
Gamification: How does it impact L2 vocabulary learning and engagement?

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Abstract

The implementation of gaming aspects such as competition, evolution, and learning based on a reward system in non-gaming environments is known as gamification (Deterding, 2012). A gamified approach to learning has been found to increase engagement and learning in educational contexts (Dicheva et al., 2015; Turkey & Kinzer, 2015). However, the impact of these approaches on L2 vocabulary learning has not been fully documented. To this end, the present mixed-methods study sought to assess the impact of a gamified approach to teaching vocabulary on the learning and retention of 51 ninth grade EFL learners and explore their perceptions towards the game. Results showed that participants who were exposed to the card game made immediate and delayed vocabulary gains that were as high as the gains made by learners who were taught vocabulary in a traditional classroom. This suggests that a gamified methodology in an EFL classroom can yield lexical development that is at least as effective as learning words by means of textbook activities. Additionally, the perceived advantages of a gamified approach were found to increase engagement and maintain levels of learning.

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1 Introduction

Gamification can be defined as the implementation of gaming aspects such as competition, evolution, and learning based on a reward system in non-gaming environments (Deterding, 2012). A methodology based on gamification has been applied in contexts such as commerce, business, health, informatics, and education with the purpose of enhancing the experience of the user by allowing them to learn through interactive settings. This methodology contains a system of rules and stages that must be followed so the participants in a given context learn through discovery, competition, and evolution. There are specific characteristics in the use of games for educative purposes in EFL teaching.

For example, digital games have been used in learning settings and with defined learning outcomes that balance the subject matter with the game experience (Plass et al., 2015). The concept of digital game-based learning was coined to refer to the use of main-stream or educative games to teach specific contents and achieve purposes in line with the curricular intention of an institution (Prensky, 2001). Gamification is closely related to this approach, as it includes the implementation of games and game elements in non-gaming contexts (Deterding, 2012) with the purpose of improving educational and training processes. The main feature of gamification is that it implements gaming elements in its activities so that players' engagement towards an activity is increased. This is achieved by specific characteristics of a game, such as clear objectives, short-term achievable goals, seamless sense of progression, and frequent rewards (De-Marco et al., 2014).

Games are suitable for educational purposes due to the sustained motivation they can provide over long periods of time. Motivation is a fundamental factor towards increasing predisposition to language learning as it not only provides the beginning steps for taking action, but also shapes future behaviour towards the choice of a particular action (Dörnyei et al., 2006; Schunk et al., 2013). Thus, motivation is a socio-dynamic variable that is not merely the result of the interaction of factors but an ongoing process that is shaped by the context and nurtured by the perceptions of individuals participating in an activity. Games include motivation components that increase engagement. Elements such as varied activities in the game, well designed and dynamic mechanics that maintain participants focused on the task, and a trophy or point-based system rewarding achievement are an incentive to engaging with a game (Plass, et al., 2015). These motivation components allow players to interact with the most prominent elements of the game and to make subsequent decisions that promote a general perception of evolution towards a clear goal. Motivation thereby allows participants to engage from a cognitive, behavioural, and affective perspective depending on the type of activity with which learners engage in a game (Domagk et al., 2010).

Research on the use of games and its impact on EFL learning aspects such as L2 vocabulary learning has been scarce. Therefore, gamification was implemented in the present study to validate the effectiveness of a game to teach vocabulary and its impact on EFL learners' perception of a gamified approach. The study is embedded in the Chilean EFL secondary education context. The Chilean national curriculum for public schools promotes the development of the four skills in EFL classes that are compulsory from 5th grade to 12th grade (114 hours per year) when secondary education is completed (Cancino & Díaz, 2019). Although the curriculum proposes a series of activities to practice contents that specifically focus on vocabulary, they are restricted to the use of worksheets and the institutional textbook issued by the government. Thus, the Chilean EFL curriculum neither promotes the use of dynamic activities like games nor includes gaming activities to achieve its objectives, as teachers remain committed to grammar activities. In the recent years, Chile has aimed to improve the level of English at the school level through a series of initiatives supporting teachers and institutions. One of the most significant changes occurred in 2004, when the Ministry of Education introduced the English Open Doors program in order to support the EFL development in public and subsidized schools by means of courses, seminars, lectures, and training scholarships for teachers, and specialized and practical workshops for students. However, the lack of research on curricular changes, a reactive policy-making habit expressed in textbooks and standardized tests, and classroom instruction approaches that in practice remain close to grammar-translation approaches remain pervading features of Chilean EFL educational settings (Abrahams & Silva, 2017). Thus, the present study was conducted in the EFL context described, which is characterised by L2, input that is mostly delivered by the teacher and few instances for authentic practice outside the school setting. It sought to assess the impact of a gamified approach in the form of a vocabulary

card game on vocabulary learning, and also to gather learners' perceptions on specific aspects of the game. Two research questions were put forward, namely:

