CONQUERING THE IRON THRONE:
USING CLASSCRAFT TO FOSTER STUDENTS' MOTIVATION
IN THE EFL CLASSROOM

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Abstract

This study aims to analyse motivation in the English as a Foreign Language (EFL) secondary classroom through gamification. To this end, a gamification proposal based on *Game of Thrones* TV series was designed. *Classcraft*, an online role-playing platform, was used to create a gaming scenario in the classroom. The proposal was implemented in two groups of 4th year of secondary school, formed by 43 students aged between 15 and 16 years old. Results showed that gamification had a positive impact on fostering students' motivation. Particularly, a notable increase in students' participation was observed since their extrinsic and intrinsic motivation – which increased 0.69 and 0.58 points accordingly – had improved after the implementation of the gamification proposal. Consequently, *Classcraft* proved to be a tool with a great potential to involve and engage students in the EFL classroom.

Keywords: *Classcraft*; English as a Foreign Language; gamification; motivation; secondary education

1. Introduction

Nowadays, in Spain, there is an increasing concern about school failure and dropouts. According to the last official report, the dropout rate in Spain is 18.3%, which means that this country has the second highest rate within the European Union (Ministerio de Educación y Formación Profesional, 2018). This situation has led to an increasing interest concerning the factors involved in school dropouts. The lack of motivation has been identified as one of the reasons behind this matter of concern (Castejón-Costa & Pérez-Sánchez, 1998; Grau-Vidal, Pina-Calvo, & Sancho-Álvarez, 2011; Lozano-Díaz, 2002; Martínez-Otero, 2009; Suárez et al.,

2011). Undoubtedly, this lack of motivation poses a great challenge for teachers. Nowadays, new technologies are a great resource that should not be ignored during the teaching-learning process given that they offer a wide range of resources for dynamizing the classroom and fostering students' motivation (Gómez-Gallardo & Macedo-Buleje, 2010; Martín-Laborda, 2005). However, technology may turn out to be a double-edged sword as its inappropriate use may lead to distractions, thus having a negative impact on academic performance (Gómez-Gallardo & Macedo-Buleje, 2010).

The main aim of this research is to analyse the motivation of secondary education English as a Second Language (EFL) students through gamification. Our initial hypothesis is that students' motivation will be fostered by implementing a gamification proposal. Firstly, the theoretical framework is presented. Secondly, the materials and methods are explained including the description of participants, instrument, and data collection procedure. Results are then analysed and discussed. Finally, conclusions are drawn.

2. Literature review

In general terms, motivation is what makes a certain behaviour arouse, be directed, and maintained over time (Harmer, 2001; Pintrich & Schunk, 2006; Woolfolk, 2006). Pekrun (1992) distinguishes between intrinsic motivation – also known as integrative motivation – which arises from the individual and it is under its own control, and extrinsic motivation – also known as instrumental motivation – which is driven by external factors. Consequently, to foster intrinsic motivation in the classroom, students' curiosity, autonomy, and decision-making capacity should be stimulated (Madrid-Fernández, 1999). Conversely, intrinsic motivation will increase through good grades and reports and teachers' and parents' acknowledgment, among other factors (García-Bacete & Doménech-Betoret, 2014). It is worth mentioning that intrinsic motivation prevails during the first school years, however, as students grow and mature, extrinsic motivation gains relevance (Madrid-Fernández, 1999).

According to Pintrich and De Groot (1990), there are three motivational components related to students' self-regulated learning: an expectancy component, a value component, and an affective component. The expectancy component is linked to students' belief to perform a given task, and, therefore, to their perceived competence, self-efficacy, attributional style, and control beliefs. The value component involves students' goals and their beliefs concerning the relevance and interest of a given task. This component includes students' intrinsic goals; consequently, intrinsically-motivated students will be willing to face challenges whereas those students who tend to be extrinsically motivated are more likely to avoid them as they fear to

fail (García-Bacete & Doménech-Betoret, 2014). Finally, the affective component is related to students' emotional reactions to a given task. Emotions, especially anxiety, affect motivation and, therefore, academic performance (Pekrun, 1992).

In addition, Burstall (1975) remarks the importance of the learner's socio-economic status concerning students' achievement, which still stands as a reality (Fernández-Sanjurjo, Arias-Blanco, & Fernández-Costales, 2018; Morales, 2017; Rascón-Moreno & Bretones-Callejas, 2018; Huang, Chang, Niu, & Zhi, 2018).

Concerning motivation in EFL classroom, Gardner's socio-educational model (Gardner, 1985, 2001) proposes that motivation to learn a second language (L2) is linked to two variables: attitudes towards the learning situation and integrativeness. Positive attitudes towards learning a second language will increase motivation and, therefore, academic performance. For its part, integrativeness concerns the individual's openness to other cultures. If students are interested in other cultural communities (including their words, pronunciations, grammar, etc.) their motivation to learn the language will be higher. Based on Gardner's model, Madrid-Fernández (1999) indicates that aspects such as the cultural beliefs; the individual differences, which includes language ability and motivation; and the learning context – formal or informal – will affect learning results.

