Polo del Conocimiento

El uso del muro de palabras para mejorar el aprendizaje de vocabulario de los alumnos del colegio Reinaldo Espinoza

The use of wordwall to improve vocabulary learning for graders of Reinaldo Espinoza School

O uso do wordwall para melhorar o aprendizado de vocabulário dos alunos da Escola Reinaldo Espinoza

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Resumen

El vocabulario de una lengua es la base principal sobre la que se sustentan las habilidades de la lengua ya sean orales o escritas. En esta investigación, el investigador utilizó la gamificación para incrementar la adquisición de vocabulario en inglés y el placer de aprender entre los estudiantes del Colegio Reynaldo Spinoza. Para lograr los objetivos de la investigación, la investigadora desarrolló actividades basadas en gamificación utilizando el sitio Wordwall. Para evaluar la efectividad de estas actividades, se desarrolló una prueba de vocabulario de inglés y una escala de placer de aprender. El investigador eligió una muestra de 80 alumnos. Esta muestra se dividió en dos grupos: grupo experimental (40 alumnos) y grupo de control (40 alumnos). Los resultados mostraron que existe una diferencia significativa entre el promedio de las calificaciones de los alumnos del grupo experimental en el pre-test y en el post-test de vocabulario a favor del post-test, que existe una diferencia significativamente entre las puntuaciones medias de los alumnos del grupo de control y las del grupo experimental en la prueba posterior de vocabulario a favor del grupo experimental. Asimismo, los resultados mostraron que existe una diferencia significativa entre el promedio de las puntuaciones de los aprendices del grupo experimental en el pre y escala de placer de aprender a favor de la post escala, que existe una diferencia significativa entre las puntuaciones medias de los alumnos del grupo de control y las del grupo experimental después de la administración de la escala de placer de aprender a favor del grupo experimental. Esta investigación recomienda utilizar la gamificación para incrementar la adquisición de vocabulario y el placer de aprender entre los estudiantes de secundaria.

Palabras Clave: gamificación adquisición de vocabulario el placer de aprender.

Abstract

The vocabulary of a language is the main basis on which language skills are based, whether oral or written. In this research, the researcher used gamification to increase the acquisition of English vocabulary and the pleasure of learning among students at Colegio Reynaldo Spinoza. To achieve the research objectives, the researcher developed activities based on gamification using the Wordwall site. To evaluate the effectiveness of these activities, she developed an English vocabulary test and a enjoyment of learning scale. The researcher chose a sample of 80 students. This sample was divided into two groups: experimental group (40 students) and control group (40 students). The results showed that there is a significant difference between the average scores of

the students of the experimental group in the pre-test and in the post-test of vocabulary in favor of the post-test, that there is a significant difference between the average scores of the students of the control group and those of the experimental group in the vocabulary posttest in favor of the experimental group. Likewise, the results showed that there is a significant difference between the average scores of the learners of the experimental group in the pre and pleasure of learning scale in favor of the post scale, that there is a significant difference between the mean scores of the students of the control group and those of the experimental group after the administration of the pleasure of learning scale in favor of the experimental group. This research recommends using gamification to increase vocabulary acquisition and the pleasure of learning among high school students.

Keywords: gamification vocabulary acquisition the pleasure of learning.

Resumo

O vocabulário de uma língua é a principal base sobre a qual se baseiam as competências linguísticas, sejam elas orais ou escritas. Nesta pesquisa, a pesquisadora utilizou a gamificação para aumentar a aquisição de vocabulário em inglês e o prazer de aprender entre os alunos do Colégio Reynaldo Spinoza. Para atingir os objetivos da pesquisa, a pesquisadora desenvolveu atividades baseadas em gamificação utilizando o site Wordwall. Para avaliar a eficácia destas atividades, foram desenvolvidos um teste de vocabulário em inglês e uma escala de prazer na aprendizagem. A pesquisadora escolheu uma amostra de 80 alunos. Essa amostra foi dividida em dois grupos: grupo experimental (40 alunos) e grupo controle (40 alunos). Os resultados mostraram que existe uma diferença significativa entre as notas médias dos alunos do grupo experimental no pré-teste e no pós-teste de vocabulário a favor do pós-teste, que existe uma diferença significativa entre as médias pontuações dos alunos do grupo controle e do grupo experimental no pós-teste de vocabulário em favor do grupo experimental. Da mesma forma, os resultados mostraram que existe uma diferença significativa entre as pontuações médias dos alunos do grupo experimental na escala pré e prazer de aprender em favor da escala pós, que existe uma diferença significativa entre as pontuações médias dos alunos do grupo controle e do grupo experimental após a administração da escala de prazer de aprender em favor do grupo experimental. Esta pesquisa recomenda o uso da gamificação para aumentar a aquisição de vocabulário e o prazer de aprender entre estudantes do ensino médio.

Palavras-chave: gamificação aquisição de vocabulário o prazer de aprender.

Introduction

Acquiring vocabulary is a necessity and a condition for language proficiency because it involves skills in all language activities: oral and written comprehension, oral and written expression, oral and written mediation. Good mastery of the language is based on the size of the learner's vocabulary and the level of understanding of words. To use a language with lucidity and efficiency, a speaker or writer must choose the most precise words.

