

Escape Rooms as a Tool for English language Teaching

by
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ABSTRACT

The main objective of this study is to show the benefits of using gamification to teach English as a second language. To be more specific, we focus on a concrete tool, Escape Rooms. An experimental study has been carried out in 6th grade students from Primary Education. An experimental group and a control group of learners have been exposed to a set of tasks to determine the effectiveness of the appliance. A statistical analysis of the data has showed that the experimental group determines that the use of the Escape Room as a tool increases the amount of vocabulary acquired, since they are more motivated and engaged while doing a gamified task rather than when they are doing an ordinary activity.

Another important aspect this study focuses on is how student's motivation increases when they do an entertaining activity.

Key words: gamification, second language, vocabulary, motivated.

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1. INTRODUCTION

Primary education is the first stage of compulsory schooling. The teaching of English at this stage aims at helping students develop the following basic skills: listening, speaking, reading, writing, and interaction. The goal is to provide our students with an education that will contribute to the full development of the students' personality and will help prepare them for Secondary Education. To achieve all these skills, it is crucial to gain as much vocabulary as possible and, being motivated can undoubtedly help to the intake of these vocabulary.

The Educational Decree 119/2015 (Departament d'Educació, Generalitat de Catalunya) establishes the common educational areas of Primary Education. It states that:

Educational, cultural and social reasons require that the learning of foreign languages begins at an early age, enabling pupils to gain access to new forms of expression which contribute to their full development, and helping them to get to know their language better. Communication through a foreign language represents a vehicle for cultural awareness which facilitates understanding of customs and different forms of life, tolerance, and respect between countries and their inhabitants.

The Council of Europe states that the final objective of learning a foreign language is for students to attain higher levels of language communication competence progressively. In primary education, they should end up the stage with an A2 level, according to the Common European Framework of Reference. CEFR also defines levels of proficiency which allow learners progress to be measured at each stage of learning and on a life-long basis. In general, it describes what language learners have to learn to use a language for communication and what knowledge and skills they have to develop to be able to act effectively.

The teaching and learning process of a foreign language is a highly complex process which involves cognitive, affective and social factors. All of them will determine our students' progress.

Nowadays, we need to provide students with teaching-learning activities that fulfil their interests if we want them to have a meaningful learning process.

Undoubtedly, we need to create in our students the willingness to learn. To avoid this image of difficulty in learning a new language. We, as teachers, are becoming one of the first contact our students will have with English, so we have the power to decide how to present it, how we want them to feel when it is English time. It is at this point where gamification starts playing an important role.

We are consistently providing them with external motivation, which is potentially beneficial. However, it is necessary to convert it into an intrinsic motivation because that is when students feel excited to learn English, as Harmer (1991) points out. It is hard to achieve it, but when you accomplish it with a group, you realize that everything runs smoothly and they increase retention significantly. Students need to be engaged and on task, physically and mentally.

2. THEORETICAL BACKGROUND

2.1 Gamification in the English learning process

The term 'gamification' was first used in 2008 in the context of computer software. It started to gain more popularity in 2010 in the educational field.

Gamification in education can be described as 'incorporating game elements into a learning experience to make it more engaging and appealing' (Muntean, 2011).

Figueroa (2015) in his article explains how the use of gamification captivates students' attention and they develop the tasks more successfully. He also emphasizes that gamification provides students with a recompress environment that helps them to be more relaxed and, consequently be more ready to improve their skills in a second language. In his article he presents a-step model adapted from Huang's and Soman' work (2013) to apply gamification in education.

The patterns of the model are:

1. Understanding the target Audience and the Context
2. Defining the Learning Objectives
3. Structuring the Experience
4. Identifying Resources
5. Applying Gamification Elements

Figueroa claims that following these steps the teacher has more chances to plan more efficient activities that significantly engage students in the teaching- learning process.

Stott and Neustaedter (2013) developed an article which provides legitimacy to a practice that is often considered superficial, and also gives guidelines for those who desire to use games with the purpose of incrementing student's achievement. In the research, they study three cases and provide evidences on how there are some aspects that improve.