Nowadays, new alternatives are proposed in order to motivate students during the teaching-learning process (González-Reyes, Olivares-Granados, García-Sánchez, & Figueroa-Melchor, 2017). One of these alternatives is gamification, which has a great potential when it comes to fostering students' motivation and, therefore, their academic performance (Buckley & Doyle, 2016; Da Rocha Seixas, Gomez, & De Melo Filjo, 2016; Deterding, 2012; Diaz, Diaz, & Ahumada, 2018; Hursen & Bas, 2019; Kaila, Laakso, Rajala, Makelainen, & Lokkila, 2018; Mekler, Brühlmann, Tuch, & Opwis, 2017; Rivera-Trigueros & Sánchez-Pérez, 2020; Sánchez-Pérez & Rivera-Trigueros, 2019). In addition, González-Reyes et al. (2017), Haris & Sugito, (2015), Papadakis & Kalogiannakis (2018) and Sánchez, Young, & Jouneau-Sion (2017) underline the positive impact of using role-playing platforms such as *Classcraft* on the classroom instruction.

According to Deterding, Khaled, Lennart, & Dixon, "gamification is the use of game design elements in non-game context" (2011, p. 2). On his part, Kapp defines gamification as "a careful and considered applications of game thinking to solving problems and encouraging learning using all the elements of games that are appropriate" (2012, p. 15-16).

When using gamification in the classroom several aspects should be considered in order to achieve success. Firstly, any student must be obliged to play, gamification should be

voluntary. Secondly, the aim of gamification should always be to learn how to solve a problem or a task. Finally, there should be balance between the gamification structure and the student freedom to explore. If gamification is successful, it will increase students' motivation, autonomy, competitiveness, cooperation, and engagement. In addition, meaningful learning will be achieved (Borras-Gené, 2015).

The three main elements of gamification are game dynamics, mechanics, and components. Dynamics are the global aspects of gamification and are related to satisfying players' desires. They include game constraints, emotions, narrative progression, and relationships. Mechanics are the processes used to generate player engagement. It is achieved by using challenges and competitions, by providing interaction opportunities with other players such collaboration or partnership (playing in teams, for example) and including other elements as scoring points, levels, or feedback. Finally, the components are the specific instantiations related to dynamics and mechanics, including achievements, gifts or rewards; conquers and progress; avatars, budgets and virtual objects; combats or challenges; content unlocking; team formation; and levels, scores and ranking tables (Herranz, 2013; Werbach & Hunter, 2015).

3. Methodology

3.1. Participants and the context

Two groups of 4th year secondary students from a Spanish state high school participated in this research, which was carried out during the academic year 2017-2018. The total amount of participants in this study is 43 students. The first group (4ºA) is formed by 28 students – 8 girls and 10 boys. The second group (4ºB) is less numerous as it is formed by 15 students – 9 boys and 6 girls. The average English level of both groups is A2-B1 level, according to the Common European Framework of Reference for Languages (CEFR).

3.2. Design and procedure

The research design is quasi-experimental as there is no control group (Tejedor, 2000). Therefore, two natural groups formed by the students previously described participated in the intervention proposal.

Concerning research methods, two surveys were used in order to assess motivation. One of them asked closed-ended questions – which was answered by all the participants – and the other one consisted of open ended questions. In this case, 23 out of the 43 participants answered it.

The closed-ended survey was used before (pre-test) and after (post-test) the intervention. The survey used was adapted from the work developed by Barrera-Cueva, Curasma-Ramos & Gonzales-Ramos (2014). This survey was used due to its adequacy concerning the research topic, as it assesses intrinsic and extrinsic motivation regarding EFL learning. In addition, the survey was validated by experts and by the Cronbach's Alpha standard. The survey examines two variables: motivation and learning – due to the nature of the research the latter variable was not considered. Concerning the variable focused on motivation, two of its items were not included as they were irrelevant for the present research (*I study English because I want to become the best of the students* and *I attend classes in order not to fail*). In addition, the language of the survey was adapted to facilitate students' comprehension. The data obtained was analysed using descriptive-inferential statistics, identifying one independent variable – the grade obtained in the EFL subject by the students in their last school records.

The open-ended survey was carried out using *Google Forms* once the intervention had finished. This survey included two open-ended questions. The first one asked to describe their experiences and impressions concerning the intervention. The second question asked for any other comments that students would like to add.

3.3. Gamification proposal: *Classcraft*

Classcraft was the platform used in order to implement the gamification proposal. This online platform is available both in a web and app version, so teachers and students can access it from any device with internet access. Classcraft offers a basic option – which is free of charge and was the one used for this research – and a premium upgrade, which costs $120 per year.

Classcraft's aim is to turn the classroom into a role-playing scenario. In this sense, the teacher can foster desired behaviours concerning classroom management. Students play in teams and each of them has a specific role and responsibilities within the team, therefore, solidarity and cooperation are promoted. *Classcraft* allows the teacher to apply a reward/penalty system in order to help the teacher to manage students' behaviour and performance. Students gain points that enable them to acquire powers, to level up and progress in the game. Game duration and features are set by the teacher and students have their own account, which allows them to manage their character, powers, etc. (Sánchez et al., 2017).