Vocabulary development should be one of the most general languages goals. In teaching, vocabulary is considered the pivot of the teaching/learning of a language. Through vocabulary, the learner can understand texts, conversations, grammar rules, etc. The students use vocabulary to express themselves, write a text; all language activities are based on oral and written words.

Vocabulary knowledge is one of the most important components of language acquisition, across all the sides: in comprehension as in production, orally as in in writing (David, 2000).

Several strategies have been used to improve the vocabulary among language learners. Eldoaif's study (2011) verified the effectiveness of a proposed strategy based on the eclectic approach to develop the skill of understanding the French vocabulary among secondary school learners.

The study by AbdElaal (2018) showed the effectiveness of the strategy of SCAMPER (this is a method of generating ideas which aims to broaden the field of possibilities in creative processes) in the development of vocabulary and some habits among secondary school learners.

Likewise, Mohammed's (2021) study demonstrated the effectiveness of interactive infographics to develop vocabulary in among learners of the first and secondary year. This study used one of the web 2.0 applications to develop the vocabulary.

Today, classrooms are equipped with tablets, interactive digital boards; these require learning strategies suitable for the digital world. Among the most promising methods for improving vocabulary, we can highlight the use of gamification to learn vocabulary and increase the pleasure of learning. Gamification consists of integrating online games in teaching/learning processes.

To learn vocabulary, the learner must take care of the word, have multiple and intermittent opportunities to retrieve it (usually considered about 12 times), then have the possibility of using the word in a creative and generative way (Beck and al., 2002; Nation, 2001; Stahl & Nagy, 2006).

Gaming can enrich learning and help learners to develop essential skills for their daily lives. Additionally, games can potentially make learners active and participants, as well as creative, motivated and sociable (Cattoni et al., 2019).

Likewise, several authors have declared that the power of gamification has been widely recognized in education for engaging and motivating learners when used correctly in class (Hammer & Lee, 2011; Muntean, 2011).

Lam's (2013) study examined the usefulness of using games Web 2.0 to help learners learn vocabulary in a higher education institution in Macau. In this study, they learned and revised vocabulary through two on line games. An online survey was conducted to collect comments from 91 first-year learners. The purpose of the investigation was to know the opinions and attitudes of learners towards the use of online games in learning vocabulary and its effectiveness. The results showed that the learners preferred to use technology to learn vocabulary, not only because it was more fun and exciting, but also because that this facilitated vocabulary retention. Gamification has improved learners' attitudes towards learning languages. This study confirms that the appropriate use of gamification can improve learning in general and learning vocabulary in particular and also helping learners to become active learners.

The study by León et al. (2021) aimed to evaluate the effectiveness of a gamification educational program in the reading processes of secondary school learners. A quasi-experimental design of comparison between groups with pre-test and post-test measurements was carried out with a sample of 271 learners. The results have indicated that, compared to the control group, the experimental groups significantly improved their score in the process of reading.

Likewise, the study by Páez-Quinde et al. (2021) focused on the use of gamification resources applied to virtual education in reading comprehension based on the theory of six readings. A survey was applied as a research technique with a structured questionnaire used as a pretest to determine the effectiveness of the use of web 3.0 tools and finally the Technology Acceptance Model was used as a post-test and made possible to verify the level of acceptance of these tools. The results of this study concluded that the educational process based on gamification improves learning; because it can be used synchronously and asynchronously; Web tools 3.0 such as Kahoot, Educaplay and Quizizz are very useful because they facilitate the transmission of knowledge in an interactive manner, collaborative and fun.

In another study, two researchers Fu and Yu (2006) used an online learning game as an instrument with 120 learners in an experiment. The study showed that e-learning games tools help learners spend more time for their studies.

Furthermore, Flores (2015) adds that gamification is not only linked to the use of game elements, but it must also have an aspect of empowerment and engagement that can motivate the learner. By using gamification in teaching/learning, teachers help learners to be independent in their learning. In addition, gamification encourages the learner to live the experience of the foreign language by participating fully and actively in a given task. gamification can work both as an internal and external motivation factor to learn and acquire new foreign language skills, to broaden experience and to strengthen learners' awareness of the contribution of language (Mierzwa, 2019).

In recent years, the pleasure of learning is good exploited to reach acceptable levels in the different areas of learning. The pleasure of learning a foreign language is a complex and multidimensional emotion. It constitutes a promising new area of research but still unexplored in the field of TEFL. To learn a foreign language properly, the learner should actively participate in the teaching/learning process. To participate actively in English classes, he needs a favorable climate where learning becomes comfortable without being afraid or anxiety during participation. Activities and learning methods are one of the elements that help to make people feel pleasure of learning.

Such a perspective allows us to consider the learning process from a new perspective and understand why some learners succeed in learning a foreign language while others see that learning it is a difficult goal to achieve.

The pleasure of learning a foreign language can be conceptualized as "a complex emotion, capturing the interactive dimensions of challenge and perceived ability that reflect the human will to succeed in the face of difficult tasks" (Deweale and MacIntyre 2016, 216).

Positive emotion can help dissipate the lingering effects of negative emotional arousal, helping to promote personal resilience in the face of difficulties. It also facilitates exploration of the game, offering the possibility of living new experiences and to learn effectively (Dewaele and MacIntyre, 2014).

