Implementation of Gamification Strategies in Project-Based Learning to Foster Speaking Skills

in a group of intermediate English students

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Degree thesis to obtain the Bachelor of Arts in Foreign Languages with Emphasis on English

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Bucaramanga

2022

Dedication

To my wife, Alejandra Leal, for making me believe in myself and in my abilities, also for reminding me who I am and why I came to this world. To my daughters, Mérida and Macarena, for becoming the engine that drives me to be a better person every day. To my parents, Osnidio and Nelsy, for not having stopped supporting me despite my mistakes. To my 21-year-old self who thought that life was over because he had not achieved his goals.

Edwin Alonso Monroy Caballero

Dedication

To God for giving me the opportunity to complete this important cycle in my life. To my dear and beloved mother for being my greatest role model. This is for you, Mami. To my siblings Etna and Erwing, for inspiring me with their hard work and honesty. To my nephew Alejito, who has changed my whole life. To my friends who have been a great support in my life. To my workmates Fran and Ed, this would not have been possible without you.

Linda Paola Jiménez Domínguez

Dedication

To my parents, Hermes Durán and Stella Prada, for supporting me and being a constant source of financial and emotional aid during all these years. To my siblings, Luz Dary, Piero and Walter, for being the best companions in life and for always looking after me since I was a child. To my partners, Linda and Edwin, for being the greatest teammates during the different stages of this study, without them, this project would not have been possible.

Hermes Francisco Durán Prada.

Acknowledgments

This research paper would not have been possible without the unconditional support of our research director, Jeyra Vannesa Vargas Sarmiento, who provided us with her extensive knowledge and expertise in the research field to carry out this investigation successfully. Her unfailing patience, professional guidance, and insightful feedback kept our work on the right track from the earliest version to the final draft of this investigation.

We thank our professors Wilmar Darío Macías Romero, Maria Eugenia Rojas, Olga Uribe, Raúl García, Heidy Gutierrez, and Maria Isabel Mantilla, in Academic Writing I, Academic Writing II, Research Foundations, Qualitative Methods Applied to Qualitative Research and Quantitative Methods Applied to Qualitative Research, who provided us with the theoretical and empirical foundations to develop our research project correctly.

We would also like to thank Professor Carol Yadira Pimiento Jaimes, who allowed us to work with her Intermediate English Students to implement our research project.

Finally, we would like to show our gratitude to the anonymous peer reviewers at Universidad Industrial de Santander for the constant formative assessment that greatly improved our research paper.

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Abstract

Title: Implementation of Gamification Strategies in Project-Based Learning to Foster Speaking Skills in a group of intermediate English students[1]

Author: Hermes Francisco Durán Prada, Linda Paola Jiménez Domínguez, Edwin Alonso Monroy Caballero[2]

Key Words: Gamification, Project-Based Learning, Speaking skills, Gamification, English Language Teaching

Description: The current investigation aims to determine whether gamification strategies implemented through Project-Based Learning can improve EFL intermediate students' speaking skills from a public Colombian University, in Bucaramanga, Santander. This research was born from the need to adapt ICT to the context of the new, virtual and blended learning modalities due to the pandemic caused by the COVID 19. For this purpose, data collection was carried out by means of questionnaires, a pretest, which was used to determine the current speaking skills of the students; and a post-test to determine the effectiveness of the proposed implementation. Moreover, a 16-session implementation was carried out with a total of 12 participants from the university, while a mini-project was carried out involving the use of the tools seen in class, such as the use of gamified apps, websites and interactive slides. The most relevant results determined that qualitatively, the project was very useful for the participants, in such a way that they were able to develop new skills related to their field of study, and their confidence in novel teaching techniques was positively affected.

Resumen

Título: Implementación de herramientas de gamificación en el aprendizaje basado en proyectos para fomentar la capacidad de expresión oral en un grupo de estudiantes de Inglés intermedio[3]

Autor: Hermes Francisco Durán Prada, Linda Paola Jiménez Domínguez, Edwin Alonso Monroy Caballero[4]

Palabras Clave: Aprendizaje basado en Proyectos, Habilidades comunicativas, Gamificación, Enseñanza del Inglés como lengua extranjera.

Descripción: La presente investigación tuvo como objetivo principal determinar si las herramientas de gamificación implementadas a través del Aprendizaje Basado en Proyectos pueden mejorar las habilidades de expresión oral de los estudiantes de Licenciatura en Lenguas Extranjeras de nivel medio de una universidad pública colombiana, en Bucaramanga, Santander. Esta investigación nació de la necesidad de adaptar las TIC al contexto de las nuevas modalidades de aprendizaje virtual y semipresencial debido a la pandemia provocada por el COVID 19. Para ello, se realizó la recolección de datos por medio de cuestionarios; pretest para determinar las habilidades actuales de habla de los estudiantes; y postest para determinar la efectividad de la implementación propuesta. Además, se llevó a cabo una implementación de 16 sesiones con un total de 12 participantes pertenecientes a la universidad, al tiempo que se realizó un mini-proyecto que implicaba el uso de herramientas vistas en clase. Los resultados más relevantes determinaron que, cualitativamente, el proyecto fue muy útil para los participantes, de manera que pudieron desarrollar nuevas habilidades relacionadas con su campo de estudio, así como se vio afectada positivamente su confianza en técnicas novedosas de enseñanza.

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[3] Trabajo de Grado

[4] Facultad de Ciencias Humanas. Escuela de Idiomas. Directora: Jeyra Vannesa Vargas Sarmiento. Máster en Neuropsicología y Educación.

1. Introduction

Concerning the worrying background of students' oral production and interaction abilities, Colombian institutions have a long path to follow regarding the improvement of students' speaking skills. According to Vaca and Gomez (2017, p. 2), there is a growing concern about the lack of opportunities for students to develop and practice their oral production and interaction skills, due to the large class sizes and the inability to assess all students in the class. In consequence, students rarely have chances to practice these skills in the classroom, contributing to a modest improvement in speaking skills.

In the same vein, to the light of the English Proficiency Index (Epi, 2021), a test administered in 2021 that categorizes 112 countries by their level of proficiency in the English language, Colombia is placed in a situation where students present serious difficulties for the development of their linguistic competence in the foreign language. According to this study, from the 112 countries that took the exam, Colombia was placed 81st, inside the "*very low proficiency*" classification.