3.3.1. Avatars and teams

Each student was provided with an access code to set their own account and create their avatar (Figure 1). The students had to decide if they wanted their avatar to be a Warrior, a Mage or a Healer. Warriors are in charge of protecting the team and they can use their powers to absorb the damage for other players, however, their powers are not very strong and cannot be used very often. Mages supplies Action Points for their teams, and they have the strongest powers, on the contrary, they are weaker and have more risk of falling in battle. Finally, Healers are particularly important in the game as they use their powers to restore Health Points for their teams or themselves, that is the way the team should protect them and help them to survive.
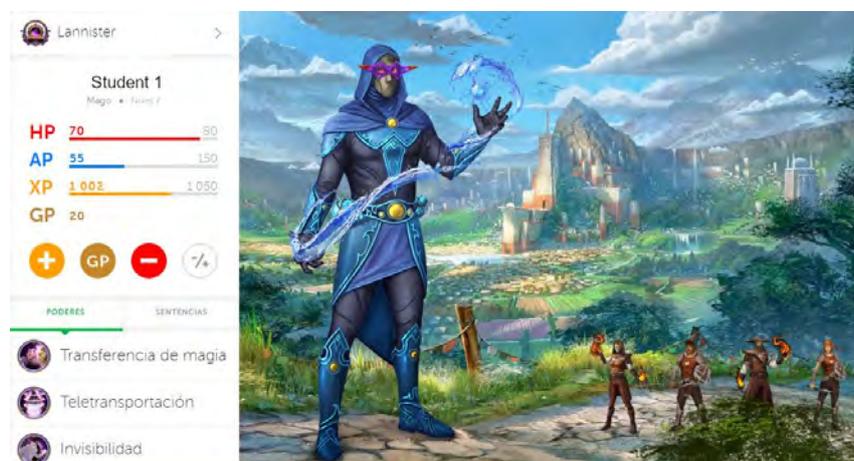

Figure 1. Example of an avatar

The thematic unit developed during the intervention proposal was focused on fantastic stories and legends. Therefore, *Game of Thrones* served as a common thread as it is a well-known and popular TV series. The students were grouped into teams according to the dynasties that fight for the Iron Throne. In this sense, four teams of seven students were formed in 4ºB (Stark, Lannister, Targaryen and Martell) and three teams of five students were formed in 4ºA (Stark, Lannister and Targaryen).

In addition, *Classcraft* allows the teacher – or Gamemaster – to have both a global and individual vision of the game progress. Therefore, the teacher can view the individual progress of a given student, a specific team or the whole classroom (Figure 2).

Figure 2. General overview of the classroom progress

3.3.2. Points and powers

There are several kinds of points students can lose or earn – the teacher can modify their settings in order to meet the needs of the class. Experience Points (XP) allow students to level up and unlock powers. These points are earned when students behave and perform well in class; for example, during the intervention, students earned 20 XP if they helped a classmate. Health Points (HP) are lost when students behave negatively in class. For instance, students lost 10 HP if they used inappropriate language and 30 HP if they did not bring their homework. If a student loses all the HP all the team members will lose 10 HP. In addition, the student who *fell in battle* would have to face a *sentence* such as doing extra homework or telling a joke in English in front of the whole class. Action Points (AP) enable students to use powers; these points were earned automatically each day. During the intervention students earned 10 AP each day during the first two weeks, and 25 AP during the last week. Finally, Power Points (PP) are earned each time students level up and allow them to unlock powers. Each power costs between 1 and 3 PP, depending if they are basic (1 PP), medium (2 PP) or advanced (3 PP) powers.

Powers enable students to gain privileges for themselves and their teams during the game. Some of the powers are set by default and cannot be modified by the teacher, but others can be adapted to the needs of the class. Each character has their own powers according to their role in the team. In this sense, Warriors have powers related to protecting the team such as *Protect 1* (set by default) which enables the warrior to take up to 10 HP damage instead of one of their teammates, receiving only 80% of the initial damage. Other powers such as *Frontal Assault* (adapted for the intervention) enable Warriors and their teams to get a hint during the exam. Some of the powers of the Magues included *Mana Transfer* (set by default) which makes all the teammates, except Magues, gain 7A and *Mage Circle* (adapted for the intervention), which allow Magues and their team to leave in blank one of the exam questions without any

penalty. To finish with, Healers could use, among others, *Heal 3* (set by default) to make a teammate gains 30 HP or *Prayer* (adapted for the intervention) to enable their teams during the exam to have access to their notes for one minute.

3.3.3. Other resources from *Classcraft*

In addition to the points and powers, *Classcraft* offers several tools to dynamize the class. During the intervention proposal, the *Wheel of Destiny* was used to randomly select a student or a team to answer questions, solve activities, etc. This resource was especially useful as there were numerous students willing to participate during the class and it was difficult to select one among all of them. In addition, it makes students stay alert and pay attention during class as they knew that they could be selected at any moment by the *Wheel of Destiny.*

The other resource used was *The Riders of Vay*, which is based on random events – the teacher can modify the events or add new ones. At the beginning of the class a random event appeared on the screen and all the students had to face its consequences. Events could be beneficial or unfortunate for one individual student, team or for the whole class. For example, *Abundance of Energy* made the player with least AP gain 15 AP while *Battle of Champions* made the player with most XP lose 20 HP. Some of the events add fun elements to the class such as *Good Manners* which penalized students with 10 HP if they did not address each other using *milord* or *milady* instead of their names.

Lastly, *Classcraft* platforms has a messaging platform which allow the teacher to send messages−files could also be attached – to a given student or the whole class. The platform also shows the teacher how many students have seen the message. This option was used as a reminder of their homework and to communicate with students that did not attend class a certain day.

4. Findings

In this section, results after analysing students' motivation before and after implementing the gamification proposal are exposed. Tables 1 and 2 show the overall results of the motivation survey (pre-test and post-test).