It is proposed that acquisition and pleasure form a circular dependence; the pleasure of learning leads to better results, but a certain degree of success is necessary to enjoy learning.

The study by Hagenauer & Hascher (2014) explored the achievement-cognition-pleasure reciprocal link. The reciprocal link has been studied by applying a one-year longitudinal plan to 6th

year learners and 7th year (N = 356). This age group was chosen because the start of adolescence represents a critical period during which it is observed a sharp decrease in positive learning emotions. The results identified reciprocal effects between success and learners' pleasure, control and value cognitions functioning as partial mediators. High achievement goes from paired with high control and value cognitions, which in turn tour positively affect the pleasure of learning.

Mierzwa's (2019) study invited learners to share their positive and pleasant moments in their experience when learning a foreign language. This study revealed that the learners most often indicated variables linked to the teacher as the main source of foreign language (e.g., example, teacher attitude, support, variety of teaching strategies, techniques and classroom activities that have given the opportunity to compete, discuss, have fun and learn at the same time).

Generally, emotions can be influenced by multitude of proximal factors, such as perceptions of situation, cognitive appraisals, physiological processes or facial expression feedback. Emotions arising from success activities and performance results can be considered the most important (Pekrun et al., 2007).

1.1.Research problem:

In learning foreign languages, the acquisition of vocabulary becomes the main obstacle to the success of all of language learning. Many learners struggle to speak and write skillfully in a foreign language due to a limited vocabulary. Poor vocabulary leads to difficulties for learners to master the language. Lots of research affirmed the weakness of secondary cycle learners in vocabulary (AbdElaal, 2018; Eldoaif, 2011; Mohammed, 2021).

By visiting classrooms of secondary school where the researcher is a practical training courses guide for learners from the Reynaldo Espinoza School, it was observed that learners experienced great weakness in vocabulary, they cannot use the appropriate words in a given situation. Therefore, learners need to acquire vocabulary to be able to use the language in its different areas and activities. Likewise, learners need a climate which encourages them to learn better and feel pleasure to learn.

The problem with this research lies in the weakness of learners of the secondary cycle in vocabulary. To tackle this problem, current research uses gamification to increase the acquisition of vocabulary and the pleasure to learn. To achieve this goal, current research will answer to the following questions:

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How effective is a program based on gamification to increase vocabulary acquisition for learners of secondary school?

How effective is a program based on gamification to increase the pleasure of learning learners of secondary school?

1.2. Research objectives:

This research aimed to:

Develop a program based on gamification to increase the acquisition of vocabulary and the pleasure of learning from learners of secondary school.

Check the effectiveness of gamification to increase the acquisition of vocabulary in of learners of secondary school

Check the effectiveness of gamification to increase pleasure of learning from learners of secondary school.

1.3. Delimitation of the research:

This research was limited to:

A sample of learners from Reynaldo Espinoza high school because they learned a certain amount of vocabulary in English during the first year of study.

Some of the most enjoyable aspects of learning English: Learning atmosphere, content to learn, learning activities, teaching methods and motivation to learn.

1.4. Research tools:

A pre-post/test to check the effectiveness of the use of the gamification to increase vocabulary acquisition among learners of the secondary high school.

A measurement scale to verify the effectiveness of the use of gamification to increase the pleasure in learning learners of the secondary high school.

1.5. Research sample:

The researcher chose a sample among the learners of of the secondary high school Reynaldo Espinoza (80 learners). This sample was divided into two groups: an experimental group (40 learners) and a control group (40 learners and learners).

1.6. Research Methodology:

In order to achieve the research objectives, the researcher used the experimental method with a quasi-experimental design of two groups (experimental and control) and a pre/post-test.

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1.7.Study terminology:

Gamification:

Use of interactive online games for educational purposes. (Operational definition)

Vocabulary:

The words used in a school program given by a certain number of learners. (Operational definition)

Pleasure of learning:

A feeling of satisfaction with the atmosphere, the content, activities and learning methods while having a motivation to learn. (Operational definition)

II. THEORETICAL FRAMEWORK

2.1.The vocabulary

The term Vocabulary appeared in French in 1487 and comes from Latin *vocabularium*, term made from the noun *vocabulum*, which meant "denomination, name of a thing, word". As to lexicon word, it appears in French in 1583 in the lexicon form: it is a loan from the Greek *lexikon* (biblion), "book of words" (*lexikos* being an adjective derived from *lexis*, "word") (Caen University Normandy, Undated).

In the Didactic Dictionary of English as a Foreign and Second Language (2003, p.155) the lexicon "designates the set of units that constituents the vocabulary of a language, of a linguistic community, of a social group or of an individual". In the Dictionary of Linguistics and Language Sciences (1999, p.282), "the word lexicon designates the set of units forming the vocabulary, the language of a community, of a human activity, of a speaker, etc. »

The vocabulary of a text or statement is only a sample of the speaker's lexicon. The lexicon is a language reality which can only be accessed through knowledge of particular vocabulary which is realities of a discourse (Lingani, 2019).

