Gamification in the Acquisition of Vocabulary in the English Language in Upper Secondary Education Students of a Rural School

María Cristina Intriago-Cobeña a
Roxana Margarita Reyes-Ávila b
Angela Maria Kaicer-Pinargote c
Silvia Nancy Bazurto-Aléñar d
Luis Alfredo Chavarría-Mendoza e

Abstract

The research was carried out in a rural public school in Manabí. The objective was to analyze gamification in the acquisition of English language vocabulary in high school students because Education is currently in constant evolution to obtain significant changes and processes to improve teaching and learning. The use of new active methodologies such as gamification allows increasing levels of pedagogical effectiveness along with the quality of learning in the educational environment. The research focuses on a qualitative and quantitative approach. The instruments used are the interview, classroom observation, the pre-test and the post-test for vocabulary evaluation. The results were that gamification contributes positively to the vocabulary acquisition process in the participants of this research.

Keywords:
English language; gamification; methodologies; vocabulary acquisition;

International journal of linguistics, literature and culture © 2024. This is an open access article under the CC BY-NC-ND license (https://creativecommons.org/licenses/by-nc-nd/4.0/).

Corresponding author:
Roxana Margarita Reyes-Ávila,
Universidad Laica Eloy Alfaro de Manabí extensión Chone, Manabí Ecuador.
Email address: roxanam.reyes@pg.uleam.edu.ec


1 Introduction

This study aims to analyze the contribution of gamification to vocabulary acquisition in the English language learning process. Learning a second language involves a critical aspect such as the acquisition of vocabulary. However, the lack of vocabulary is a persistent challenge in educational institutions, causing various difficulties for both teachers and students. It involves a poor understanding of the activities, which can lead to numerous problems. For this reason, to solve this problem, Gamification is introduced.

Gamification is defined as the process of applying game mechanics and techniques to non-gaming contexts to involve and motivate people. In the ever-evolving education landscape, innovative approaches are continually sought to improve the learning experience and student engagement. One of these strategies that is gaining importance is the integration of gamification in the acquisition of English vocabulary in the school environment. This tool integrates game elements to make learning English more attractive, motivating and fun. However, "gamification shares similar characteristics with games, but they are not the same" (Harismyanti et al., 2020).

Recent studies have shown that gamification has the potential to revolutionize language learning and make it more engaging and effective. By incorporating elements such as competition, rewards and interactive challenges, gamification aims to create a highly immersive and dynamic learning experience. This research will explore the specific applications and outcomes of gamified techniques in English vocabulary teaching, shedding light on the potential benefits and challenges associated with this innovative teaching method. In this sense, Vera Benitez (2020), focused on the "design of a gamification proposal as a teaching strategy to improve the learning of the English language in children in the 7th year of Basic Education", because she discovered that gamification can improve language learning English acquiring vocabulary and basic content corresponding to the specific level.

Cameron (2001), indicates that, for the acquisition of vocabulary in English, several aspects related to teaching-learning must be considered: what vocabulary is, vocabulary development, meaning development, and vocabulary learning and teaching. As a first point, it should be known that vocabulary cannot be understood as a set of isolated words, since they make up units of meaning that imply visual or conceptual representations.

Therefore, it is recognized that learning a foreign language requires the linguistic skills of speaking, listening, writing and reading. According to Díaz & Suárez (2011), the English teaching-learning process must be characterized by classes that integrate at least two of these aspects. Therefore, in this context it is necessary to address both oral and written elements; However, it is important to use new teaching techniques that facilitate learning.

Currently, in the context of learning and using the English language in Ecuador, students, individually or in groups, have developed general abilities and communicative competencies, using them according to their conditions and the context in which they operate to perform linguistic tasks through the application of new strategies, techniques, methods, etc.; However, the methods, means and procedures must continue to be perfected to achieve significant learning.