Concerning intrinsic motivation (see Table 1), there is a generalized increasing trend in all the values. When analysing the mean, it can be observed that some of the survey items, despite having increased, do not present a relevant variation. This is the case of items 3 and 7, which only increased in 0.8 and 0.12 points respectively. Therefore, the gamification proposal had a limited effect on students' perception of the importance of English for their future studies

as well as on their willingness to face difficulties. There are values such as the ones of items 1, 2, 5 and 6 that varied between 0.20 and 0.37 points, which shows a positive impact of the gamification proposal.

Table 1. Frequency comparison of intrinsic motivation

ITEMS OF THE SURVEY		INTRINSIC MOTIVATION													
		I work hard in English classes because I am interested in learning		I do all the tasks and activities proposed by the teacher because I think it fosters my learning.		I work hard in learning English because I think it would help me in my future studies.		I try to participate in class because I am interested in the subject.		I ask questions after the explanations in order to foster my learning.		I practice and review at home in order to foster my learning.		I am aware of my difficulties and challenges and I work hard to foster my learning.	
		1		2		3		4		5		6		7	
FRECUENCY		PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
Never	1	0	0	0	0	0	0	2	0	1	0	0	0	1	0
Rarely	2	0	0	1	1	0	0	5	0	8	6	3	5	0	1
Sometimes	3	2	2	5	1	1	2	6	7	9	7	10	5	5	5
Frequently	4	13	6	5	9	8	5	4	12	2	7	6	5	7	9
Always	5	6	13	10	10	12	14	4	2	1	1	2	6	8	6
Mean		4.20	4.57	4.23	4.43	4.51	4.69	3.34	4. 03	3.00	3.34	3.29	3.54	3.94	4. 06
Variation		0.37		0.20		0.18		0.69		0.34		0.25		0.12	

Item 4 (Figure 3) is the one that presented most variation as it increased by 0.69 points. There was an evident increase in the values Always and Frequently (A/FR) in both groups. In addition, it is remarkable how the values Never and Rarely (N/R) disappeared in both groups. Consequently, it can be concluded that the gamification proposal had a positive impact when it comes to fostering students' participation.
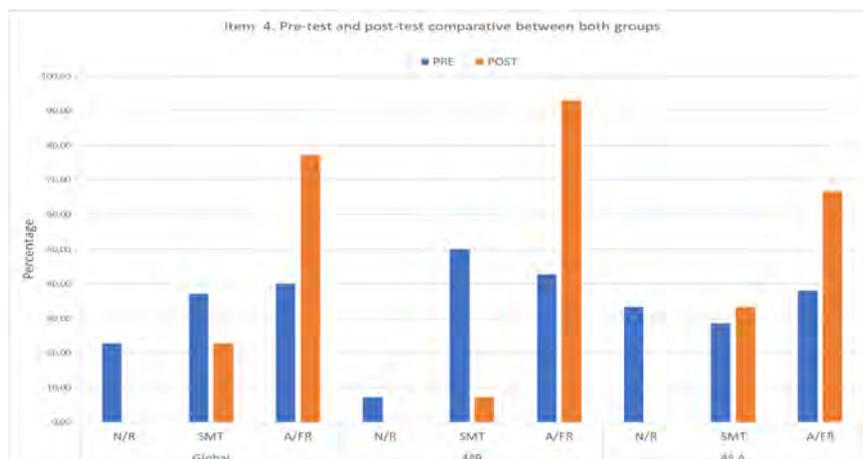
Figure 3. Item 4. Pre-test and post-test comparative between both groups

The answers of the students obtained from the open-ended survey also illustrate this situation. In this sense, one student pointed out that "Las clases han sido más entretenidas. A mí me ha ayudado bastante ya que gracias al juego he participado más en clase" [The classes were more entertaining. It has helped me a lot because, thanks to the game, I have participated more in class] (Student 6). In addition, some students said that they would have liked to participate even more with statements such as "Me ha gustado mucho, es una buena forma para que todos participemos y hagamos las tareas. Lo que menos me ha gustado es que salía muy pocas veces en la ruleta" [I have really liked it; it is a good way to make us all participate and work in class. What I liked least was that I was chosen very few times by The Wheel of Destiny] (Student 10) and "Me ha gustado mucho la forma de dar clase y he participado mas. Mejoraría la ruleta porque me han tocado pocas veces. El juego estaba muy bien" [I have really liked the way of teaching and I have participated more. I would improve The Wheel of Destiny because I have been chosen only a few times. The game was very good.] (Student 15).

Regarding extrinsic motivation (see Table 2), it is remarkable the appearance of two negative values in items 13 and 14 (-0.12 and -0.26 respectively). This could be an indicator that the gamification proposal had a negative impact concerning the perception of the students about the usefulness of English.