Lehmann and Martin-Berthet (2000) stated that "the whole words of a language constitute its lexicon. This set separates in subsets, according to a certain number of variables. It is not closed, and its contours are not absolutely fixed; the word is the lexical unit. The identity of a word is made up of three elements: a form, a meaning and a grammatical category"

Picoche (1992) cited that the lexicon is "the set of words that a language makes available to speakers"; but vocabulary is "the set of words used by a given speaker in given circumstances."

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For us the term lexicon is more general than the term vocabulary because the lexicon designates the words of a language; as to vocabulary designates the words used by a person in a written or oral context. We can divide the vocabulary into two types: Nation (2001)

Receptive vocabulary: The use of receptive vocabulary is the perception of the form of a word by listening to it or reading it and recovering its meaning; it is the linguistic contribution that learners receive from other people by listening or reading and try to understand.

Productive vocabulary: Productive knowledge is messages that learners transmit to others through speaking or writing. Productive vocabulary refers to words that can be produced in an appropriate context and must correspond to the meaning intended by the speaker or writer.

To know a word, Nation [2001] detailed and explained eight types of vocabulary knowledge that are necessary like follows:

Knowledge of the spoken form of a word.

Knowledge of the written form of a word.

Knowledge of the parts of a word that have meaning.

Knowledge of the link between a particular form and a meaning.

Knowledge of the concepts that a word can possess and the elements to which it can refer.

Knowledge of the vocabulary associated with a word.

Knowledge of the grammatical functions of a word.

Knowledge of the collocations of a word

For us, learning a word requires, at least, the knowledge of certain oral and written aspects as well:

Knowledge of the written form of the word.

Knowledge of the oral form of the word.

Correspondence of the written form and the oral form of the word.

Knowledge of the meaning of the word.

Use of the word in a given context.

As for vocabulary learning, Webb and Nation (2017) describe three principles that should guide its processes, these principles are as follows:

Increase learner awareness: First of all, it is important for learners to be aware that they need to learn thousands of words on their own outside of class to achieve advanced mastery of the language and that there is a certain number of useful strategies that can help them achieve it. That means that

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teachers must emphasize the value of vocabulary learning strategies so that learners are more likely to use them regularly.

Train for effective use of the strategy: teachers should not only present different vocabulary learning strategies to their learners, but they must also train their learners to use each strategy correctly over time and assess the skills of their learners in strategy use.

Allocate appropriate class time: There should be plenty of class time allocated to teaching vocabulary learning strategies. Learning strategies Vocabularies tend to be quite simple, and teachers often assume that their learners can understand them and use after completing a single exercise.

Similarly, Courtillon (1989) distinguishes three stages for learning vocabulary in a foreign language as well:

Natural lexical acquisition: This stage is favored by production tasks with personal involvement that learners carry out in small groups based on their knowledge with or without guidance from the teacher and using dictionaries.

Acquisition of the skill to give meaning equivalences. This stage can begin if learners have a skill to communicate.

Acquisition of the skill to reconcile the terms of the vocabulary to compare them. For this step, it concerns a limited number of learners interested in perfecting their skills in vocabulary.

Then we can determine the following three levels for learning vocabulary:

Beginner level:

Knowledge of the written form of the word.

Knowledge of the oral form of the word.

Correspondence of the written and the oral form of the word.

Knowledge of the meaning of the word.

Use of the word in a given context.

Intermediate level:

Knowledge of meaning equivalences.

Knowledge of the different meanings of a word depending on the context.

Knowledge of the opposite of the word.

Knowledge of the parts of the word.

Advanced level:

Creation of words from the given elements.

Generation of words of the same root.

Knowledge of words of the same rhyme.

Use of eloquent words.

On the other hand, Gónzalez (2013) determines some factors that influence the vocabulary learning process: learning style, the role of the teacher and classroom activities;

2.2. Learning styles:

Enabling learners to learn words effectively and efficiently outside of the classroom involves teaching them learning vocabulary strategies. A person with an "Intuitive Reflective" style excels at consider a situation from a wide variety of angles. He appreciates the situations that require an abundance of ideas. He is particularly gifted at imagining, understanding people, identifying the problems; but he hesitates in his choice and often delays his decisions.

A person whose dominant style is "Methodical Reflexive" synthesizes a vast register of information in a logical and concise way by focusing more on the analysis of ideas and problems only on people. He is especially interested in rigor and the validity of the theories. This one is particularly a person good at planning, creating scientific models, defining problems, developing theories. Nevertheless, it tends to distract and misunderstand the practical applications of a theory. The people identified as "Pragmatic Intuitive" learn by implementing projects by getting involved personally in new experiences they take like challenges. They react more by instinct than function of a purely logical analysis. When resolving a problem, they like to get information from others before proceeding. Among their abilities, they carry out projects, direct and take decisions risks.

Finally, a "Methodical Pragmatic" student implements practices ideas and theories, is able to solve problems and make decisions without procrastinating and by selecting the optimal solution, he prefers to deal with applied sciences or technologies rather than purely social issues or relational. He is particularly gifted at defining and resolving problems, make decisions and reason deductively. However, there is a risk of making hasty decisions and tackle false problems.

2.3. The role of the teacher:

The interaction between the teacher and the learner, who intervene in the process of acquiring a word in order to build knowledge, is essential. The construction of knowledge is not an action of learners alone, the role of the teacher is very dynamic because he prepares the activities, he considers appropriate and carries out the evaluation to verify the effectiveness activities.

