wants to be an archaeologist. | True | False |



Reading

5 Read and circle.

/ 10 marks

Sally ¹ **went** / **were** on a school trip to a Roman castle last week. She learned a lot about Roman lives. The Romans ² **wrote** / **wore** necklaces and bracelets. They drank from ³ **metal** / **paper** cups. They ⁴ **ate** / **cooked** on fires. After the castle, the children went to a special place for a Roman dig. They ⁵ **found** / **had** a letter. It was made ⁶ **in** / **of** wood. Then Sally found a ring so she was very happy. Later, Sally and her friends used her computer ⁷ **for** / **to** log on to the internet. They looked ⁸ **up** / **on** information about the Romans. They ⁹ **scrolled** / **zoomed in** on some photos of bracelets and rings. Then they ¹⁰ **used** / **made** her printer to print out the photos.



6 Read and answer.

/ 10 marks



Hello!

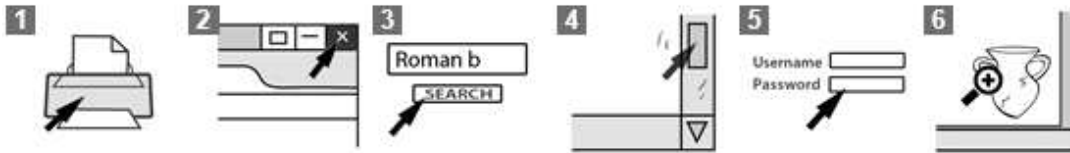
My name's Henry and I live in Oxford. Did you know Oxford is a Roman town? I love History and I've got a metal detector because I like looking for things! Yesterday, my brother and I discovered a metal cup in our garden! It looked like a Roman cup I saw in a book so we went to the museum to show them the cup. They put it in the museum for everyone to see! Today, I logged on to the internet to look up more information and clicked on an interesting website about the Romans. I found some photos of Roman knives. Archaeologists discovered them in the Roman town of Cambridge. I want to be an archaeologist and go on Roman digs around the world. Bye!

- | | | | |
|---|--------------------------|-------|--|
| 1 Henry is interested in | 2 He has got a | | |
| a English. | a metal detector. | | |
| b History. | b book about the Romans. | | |
| c Science. | c computer. | | |
| 3 Yesterday, he was | 4 He was with his | | |
| a at the park. | a brother. | | |
| b at school. | b father. | | |
| c in the garden. | c friend. | | |
| 5 Henry found a cup made of wood. | True | False | |
| 6 It was a Roman cup. | True | False | |
| 7 Everyone can see the cup in the museum. | True | False | |
| 8 Henry looked up information about the Romans. | True | False | |
| 9 He found photos of Cambridge. | True | False | |
| 10 He wants to be an archaeologist. | True | False | |

Writing

7 Write sentences.

/ 6 marks



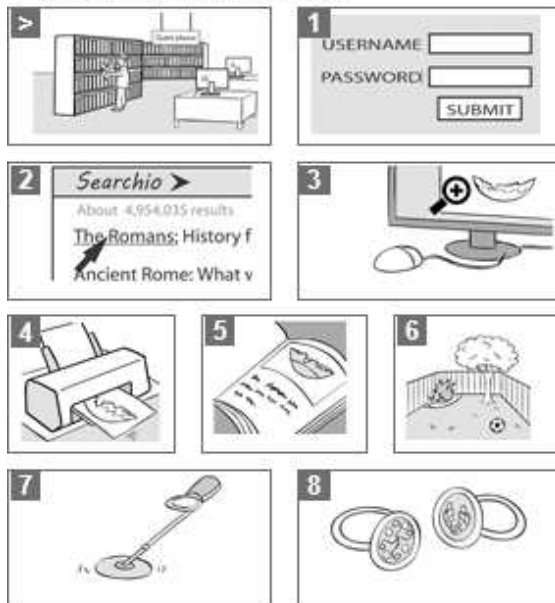
Yesterday ...

1 I _____ some photos.
2 _____ the button.
3 _____ some
information.

4 _____ the page.
5 _____ the internet.
6 _____ on the pictures.

8 Complete Owen's description.

/ 8 marks



I wanted to find out about the Romans.

> (library / information) I went to the library to look up some information.

1 (password / the computer) I used _____
2 (mouse / a website) I _____
3 (mouse / a photo) I also _____
4 (printer / the photo) Then I _____
5 (write about / notebook) and I _____
6 (garden / treasure) After that, I went _____