Table 2. Frequency comparison of extrinsic motivation

ITEMS OF THE SURVEY		I study hard because I want to pass the exams.		I try to participate in class because I can improve my grades and my effort is recognized.		I do all the tasks and activities in order not to have a bad grade.		I ask questions after the explanations in order to be able to pass the exams.		I think that learning English is important for my future.		I think that learning English is important to have a good job in the future.		I think that learning English is necessary to travel abroad.	
		8		**9**		**10**		**11**		**12**		**13**		**14**	
FREQUENCY		PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
Never	**1**	0	1	2	1	0	0	2	1	0	0	0	0	0	0
Rarely	**2**	2	0	5	1	0	1	6	4	0	0	0	1	0	1
Sometimes	**3**	2	2	6	3	4	2	10	6	0	1	0	1	1	2
Frequently	**4**	5	4	2	10	7	5	2	9	7	3	6	8	2	4
Always	**5**	12	14	6	6	10	13	1	1	14	17	15	11	18	14
Mean		4.37	4.49	3.51	4. 09	4.31	4.60	3.0	3.31	4.74	4.80	4.66	4.57	4.77	4.51
Variation		0.12		0.58		0.31		0.31		0.14		-0.12		-0.26	

Similar values to the ones obtained when analysing intrinsic motivation can be found. In this case, items 8 and 12 (0.12 and 0.14 respectively) had a small variation compared to other items. Therefore, it can be concluded that gamification proposal had a limited impact regarding students' effort for passing the exams and their perception about the importance of English in their future.

However, as in the previous case, high values can be found in other items. Items 10 and 11 increased by 0.31 points, which indicates that students put more effort with regard to completing tasks and homework and asking their questions. Students' responses to the open-ended questions were in line with the previous results. "Me ha parecido muy interesante ya que te motiva mucho porque cuando haces la tarea te da puntos y hace que te guste hacer tarea" [I think it was very interesting as it motivates you a lot when you do the tasks and you get points and it makes you like doing tasks] (Student 4).

Finally, the value which increased most was question 9 – 0.58 points. Consequently, the gamification experience proved to be a great resource to increase students' participation.

Students' responses confirmed the results obtained. "Me ha gustado mucho porque te anima mas a participar en clase para conseguir poderes y esas cosas" [I liked it a lot because it encourages you to participate more in class to achieve powers and so on] (Student 17). Student 11 said "Me ha parecido una experiencia muy interesante y que realmente nos ha servido a todos. Hacíamos la tarea con gusto para obtener experiencia y poder subir de nivel y para no llevarnos una sentencio, claro está. Con este formato han hecho todos los días la tarea alumnos que no la solían hacer, por pereza o por olvido" [I found the experience very interesting and useful for all of us. We did the tasks and homework willingly in order to get experience and level up and for not having to face a sentence, obviously. This format has made that students who normally forgot or were lazy to do the homework did them every day].

In Figure 4, a clear increase in the values Always and Frequently can be observed in both groups. In addition, in the case of 4ºB group, the values Never and Rarely disappeared in the post-test.
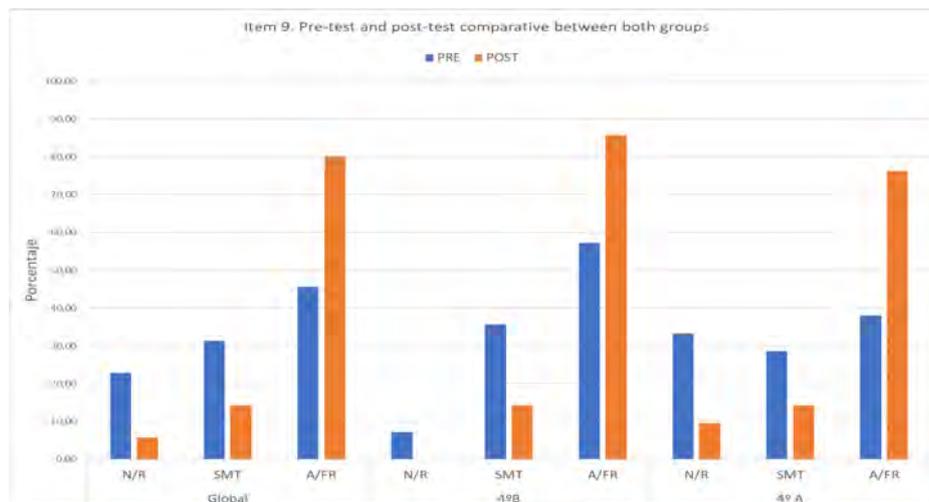

Figure 4. Item 9. Pre-test and post-test comparative between both groups

Figures 5 and 6 show means comparison between pre- and post-test in order to illustrate their evolution. Means are presented considering both groups separately as well as the global result.