- (1) What is the impact of a gamification approach to vocabulary teaching on the learning and retention of target words?
- (2) What is the perception of students towards a gamification approach and their engagement?

2 Literature review

2.1 Gamification and learning

Using games to educate responds to the necessity of teachers to implement dynamic, innovative, challenging, and entertaining activities to enhance learner motivation and engagement. To achieve this purpose, two main categories of games can be identified: main-stream games used for educational purposes and educational games. Whilst the former consists of games that are adapted by educators to the context of a classroom, the latter includes games that are developed with the specific purpose of supporting teaching. Educational games address strategies, topics, and contents that are carefully implemented to enhance motivation and, consequently, learning. Their development has involved the use of diverse interactive platforms such as classroom activities based on total physical response (i.e. teaching language structures by means of movement in reaction to verbal input), computer video games used to teach a variety of contents and subjects, mobile-phone video games, board games, and card games. One aspect that researchers have addressed is how these games can increase motivation and engagement when compared to traditional lessons. For example, Ciampa (2014) proposed a mobile-learning model to help understand the motivational features of these games. He argued that motivation can be enhanced through challenge, curiosity, control, recognition, competition, and cooperation.

Educative games should be conceived with the premise of fulfilling as many needs and interests as possible or, in other words, being able to be adapted to different learning styles. As Turkay and Kinzer (2015) state, an important feature to take into account when developing educative games is adaptivity; that is, the capability of games to consider knowledge, goals, and needs of learners in order to engage different groups of users. To achieve this, motivational, educational, and cognitive factors need to be taken into account in order to successfully cater for diverse teaching contents. A gamified classroom that encourages curiosity, interaction, competition, and cooperation can indeed help sustain engagement and increase participation in activities. Two aspects that are necessary for an educational activity to be successfully delivered are resilience in front of failure and effective feedback. These aspects contribute to maintaining engagement, giving learners the opportunity to prompt self-assessment in terms of knowledge and capabilities, and by developing an environment in which effort and consistency – rather than mastery – are rewarded (Dicheva et al., 2015).

2.2 L2 vocabulary learning

Neuman and Dwyer (2009) described vocabulary as “words we must know to communicate effectively; words in speaking (expressive vocabulary) and words in listening (receptive vocabulary)” (p. 385). Additionally, Hornby (1995) referred to vocabulary as “the total number of words in a language; vocabulary is a list of words with their meanings” (p. 1331). Richards and Renandya (2002) stated that vocabulary “is the core component of language proficiency and provides much of the basis for how well learners speak, listen, read, and write” (p. 255). Concerning the study of vocabulary and its functions in L2 language learning, Laufer and Goldstein (2004) state that receptive vocabulary encompasses the words that a person is able to identify when he/she hears or reads them, while productive vocabulary includes all the words that a learner is able to use in spoken or written communication. In other words, receptive skills (i.e. reading and listening) are associated

with receptive vocabulary, and productive skills (i.e. speaking and writing) can be linked to productive vocabulary.

The multi-dimensional nature of vocabulary is addressed in the concepts of vocabulary breadth and depth. Vocabulary breadth refers to the number of words a learner knows. At least some superficial knowledge of a lexical item must be possessed for a learner to increase vocabulary breadth, which can prove beneficial when learners seek to understand the overall meaning of a text (Shen, 2008). On the other hand, vocabulary depth can be understood as the level of knowledge of a lexical item regarding its semantic, syntactic, and morphological aspects (Proctor et al., 2012). It refers to the ability to relate the knowledge of a word to other items in the lexicon (Read, 2004). This degree of connection between lexical networks is what defines vocabulary depth (Kirby & Li, 2014). Thus, language learners do not know a word by merely understanding its meaning in isolation, but by relating its meaning to other lexical items in a given context. This may represent a daunting, time-consuming task for educators as L1/ L2 learners must process and be exposed to a large number of words (Hadley et al., 2018).