Therefore, one matter of interest of researchers resides in providing insights regarding the improvement of speaking skills due to their significance and necessity for effective communication. The above is in line with the competitiveness goals that the Colombian National Government proposes in its national development plan. According to their National English Program, Colombia Very Well! (2014), the National Ministry of Education (MEN) aims at improving the language proficiency of teachers and learners as part of a long-term process that requires the sum of multiple sectors to its constitution.

Notwithstanding, in the recent decade, education has been exposed to an immense number of resources, methodologies, and approaches that have brought changes concerning the

traditional constructs of English Language Teaching (ELT). As reported by Mohanty (2020)

"There have been massive transformations in contemporary education due to rapid technological

changes, showing distinct contemporary trends in education including teaching and learning

methods, modes, approaches, and content" (p. 127).

For instance, one of the newest teaching strategies refers to the concept of Gamification

and the implementation of Project-Based Learning (PBL) in virtual or blended scenarios. On the

one hand, according to Deterding et al. (2011), Gamification refers to the implementation of

video game strategies such as abilities, roles, rewards, and penalties, to adapt methodologies,

procedures, and teaching strategies to recall activities that appeal to students' attention.

On the other hand, one way to implement the preceding resources can be carried out

through the implementation of PBL. This methodological approach follows three essential

principles. According to Lam (2012, p. 2707), the use of PBL allows the teacher to join academia

with realia by the application of these standards. First, teachers can use a driving question based

on real-world situations; second, learners can play an active role in their learning process, and

finally; learners can share and compare their social experiences with their classmates. Hence, the

combination of both methodologies contributes to the improvement of students' oral expression

skills as they face meaningful input towards authentic scenarios in the classroom.

According to the scope and limitations of the project, the expectations of researchers stem

from the current necessities in terms of providing a methodological design that fosters

intermediate students' oral expression skills in English. This project seeks to positively impact

the Foreign Language Teaching Program at Universidad Industrial de Santander and it is hoped

that, given the results of this investigation, researchers can provide assets for the improvement

and development of new work plans in the Foreign Language Teaching field. One possible

limitation was the lack of access to technological resources that impeded students from accessing classes. Additionally, another limitation had to do with the implementation of the methodological design as the national lockdown kept us apart from a typical and physical teaching and learning environment to carry out the project at the university.

Research question

Thereupon, researchers are looking to answer the following research question: To what extent does Gamification in Project-Based Learning foster Intermediate English students' speaking skills in a public university in Bucaramanga, Santander?

Justification

Due to the impact of the recent circumstances influenced by the pandemic of COVID-19, which included a complete national lockdown in educational institutions and the inability to follow courses in presence-based modality, this project was of utmost importance to ELT researchers regarding its professional, social, and theoretical pertinence. Concerning theoretical pertinence, the foregoing scenario proposed different challenges in terms of the implementation of methods, methodologies, and strategies regarding theoretical constructs of PBL, Gamification, and teaching speaking skills. On the one hand, although PBL and Gamification proposed the assistance of the methodologies powered by different technological tools (as seen in Pitura and Monika, 2018; Leung and Pluskwik 2018, and Alafouzou., Lamprinou and Paraskeva, 2018), these methodologies must be confronted with the observed scenarios that did not contemplate a massive amount of people in a Virtual or Blended Learning model. On the other hand, it became necessary to analyze the effectiveness of these new strategies applied to the new scenarios and the new conditions of both teachers and students.

Concerning social pertinence, it is worth mentioning that the adoption of Full Virtual or Blended Learning Models in both public and private institutions nationwide has brought a different paradigm regarding the construction of teacher-student and student-student relationships, whose consequences and implications are just being subject of study.

Finally, regarding the professional pertinence, it became crucial to provide different methodologies that help students face the challenges resulting from these new scenarios, at the same time they improve their current language skills in the foreign language. These alternative methodologies will be aligned with the theoretical constructs that guide this project to obtain the expected results. Additionally, the outcome of this implementation aims to provide pre-service and in-service teachers with different methodologies, resources, techniques, and materials to supply the current information gap and adapt their teaching practices and their students' learning processes to the emerging technologies stemming from the COVID-19 pandemic and national lockdown.

1.   Objectives

In agreement with the research question and justification, the following objectives are established.

1.1.   General Objective

To determine whether gamification strategies implemented through Project-Based Learning can improve EFL intermediate students' speaking skills from a public Colombian University, in Bucaramanga, Santander.

1.2.   Specific Objectives

In this sense, to achieve the main objective, researchers detail a three-phase work plan as follows.

- To identify the current speaking skills of EFL intermediate students from a public university in Bucaramanga, Santander.

- To design and implement a didactic sequence that blends PBL and gamification components in the classroom for English language learning.

- To determine the effectiveness and implications of this proposal on intermediate students' speaking skills.

2. Body of Work

2.1. Referential Framework

2.1.1. Related Research

Concerning the use of Gamification for fostering speaking skills, several authors have recently researched the topic. Firstly, Ningrum, et al. (2020) proposed a methodology that fostered speaking skills through storytelling. They suggested that joining cultural assets with gamified strategies would give students the chance to find an authentic setting for developing critical thinking, peripheral learning, and proficiency in the target language. Moreover, Leung and Pluskwik, (2018) developed a compendium of Gamification strategies, plans, and methodological strategies used in assignments of medium or high difficulty for students with a certain level of proficiency in the second language. The results of the study demonstrated that universities are the best scenarios for implementing gamification tools because they foster peer-to-peer learning, as well as motivation in the classroom.

Secondly, regarding Project-Based Learning, Esquivel (2019) conducted a research where students from a public institution could foster their speaking skills and motivation by creating a project that led students to give up the fear of being wrong during group interaction in small groups or in front of the whole class. Henceforth, authors such as Mahtawarmi (2018) and Veloso (2016) demonstrated that PBL-based methodologies provided benefits both in terms of language use and the acquisition of knowledge related to the participant's area of expertise.