Figure 5. Pre-test mean comparison

Figure 6. Post-test mean comparison

Figure 7 shows the percent variation of the survey items between the pre- and the post-test. In general terms and considering both groups, it can be observed how gamification had a positive impact on students' motivation.
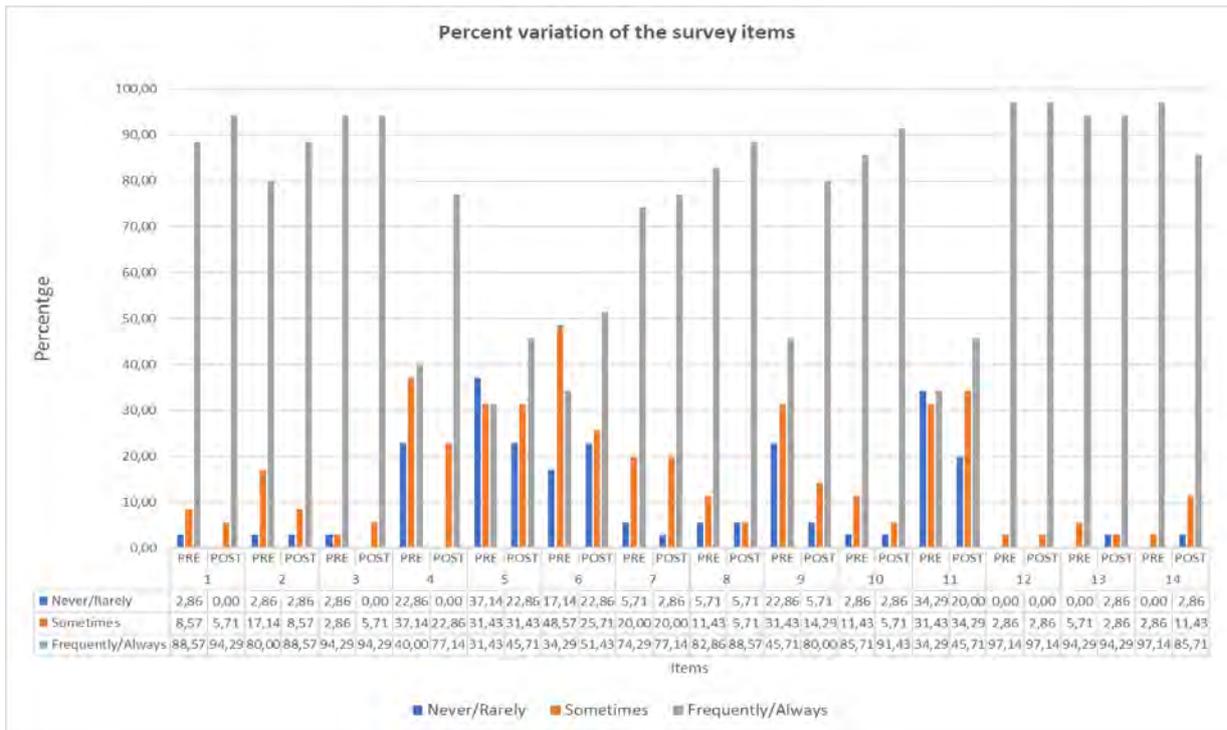
Figure 7. Percent variation of the survey items

Another interesting aspect to take into account regarding students' motivation is to analyse motivation variation in terms of their academic performance. Figure 8 shows the evolution of the motivation of those students who got a grade below 5 (failure) in their last school records. There is an increasing tendency except for items 5, 7, 13 and 14 where the post-test values are lower than those of the pre-test.
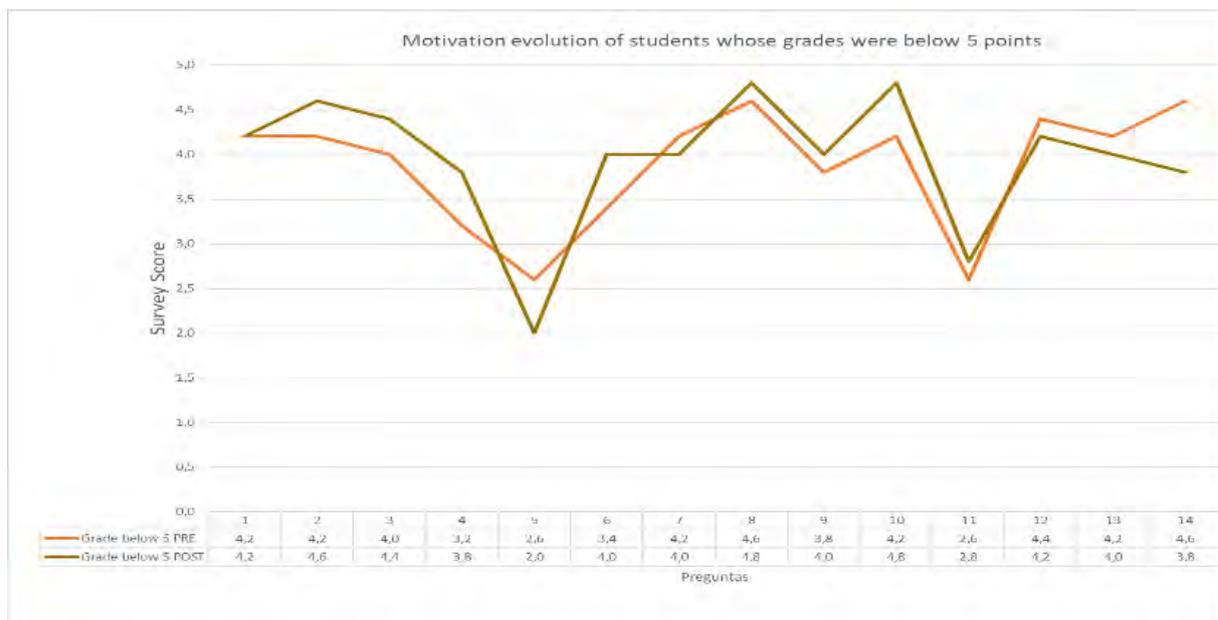

Figure 8. Motivation evolution of students whose grades were below 5 points

Concerning students whose grades were between 5 and 6 points it can be observed (Figure 9) that the evolution of motivation has not been as remarkable as in other cases. In fact, some of the items such as item 2 and 7 had higher results in the pre-test. However, following the overall tendency, there is an increase concerning participation (items 4 and 9).