There has been an increased emphasis on the development of L2 vocabulary learning strategies due to its importance in the vocabulary learning process (Nation, 2013; Sa'd & Rajabi, 2018), even though research on effective language teaching strategies promoting vocabulary teaching has been scarce (Carter & McCarthy, 2014). This lack of research addressing successful strategies can prompt teachers to switch from the teaching of vocabulary to the teaching of grammar, as it is perceived as a less dangerous, more comfortable way to approach L2 language learning (Brown & Lee, 2015). Studies have reported the impact of certain strategies on the retrieval of words amongst learners. For example, Radwan and Rikala-Boyer (2011) address the positive influence of semantic mapping in students' knowledge, and Oanh and Hien (2006) have discussed the influence of rote memorization (a technique based on systematic repetition) in students' L2 vocabulary learning and retention. In contrast, it has been argued that rote learning can hinder learning, as it can negatively influence students' creativity and their understanding and retention of target words on the other hand (Gass & Selinker, 2013).

2.3 Games and L2 Vocabulary Learning

Games can be a key ally in L2 language learning. They can be conceived as an active, dynamic, and informative approach to transmitting knowledge in a controlled environment that is able to generate meaningful interaction through the mechanics of the game itself. In EFL settings, games have been found to reduce anxiety levels and increase engagement levels by means of their immersive features (Gozcu & Caganaga, 2016). Likewise, Hajji and Kim (2019) argue that games can be used by EFL teachers in order to increase the perceived interestingness and usefulness of classes. In the past two decades, there has been a renewed interest towards learning and teaching L2 vocabulary through the use of digital technologies (Maftoon et al., 2012). As Griffiths (2006) states, the digital era has provided a new perspective on language learning acquisition, which can be nurtured by means of the development of games that combine real-life situations with learning settings, such as the application for smartphones *Duolingo*, launched in 2012.

Researchers have explored several gamified approaches to teach EFL vocabulary. Akdogan (2018) assessed the effectiveness of game activities such as spelling puzzle, word association, and read-aloud games on the L2 vocabulary learning retention of primary school children in Turkey. She concluded that participants made more vocabulary gains in several of the activities when compared to regular lessons. Furthermore, participants reported they felt much more confident and relaxed in a gaming-related environment than in other non-gaming activities. Chen and Chen (2019) assessed the effectiveness of augmented reality flashcards versus traditional paper flashcards on the L2 vocabulary gains of 98 school children in Macau. The children were split into two groups that were exposed to vocabulary related to animals in either condition. The augmented reality flashcards required the use of smartphones so that participants could scan information about an animal as a QR

code that would be sent to a specialized application. This application would then display an animated 3D representation of the animal, providing a more authentic and immersive experience with vocabulary learning. Chen and Chen also gathered perceptions of teachers towards the implementation of this kind of technology. The results showed that both groups made significant progress in their vocabulary learning, but students who used augmented reality flashcards achieved a slightly higher score. They reason that a possible explanation for the lack of noticeable differences in the groups is the relative similarity between the learning activities for each group. Also, learners in the experimental group may have gained knowledge that went beyond lexical items due to the nature of the augmented reality experience, knowledge that was not assessed in the post-tests. Overall, teachers were found to embrace new technologies and noticed a higher level of engagement and attention span in their learners as they were using augmented reality flashcards. Chen and Chen do not report on the perceptions of the students towards the augmented reality flashcards, which could have delved into learner attitudes towards the gamified components of the treatment. Focusing on long-term retention of words, Franciosi et al. (2016) conducted a quasi-experimental research in which the experimental group used a vocabulary learning application to increase vocabulary gains. Results showed that the experimental group outperformed the control group, and the impact of the game was significant in long-term vocabulary retention. Finally, Kohnke et al. (2019) used a mobile game to teach L2 vocabulary to business students. They found that apart from being effective in the process of teaching vocabulary units, a gamified methodology achieved sustained long-term retention of the content learned. Overall, the studies reviewed suggest that vocabulary is a core element of language learning that can be positively influenced by digital and board games. These games can foster motivation among language learners and can yield vocabulary gains and can have additional benefits such as increased engagement and motivation. Thus, in the present study, the objective of the research is to implement and assess a gamification methodology in an EFL educational setting with the purposes of assessing its effect on vocabulary learning and exploring learners' motivational implications towards a gamified approach. The study will thus contribute to the scarce available empirical findings on the relationship between educational games, vocabulary gains, and motivation in EFL contexts.