3. Theoretical Basis

3.1. Project-Based Learning in EFL

In agreement with Krajcik & Blumenfeld (2006), Project-Based Learning (PBL) was defined as a style of situated learning in which students can gain a deeper understanding by being

directly involved in the activities proposed in class. Moreover, the target of PBL was to allow students to be involved in issues and topics that are meaningful and purposeful for them, in order to foster motivation and encourage them to investigate and propose different ideas. In addition, Lam (2012) proposed that PBL is an approach where students are directly involved in the investigation, through the organization of different learning activities that have their basis on an original and pertinent question related to students' reality and conditions. Furthermore, Lam (2012 p. 2707) presented three basic components of PBL, as follows: "1. A driving question that is anchored in a real-world problem 2. Possibilities for students to carry out investigation 3. Collaboration among students". First, the driving question allows the creation of content that is important for students. Then, the second component encourages students to understand and apply different concepts to describe what they know about the driving question. Finally, the third component focuses on fostering collaboration among students and the sharing of acquired knowledge with the rest of the learning community.

Concerning the significance of PBL in the EFL classroom, Thuan (2018) declared that all language skills are present when teachers implement classroom projects, due to their need to interact concretely, and allowing them to be directly related to their classmates and to be involved with the content of the class. Finally, when PBL is implemented in the EFL classroom, there was consistent evidence that students improved their confidence, responsibility, and autonomy when performing different projects or participating in class (Harmer & Stokes, 2014).

3.2. Gamification in EFL

In consonance with Deterding et al. (2011) and Kim (2015), Gamification is a broad concept that includes a set of designs, methodologies, ICT resources envisaging the achievement of enriching experiences across different professional, educational and social areas. In a broad

sense, this term refers to the inclusion of gaming features, such as challenges, levels, roles, rewards, and punishments to non-game scenarios, such as education, business, etc.

Henceforth, Dyer (2015) highlighted some considerations for the implementation and assessment of gamified methodologies, designs, and resources inside the classroom. In sum, the author proposed four stages for assessing Gamification in four steps, as follows: "1. Play Assessment Diagnostic 2. A Gamification Scorecard 3. Pre/Post Knowledge Assessment 4. Gamification Performance Assessment Review" (p. 55). The first stage set the conditions for recognizing students' performance, available resources, and the type of methodology that fitted best in the classroom. The second stage consisted of using scorecards for guiding students throughout their learning process because students can continually review their progress against the learning objectives outlined in the scorecard. The third stage includes the counterpart, which involved the preparation of summative assessment tools for complementing the former stage. Lastly, the collection of qualitative and quantitative data was presented in the form of an adapted resource so that students can see their final performance, progress, and the learning objectives achieved during the academic period. Thus, these stages should gather sufficient qualitative and quantitative assessment that determines the efficacy of the didactic sequences implemented using Gamification.

3.3.   Significance of Speaking Skills

Considering that language is a means of communication that requires speech to exist and to communicate with others, speaking skills then become extremely important for learners of different languages (Qureshi, 2012, pp. 2-3). Even though every language skill should be considered equally important as they all contribute to the development of proficient language learners, Rao (2019, p. 8) proposed that speaking is the most important skill in regard to

acquiring or learning a second or foreign language. Moreover, Laverde (2016, p. 18) suggested

that speaking skills enabled students to communicate successfully, persuasively, and fluently

their thoughts with others, and they involved real-life communication features such as

vocabulary, grammar, pronunciation, participants' roles and pause length.

Conjointly, mastering oral expression provided people with several benefits and

advantages. For instance, these skills help learners to perform accurately in educational and non-

educational settings, such as business or commerce, among others (Rao, 2019, p. 12).

3.4. Legal Framework

Following the current educational standards for the study population, the reference

framework that governs at the national level is based on the English National Program Colombia

Very Well! (MEN, 2014). This project focuses on the accomplishment of several objectives,

among which it is expected the achievement of the B1 level for at least 50% of the 11th-grade

students in the country by 2025, as well as the improvement of the teaching staff in terms of the

achievement of the C1 level of proficiency, according to the Common European Framework of

Reference (CEFR). In the same vein, the Foreign Languages Teaching Program proposes that

both the use of ICT resources and PBL are essential for the development of situations that pre-

service teachers would face in their professional lives (UIS, 2016, p. 59).

4. Methodology

4.1. Research Design

Since the main objective of this research is to determine the impact of certain

methodological strategies, tools -- such as Kahoot, Baamboozle, Wordwall, Quizlet, Quizizz,

Genial.ly -- and procedures in a specific context, the methodological approach that governs this

study is based on a mixed approach, namely Action Research. Cohen et al. (2018) expounded

that "Action research is a useful tool for change and improvement at the local level" (p. 440). In this sense, they proposed that this type of research allowed several courses of action such as the test of novel teaching methods, classroom management strategies, or assessment tools and techniques, which are of interest for the present study.

Furthermore, Whitehead and Mcniff (2010) stated that "Action research is about identifying what we want to achieve in terms of the values we hold, and offering justification for the actions we take, which is more than problem-solving" (p. 95). In other words, Action research was a continued application of knowledge that allowed a reflective process in each of the actions taken in the field of implementation, to obtain a self-critical outcome with the proposed methodologies.

4.2. Hypothesis Management

Intending to answer the research question: To what extent does Gamification in Project-Based Learning foster Intermediate English students' speaking skills in a public university in Bucaramanga, Santander? The research revolves around the hypothesis that the implementation of Gamification strategies in PBL fosters the improvement of speaking skills in EFL intermediate students. Thus, the variables involved at stake include speaking skills, which is the dependent variable, and gamification strategies, which is the independent variable.

5.   Population and Sampling

5.1.   Participants

This research project was carried out in an Intermediate English course from the Foreign Languages Teaching Program at Universidad Industrial de Santander (UIS). The participants of this project consisted of thirteen students, eight women and five men, whose ages ranged from

eighteen to twenty-four years old. These participants had been studying English for more than four years, which has allowed them to develop all the English language skills.

5.2. Sampling

For the present project, the researchers intend to select the participants involving a non-probability sampling process named Convenience sampling. According to Cohen et al. (2018), convenience sampling "involves choosing the nearest individuals to serve as respondents and continuing that process until the required sample size has been obtained of those who happen to be available and accessible at the time" (p. 218). This type of sampling was the most suitable for our research project as it allowed the researchers to select individuals who were conveniently available and easy to reach. Additionally, due to the difficulties that emerged from the pandemic and the national strike which obligated students and teachers to stay at home, this technique was appropriate to select the participants for our research project.