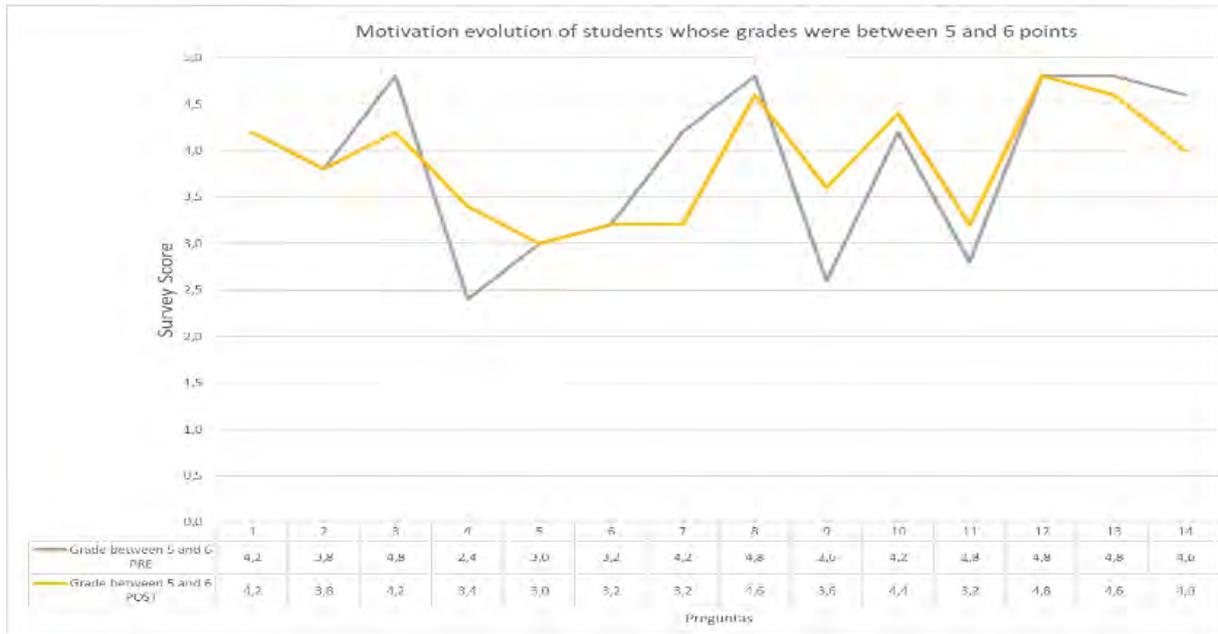|	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Grade between 5 and 6 PRE	4,2	3,8	4,8	2,4	3,0	3,2	4,2	4,8	4,6	4,2	2,8	4,8	4,8	4,0
Grade between 5 and 6 POST	4,2	3,8	4,2	3,4	3,0	3,2	3,2	4,6	3,6	4,4	3,2	4,8	4,6	3,0

Figure 9. Motivation evolution of students whose grades were below 5 points

In the case of students whose grades were between 7 and 8 points there is a general increasing trend in terms of their motivation (see Figure 10). Post-test values are higher than pre-test values, except for the last 2 items, which tend to decrease in all groups.
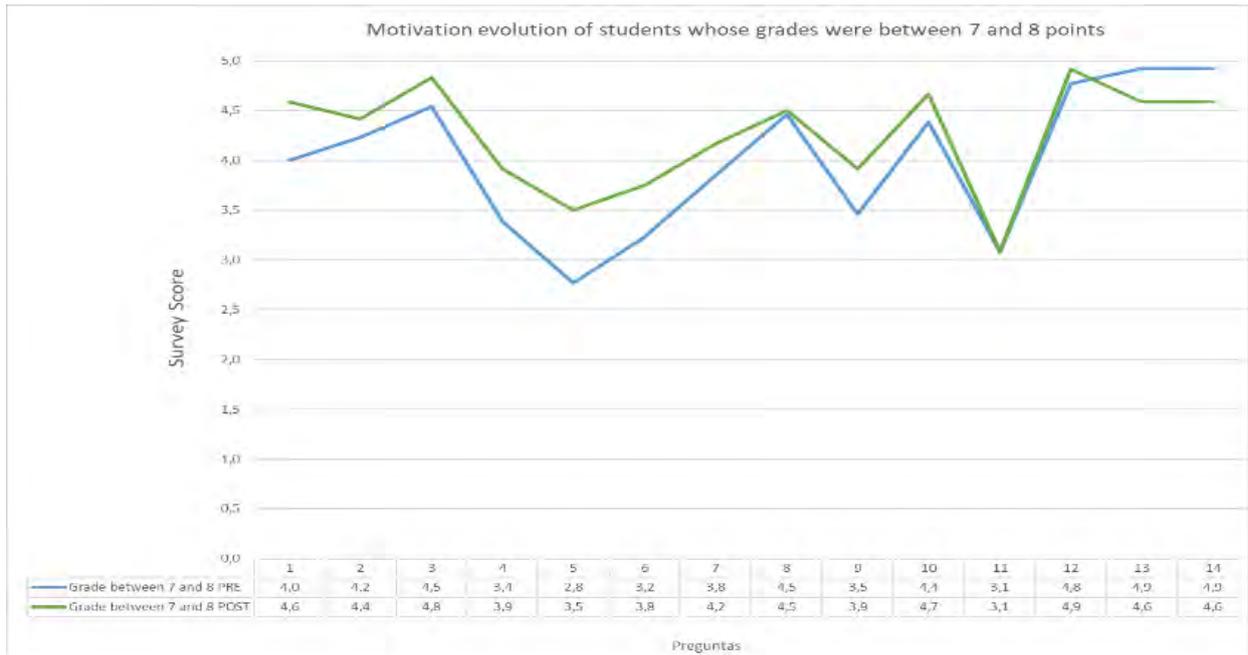
Figure 10. Motivation evolution of students whose grades were between 7 and 8 points