2.2 ICT apps in the English language process

A key concept in this research is the use of technology. It becomes an essential tool in the 21st century, so it is crucial to incorporate it in gamification.

Ybarra and Green (2003) illustrate how educators can help students of a foreign language develop their language skills by means of using technology in the learning process. In their research they conclude that ICT can support the expansion of vocabulary and consequently, verbal language development. However, they also emphasize that technology is a tool, not a substitute for competent teaching. It is very important to take this into consideration because it means that technology will help our students being more competent in a language, but there are other factors that interfere in the teaching-learning process.

Going more in depth, the authors Kayımbaşıoğlu, Oktekin and Hacı (2016) proved that some tests which were first conducted by written assessment, and later by a

technology assisted gamification activity, results showed that the second ones achieved much better results. That proof shows us the importance of technology in nowadays activities.

There are a wide range of books and studies that provide educators with a range of tools, strategies and activities to include ICT and CALL in ESL classes. We can find an example of it is the article written by Wilkinson (2016). He demonstrates how by using technology we can improve students' skills in a foreign language significantly. He also gives tips and ideas to teachers of how to select pertinent digital tools and strategies.

Another strategy for including ICT in lessons plans is presented by Quinn (2005). He states that the educator needs to reflect on the activities that have been engaging to students and then, incorporate technology so that it will end up being still more attractive and appealing to our students. He also suggests that it is essential that the games are not repetitive and monotonous (as they normally tend to be). If so, they will lose interest and will not be as captivating as we desire them to be. For him, the clue is that students remind them as enjoyable experiences. If we achieve that goal, they will undoubtedly become effective.

2.3 Motivation in the English learning process

Motivation plays a key role in the process of a foreign language acquisition. The attitude of the learner in front of the content determines the progresses and advances in it. As Prensky (2001) claimed gamification provide fun, pleasure, and intense emotional recompense. Malone (1981) had already tried to investigate why games provoke so much pleasure, so he developed a study in which he theorizes three crucial elements that make a game motivational: challenge, fantasy and curiosity.

- **Challenge** refers to the capacity of the learner to be uncertain to reach the goal. The game should have different goals, so that the student feel fulfilled when s/he achieve them. They must see the game as a toy, not as a tool.

- **Fantasy** indicates the images we mentally create when we are playing a game, that will make the game more interesting.

- **Curiosity** suggests to appeal to the learners' eagerness to solve the game because its interest is inherent to the students.

Measles & Abudawood (2015) published an article which studies how motivation and engagement are totally related to gamification. Students learn by doing when they are playing a game and they are acquiring the language unconsciously.

Harmer (1991) defines motivation as *'some kind of internal drive that encourages somebody to pursue a course of action. If we perceive a goal (that is, something we wish to work towards and achieve) and if that goal is sufficiently attractive, we will be strongly motivated to do whatever is necessary to reach it. Language learners who are motivated perceive goals of various kinds.'* (page 3).

Harmer (1991) also suggests that in foreign language teaching there are two types of motivation: extrinsic and intrinsic, depending on if it comes from within or arises from external factors. Regarding the extrinsic motivation Gardner and Lambert (1959) suggested that they can be: integrative or instrumental. The integrative motivation refers to the grade of identification with the target culture. If a student admires the target culture, s/he will have more chances of being successful in L2 learning. The instrumental motivation means learning the language for factors related to getting a job, achieving a better status or passing an examination.

Referring about motivation it is essential to point out how William (1997) fractionates motivation into three phases:

1. Reasons for doing
2. Deciding to do
3. Sustaining of the effort or persisting

These stages show us what is necessary to be extremely motivated in something. First, we have a reason that bring us this motivation, later we decide that it is convenient to carry out the action and finally, this interest has to be durable.

3. RESEARCH METHODOLOGY

The research questions posted in this study are:

- 1) Do gamification help students acquire L2?
- 2) Do students feel more motivated depending on the way we introduce a content?

The Hypotheses presented in this research project are the following:

- 1) Gamification helps students of a foreign language to increase their vocabulary in the target language (Hypothesis 1);
- 2) A topic presented using gamification enhances student's motivation when doing the activities (Hypothesis 2).