6.   Data Collection Instruments

Regarding the instruments selected to collect the data, researchers determined three instruments, namely pretest, posttest, and a questionnaire.

6.1.   Pretest and Posttest

First, Griffee (2012) proposes that the pretest is a type of assessment tool that is usually administered before the experiment, intervention, or teaching practice, to establish the conditions of participants before the implementation of the procedures, techniques, or methodologies concerning the investigation. This pretest was used to identify the participants' current speaking skills. In the same vein, Griffee (2012, p. 91) remarks that the posttest is a type of evaluation identical or very similar to the pretest. The posttest is usually administered after the intervention or experiment. This posttest is relevant to measure quantitatively the effectiveness and

implications of the methodological design after its implementation, which is the third and final objective of this project. Finally, for internal validity matters, both instruments were aligned with the CEFR Grid for Speaking (ALTE CEFR SIG, 2014) and implemented according to the Teacher's Guide to the CEFR (Longman, 2013).

In consequence, according to the results related to the first objective, which was to identify the students' level of proficiency in speaking skills, a pretest was administered in the first session, as an introductory activity. This pretest consisted of a series of four exploratory questions, referring to the concepts of gamification, teamwork, class projects, and improvement of communication skills. To ensure that all students were on equal conditions, each test was conducted in subgroups of three to four students, in which each student had the same time limit of four minutes to perform the test.

Hence, according to The Common European Framework of Reference (Longman, 2013), the categories involved while grading were: topic development, grammar and vocabulary, pronunciation and intonation, and fluency and coherence. It is important to emphasize that the evaluation rubric (Appendix B) comprises quantitative grades given from 0.0 to 5.0, with 0.0 being the lowest possible grade and 5.0 the highest possible grade.

Finally, after the implementation of the twelve classes, all participants were re-evaluated with the same methodology used in the pre-test. In the post-test, the emphasis was placed on the same four thematic lines such as gamification, teamwork, class project, and skills improvement. The results of the analysis between the pre-test and post-test were aimed at determining the quantitative improvement of the methodological proposal implemented during the work weeks.

6.2. Questionnaire

According to Brown (2001, as cited in Dörnyei and Taguchi, 2010) questionnaires are "any written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting from among existing answers" (pp. 3-4). The reason why this instrument was selected was that it would give factual and specific information for this research study. On the one hand, the participants had to answer a questionnaire with both open-ended and closed-ended questions during their first class in order to obtain detailed information regarding demographic data, personal interests, learning styles, among others (See Appendix B). On the other hand, they had to answer a second questionnaire with open and semi-open-ended questions, to know their general perceptions about the implementation of the project, the new knowledge acquired, among others (See Appendix E). Likewise, an optional box was left in the questionnaire to receive suggestions for future implementation of the same methodological design.

7. Procedure and data analysis

7.1. Planning and Implementing the Didactic Sequence

The implementation phase was held in the second academic semester of 2021 (August-November). The 12 sessions took place on Wednesdays and Fridays from 6 to 8 am. The aim of this didactic implementation (See Appendix A) was for students to foster their speaking skills regarding EFL, following the suggested curriculum for the subject Intermediate English. The content of the implementation, based on Project-based learning, included explanations, slides, the didactic and gamified activities that aimed at teaching the topics inside the first four units of the students' textbook for the subject, namely *Cutting Edge 3rd Edition Intermediate*. Most of these activities were carried out in groups, were designed considering different gamification

strategies such as earning points and rewards, leveling up, completing challenges, competing

between teams, among others, and were designed to foster all language skills but with a greater

focus on the speaking ones.

Additionally, the implementation included a set of guidelines and steps to follow required

to develop the final product of the participants' project successfully. The final product of the

project was presented the last week of the pedagogical intervention and it aimed at creating a

gamified activity to improve a skill or aspect of a subject of the program that students found

difficult to understand or learn. The steps to develop this project were five. First, each subgroup

of participants had to identify and agree on a skill or aspect of a subject of the program to

improve. Second, they needed to justify why the skill or aspect chosen needed to be improved

and how this could be done through a gamified activity. Third, participants had to define the

main objective of their gamified activity; for instance, increasing productivity, motivation,

understanding, performance, interaction, etc. Fourth, along with the guidance of the researchers,

each subgroup had to design the gamification strategy to enhance the skill or aspect chosen. And

fifth, in front of the head teacher of the course, each group of participants showed their proposals

with the rest of the class.

7.2.   Data Analysis

For the analysis of the open-ended questionnaire, the information collected was

transcribed, color coded and then broken down into four categories mentioned as follows: PBL

impact on Students' language skills, Gamification Strategies Impact on Students' Speaking

Skills, Pros and Cons of Using Gamification Strategies in Class, and Project-based Learning in

Conjunction with Gamification Strategies Impact on Students' Speaking Skills.

8. Results

### 8.1. Questionnaire

8.1.1. Demographic information

The population that participated in this study were undergraduate students from the Foreign Languages Teaching program, whose ages ranged from 18 to 24 years old. As for the sex of the students, collected data showed that eight students were female and five were male.

8.1.2. Connectivity and Technological Resources

With the intention of collecting information on the students' situation, the questionnaire contained a series of open and closed-ended questions. First, concerning the students' Internet connectivity, 12 students (92.3%) indicated that they had an Internet connection, while 1 student (7.7%) did not (see Figure 1).

Figure 1

Students with internet connection
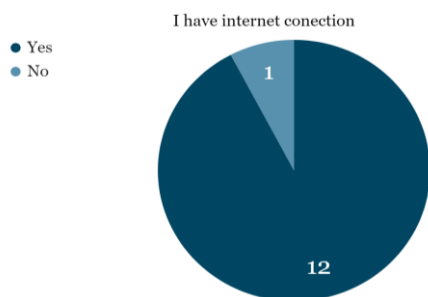
Note. The figure 1 shows if the students had Internet connection at home.

Figure 2

Computer Ownership
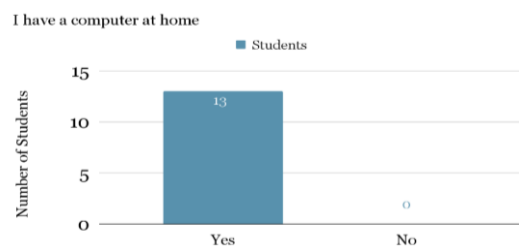
Note. The figure 2 shows how many students owned a computer at home.