Finally, Figure 11 shows that students whose grades were between 9 and 10 points, as in the previous case, experienced an increase in their motivation after the intervention proposal.
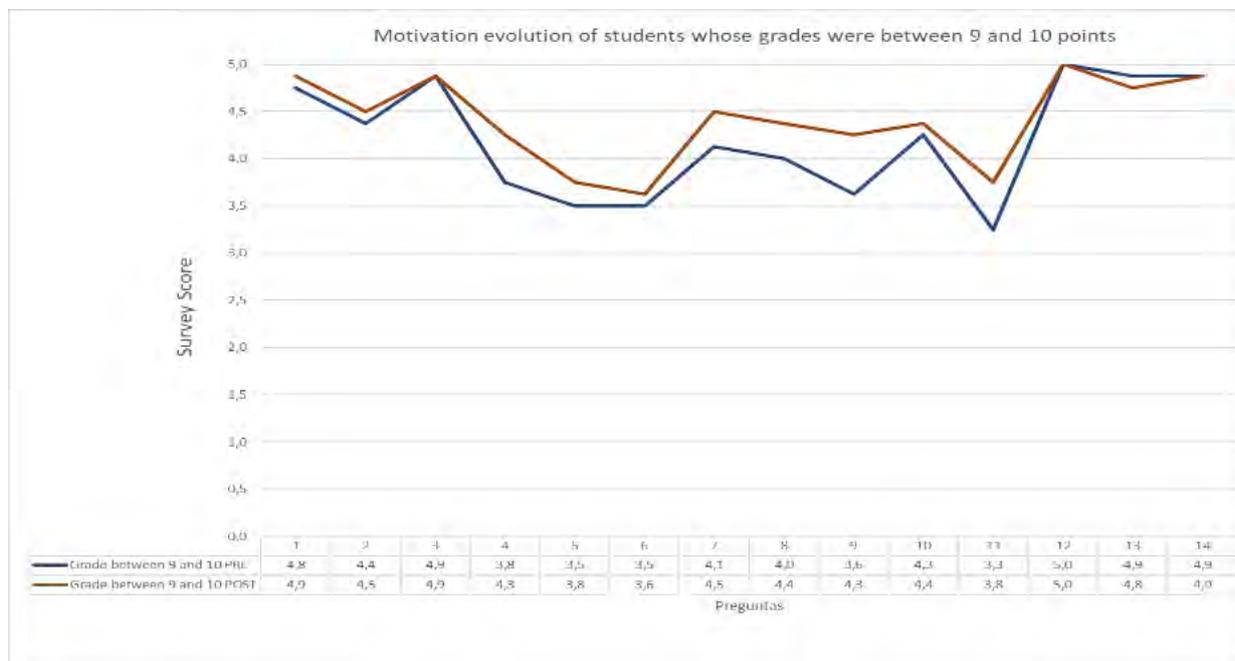

Figure 11. Motivation evolution of students whose grades were between 9 and 10 points

5. Discussion

Taking into consideration the main aim of this research – analysing motivation through gamification – it been proved that the gamification proposal, specifically, the implementation of

the role-playing platform *Classcraft*, had a positive impact on students' motivation. These results are in line with those described by González Reyes et al. (2017), Haris & Sugito (2015), Papadakis & Kalogiannakis (2018) and Sánchez et al. (2017).

The gamification proposal worked especially well with those students whose grades were high (between 7 and 10 points). This finding is not surprising as students with good grades normally show willingness and interest in class. Nevertheless, those students who had lower grades also showed a significant increase in their motivation. It is worth mentioning that there is an overall increase in students' participation because, as results describe, their interest in English increased (intrinsic motivation) and they wanted to obtain better grades and get acknowledgement (extrinsic motivation). In the light of the results, the initial hypothesis, namely that students' motivation will be fostered by implementing a gamification proposal – has been confirmed.

6. Conclusion

This study has proved gamification efficacy to foster students' motivation. Therefore, gamification is a great way to increase participation in the classroom, among other aspects. This is a key element in the EFL classroom as, generally, students are reluctant to participate given that they do not have enough confident to express themselves in another language or because they fear to make mistakes, etc. However, this research had some limitations such as the short period of implementation – the intervention lasted three weeks – and the sample size, which was limited to two groups of 4th year secondary students – 43 students.

It is worth mentioning that these kinds of proposals require a careful and detailed planification, which is time-consuming and requires effort of the teacher and, sometimes, teachers' and schools' circumstances are not favourable to implement and use these types of resources. In addition, gamification proposals must serve both the interests of the students – getting rewards, acknowledgement, fun, etc. – a and those of the teacher – foster students' performance, classroom atmosphere, etc. Consequently, it is essential to balance these two aspects in order to ensure success.

Finally, new lines of research have emerged such as investigating the causes of the decrease of the values of the items related to the usefulness of English for the future and travelling abroad. In addition, it would be convenient to extend the duration of the intervention and the size of the sample in order to obtain results that allow analysing gamification not only in terms of motivation but also considering the level of commitment and academic performance.

Acknowledgement

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