Classroom interaction is, undoubtedly, a tool of teaching and learning favorable to the acquisition in interaction. Self-facilitation strategies allow the learner to carry out its communicative project and to implement positive strategies for knowledge appropriation. Moreover, the teacher remains the task manager.

2.4. Class activities:

Reading, continuing practice and technological means are among the means which present useful activities for learning vocabulary. Hypermedia aids motivate learners to acquire vocabulary. In the autonomous world of vocabulary learning for the learner, the role of the teacher is reduced and he becomes a facilitator. But this does not mean that teachers become passive in the learning process; teachers always varied roles: they can teach relevant vocabulary tasks to complete, judge and instruct on strategies which help with retention. Teachers should reinforce independent learning, because it is of great importance for their learners. They should also teach strategies for learning vocabulary independently. The in-depth vocabulary learning strategies takes more time but ensure greater retention and ease of memory. Furthermore, the teacher is responsible for fostering the independent learning ability of the student by designing interesting activities and to create a positive atmosphere, a language context and give learners the desire to learn and know (Haddad, 2016).

2.5. The pleasure of learning:

Emotions of achievement related to results are joy and the pride felt by learners when the academic objectives are achieved, and frustration and shame when efforts fail. The excitement resulting from learning, the boredom felt in classroom or anger at demanding task are just a few examples of emotions related to learning activities (Pekrun et al., 2007).

The pleasure of learning encompasses five components as a multidimensional structure: affective, cognitive, motivational, expressive and physiological (Dewaele et al. 2014; Hagenauer et Hascher, 2014; Mierzwa, 2019; Pekrun et al., 2007; Villavicencio and Bernardo 2012)

2.6. The emotional component of pleasure

It refers to emotions, and more precisely to feeling of joy and excitement experienced when learning a foreign language. The cognitive takes care of the positive evaluation of the learning situation. Pleasure could, therefore, be described as the feeling of excitement felt when taking care of a new confusing and challenging task that arouses curiosity.

2.7. The motivational component of pleasure

It signifies the willingness of learners to maintain this positive experience by motivating them, both internally and externally, to meet future learning challenges.

2.8. The physiological and expressive components

These components of pleasure represent the physical reaction to this positive emotional experience. To learn the vocabulary of a foreign language, learners must use learning activities outside the classroom. Vocabulary learning strategies, which are focus on increasing learning opportunities for vocabulary, involve workshops on the different ways in which learners can meet and use the language outside the classroom. The teacher's job is therefore to pass sufficient class time to help learners understand and to appreciate the different language sources that interest them, such as television, movies, online videos, websites learning, podcasts, songs and classified readers. (Webb, 2019).

2.9. Gamification:

The word gamification refers to the use of typical game elements in different contexts and not related to the game. This is a methodology from computer science and serious games and from which effective design principles can be extrapolated for educational activities. It offers also the possibility of designing engaging activities that can lead to the satisfaction of needs underlying the development of intrinsic motivation. Gamification is characterized by several elements (rules, content, aesthetics, mechanical, etc.) which, taken into consideration for the educational activities, are capable of improving the user experience and promote learning through pleasure and satisfaction (Cattoni et al., 2019).

"Gamification" as a term is originated in the gaming industry of digital media. The first documented use dates back to 2008, but the term was not widely adopted until the second half of 2010. Parallel terms continue to be used and new terms are still being introduced, such as "games of productivity", "surveillance entertainment", "playful design", "behavioral games", "game layer" or "applied games". However, "gamification" has undoubtedly succeeded in becoming institutionalized as a common term (Deterding et al., 2011).

Social game design is generally focused on different forms of competition and collaboration. Finally, the game design based on the achievement/challenge is focused on overcoming challenges, progressing and obtaining rewards and the feeling of competence. In gamification based on

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success/challenges, the most commonly embodied mechanisms are the points, challenges, rankings, levels and badges (Legaki and al., 2020).

Csikszentmihalyi (1991) proposed that game-based online activity requires a few characteristics:

Have clearly defined objectives with manageable rules: Clear objectives, including the overall game as well as intermediate objectives.

Make possible to adjust opportunities for action to the capacities of learners (autonomy) since the player should feel a feeling of control over one's action in the game

Provide clear information on how participants cope (feedback); the player should receive the appropriate feedback at the right time.

Eliminate distractions and make concentration possible. Therefore, gamification must present activities stimulating to engage learners in a favorable environment for learning. Activities should encourage learners to continue and make them more motivated through the points, levels, badges.

Gamification tools:

Currently, there are many tools to provide gamification-based learning experience. Here are some: (Freeman, 2021)

Arcademics creates multi-player educational games: free math games, free language arts games and it is also suitable for children. With Arcaemics, teachers and parents can display analyzes and reports that allow them to personalize the content of the game.

BookWidgets is a gamification software that serves all educators, including; primary school teachers, middle or high school teachers, university professors and professional trainers. BookWidgets also offers over 40 templates of digital exercises that work on smartphones, tablets or computers. It is a quick, effective and easy rating system that provides feedback to learners and teachers, allowing them to assess problem areas or those where learners may need particular attention.