However, all efforts in the educational field are aimed at improving the curriculum based on new didactic approaches based on existing ones so that the teaching and learning of the English language is productive. Hence, the importance of the topic under study is recognized and the scarce use of gamification is declared in terms of learning the English language with a playful approach, which stimulates and enhances the acquisition of vocabulary in students for the sake of better personal performance. and future employment (Halle et al., 2012; Hayes, 2009).

It is important to note that, in the Ecuadorian context, the English language and its teaching are fundamental for the acquisition of the Baccalaureate graduation profile, based on training fair, inventive and supportive people, since knowledge of a second language strengthens reasoning, interpretation, analysis, systematization, discussion, problem-solving, as well as cultural exchange and therefore leads to the economic development of the country.

To this end, Caillois (2017), stated that it is important to incorporate game elements and mechanics in non-gaming contexts to motivate, involve and promote learning and active participation of the subjects. Game elements may include points, challenges, competitions, rewards and levels, among others. According to Molina-García et al. (2021); and Méndez (2023), the teacher as the guiding agent of the process must be able to generate a learning environment without borders or limits; promoting confidence in the student so that they can manage their training. In a general sense, they agree that the use of gamification favors better acquisition of vocabulary in English, through a game that promotes motivation and interest in learning a foreign language.

This work addresses the contributions of the use of gamification in the acquisition of vocabulary in tenth-grade students of a Secondary School in the Province of Manabi, where a difference could be found with the use of gamification in the learning process. Through the application of the pre-test and post-test, the data collected showed...
that students tend to increase their performance when teachers use games with gamification which are focused on vocabulary acquisition (Jia et al., 2012; Zhonggen, 2018).

This work aims to analyze gamification in the acquisition of English language vocabulary in high school students where gamification was applied to tenth-grade students in a High School in the Province of Manabí. The specific objectives are 1) Identify the methodological strategies used to teach vocabulary; 2) Determine the level of vocabulary learning through gamification; and 3) Describe the importance of gamification in the development of learning.

With this study, the researcher will provide information that can give an advantage to some teachers in improving vocabulary acquisition skills through the different actions carried out in the study so that other tutors can check or use them (Alfadil, 2020).

This study is important because it will contribute to the improvement of existing educational, pedagogical, didactic and methodological approaches in the Ecuadorian Educational System; It will also constitute a pedagogical tool for teachers in the rural context.

The author of this research states that the topic under study is current and relevant since not enough studies of this type have been carried out in the selected institution and will provide new approaches to improve the teaching-learning process of the English language and will serve as a source of reference for future research. The quality of the service provided by the institution to deploy the stated objectives stands out, as well as the support of managers and other agents involved in the process (Mendoza-Caicedo & Mendoza-Ponce, 2024).

This article is organized as follows: Introduction where the components or variables Gamification and vocabulary acquisition ability are described, and the relationship between them is established, the problem, the objective and a summary of the methodology are stated; The Materials and Methods section details the information and the treatment given to the data; In the Results section, the data obtained in the field are analyzed to finally establish the discussion and conclusions of the topic (Rapp et al., 2019; Krath et al., 2021).

Currently, education is constantly evolving to obtain significant changes and processes to improve teaching and learning. The use of new active methodologies such as gamification allows increasing levels of pedagogical effectiveness along with the quality of learning in the educational environment (Putz et al., 2020; Koivisto, & Hamari, 2019).

The term gamification is attributed to the "use of game design elements in non-game contexts" according to Deterding et al. (2011). Its purpose is to motivate individuals to achieve certain goals or behaviors through the use of elements commonly found in games. This provides society with many lessons not only for educators but also for students.

The primary goal of gamification is to drive user engagement, participation, and desired behaviors. This tool can be applied in education, making experiences more pleasant and impactful. Huang & Soman (2013), refer to gamification as "The art of deriving all the fun and addictive elements found in games and applying them to productive or real-world activities," and this thought is so important because people, in general, feel a negative thought when activities do not go as expected. This kind of feeling is not present in games.