7 (a metal detector / coins) I _____
8 (find / rings) I also _____

9 Imagine you had to find out about the Romans on a computer. Write a description.

/ 6 marks


Total for test ____ / 70 marks

APPENDIX B **Post Test – Unit 3 Challenge Test**

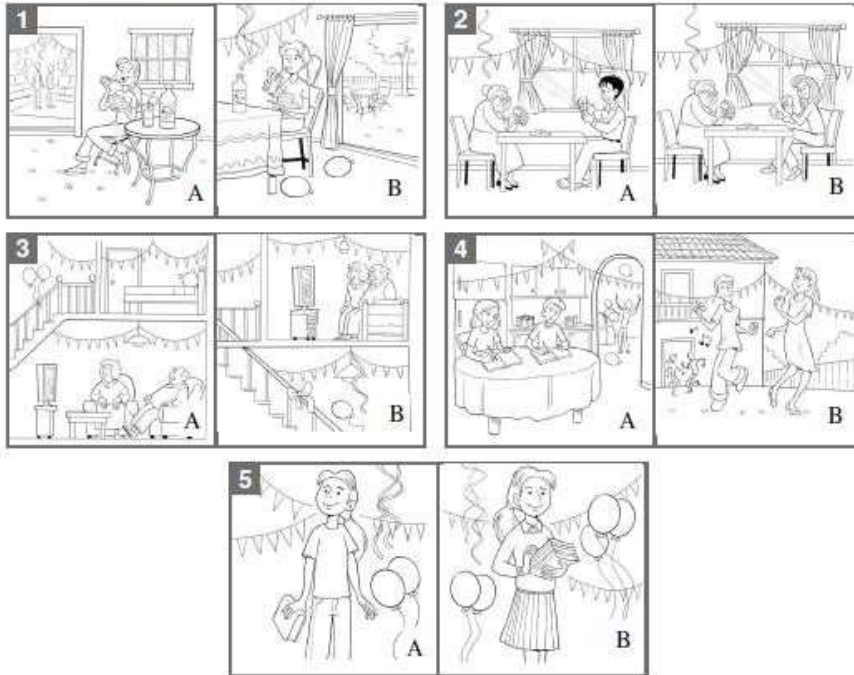
Name _____


Unit 3 Challenge Test

Listening

1 Listen and circle A or B.  **CDS 27**

/ 10 marks



2 Listen and answer.  **CDS 28**

/ 10 marks

- | | | |
|---|-------------|--------------|
| 1 James went to a birthday party yesterday. | True | False |
| 2 They were waiting upstairs. | True | False |
| 3 His great-grandfather wasn't happy. | True | False |
| 4 His cousin's children were dancing. | True | False |
| 5 His neighbour's grandson was drinking lemonade. | True | False |
| 6 His neighbour's granddaughter was upstairs. | True | False |
| 7 His parents were on the balcony. | True | False |
| 8 James _____ wear a uniform at school. | | |
| 9 He _____ use a mobile phone. | | |
| 10 He _____ write about his weekend. | | |



Name _____

Unit 3 Challenge Test

Reading

5 Read and complete.

/ 10 marks

was playing neighbour was watching was singing grandparents
arrived went were having played were playing

Theo had a good weekend. On Saturday, he ¹ _____ to his cousin's 21st party. The party started at 5 o'clock, but his bus was late so Theo ² _____ at six o'clock. His cousins ³ _____ fun in the garden. It was a family party so all their parents, ⁴ _____ and great-grandparents were there. His dad ⁵ _____ a song and his mum ⁶ _____ the guitar. His grandmother was inside making a snack for everyone. There was also a ⁷ _____ at the party with her great-grandson and great-granddaughter. They ⁸ _____ upstairs. It was a great party. On Sunday, Theo and his friends ⁹ _____ in a football match. They didn't win, but they enjoyed it. At two o'clock, Theo ¹⁰ _____ a DVD. He was very tired!



6 Read and answer the questions.

/ 10 marks



Hi Violet,

How was your weekend? On Saturday I was at my cousin's wedding. My mother and my grandmother were wearing huge, yellow hats. I was wearing a pink dress! It was horrible! My cousin, Tara, was wearing a beautiful, white dress. She was very happy! The wedding was fun. At 12 o'clock, we were throwing confetti. Everyone was laughing. Well, not everyone – my neighbour's grandson wasn't laughing. He was crying because he was scared of the confetti. After that we went to the party in a local hotel. We had some delicious food. Then at three o'clock, we were dancing. The music was very good. On Sunday, I was tired. At ten o'clock in the morning, I was still sleeping! After lunch, I did my homework and then I watched TV. By eight o'clock in the evening, I was sleeping again!

Katy

- 1 Was Katy at a wedding? _____
- 2 Did her mother and grandmother wear yellow dresses? _____
- 3 Was Katy wearing a beautiful dress? _____
- 4 They were taking photos at 12 o'clock. True False
- 5 The neighbour's grandson wasn't throwing confetti. True False
- 6 They went to a hotel. True False
- 7 Katy enjoyed the food. True False
- 8 They were eating at 3 o'clock. True False
- 9 Katy went out early on Sunday morning. True False
- 10 She was in bed at 8 o'clock in the evening. True False

Name _____

Unit 3 Challenge Test

Writing

7 Write sentences.

/ 6 marks



- 1 He's _____
- 2 _____
- 3 _____
- 4 _____
- 5 _____
- 6 next to _____

8 Complete the rules for Frankie's homework club.

/ 8 marks



Hi Joseph,
Do you want to join my club?
These are the rules.

1 You mustn't _____ your mobile phone.

2 _____ inside the club.

3 _____ plastic bottles.

4 _____ your homework.

5 _____ on the floor.

6 _____ the other children.

7 _____ outside.

8 _____ the fence.

Bye!

8 Imagine you go to a homework club. Write the rules.

/ 6 marks

Total for test ____ / 60 marks

APPENDIX C

Questionnaire

El uso de ClassCraft en clase me ha ayudado a aprender más inglés

1	2	3	4	5
---	---	---	---	---

El uso de otros juegos además de ClassCraft, me han ayudado a aprender más inglés

1	2	3	4	5
---	---	---	---	---

Me gustaría seguir usando ClassCraft en el futuro

1	2	3	4	5
---	---	---	---	---

Siento que mi nivel de inglés ha mejorado

1	2	3	4	5
---	---	---	---	---

Me he divertido en las clases de inglés

1	2	3	4	5
---	---	---	---	---

Siento que tengo más ganas de aprender inglés

1	2	3	4	5
---	---	---	---	---

Me lo he pasado bien participando en este estudio

1	2	3	4	5
---	---	---	---	---

¿Recomendarías este estudio (el uso de Classcraft y otros juegos) a otras personas?

1	2	3	4	5
---	---	---	---	---

Lo que más me ha gustado de ClassCraft ha sido:

¿Qué cosas se deberían mejorar?

¿Cuál ha sido tu actividad favorita?