ClassDojo is an ideal application for connecting teachers with learners and parents. The Class Dojo app focuses on young children of primary school age. By creating a positive culture, working hard, simply helping others. ClassDojo is brilliant for fostering or reinforce new behaviors. Teachers can also keep parents informed by communicating the history of their class by instantly sharing photos, videos, announcements or by sending private messages to any parent. Class Dojo is free for teachers.

Course Hero aims to bridge the gap between university and venue workstation, offering simple course creation tools. Gamification features are fundamental, with badges for achievements such as logging in during the weekend, downloading documents and finishing classes. There is a ranking on the whole site, but the community is missing here or interaction between learners. The highlights of Course Hero come from its study resources, its continuous assistance to homework, its solutions and explanations of textbooks and its tutor experts.

Duolingo is a free linguistics gamification online application offering more than 94 language courses. He counts more than 500 million worldwide users. And the Duolingo app for school teachers and users provides with fun and playful way to teach a language involving personalized and self-paced homework.

Edmodo is a free application that reflects the functionality of a social media network for educational purposes. It provides tools that allow teachers and users to send messages, share training materials and make learning accessible everywhere. In addition, Edmodo communicates with parents to keep them informed of class updates, allowing them to synchronize with their children's teachers and to support learning at home.

Genially is a platform for gamifying presentations making them interactive and fun. Genially works to elevate learning experience by allowing the import of any presentation, by offering rich animation and gamifying anything, from quizzes to escape rooms filled with interactivity. Moreover, it offers a myriad of models for plugging and playing the existing content so that we can be quickly operational. Finally, parents can see class activities and grades to support their children's progress.

Kahoot provides support for many learning environments such as school, work and home. Kahoot is used by more than a million players per year in more than 200 countries. Kahoot offers a game show environment to encourage learners to learn. Particularly useful in schools for test vocabulary, multiplication and simple geography.

Wordwall is a platform that allows teachers to create easy activities for their class. Wordwall offers a variety of predefined resources and teachers can share their activities. Wordwall can be used to teach vocabulary. Wordwall activities can be read on any Web-enabled device. Examples include quizzes: Correspondence, Word games, and so forth.

2.10. Implement gamification

In order to apply gamification to the teaching learning process, Flores (2015) presents the following five steps inspired by the model of Huang and Soman (2013):

Understand the target audience and context: the instructor must know who their learners are. A combination of the target audience is necessary with context analysis to understand several key factors such as group size, the environment, the sequence of skills and the duration. There are common pain points in education: concentration, motivation, skills, pride, the learning environment and nature of the course, and the physical, mental and emotional factors. By understanding these points, the educator will be ready to determine the elements of gamification to be implemented.

Define the learning objectives: this step is always necessary for teaching experience and successful learning. These goals must have general educational objectives, specific learning objectives and behavioral objectives.

Structuring the experience: seeking to break down the program and to identify the main points. In this step, the instructor prepares the sequence and quantifies what the student must learn and carry out at the end of each step. For the student to finish the requested step, the instructor must rethink and provide a motivational boost. The educator must convey his educational program from simple to complex starting with easier steps to keep the student engaged and motivated.

Identify resources: The instructor must think about several aspects: tracking mechanisms, levels, rules and comments.

Apply gamification elements: In this step, the educator decides which gamification elements should be applied. Elements are divided into autonomous and social. Stand-alone elements most often use badges, levels and time restrictions. They focus on making learners compete with themselves and recognizing self-achievement. Meanwhile, interactive competitions as well as cooperation are considered social elements. It is with this type of element that the learners' achievements are made public and the learners are part of a community.

Likewise, Freeman (2021) determines the essential steps to implement gamification for learning consisting of explore the behaviors to promote, the strategies learning and the training objectives to be achieved and carried out the configuration of the game mechanics:

Use a points system

A points system rewards and task completion can provide a sense of accomplishment, allowing learners to feel rewarded for their efforts.

Distribute the badges

It's not because learners do not earn points that they do not complete tasks. Badges are a great way to reward progress and serve as milestones for class.

Create a script with avatars

Invent a story that includes your learners' imagination. We have to create characters or avatars in the story we are going to use to gamify the learning experience. It is necessary to ensure to continue using the same characters or avatars throughout the game so that the student creates a consistent property with their unique role in the game.

Encourage teamwork

Creating teams to accomplish tasks throughout the story or game is invaluable for getting through the learning objectives. When we work in a team, we are more likely to show up because the fear of letting down a teammate is greater than failing on its own in most cases.

III.   RESEARCH METHODOLOGY AND PROCEDURES:

To achieve the research objectives, the researcher follows the following procedures:

Develop the proposed program based on gamification.

Develop an English vocabulary test intended for learners of Reynaldo Espinoza school.

Develop a scale of pleasure in learning intended for learners of Reynaldo Espinoza school.

Choosing the research sample.

Administer the pre-post English vocabulary test.

Manage the pleasure of learning scale.

Teach the proposed program.

Administer the post-test English vocabulary.

Readminister the pleasure of learning scale;

Analyze the research results.