The following intervention proposal has the main goal to conduct an Escape Room in which the students can incorporate some new vocabulary, which has been taught previously through the traditional fairy tale: *Alice in the Wonderland*. The aim is that the students revise the new words while they are enjoying the activity and see it as a game.

3.1 Participants

This experiment is implemented in a 6th grade group from Primary education. The school that we carry out this study is the Escola Eugeni d'Ors, in Valls (Tarragona). The school is located in an urban area, with an estimated population of 25.000 inhabitants. Most of the families belong to middle class, with medium cultural and economic background.

We have a control and an experimental group. There are 20 students in each group. They are from the same age and homogenous in terms of English language level (A2). We can determine this level on all of them because they all pass the test that establishes the *Generalitat de Catalunya*, which is called *Competències Bàsiques en*

Llengua Anglesa. The ones that did not pass the test did not participate in this research to make the results more reliable.

3.2 Procedures

To prove the Hypotheses and answer the Research Questions this study will be based on Quantitative Data, it is the way to do the experiment more reliable and trustable. Both hypotheses are going to be proved by means of an experimental research.

The specific way this research is going to be conducted is the following:

First of all, we pass a pre-test to each student to know which is the level of vocabulary before doing any activity (*Appendix 1*). After that, the next day the control and the experimental group do a lesson where the teacher projects *Alice in the Wonderland* short movie and then. On the one hand, the students from the control group will learn the vocabulary by means of doing some written exercises (*Appendix 3*). The concrete activities are:

- Filling the gaps
- Match the word with each definition
- Answer the questions

On the other hand, the experimental group does the online Escape Room (<https://forms.gle/7Pas4ZV2FQa6X3D9A>). Each student has his or her own computer so that, they can do it individually.

In the next session, both groups will do a post-test to check their progress (*Appendix 2*).

The pre-test and the post-test will be very similar, so that the teacher can compare and contrast the progression of the students in this topic.

After the realization of the post test, all the students also answer a motivation questionnaire (*Appendix 4*) to evaluate their grade of motivation when doing the

different activities. By this way, we can easily recognize which kind of tasks highly increase the motivation on the students.

3.3 Data analysis

It is necessary to establish the type of variables, we are going to use in this study: it is numerical, and to be more concrete we will use countable values because we focus on the number of correct answers in a test. Another important distinction is that the study is based on experimental data because the results will result more reliable. We investigate causal relationships between a control group (CG) and an experimental group (EG).

We carry out a T-test because we are comparing two groups of data. We use:

- a) Paired samples (same participants in each group). We compare the pre-test and the post-test of each group separately. (Table 3 and 4)
- b) Independent samples (different participants in each group). We compare the post-test of the EG and the CG, to check their improvements in the two different ways of presenting the content. (Table 5 and 6)

To develop this analysis, we will use the JASP program, a powerful workbench for quantitative data analysis.

For the second hypothesis analysis, we will use an Excel Bar Chart that will determine visually the grade of motivation of the students while doing the tasks.

It is vitally important to mention that all the questionnaires and test applied to the learners have been validated from primary teachers and university professors who have considered them appropriate considering the students' age and command of the language.

4. RESULTS

In this section we are going to present the results obtained in the experiment. Below, we can see two Excel tables (1 and 2) to check the results from both groups in the pre-test and the post-test:

TABLE 1: Control group

pre-test	post-test
3,00	4,00
2,00	4,00
4,00	6,00
3,00	3,00
3,00	5,00
1,00	2,00
4,00	5,00
3,00	6,00
5,00	7,00
3,00	5,00
2,00	5,00
3,00	5,00
3,00	6,00
1,00	3,00
3,00	5,00
2,00	4,00
4,00	5,00
3,00	6,00
2,00	6,00
2,00	5,00

TABLE 2: Experimental group

pre-test	post-test
3,00	6,00
3,00	4,00
4,00	8,00
3,00	7,00
3,00	8,00
1,00	5,00
4,00	7,00
3,00	6,00
5,00	9,00
3,00	6,00
1,00	5,00
3,00	7,00
3,00	7,00
4,00	6,00
3,00	8,00
2,00	7,00
4,00	7,00
3,00	8,00
2,00	8,00
2,00	7,00

4.1_Hypothesis 1: Gamification helps students of a foreign language to increase their vocabulary in the target language

If we have a look at the results we can first compare, in table 3 and 4, the results obtained for the control group in the post-test and the post test. Focusing on the Descriptive Statistics, we can see that there is no a significant improvement from one test to another. The Mean, which is the mathematical average of the values, is 2.800 - 4.850. The standard of Deviation, which is the measure of distance from individual values to the

mean, is also insignificant (1.005 - 1.226). The Paired Samples T-Test indicates that there is a minimum improvement from the pre-test to the post-test.