Llumitaxi Quilligana (2022), demonstrated in his study that the use of traditional teaching strategies and the limited training of teachers in active foreign language learning strategies has generated a low motivation to learn and a limited development of linguistic skills, which results in a limited use of gamification for learning the English language. This study confirms that it is important to implement gamified platforms that give better results in the learning process and motivate students to improve their level of English. All studies have verified that interactive activities can expand the general knowledge and level of English of children, young people and people in general.

With the advancement of technology, it was necessary to implement and improve a lot of things, and with this gamification appeared. It was very popular and in recent times it has been in many areas of life. Khaitova (2021), "It first appeared in 1980 when Richard Bartle, a renowned game developer and researcher at the University of Essex in England, was brought in to develop a project called MUD1. MUD1 was the first multiplayer domain." In essence, it was the first large-scale game for a large number of people."

Without doubt, gamification continued its development, and some people have continued working on this topic. "Educational games that combine collaborative work and technology can be one of the most valuable educational tools for teachers in the classroom" (Busch, 2014).

With this reference during classes, it is possible to apply gamification. Furthermore, it is known that "English as a lingua franca is learned all over the world" as described by Llurda (2016). It should be taught in classrooms "The processes involved include the adoption of words from local languages that describe local cultural elements and phenomena, creativity with words and code mixing" (Kirkpatrick, 2014) and including other aspects important among others.
this gamification. This means that English in the classrooms must involve interactive classes with different materials and game elements, which will undoubtedly give the classes better results and positive learning. Furthermore, this learning is not only vocabulary, grammar or pronunciation, it is also learning cultural customs, and "various personal stories, experiences" (Kramsh & Hua, 2016).

Gamification has been increasingly used in education to improve various aspects of learning, including vocabulary acquisition. Gamification improves vocabulary learning by incorporating game-like elements such as points, badges, levels and rewards, motivating students to actively participate in learning activities.

In line with the above, Dehghanzadeh et al. (2021), maintain that “studies reported positive effects of gamification on students' learning experiences and learning outcomes.” Furthermore, Subías (2018), reveals that appropriately gamified activities tend to actively involve the student in the teaching-learning process, favoring the desire to experiment and explore, self-regulation, and adaptation to the possibility of failure.

Hence, the author recognizes that gamification is a tool that, well applied, enhances students' abilities and skills in learning English. Scientific research suggests that studying English or learning any language other than your mother tongue can generate certain stimuli in the brain that help improve skills in other areas such as creativity, problem-solving, reasoning and mental capacity (Sprachcaffe, 2017). For his part, Hernández (2014), states that the advantages of having the ability to understand, speak and write in English are innumerable, and he highlights 4 of them:

1) The increase in international cooperation between countries and universities through scholarships,
2) Access to research and development projects, international events,
3) Business development and tourism boom,
4) Have access to information in this language such as articles, magazines, books.

Taking these elements into consideration, it is recognized that in the process of teaching the English language, the acquisition of vocabulary is notable, since without adequate knowledge the realization of this language is not feasible, therefore, it is essential to consider in practice educational new approaches for the orientation, execution and control of the development of learning in this language. An example of this is the use of gamification, which according to Garland (2015), reports that "Gamification can provide another method through which instructors can motivate their students to learn the target language, which could be extremely beneficial."

According to the authors Werbach & Hunter (2015), state that gamification involves three main elements: dynamics, mechanics and components, which must be related to each other to ensure that the user has fun and can achieve the objectives. To do this, it is important to consider five dynamics that will lead to the effective use of gamification in terms of learning:

1) Restrictions: limitations that are motivating when finding strategies and seeking solutions in environments with limited freedom.
2) Emotions: they maintain the user's attention, one of the objectives of gamification.
3) Narrative: coherence in the information that the game transmits to users.
4) Progression: refers to the feeling of progress during the gaming experience.
5) Relationships: social interactions that strengthen camaraderie, altruism or the generation of status.