In terms of the technological resources, figure 2 specifies that all students had at least one computer at hand (See Figure 2).

Furthermore, to gain clarity about students' computer access, they had to specify whether the computer was shared with other members of the family or was merely for their personal use.

Regarding the latter, 8 students (61.5%) answered that the computer they had at home was shared with other members of their household. In contrast, 5 students (38.5%) had this equipment for their personal and individual use (See Figure 3).

Figure 3

Computer availability

Computer Availability

- Computer device is shared with the household
- Computer device is personal
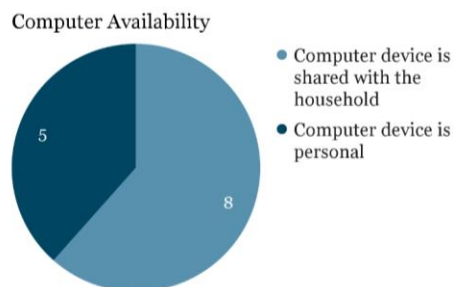
5

8

Note. The figure shows if students' computer devices were personal or shared with members of their families.

Figure 4

Technological devices of the students

■ Students

Technological devices	
Laptop	
Tablet	
Smartphone	
Webcam	
Speakers	
Microphone	
Printer	

Number of Students
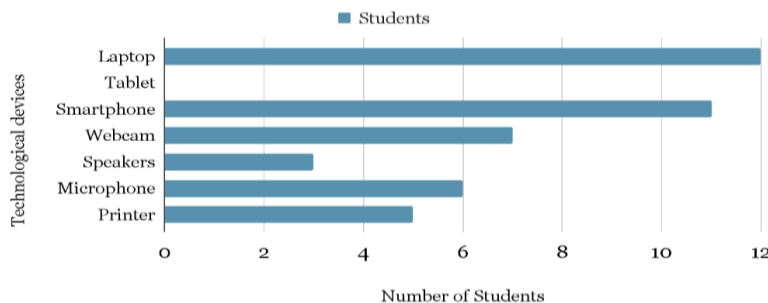
Note. The figure shows the technological devices that students relied on for learning.

Additionally, in order to determine if the students had other technological devices, they were asked about other devices they had in their households. The responses were varied. A total of 12 students (92.3%) owned a laptop computer; 11 of them (84.6%) had a smartphone; 7 (53.8%) had a web camera; just 3 (23.1%) were equipped with speakers; 6 (46.2%) owned a microphone; and only 5 (38.5%) had a multifunctional printer (see Figure 4).

8.1.3. *English Language Acquisition and Proficiency*

In this section, students had to answer a series of questions intended to identify their interests and motivations for learning English and their competency in the language. Initially, the students had to mention the reasons why they decided to learn English. About 4 students answered that they did it for pleasure, as it caught their attention and because they had always found it interesting. For instance, one student mentioned that she had always been interested and would like to reach a level of proficiency where she could express herself adequately. Some other students indicated that the culture, music or movies in this language drove them to learn it.

Continuing in this direction, students were asked to indicate the period they had been learning English. In response, six students (46.2%) indicated that they had learned the language over a period of 4 to 5 years, while five students (38.5%) affirmed that they had studied it for more than 5 years. Meanwhile, one student (7.7%) had learned English for a period of 3 to 4 years. Likewise, another participant (7.7%) studied it for 1 or 2 years (see Figure 5).

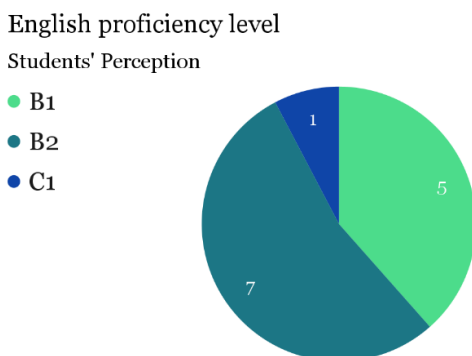**Figure 5**

Years learning the English language
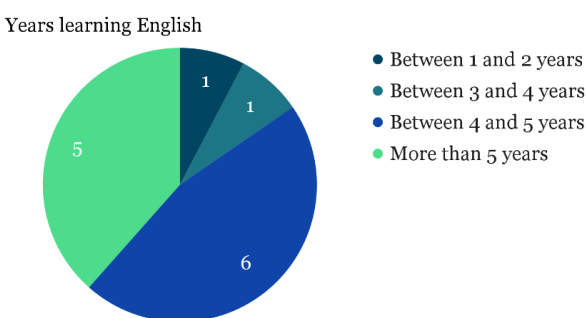
Note. The figure shows the period during which students have studied English.

Furthermore, it was intended to identify the English proficiency level of the students according to the CEFR, taking into account their own perception. As a result, five students (38.5%) placed themselves in an Intermediate level (B1); moreover, seven of them (53.8%)

considered to have an Upper-Intermediate level (B2), while only one student (7.7%) believed to

have an Advanced level (C1) (See Figure 6).

Figure 6

English proficiency of the students.

English proficiency level

Students' Perception

● B1
● B2
● C1

Note. The figure shows students' perceptions of their English proficiency level.

With respect to which English language skills were easier for the students, they had the

opportunity to select some options from a multiple-choice list, based on their experience with the

English language. On the one hand, six students (46.2%) considered that the speaking skill was

easier for them. On the other hand, seven students (53.8%) regarded listening comprehension as

simpler. Furthermore, six students (46.2%) pointed out that written production was not difficult.

Additionally, for seven students (53.8%), reading comprehension was relatively uncomplicated

(See Figure 7).

Figure 7

English skills perceived as easy by the students.
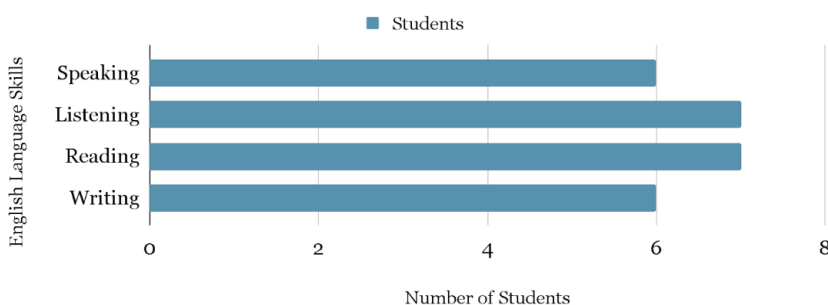
Note. The figure shows the students' perception of the English Language Skills they considered as easier.