3 Research methodology

3.1 Research design

The present study used a mixed method design that sought to explore the impact of a gamified approach to learning (by means of a card game) on the vocabulary gains made by 51 9th grade EFL learners at a public school in Santiago, Chile. To this end, these participants were divided into two groups. The experimental group was exposed to a gamified approach to the learning of 16 target words, whilst the control group received a traditional vocabulary lesson that included the same target words to be learned through worksheet activities and rote-learning. Vocabulary learning gains were assessed by means of two post-tests. Regarding data analysis, quantitative analysis compared vocabulary post-test results in both groups, whilst qualitative data were gathered to explore the perceptions and feelings of the experimental group participants towards a gamified approach.

3.2 Participants

The study was carried out in a Chilean public single gender (girls) high school located in Santiago, Chile. The participants in the study are 51 female 9th grade high school EFL students. They receive three 45-minute pedagogical hours of EFL every week and were selected based on their baseline EFL proficiency level. In order to control for this, an adapted version of the Quick Oxford Placement Test (QOPT; Syndicate, 2001) was administered. This test confirmed that the 51 participants that took part in the study belonged to the A1–A2 (CEFR levels) proficiency range.

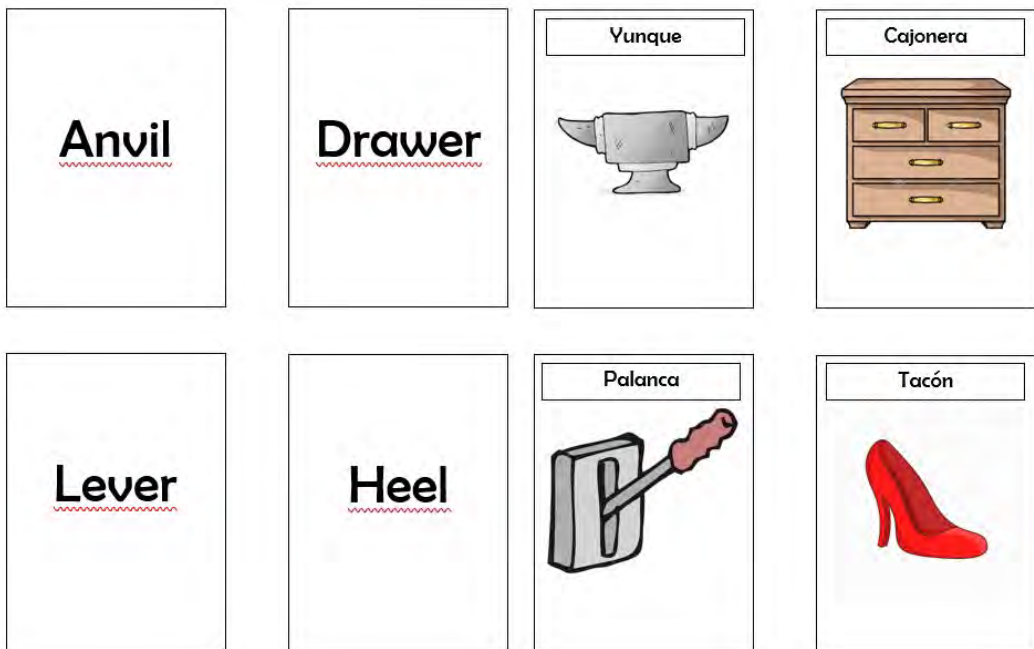
3.3 Materials and instruments

3.3.1 Card Game

The gamification approach implemented in the present study was based on a card game. The game consisted of 21 cards with lexical items. That is, each card had the L2 word (English) on one side (face up) and its corresponding image and meaning in the L1 (Spanish) on the other (face down). The images in the cards were carefully searched in order to be appealing and consistent with the lexical items related to them. As for the game mechanics, they are simple to follow. Players must take turns to challenge each other so that they can guess the meaning of the words in the L2 through a system of rounds. The game is played in groups of three students, where each player is dealt four flashcards with the L2 word facing up. Then, each player takes turns to ask other players about the meaning of the lexical item contained in a particular card. The other player has to provide the L1 meaning for the L2 word in the flashcard. If the player is able to do this, they receive one point and keep the flashcard, which represents a score token. Each player has the chance to use a “deflection” card, which allows them to skip their turn and challenge another player. Players go through four rounds to make sure they are exposed to all the target words. After the four rounds are completed, the player who scores more points overall win the match. A sample of the cards used in the game can be seen in the figure below.