TABLE 3 Descriptive Statistics (control group)

Descriptive Statistics		
	pre-test	post-test
Valid	20	20
Missing	0	0
Mean	2.800	4.850
Std. Deviation	1.005	1.226
Minimum	1.000	2.000
Maximum	5.000	7.000

TABLE 4 Paired Samples T-Test (control group)

Paired Samples T-Test				
Measure 1	Measure 2	t	df	p
pre-test	- post-test	-9.706	19	< .001

Note. Student's t-test.

Considering the experimental group results (Table 5 and 6) we can conclude that there is more improvement rather than in the control group results. The M= 2.950 – 6.800. However, it is important to point out that as the Paired Samples T-Test indicates the improvement is not largely significant.

TABLE 5 Descriptive Statistics (experimental group)

Descriptive Statistics		
	pre-test	post-test
Valid	20	20
Missing	0	0
Mean	2.950	6.800
Std. Deviation	0.999	1.240
Minimum	1.000	4.000
Maximum	5.000	9.000

TABLE 6 Paired Samples T-Test (experimental group)

Paired Samples T-Test				
Measure 1	Measure 2	t	df	p
pre-test	- post-test	-14.565	19	< .001

Note. Student's t-test.

Proceeding to compare the results from the Control group and the Experimental Group post-test (Table 7 and 8), we can deduce that the results are much better in the EG. The Independent Samples T-Test shows us the scores $t -5.002$, $df 38$ $<.001$. These numbers indicate that the EG obtained better marks by means of doing the Escape Room rather than the CG doing the same activities in a worksheet and without any kind of gamification. If we observe the Descriptive Plots (Table 9), we can clearly see the line with a deep slope what it means that there is an incrementation of vocabulary in the experimental group.

TABLE 7 Descriptive Statistics

Descriptive Statistics		
	Scores	Group
Valid	40	40
Missing	0	0

Descriptive Statistics

	Scores	Group
Mean	5.825	
Std. Deviation	1.567	
Minimum	2.000	
Maximum	9.000	

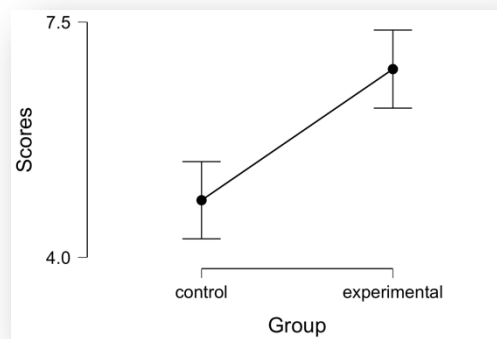
Note. Not all values are available for *Nominal Text* variables

TABLE 8 Independent Samples T-Test

Independent Samples T-Test			
	t	df	p
Scores	-5.002	38	< .001

Note. Student's t-test.