In this regard, Chaves Yuste (2019), states that gamification is a tool used in the field of teaching, mainly in the context of learning and acquiring foreign languages. It points out that it has elements and techniques typical of games that can be exploited to promote the teaching of foreign languages in a rewarding and motivating way, very useful in contexts where the learner does not find sufficient intrinsic motivation to learn.

The author of this research recognizes that there are multiple benefits of incorporating games into the educational context; They can be used in teaching all types of teachings; They motivate students and allow the development of problem-solving, collaboration and creativity skills. They also allow students to develop communication skills, increase their collaboration capabilities and manage their knowledge.

Gamified strategies integrate game-like elements and mechanics into educational activities to improve engagement, motivation, and learning outcomes. In this sense, Sheldon (2020), identifies gamification as the application of game mechanics to activities that are not games; It means that non-playful activities are assimilated as a game. Of the variety of games used in the educational context, digital games stand out, which can be harmful to humans depending on their appropriate use. It is then up to the teacher to design activities that add and develop motivation, skills and abilities in the acquisition of vocabulary in English.
Gamification can greatly improve students' vocabulary acquisition. It does this by increasing engagement, providing contextual learning experiences, offering repetition and reinforcement, providing immediate feedback, encouraging competition and collaboration, allowing personalization, and integrating with language learning platforms. Using the mechanics and principles of games, educators can create dynamic and effective vocabulary learning environments that support their students' language acquisition goals.

There are several gamification applications to improve vocabulary acquisition. These apps use game-like elements and mechanics to make vocabulary learning more engaging, interactive, and effective. Panmei & Waluyo (2022), state that gamification applications offer English teachers the possibility of incorporating vocabulary learning into out-of-class activities, while continuously monitoring students' progress. Fuchs (2014), adds that the implementation and integration of learning tools in the classroom could encourage the entire class to participate in class activities.

Wordwall is an educational platform that offers interactive activities and games for teaching, so that because it "favors the development of students' vocabulary" (Magasvaran et al., 2022). Kahoot on the other hand according to Kaur & Nadarajan (2020), allows teachers to create interactive quizzes and encourage student participation through a competitive approach. Genial.ly offers tools to create interactive visual content, integrating various multimedia elements and facilitating the distribution of content, (Heredia Martín, 2024). Canva is a graphic design platform accessible to users without advanced knowledge, offering according to Nurdiansyah et al. (2018), narration animations or additional context with numerous templates for different purposes. Powtoon is used to create animated presentations and videos, "helping to maintain and improve students' vocabulary" (Moursund, 2006). Padlet is a collaborative tool that allows you to create digital boards with various types of content, integrating with multiple platforms and facilitating online organization and collaboration.

2 Materials and Methods

This research study followed the quantitative and qualitative approach; Fieldwork is necessary for both data collection and analysis. Interpretation and reflection are vital for qualitative analysis, while descriptive statistics are essential for quantitative analysis (Cubias, 2016). Data were collected through an interview with a school principal, classroom observations, and pre-and post-tests.

The objective of the instrument was to identify the methodological strategy used to teach vocabulary in English. The interview serves as a qualitative research method, providing information about the teacher's approach and strategies for teaching vocabulary. It provides an understanding of the qualitative context of the methodologies used in the classroom and contributes to the continuous improvement of language teaching practices. The interview guide consists of 6 questions and 4 categories. The instrument was tested by a panel of experts assigned to an Ecuadorian public university and experts in the field of EFL teaching with 10 years of experience. The expert panel suggested reducing the number of questions from 12 in the original version to 6 in the final version. Additionally, review the syntax of the questions to ensure better understanding by the participants. The interview was carried out with a school director using face-to-face methodology using the facilities of the educational center that participated in the study.