Figure 1

Sample of cards used



3.3.2 Vocabulary Knowledge Scale (VKS) and target words

The 16 target words included in the card game were selected by means of an adapted version of the Vocabulary Knowledge Scale (VKS; Paribakht & Wesche, 1996) administered to the partici-

pants in the study. This was done to ensure that the target words were unknown to the participants. The VKS is an instrument that has been used to measure vocabulary depth, as it consists of a scale with five progressive levels of lexical development that go from “*I haven’t seen this word*” to “*I know what this word means and I can use it in a sentence*”. The instrument has been regarded as a valid measure of vocabulary depth (Batty et al., 2012; Zou et al., 2017), but see Bruton (2009) for an review of its limitations when addressing the productive and receptive nature of lexical development and the validity of the five categories of vocabulary knowledge included in the instrument. Nonetheless, these limitations did not apply in the present study, as an adapted version of the VKS with only the first three levels was used to identify 16 unknown words that could be used in the treatment. The VKS included 20 more words to prevent learning effects. When all the participants reported they did not know a word, or that they had seen the word but did not remember it (levels 1 and 2 of the VKS, respectively), then the word was included as a target word for the treatment.

Several measures were taken to make the target words comparable in the game. First, all the words in the VKS instrument were analysed by means of Lextutor (www.lex tutor.ca), an online vocabulary tool with useful lexical features. Lextutor confirmed that the target words belonged to the 2,000–3,000 most common words band range in English (BNC corpus). Second, the nature of the treatment required the inclusion of words that could be depicted through images, so content (concrete) nouns were selected. Nouns are simpler to process and to remember, which may be re-lated to the semantic malleability of verbs (Kersten & Earles, 2004). Therefore, including concrete lexical items and avoiding more abstract words such as verbs or adverbs were thought to facilitate the implementation of a gamified approach for L2 lexical development. Third, five non-target words that were known to the participants (third option in the VKS) were added to the game to let them earn points at initial stages of the game and increase engagement. Table 1 below displays the 16 target words that were unknown to participants and were then used in the study.

Table 1

The 16 target words in the game

1. anvil	5. bishop	9. mill	13. beam
2. drawer	6. plug	10. oar	14. boost
3. lever	7. loaf	11. bush	15. boar
4. heel	8. bench	12. dock	16. helmet

3.3.3 Post-tests

Two measures of passive knowledge were administered. Passive knowledge of a word refers to the receptive understanding of a lexical item and is associated to reading and listening processes, as learners comprehend L2 input by perceiving the word form and retrieving meaning from it (Laufer & Goldstein, 2004; Nation, 2013). To assess passive vocabulary gains, two post-tests were administered. First, a passive recall test was administered, where learners were required to provide the L1 translation to an L2 lexical item. The first letter of the translation for each L2 (English) item is provided, to prompt learners to input the correct L1 (Spanish) form:

Heel → T _____ (tacón)

The passive recognition test (Laufer & Goldstein, 2004) is a measure of passive vocabulary knowledge in which an L2 word “is given as a prompt, and the task is to choose its meaning from among four options in the learner’s L1” (2004, p. 407). As Laufer and Goldstein (2004) state, this instrument represents a more sensitive tool than passive recall measures as it is more sensitive to slight changes in lexical development. Thus, the correct L1 form for a target word was presented

together with three distractors in Spanish. Following Lee and Pulido (2017) these distractors consisted of the following:

Heel

- a) Estaca (A distractor semantically unrelated to the target word)
- b) Talón (A distractor phonologically / orthographically close to another known word in the L1/L2)
- c) Tacón (The correct meaning of the target word)
- d) Tobillo (A distractor contextually proximate to the target word)

3.3.4 Semi-structured interviews

In order to explore the perceptions of the participants in the experimental group towards the card game, its model, mechanics, illustrations, and functionality, a semi structured interview was applied based on Creswell's (2012) guidelines for qualitative data gathering and analysis. Four randomly selected participants in the experimental group were contacted and given an information sheet that contained relevant aspects of the interview. The interview protocol included questions addressing perceptions on three main aspects: learning vocabulary through games, motivation and engagement, and game mechanics. Once the interviews were recorded and transcribed, qualitative content analysis was conducted with the data. Codes were identified and themes were created in relation to the three aspects described. The interviews lasted 25 minutes.