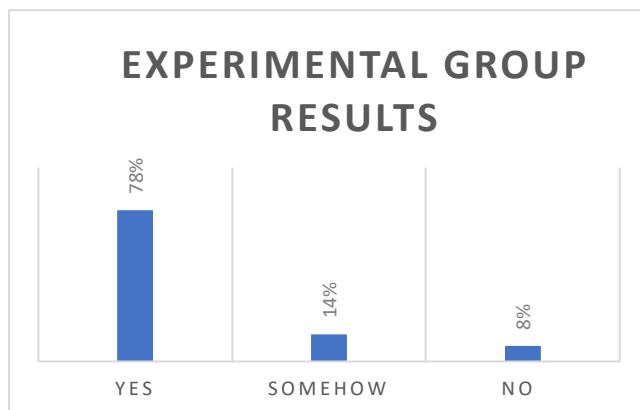
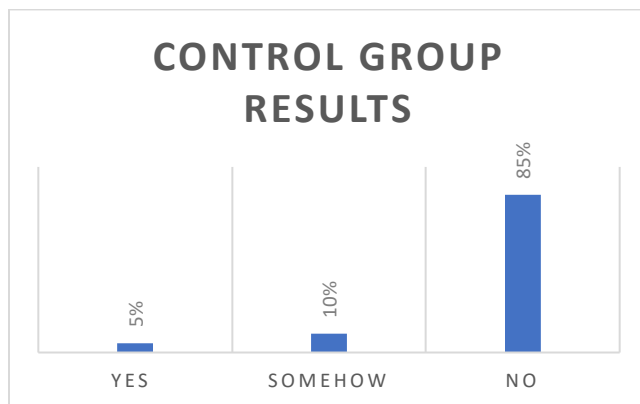
TABLE 9 Descriptives Plots



4.2 Hypothesis 2: A topic presented using gamification enhances student's motivation when doing the activities

The second hypothesis is also analyzed with quantitative data. We use a questionnaire (Appendix 4) in which the students mark a tick at the column that best suits their opinion having three options at their disposal: yes/ somehow/ no.

Going deeper into the subject the results show that 85% of the control group answer 'no' at most of the questions. The other 10% answers 'somehow' and mere 5% 'yes'. However, if we concentrate on the other twenty students of the experimental group, we can observe that the answers are significantly different: 78% of the answers are 'yes', 14% 'somehow' and only an 8% 'no'. These students are willing to do more English tasks and enjoy doing them.



5. DISCUSSION

In this article, we examine how gamification can improve student's motivation and vocabulary in ESL students. We have conducted several tests and questionnaires to discover if the Research Questions proposed are conclusive or not.

From this study we can come to the conclusion that the use of gamification in the acquisition of a foreign language is strongly recommended in terms of increase their motivation in learning a new language. The results from the questionnaire shows unquestionably how the students feel more motivated when they are doing the Escape Room rather than when we present the activity in a simple worksheet. So, we can agree with Prensky (2001) statement that gamification provide fun, pleasure and intense emotional recompense. Almost all the students from the experimental group want to repeat this kind of activity and recognize that they have enjoy it. However, if we focus on the opinion of the control group, they do not feel motivated doing the task, they will definitely do a more engaging activity.

A lot of authors convey the idea that being motivated and have a willingness to learn is totally necessary in educational terms.

Considering Harmer (1991) and Gardner and Lambert (1959) theories and differentiations about motivation, we can conclude that the learners are not doing the task with and extrinsic and instrumental motivation because they answer that they want to do more English classes like this one. We cannot conclude that the motivation is intrinsic because we do not have enough data for that, but at least we know that it is integrative because they want to succeed playing the Escape Room.

We can also affirm that the students who do gamified activities improve their vocabulary. It is also important to point out that the improvement is not extremely high, but comparing the results from the control and the experimental group we observe that the second one clearly shows better results. These results

substantiate Figueroa's article (2015) that gamification improve student's skills in a second language. The Escape Room has implemented the step model he adapted from Huang's and Soman' work (2013) and we can conclude that the vocabulary of the experimental group has increased.

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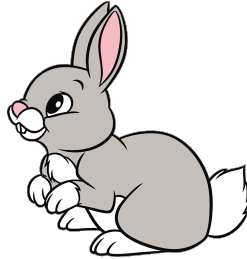
APPENDIXES

APPENDIX 1

ALICE IN THE WONDERLAND'S STORY PRE-TEST

1) Can you name these objects in English?

(3 points)



2) Match the word with the correct definition:

(5 points)

- A recipient where you put some liquid to drink

A butterfly

- A vegetable that rabbits love.

A door

- A movable barrier for opening and closing an entranceway.

A bottle

- An insect that flies and has beautiful and colorful wings

A watch

- An object that we use to know what time is it

A carrot

3) Write the correct word to the definition:

(2 points)

- A small, long animal with many legs that feeds on the leaves of plants.