Discuss the research results

Development of the program based on gamification:

To develop the online games, the researcher followed the steps following:

Phase 1: Analysis

The first phase of our model is the analysis of the needs of participants, task analysis, content analysis. In this phase, the researcher followed the following steps:

a) Analysis of learner characteristics

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The research sample is chosen among learners of Reynaldo Espinoza high school whose age varies between 16 and 17 years old. The learners at this age are characterized by enthusiasm towards the use of technology and online applications and especially the online games.

b) Content analysis

The researcher analyzed the content to be learned using the school book and the teacher's book to determine the vocabulary to be learnt in the first two units: the townspeople's club and the photography's club.

Objectives of the two units concerning vocabulary:

Memorize lexicon by associating words with visuals.

Systematize the use of prepositions of place.

Use the traffic lexicon.

Discover the names of places in a city (services, leisure, sport).

Have learners read the vocabulary in the box and tell the class about their weekend schedule.

Talking about professions: the glossary.

Discover the names of professions.

Observe photos and associate them with the vocabulary of nature.

Associate a color with an element of nature.

Announce projects.

c) Analyze the learning environment

The researcher used the Wordwall platform to develop the online games based on gamification. To do the activities based on gamification, participants can use phones laptops, tablets or computers.

Phase 2: Design

Determine the content using the school book and the workbook.

Collect images used in teaching target vocabulary.

Develop short tests to present them after every two lessons.

Use gamification using the Wordwall online platform.

Phase 3: Production

In this phase, the researcher produced the online games in using the Wordwall platform;

Phase 4: Application

The researcher created a WhatsApp group to disseminate the links of online games to help to learners in case of need.

Phase 5: Evaluation

To evaluate games and determine strengths and areas to improve and to ensure the applicability of the activities, the researcher applied 3 online games on a small sample (5 learners). The learners found the online games very interesting and no difficulty was detected during this evaluation.

Develop the pre/post-test:

Current research aims to use gamification to increase the acquisition of vocabulary in EFL and the pleasure to learn from learners in the secondary school. To achieve this goal, the researcher developed 11 online games based on gamification. To measure the effectiveness of these games, the researcher developed a pre/post-test of English vocabulary and a scale to measure the pleasure of learning.

Test source

To develop the English vocabulary pre/post-test, the researcher used the school book: units 1 and 2.

Description of the test:

The English vocabulary pre/post-test consists of 80 questions. This test consists of two parts: the first part focuses on understanding vocabulary (40 items) and second part focuses on vocabulary production (40 items).

Part one: understanding the vocabulary

Arrange letters to form words. (10 points)

Arrange the words to form sentences. (10 points)

Associate the word with the equivalent image. (20 points)

Part two: Vocabulary production

Where do you go for...? (10 points)

Complete phases. (10 points)

Complete with a nationality or continent. (10 points)

Write words that express the image. (10 points)

Create the specification table

The specifications table is one of the planning elements that allow you to structure the relevant data to develop a test. It is a review plan in that it establishes the relative importance of theoretical content and levels of cognitive performance associated with each content element. The

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specification table is an efficient way to select a sample of questions to include in the evaluation (Micro Center Pythagore Inc., 2020).

Validity and reliability of the test:

To measure the validity and reliability of the test, the researcher did pass the test with 20 learners. The researcher checked the validity of the test by using the Kuder Richardson-20 alpha coefficient. The result obtained (0.86) indicated that the test is valid. The specification table is in the following form.

Table 1: Specification table for the EFL vocabulary test

Content	Unit 1	Percentage	Unit 2	Percentage
Comprehension	20 items	25%	20 items	25%
Production	20 items	25%	20 items	25%
Total	40 items	50%	40 items	50%

To calculate test reliability, we administered the test twice, on October 31, 2022, then two weeks later. We have calculated the correlation coefficient between the two runs in applying the following statistical formula:

$$r = \frac{n \sum xy - (\sum x)(\sum y)}{\sqrt{(n \sum x^2 - (\sum x)^2 - (n \sum y^2 - (\sum y)^2}}$$

R = correlation coefficient

N = number of learners

T = total learner marks

X = marks from the 1st test

Y = marks from the 2nd exam

The result of this equation showed that the coefficient of correlation between the two tests is 0.84. This result affirms that our test is faithful.

Duration of the test:

The researcher calculated the duration of the test by the following formula:

Duration = Total time spent by each student/Number of learners.

Duration = 1800 / 20 = 90 minutes

So, the duration of the test is 1 hour and 30 minutes

Development of the pleasure of learning scale:

To measure the effectiveness of these online games in increasing the pleasure of learning, the researcher developed a measurement scale based on the pleasure of learning. The development of this scale was initiated by the literature regarding the joy of learning and previous studies in this domain. The pleasure of learning scale is prepared according to the following steps:

Objective of the scale: To identify the effectiveness of gamification to increase the pleasure of learning in Reynaldo Espinoza school learners i.e., research sample.

Dimensions of the scale: The scale for measuring the pleasure of learning consists of five dimensions: Learning atmosphere, content to learn, learning activities, teaching methods and motivation to learn.

Description of the scale: The scale consists of (30) items including 18 that are positive and 12 negatives. The following table describes the items of the scale.