3.4 Procedures

Once the 16 target words were identified by means of the VKS, they were included in the card game. This first version of the game was piloted with a group of students from the same school which did not participate in the study. Students in the pilot were able to assess the mechanics, dynamics, playability, and linguistic features of the cards, together with the clarity of the images presented. Overall, they were able to play the game and understand its mechanics, and successfully matched the images to the words semantically. After the pilot session, the 27 participants in the experimental group were organized in groups of three and played four rounds of the game. As for control group measures, the 24 participants in the group were exposed to the 16 target words by means of a regular EFL lesson that included rote learning. They were shown a PowerPoint presentation with the target words and then were asked to work with a worksheet that included the lexical items. Both the treatment and the traditional EFL class lasted approximately 50 minutes. Immediately after the treatment was carried out, students took the passive recall and passive recognition post-tests. Three weeks later, delayed versions of both post-tests were administered to assess vocabulary retention.

The quantitative data was submitted to SPSS 24, and four t-tests (two for the immediate post-test data and two for the delayed post-test data) were run. The t-tests sought to identify significant differences between the means yielded by the control and experimental groups in terms of lexical units learned and retained. As regards qualitative data, they were analysed by means of qualitative content analysis, identifying codes and themes that were related to perceptions towards the different components of the game and its engaging features.

4 Results and discussion

4.1 Quantitative results and discussion

Descriptive results for the immediate and delayed post-tests are provided in Table 2 below. Eleven participants who took the immediate post-tests did not so for delayed measures, as they were not present.

Table 2*Descriptive statistics for immediate and delayed post-tests*

Test instrument used	Group	N	Mean	Std. Deviation
Immediate passive recall	Control	24	13.71	2.84
	Experimental	27	14.89	1.42
Immediate passive recognition	Control	24	13.98	2.89
	Experimental	27	13.96	2.20
Delayed passive recall	Control	20	14.90	2.33
	Experimental	20	14.20	2.09
Delayed passive recognition	Control	20	15.20	1.28
	Experimental	20	14.60	2.01

As can be seen, descriptive results suggest that both groups displayed high means in both passive recall and passive recognition measures. No noticeable differences can be appreciated between groups, or between immediate and delayed measures. A slight increase in vocabulary gains can be seen between the immediate and delayed passive recognition tests in both groups. In the passive recall test the experimental group did slightly better than the control group in the immediate measure, but this was reversed in the delayed test (though the difference is negligible). It can be stated that overall, both groups were able to remember the same amount of words across measures.

The four t-tests run with the data (Table 3 below) confirmed descriptive data analysis, as they did not display any significant differences between the groups. The difference between groups in the immediate passive recall test approached significance ($p = 0.56$) but the confidence interval shows that the difference between both means could be zero in the population.

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Table 3*T-test results for immediate and delayed post-tests*

Test instrument used	T	Sig (2 tailed)	Mean difference	95% confidence interval	
				Upper	Lower
Immediate passive recall	1.911	.056	1.1806	-2.3814	.0303
Immediate passive recognition	.023	.982	.016	-1.382	1.414
Delayed passive recall	.697	.495	.5996	-1.2148	2.4139
Delayed passive recognition	1.172	.246	.643	-.454	1.739

Overall, these results show that although both groups remembered and retained a high number of words, there are no differences between them in terms of vocabulary gains. Participants made large vocabulary gains in both the treatment and the regular lesson, with no fewer than 13 words (out of 16) remembered and retained in all instances. This suggests that learners who played the card game learned as many words as learners in regular lessons, which underscores the idea that a gamified approach to vocabulary learning is as effective as traditional non-gamified approaches to vocabulary. These results are in line with Chen and Chen (2019), who found that augmented reality flashcards were as effective as simple paper flashcards, and that learners in both groups made significant progress in their vocabulary learning. The results also mirror to some extent Lodzikowski and Jekiel's (2019) findings. They found that students exposed to board games was associated with an 8% increase in their post-class quiz scores when compared to participants who did not play with a board game. Although this increase in post-test gains was modest, learners reported positive perceptions towards the usefulness and appeal of board games. Overall, the quantitative results presented in the study are similar to the ones reported in the literature, in that a gamified approach can

at least yield similar learning outcomes when compared to traditional instruction, and learners will not be hindered by being exposed to it. Consequently, it becomes necessary to assess the perceptions of learners towards the games, as positive attitudes towards them can make the learning experience more enjoyable and thus increase the value of a gamified approach. These qualitative findings exploring the attitudes of learners towards gamified environments are presented next.