Moreover, regarding those skills that were difficult for them, students responded as follows. Eight students (61.5%) found the speaking skill as the most complicated one for them. Furthermore, four students (30.8%) considered that listening comprehension tended to be a difficult one. In the same way, four students (30.8%) determined that the written production was hard for them. As for the remaining skill, that is, reading comprehension, four students (30.8%) viewed it as the most complex one in the English language (See Figure 8).

Figure 8

English skills perceived as difficult by the students.
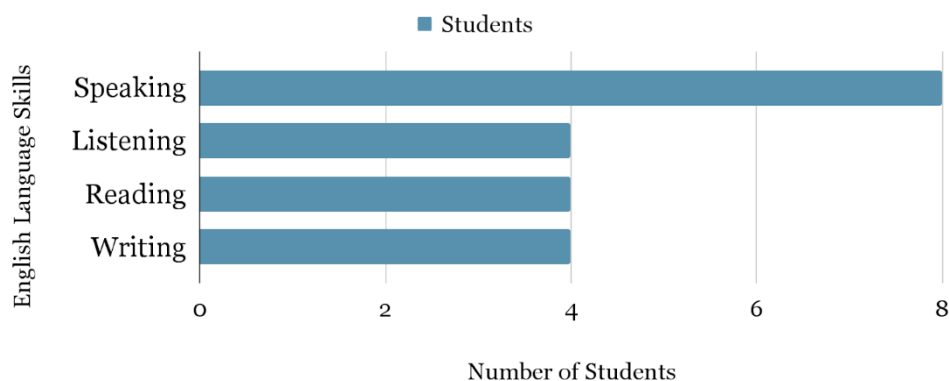
Note. The figure shows the students' perception of the English Language Skills they considered as difficult.

8.1.4. Personal interests

The questions presented below aimed to adapt the implementation of the didactic sequence to the students' interests. First, concerning their favorite learning methods, thirteen students (100%) liked learning the language by listening to music. Similarly, twelve students (92.3%) used films to learn English. eight students (61.5%) also enjoyed watching videos and learning English through them. Contrarily, seven students (53.8%) were more interested in

learning English directly through interaction with people who are familiar with the language.

Lastly, two students (15.4%) agreed that reading books can be a useful tool for learning English

(See Figure 9).

Figure 9

Methods preferred by students to learn English.
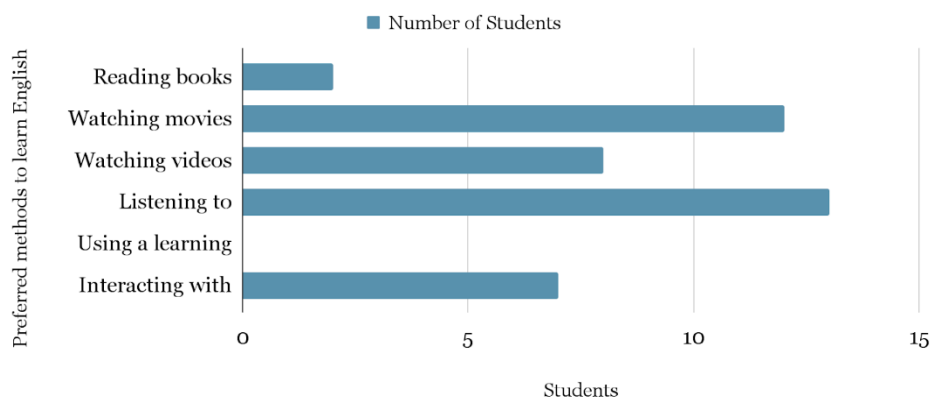
Note. The figure shows students' preferred methods to learn the English Language.

To conclude this section, students had to answer a question related to the topics they like

to learn in general. Responses included cultural and artistic topics, as well as historical and

general issues. For example, one student mentioned that he liked to know about the cultures of

different countries. Some other preferences mentioned by the students concerned fun facts,

Chemistry, Biology, Entertainment, Manga, Comic Books, among others.

8.1.5. *Learning preferences*

In order to identify students' learning styles, they answered a multiple-choice question. In

the first place, when asked about designing concept maps, diagrams and/or synoptic tables as a

learning tool, three students (23.1%) responded positively. On the other hand, ten students

(76.9%) indicated they enjoyed learning using videos and images. Additionally, four students

(30.8%) decided that they preferred to elaborate summaries and syntheses to highlight important

information. In the same way, five students (38.5%) expressed their preference to learn by

writing short texts to practice the language. In addition, nine students (69.2%) considered it

useful to learn using audios. Equally, nine students (69.2%) indicated they also enjoyed learning

using role-plays, performances, and presentations. Lastly, six students (46.2%) mostly preferred

activities that involved getting up from their seats and moving around the room (See Figure 10).

Figure 10

Learning Styles of students.
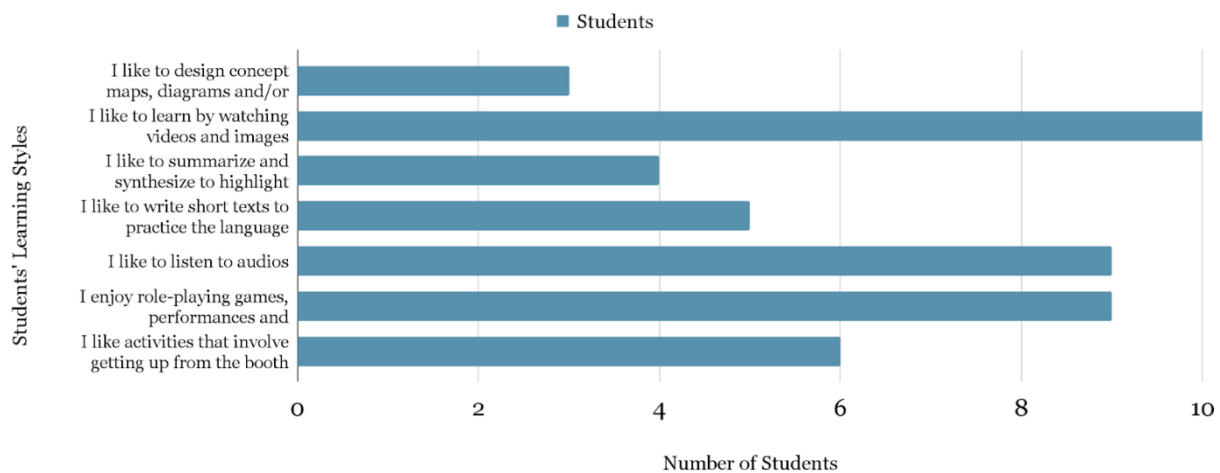
Note. The figure shows the different Learning Styles students had.