Table 2: Items from the pleasure of learning measurement scale

Dimensions	Positive items	Negative items	Total
Learning atmosphere	1, 3, 5	2, 4	5
Content to learn	11, 13, 14, 16	12, 15, 17	7
Learning activities	11, 13, 14, 16	12, 15, 17	5
Teaching methods	18, 20, 22	19, 21	5
Motivation to learn	25, 27, 28, 30	23, 24, 26, 29	8
Total	18	12	30

Response method: The participant reads each sentence carefully and puts a cross (√) under the option to which the sentence corresponds. There scale correction method: The three-point scale was chosen to clarify the responses of the research sample, which is: (agree / neutral / disagree). Grades are awarded to positive items as follows (3, 2, 1) and scores are given for the positive items as follows (1, 2, 3). To ensure the clarity of items and check the psychometrics qualities of the scale, the researcher administered the scale on a number of learners (20).

Validity of the scale:

The researcher verified the content validity of the scale by calculation of item-dimension and total-dimension correlations. All the scale items have a significant correlation with their dimension as well as all dimensions have a significant correlation with the total of the scale. The item-dimension

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correlations vary between 0.411 and 0.752; as well as the total-dimension correlations vary between 0.76 and 0.88.

Table 3: Dimensions-total correlations of the measurement scale

Dimensions	Learning atmosphere	Content to learn	Learning activities	Teaching methods	Motivation to learn
Correlations	0.76	0.78	0.84	0.82	0.88

Reliability of the scale:

Internal consistency was assessed by calculation of Cronbach's alpha coefficient, after submission of the scale on a group of learners (20 learners). The internal consistency of

the instrument is large (0.82).

Choose the sample:

To verify the effectiveness of gamification to increase the acquisition of vocabulary in EFL and the pleasure of learning learners of Reynaldo Espinoza school, the researcher chose a sample among secondary cycle learners: 80 learners divided into two groups (one experimental group and a control group).

Research experimentation:

This research is based on the experimental method adopting the quasi-experimental design of two groups (experimental and control) to verify the effectiveness of a program based on gamification to increase vocabulary acquisition in EFL and pleasure of learning from learners.

To carry out the research experiment, an official acceptance has been obtained from the education administration of Reynaldo Espinoza School. A first session was devoted to pre-test administration and measuring the pleasure of learning. During this session, the goals and procedures of the experiment have been clarified.

A Watsapp group was created for:

Contact with learners.

Share online game links.

Answer learners' questions.

Conduct of the experiment:

Determine the experimental design and select the participants among the learners of Reynaldo Espinoza school.

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Pass the pre-test vocabulary in EFL and the scale of measurement of the pleasure of learning from the experimental group and from the control group.

Test with online games on the experimental group.

Pass the EFL vocabulary post-test and the EFL scale for pleasure of learning from the experimental group and the group witness.

Analyse the results.

Evaluation of the experiment:

The evaluation of the experiment follows two types of evaluation: formative assessment through questions asked during online games and summative assessment through the pre/post-test.

IV.   RESEARCH RESULTS:

Before the start of the experiment, the researcher ensured the equivalence of the two groups: control and experimental using the SPSS version 25 program. The results show that there is no significant difference between average scores in the control group compared to the experimental group in the pre-test in both parts of the vocabulary test, as well as in the total; which shows the equivalence of the two groups before experimenting with the research. There are no differences significant differences between the average scores of the control group and those of the experimental group in the pre-application within five dimensions of the pleasure of learning scale, as well as in the total; which shows the equivalence of the two groups before the experiment of research.

After having finished experimenting with the offered online games and administered the post-test vocabulary on the research groups, the researcher performs statistical analysis using the SPSS statistical program (version 25) and it uses "T" test to calculate the arithmetic mean, standard deviation and the value of "t".

V.   DISCUSSION OF RESULTS:

Based on the results, the activities based on gamification are effective in developing understanding and production of vocabulary in English as a foreign language with learners of Reynaldo Espinoza School. These results can be attributable to the richness of the proposed activities which make more active the students to participate and spend more time in learning. Likewise, the online games may be redone several times; which gives learners the opportunity to see the vocabularies several times and correct their errors in a way keep on going.

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Learners really admired the online games based on gamification which make the teaching/learning process worthier; the learners can spend more time learning vocabulary. Thus, they become more motivated in learning the vocabulary and enjoy the pleasure of learning. Students when use learning activities based on gamification, can find a more comfortable atmosphere to learn thanks to the great power of online games containing levels to reach, points to acquire; they then become more motivated to deploy more time and effort to learn vocabulary.

The results obtained are consistent with the results of Lam's (2013) study which examined the usefulness of using web games 2.0 to help learners learn vocabulary in a higher education institution in Macau, the study by León et al. (2021) which aimed to evaluate the effectiveness of an educational program of gamification in the reading processes of learners secondary school and the study by Fu and Yu (2006) which showed that e-learning games use as tools help learners make them spend more time for their studies.

RECOMMENDATIONS:

The research results present the following recommendations:

Use games based on gamification to develop vocabulary comprehension in English as a foreign language in high school students.

Use games based on gamification to develop vocabulary production in English as a foreign language in high school students.

Use games based on gamification to develop pleasure of learning in high school students.

Suggestions:

The results of this research present the following suggestions:

- Use gamification to remedy grammatical errors.

- Use gamification to develop oral expression skills.

- Use gamification to develop written expression skills

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