4.2 *Qualitative results and discussion*

As has been stated, the qualitative data in the present study were obtained by means of four semi structured interviews conducted with participants who took part in the experimental group. A number of themes emerged from the interviews: Engagement through competition, engagement through comparison with traditional approaches, and engagement through game design. These are discussed below.

4.2.1 *Engagement through competition*

Students were motivated by the gamified approach. The competition aspect of the game seemed to increase their engagement with the game. Competition was also nurtured by the deflection card mechanics:

Excerpt 1

Participant 1: I was motivated the whole time because there were many things to do in the game like competing with each other, discovering the meaning and drawing of each card and using the deflection cards. All of that helped me to engage with the game.

Excerpt 2

Participant 2: Yes, it was very fun to find out the meaning of the words and compete against my other classmates because I am a really competitive person. That motivated me to find out and discover the words. Besides, the drawings were really nice, so it was fun to play and learn the words.

These interview excerpts suggest that competitive aspects in a gamified approach can have a positive impact on learners' engagement and motivation towards a gamified environment in an EFL context (Ciampa, 2014). Competition prompted active participation that motivated learners to process more vocabulary on their own volition (Bodnar et al., 2016). It can be stated that the reported competitive nature of the game increased engagement, as its main goal was to win matches through a scoring system based on vocabulary gains. The clear goals and instructions, the adequate level of complexity (with cards that could be reused) that allowed for competition, and the dynamic pace experienced by these participants are factors that likely increased engagement (Rosas et al., 2006).

4.2.2 *Engagement through comparison with traditional approaches*

An account of learners' perceptions as they compared their traditional vocabulary lessons with a gamified approach was elicited in the interviews. Participants were asked about their experiences with the game regarding its content, dynamics, and effectiveness in relation to their previous experiences with traditional approaches to learning vocabulary. Overall, responses in this respect were related to the competitive nature and the engaging features of the game, which increased their willingness to take part in the game. Young learners' engagement and enjoyment in an activity is critical, as enjoyment can result in higher learning gains (Giannakos, 2013).

Excerpt 3

Participant 1: It was really fun; I had never learned English in this way and I liked the drawings in the cards.

Excerpt 4

Participant 3: I loved it and was really entertaining. I liked that it was competitive and not only memory flashcards, because that would have made it more boring. Besides, the fact that it was healthy competence made us to put more effort into this.

Excerpt 5

Participant 4: I liked the game and the fact that you could play with the cards, that made it more entertaining. Also, it was not slow, it was fast and that made that we were really immersed into the game because it moved fast and you learned the words really fast.

When participants in the present study were asked whether they would want to be taught by means of a gamified approach instead of a traditional method, they advocated the former and connected the appealing features of the game with more instances for learning:

Excerpt 6

Participant 1: (I prefer) the game, absolutely. It was funnier and easier than looking up words in a translator or a dictionary. That is the tedious part of the reading lessons.

Excerpt 7

Participant 3: I think that the game is the most entertaining manner of learning vocabulary. I am not saying that the lessons are boring; they are entertaining, but with the game is simpler to learn and remember them. Sometimes, the teacher taught me the words, and, after a test, I could not remember them anymore.

Excerpt 8

Participant 4: (I'd prefer) this (approach), totally. I felt entertained all the time and it was fun to compete and play with my friends.

These responses are in line with the idea that a gamified approach with simple rules can be perceived to foster vocabulary learning in a more engaging manner than with worksheet activities in traditional classrooms (Akdogan, 2018; Chen & Chen, 2019). Additionally, Ho et al. (2019) found similar positive perceptions towards a board game used to foster speaking amongst Vietnamese university students, and that traditional lessons were perceived to be more tedious in comparison.