- A furry and soft animal often kept as a pet. _____

APPENDIX 2

ALICE IN THE WONDERLAND'S STORY POST-TEST

1) Can you name these objects in English?

(3 points)



2) Can you name these objects in English?

(7 points)

- A recipient we use to drink or to put some liquid in it.

- A character from the story who has a lot of power.

- An insect that flies and has beautiful and colorful wings.

- An object that we use to know what time is it.

- It is a type of food, although some of them can be poisonous.

- An animal who runs and jumps a lot and lives carrots.

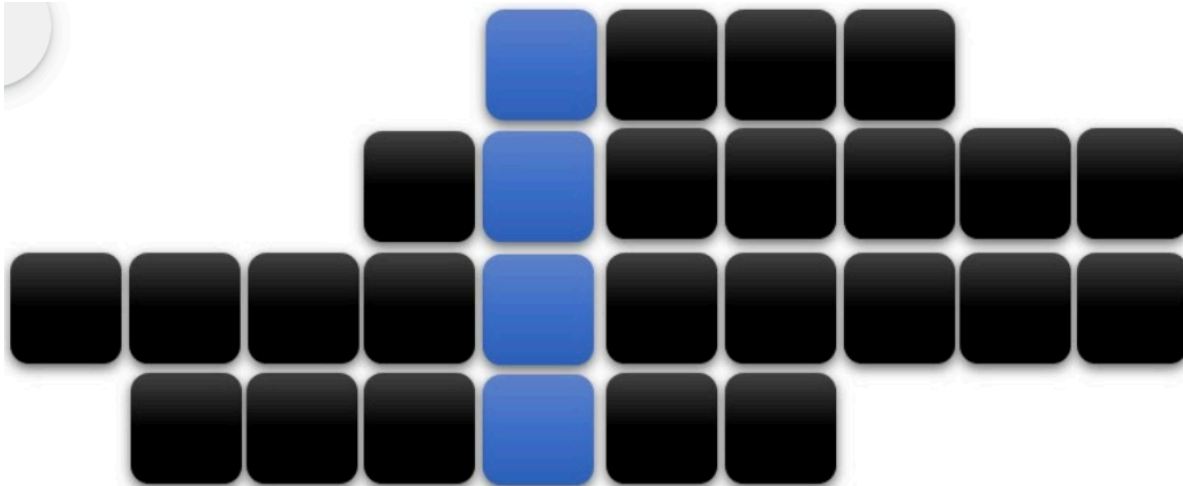
- An orange and long vegetable we add in salads.

APPENDIX 3
CONTROL GROUP TASKS

1) Complete with the missing word:

- a. When tea time comes, the Mad Hatter sits _ _ _ _ on a chair.
- b. In the summer, Mr. Caterpillar goes to the _ _ _ _ because he loves swimming and sunbathing.
- c. This year, we _ _ _ in 2021
- d. Rabbits _ _ _ carrots.
- e. Alice wants to enter this little _ _ _ _ , but she is too _ _ _ !
- f. She finds a _ _ _ _ _ , it has a paper label with the words 'DRINK ME'. So, she _ _ _ _ _ it all. It tastes good!
- g. Very good, now she is _ _ _ _ _ enough to enter!

2) Do this crossword



1. The title of one of the chapters in the book has become a popular idiom over time. It is composed of four words. What is the first word?
2. Who wrote the story? Write his family name.
3. What animal did Alice encounter over the top of a large mushroom? You can find the answer at the end of chapter IV.
4. What was that animal smoking?

APPENDIX 4

MOTIVATION QUESTIONNAIRE

Mark a tick (✓) at the column that best suits your opinion:

Statement	<u>No</u>	<u>Somehow</u>	<u>Yes</u>
<i>1. I have increased my self-esteem in English</i>			
<i>2. I spend a good time doing this activity</i>			
<i>3. After doing the activity, I feel more interested in English</i>			
<i>4. I would like to do more activities like this one.</i>			
<i>5. I have learnt a lot of new vocabulary</i>			
<i>6. I'm willing to do the next English class</i>			
<i>7. I changed my opinion about the subject</i>			