8.1.6. *Class perceptions*

Regarding the relation students perceived between classroom topics and real-life issues,

46.2% of the class agreed that these topics were almost always related to real life. Moreover,

23.1% established that topics dealt with in class are always related to the real world. Finally,

30.8% of the population stated that these topics were sometimes in context with reality (See

Figure 11).

Figure 11

Class topics related to real life.

Topics Covered in Class are Related to Real Life.

- Always
- Usually
- Sometimes
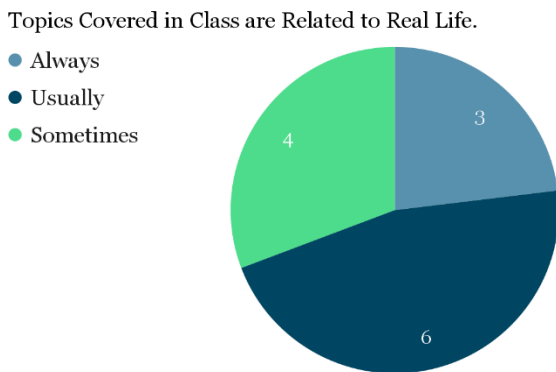
Note. The figure shows whether the topics covered in class were related to real life.

Lastly, there was a section with two open-ended questions asking students about what materials/resources used in class they considered to be useful for learning, as well as the resources teachers should implement in their classes. With respect to the materials students found useful for learning, it was possible to observe the diversity of students' ideas. For instance, several students considered that dynamic presentations, low in text, could be useful when learning English. As one student mentioned, there were several activities that could be used, for instance, roleplay, debates and other activities that involved the development of oral expression skills.

Concerning the materials/resources that they considered teachers should implement, it was noted that many preferred the use of videos, music, presentations, books among others. One student said that songs, exercises and games after the formal lesson would be helpful to increase students' participation and to catch their attention. Similarly, other students mentioned that implementing speaking activities could be a great tool in class, since they tended to be insecure while expressing themselves orally in English. Other resources cited and preferred by students included games, kinesthetic activities, artistic activities, and more.

8.2.   Pre-test and Post-test

8.2.1.   Pre-test

       Based on the results obtained during the introductory class, Table 1 provides a detailed

description of the results according to the evaluation categories, along with the average score of

these criteria.

Table 1

Raw results of pretest about English speaking skills

Student	Topic Development	Grammar & Vocabulary	Pronunciation & Intonation	Fluency & Coherence	Average Score
BA	3.6	3.5	3.4	3.2	3.4
BM	4.8	4.6	4.6	4.4	4.6
DA	4.1	4.1	3.8	3.9	4.0
FA	3.3	3.7	3.7	3.6	3.6
LH	3.5	3.8	3.8	3.5	3.7
MM	4.7	4.6	4.5	4.6	4.6
NA	4.1	4.4	4.5	4.4	4.4
PV	4.3	4.3	4.3	4.3	4.3
RM	3.5	3.8	4.2	4.0	3.9
SJ	3.3	3.6	3.7	3.7	3.6
ST	5.0	4.9	4.9	4.4	4.8
TJ	4.9	4.8	4.7	4.4	4.7

Note. The table presents the consolidated results of all students who took the pretest in the first-

class session, together with the score obtained in each of the four evaluation criteria.

       Henceforth, there was a way to gather some insights regarding statistical data about

students' performance in each category by using the standard formulas for obtaining the standard

deviation and the arithmetic mean. In consequence, Table 2 summarizes all the calculations

performed during the analysis of the pretest.

Table 2

Descriptive statistics of the pretest about English speaking skills

	Topic Development	Grammar & Vocabulary	Pronunciation & Intonation	Fluency & Coherence	Average Score
Mean	4.09	4.18	4.18	4.03	4.13
Range	3.3 – 5.0 / 1.7	3.5 – 4.9 / 1.4	3.4 – 4.9 /1.4	3.2 – 4.6 /1.4	3.4 – 4.8 / 1.4
Std Dev	0.61693278451227	0.49012985292397	0.48076643355829	0.44991581704164	0.49236596391733

Note. The table provides a summary of the quantitative analysis performed by compiling all the results of the sample under the calculations of mean, range and standard deviation.

Concerning the first category, corresponding to *Arithmetic Mean*, Table 2 shows that the category with the lowest result corresponds to *Fluency and Coherence*, followed by the category of *Topic Development*. Similarly, the remaining categories shared the highest performance with equal arithmetic mean. In terms of range, the lowest score appeared in the *Fluency and Coherence* category, with a minimum grade of 3.2, while the highest score was in the *Topic Development* category, with a maximum grade of 5.0. Finally, the standard deviation, or the dispersion among the data obtained was more homogeneous in the *Fluency and Coherence* category, with a value of *S=0.45*; while the most heterogeneous data was found in the *Topic Development* category, with a value of *S=0.62*. It should be noted that even though this data contains a higher dispersion than in the other categories, it did not significantly affect either the calculation of the deviation or the calculation of the mean, due to the low rate of values. For this reason, it can be stated that the results collected, having an index lower than 0.6, can be considered homogeneous. By extension, this means that in the pretest, the level found in the participants was, in general terms, an adequate level in accordance with the semester they were studying, in terms of each four of the categories evaluated. Moreover, regarding their knowledge about gamification, teamwork, teaching strategies, etc, students admitted that they had little

background in terms of gamification and teaching strategies; while they had certain knowledge

and previous experiences concerning teamwork and Project-based Learning.