4.2.2 Engagement through game design

As learners playing a card game were able to learn and retain as many words as learners in a traditional lesson, participants were asked about the perceived impact of the game on their vocabulary retention. They stated that the images included in the game helped them to process, remember, and consolidate word meanings.

Excerpt 9

Participant 1: It was not difficult for me (to remember the words) because the game helped me. I learned the words by playing and the cards had an image attached to it, so it was easier.

at least yield similar learning outcomes when compared to traditional instruction, and learners will not be hindered by being exposed to it. Consequently, it becomes necessary to assess the perceptions of learners towards the games, as positive attitudes towards them can make the learning experience more enjoyable and thus increase the value of a gamified approach. These qualitative findings exploring the attitudes of learners towards gamified environments are presented next.

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4.2.1 Engagement through competition

Students were motivated by the gamified approach. The competition aspect of the game seemed to increase their engagement with the game. Competition was also nurtured by the deflection card mechanics:

Excerpt 10

Participant 2: It's easier for me to learn the words in this manner because I did not have a technique for this before, and after the game I created my own and played with my sister who learned and enjoyed it as well. In my lessons I always find it difficult to learn new words because I just write a list of words and their meaning in Spanish and I memorized them, but it is easier to do it like this.

Excerpt 11

Participant 4: I remembered the words because of the images and the game helped me a lot with it.

These excerpts suggest that the inclusion of clear, appealing images can have a positive effect on learners' attitudes towards a vocabulary task. This is illustrated by Participant 2, who comments that she created her own game with new words, as learning them from a list was hindering her process. These accounts, together with the steady vocabulary gains made by the learners, suggest that they were engaged with the game during the entire session. Overall, participants liked the game and found it engaging because of the appealing design of the cards, the mechanics of the game, and its competition features. The features were a source of motivation for learners to complete the game and process the target words. There seems to be a predisposition to participate in gamified experiences that is nurtured by the engaging characteristics of a game, which can in turn increase learning and perceptions towards unconventional approaches to learning (Calvo-Ferrer, 2017; Ebrahimzadeh & Alavi, 2019). Fun and engagement are dimensions that are highly valued by students when assessing learning activities (Cárdenas et al., 2017), idea that has also been put forward in studies that use digital games for language teaching (Connolly et al., 2011; Wehner et al., 2011).

5 Conclusions

The present study sought to assess the impact of a gamified approach to teaching vocabulary on the learning and retention of 9th grade EFL learners and explore their perceptions towards the approach in terms of design and mechanics. The quantitative results showed that participants who processed lexical items by means of playing a card game made vocabulary gains that were as high as the gains made by learners who were taught those words in a traditional lesson. Interestingly, both groups learned and remembered a rather high number of words across post-test measures. This suggests that a gamified methodology in an EFL classroom can yield lexical development that is at least as effective as learning words by means of worksheet activities. The additional advantages of a gamified approach surfaced through the semi-structured interviews. Qualitative findings showed that a gamified approach was appealing to participants and that they wanted to engage with the game mechanics, which presented straightforward rules. They also mentioned that they preferred a gamified approach over their traditional vocabulary learning lessons. The graphic aspects of the cards containing L1 and L2 words helped participants process the new vocabulary in a more appealing manner. These characteristics prompted them to focus on both the written form and the image below it. Although it cannot be said that the group exposed to a gamified approach outperformed a traditional approach based on worksheet activities, the interviews conducted showed that learners were drawn to the mechanics of the game and its competitive nature, features that made it more appealing to them. As the game was played through repeated rounds, learners encountered the target words more than once throughout the game, which may have increased the level of learning and retention, at least to reach similar post-test scores as learners in the traditional approach.

A gamified approach suits the necessity for the Chilean EFL classroom to provide more dynamic and motivating activities for students. However, there is tension between the contents and objectives of the national curriculum and the manner in which EFL is taught. A gamified approach

to learning in the EFL classroom is still a topic that has not been addressed in local curricula or as part of institutional programs. Doing so would benefit EFL learners to engage in activities that transcend the textbook. It would also benefit teachers, as they can use gamification to increase class engagement and, as a minimum, maintain levels of learning. Games in EFL classrooms can indeed have a significant impact on a lessons' motivational components as they reduce levels of anxiety, foster enjoyment and participation, and can promote a healthy competitive atmosphere for teaching.

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