3 Results and Discussions

To obtain the appropriate results, three different gamified strategies were applied, three times a week, these are described in phases 1, 2 and 3, shown in Figure 1.
In the first week, the selected game was "word wall". The researcher randomly created the 5 groups. Each group consisted of 2 participants. The instructions were explained, and some additional pointers were given to play the game in an orderly manner. Participants were able to complete the game. On the first day of application, the participants completed the game, some satisfactorily, others with simple errors; however, it was the first time they used this tool, and it should be noted that they enjoyed it very much. The next day the dynamic was similar. But this time, the experience was more welcoming because they already understood the game correctly, so they did much better than the previous time. On the last day of this game, the students were able to perform the game exercises very satisfactorily without any problems.

For Kahoot, the researcher announced the guidelines for starting the game. They had the opportunity to connect the link from their phones. The first time was difficult because they had never used this application. In the next class, the Internet connection was a challenge. However, they transformed learning into a game-like experience. Afterwards, they enjoyed the competition and pointed out that collaboration in it is very important. In the last class of that game, they practiced smoothly and enthusiastically, which made the lesson more engaging and memorable.

The use of Genially was designed on the first day, and the researcher showed the guidelines to start the game. This platform was used during the last week and with it, it was possible to use interactive questionnaires. They had the opportunity to connect the link from their phones. The first time it was difficult for them to navigate because they had never used this application. In the next class, they enjoyed the resource and completed the quiz. They wrote down their mistakes in the activity. But they didn't like that the score wasn't shown. In the last intervention of the game, they practiced without a problem and enjoyed the creativity of the platform because it is a new way of evaluating that captivates their attention.

In stage Post-test, Students were graded using the same assessment as in the pretest. The researcher created an evaluation with different criteria to evaluate, it was created through a Google form and the link was sent through the WhatsApp group. Different Materials and resources to apply gamification was simple: paper, pencil, internet, computer and telephone to send the link to the different gamification options.

**Technique and data analysis**
To analyze the quantitative data, the researcher used the Statistical Package for the Social Science (SPSS) version 2.3. The pretest and posttest were analyzed using descriptive statistics.

This section presents and analyzes the results obtained in this study to the activities, strategies and materials used during the data collection process. In Figure 2 you can see the results of the pretest; The parts of the pie represent the percentages of the scores achieved in the pretest before the intervention.
Thus, traditional learning without the use of computer applications through Internet applications reports scores in vocabulary acquisition skills with a mean of 13.9, a median of 15.00 and a mode of 15.00. The values obtained according to the pretest are not bad since, as the school director said in the interview, the methodological strategies are applied by teachers in teaching English vocabulary effectively; it is necessary to highlight those methodological strategies that are traditional.

Teachers apply different methodological strategies translation methods, repetition methods, online collaboration and communication, language learning applications, online language games, and quizzes for example Kahoot, Genial.ly, and Wordwall, computer applications to teach the English language, and the teacher has confirmed the use of various electronic devices at that stage, for example, concept maps, game activities, contextual learning and interactive tools such as Kahoot, genial.ly, and wordwall.

Based on the review of the literature and the results obtained in this research, the authors ratify the position of Dehghanzadeh et al. (2021), who maintain that studies report positive effects of gamification on students’ learning experiences and learning outcomes.

It is true, that gamification has the potential to actively involve students in the teaching-learning process. By creating dynamic and immersive learning environments, educators can improve engagement, motivation, and learning outcomes, fostering a more interactive and rewarding educational experience. Proper gamification is an effective way to engage students in the teaching-learning process, making it more engaging, interesting and effective.

The analysis of this research shows a great contribution to learning the vocabulary of the English language. Likewise, the results of the intervention carried out demonstrate that the gamification used in learning a foreign language is successful. This idea resonates with the work of Chaves Yuste (2019), who mentions that gamification is a tool used in the field of teaching, mainly in the context of learning and acquiring foreign languages.

However, Llumitax Quilligana (2022), stated that the use of traditional teaching strategies and the poor training of teachers in active learning strategies for foreign languages has generated a low motivation to learn and a limited development of linguistic skills. This means that to efficiently develop language skills, it is crucial to use the correct learning strategies. This means that to effectively develop language skills, it is essential to use the correct learning strategies. These strategies contribute to retention, comprehension, adaptability, motivation, autonomy and transferability in language learning. Effective learning strategies can help learners optimize their language learning experience and achieve mastery of their target language. Figure 3 shows the result of gamification after the intervention.
Here the results of the intervention are observed after three weeks, this represents the student's progress achieved in vocabulary learning using gamification during classes. The scores obtained by the participants in vocabulary acquisition in the post-test report an average of 19.10, a median of 20.00 and a mode of 20.00. The comparison of the average results between the pretest and the posttest shows a favorable increase in the development of vocabulary acquisition skills. Thus, the average in the pretest is 13.90 while in the posttest it is 19.10, with a difference of 5.20.

Various studies have demonstrated the effectiveness of using digital resources as support material in the classroom. Students who use these tools feel more motivated to learn compared to those who do not. This is due to the dynamic and innovative nature of the learning process.

According to the information collected in the contextual observation during the educational intervention in this research project, it has been possible to identify that the teacher uses methodological strategies during vocabulary classes. Likewise, the research was able to realize that the participants show greater interest, motivation and understanding when learning vocabulary when the teacher uses methodological strategies with the use of gamification. In addition, it is worth mentioning that good management of methodological strategies during classes is very important.

After analyzing the results, it is important to highlight certain elements that influenced the participants and encouraged the students to improve their vocabulary acquisition. These elements are the following: a) The presence of a teaching resource in the form of games. Traditional textbook activities do not engage students as effectively as gamified tools. It is also worth highlighting how the gamified tools were applied since the material had to be adapted depending on the levels of the students. b) Motivation plays a crucial role in the student's learning process. The use of gamification helped keep the affective filter low, which in turn helped foster the learning process of vocabulary acquisition. c) The teacher's methodology was also an important factor.

Unexpected results. - The researcher affirms that in the traditional method, teachers play a central role in imparting knowledge to students. Another unexpected result that was not expected to be found is that some students who obtained low grades increased considerably in the post-test. It can be deduced that the use of traditional methodological strategies or the limited use of computer applications has affected previous academic performance.

The research designed an educational intervention consisting of games using computer applications available on the Internet to introduce and reinforce the participants’ vocabulary acquisition following the Ecuadorian curriculum. The results showed that the participants changed their vocabulary learning from an average of 13.9/20.00 in the pretest, in contrast, to the post-test of 19.10/20.00.

4 Conclusion

The contribution of gamification in the acquisition of vocabulary in the English language learning process was determined. The research included an educational intervention to improve the vocabulary acquisition of 10
participants, from a rural school in the province of Manabí in Ecuador, with the most significant achievement being the increase in the skill of the participants, followed by the use of gamification that has allowed participants to improve their learning. Educators should ensure that gamification is aligned with learning objectives, provide clear instructions and support, and ensure that games are relevant and meaningful to students' language learning objectives.

Gamified vocabulary learning offers personalized and adaptive teaching, allowing students to learn at their own pace and receive immediate feedback on their performance, plus gamification allows you to track student progress and personalize learning experiences based on your individual needs and preferences. Educators should take into account the different needs and preferences of students and use a variety of game formats and activities to suit different learning styles and interests. Effective implementation and evaluation of gamified vocabulary learning initiatives require collaboration and communication between teachers, students, and stakeholders.

Conflict of interest statement
The authors declared that they have no competing interests.

Statement of authorship
The authors have a responsibility for the conception and design of the study. The authors have approved the final article.

Acknowledgments
We are grateful to two anonymous reviewers for their valuable comments on the earlier version of this paper.
References