8.2.2. *Post-test*

The comparison between the pretest-posttest measures of each group was made by means

of comparing the main values corresponding to Arithmetic Mean, Range, and Standard

deviation, where significant differences were found in some of the evaluation criteria in each

category. The results of the posttest conducted during the last session have been classified in

Table 3.

Table 3

Raw results of posttest about English speaking skills

Student	Topic Development	Grammar & Vocabulary	Pronunciation & Intonation	Fluency & Coherence	Average Score
BA	3.8	3.6	3.6	3.7	3.7
BM	4.8	4.6	4.6	4.4	4.7
DA	4.1	4.3	4.2	4.5	4.4
FA	4.4	3.9	3.9	4.1	4.1
LH	4.1	3.9	3.9	3.9	4.0
MM	4.7	4.7	4.5	4.8	4.7
NA	4.7	4.6	4.8	4.6	4.7
PV	4.7	4.9	4.8	4.6	4.7
RM	3.8	3.8	4.1	4.0	3.9
SJ	3.8	3.8	4.0	3.9	3.9
ST	5.0	4.9	4.9	4.9	4.9
TJ	4.9	4.8	4.7	4.4	4.7

Note. The table presents the consolidated results of all students who took the posttest in the last

class session, together with the score obtained in each of the four evaluation criteria.

Similarly, in order to have the same calculations for the comparison between pre-test and

post-test, table 4 summarizes all the results of the post-test analysis. The procedures for

calculating the results below followed the standard guidelines for data calculations, as suggested

by Cohen et al, (2018. p. 583)

Table 4

Descriptive statistics of post-test about English speaking skills

	Topic Development	Grammar & Vocabulary	Pronunciation & Intonation	Fluency & Coherence	Average Score
Mean	4.40	4.32	4.33	4.32	4.37
Range	3.8 – 5.0 / 1-2	3.6 – 4.9 / 1.3	3.6 – 4.9 / 1.3	3.7 – 4.9 / 1.2	3.7 – 4.9 / 1.2
Std Dev	0.45726459418034	0.48772819057215	0.43554215605034	0.38807996676724	0.41851106932973

Note. The table provides a summary of the quantitative analysis performed by compiling all the results of the sample under the calculations of mean, range and standard deviation.

Regarding the first category, which corresponds to the Arithmetic mean, Table 4 shows that there is a tie between the categories *grammar and vocabulary* and *fluency and coherence* as the lowest scoring categories. Likewise, the category *topic development* is placed as the highest performing category compared to the two mentioned above. With respect to the range, the category that had the highest rate was *Topic Development*, with a maximum grade of 5.0; while the lowest score of 3.6 appeared in the categories *Grammar and Vocabulary* and *Pronunciation and Intonation*. Finally, with respect to standard deviation, the category with the most homogeneous deviation was *Fluency and Coherence*, with a value of S=0.39; while the one with the most heterogeneous dispersion value was *Grammar and Vocabulary*, with a value of S=0.49.

8.2.3.   *Main differences between pre-test and post-test*

Finally, Table 5 shows the differences between pretest and posttest implementation. These differences were obtained by subtracting the post-test results from the pre-test results. D= Post-test - Pre-test.

Table 5

Difference between posttest and pretest results

	Topic Development	Grammar & Vocabulary	Pronunciation & Intonation	Fluency & Coherence	Average Score
Mean	0.31	0.14	0.15	0.29	0.24
Range	-0.5	-0.1	-0.1	-0.2	-0.2
Std Dev	-0,15966819033193	-0,00240166235182	-0,04522427750795	-0,0618358502744	-0,0738548945876

Note. This table serves as a point of comparison with the table compiling the pretest and posttest results.

According to the table above, a slight improvement could be seen in all the evaluation criteria; nevertheless, it is necessary to clarify that, in order to avoid internal validity problems, it should be considered that the dispersion data of the sample generated an increase in the difference in specific criteria such as *Topic Development*. However, in general terms, the course average was higher in the post-test than in the pre-test, which shows the improvement that an implementation of this type could have in other groups of students.

8.3.   Open-ended questionnaire

8.3.1.   PBL Impact on Students Language Skills

The data analyzed for this category stemmed from the second question of the open-ended questionnaire (see Figure 12), which aimed at collecting students' opinions towards working with projects to improve language skills. After codifying all the information provided by the participants within this question, it was possible to determine three subcategories. The first one is related to the positive perspectives students had towards working with projects to improve their language skills. For instance, for many of the participants, eight out of the eleven, working with projects was considered as a good, important, and useful strategy to improve the skills of the target language. It is important to highlight that some of the participants took a teacher

standpoint while providing their answers. For instance, one of the subjects mentioned, "I think [it] is important, because in that way professors will improve creativity into their classes and students will get a different form to study and practi[ce] what they are learning". Similarly, another participant mentioned, "I think they are really useful, but [it] also depends on how teachers implement their activities and the way they develop each class". Taking these answers into account, it can be inferred that students rely on the convenience of using projects to develop and enhance students' language skills when these projects are designed, guided, and directed by the teacher in charge of the English as a Foreign Language (EFL) course.

Nonetheless, working with projects also allowed participants to experience different benefits such as transforming the regular and traditional class into a more dynamic one and even it helped them to gain confidence, which was the main focus of the second subcategory. For instance, a participant stated, "I don't usually like it at first because I'm still not confident of my skills. But, while I'm working on the project, I begin to gain confidence and together with the practice it becomes a fun process". Lastly, the third subcategory that emerged from the participants' answers is related to the fact that working with projects provides opportunities to deliver English classes that fit our contemporary context and its different needs. For example, a subject highlighted, "They are the best way to give a modern class. To break the stigma that English classes are bor[ing]", taking into consideration that regular traditional English classes solely focus on the accurate use of the language which tends to fall on a monotonous teaching and learning environment turning into a repetitive and non-exciting one.

Thus, based on these results, most students affirmed that working with projects is an overall useful and good strategy that when it is used accurately by the teacher, it can provide students with positive effects on the development of their language skills. Besides, it boosts students'

confidence levels allowing them to have fun while working on them. Ultimately, working with projects contributes to both teachers and students to keep up with the latest learning and teaching trends that match the latest methodologies regarding innovative teaching and learning strategies used to succeed when learning English as a Foreign Language.

Figure 12

Impact on Students Language Skills
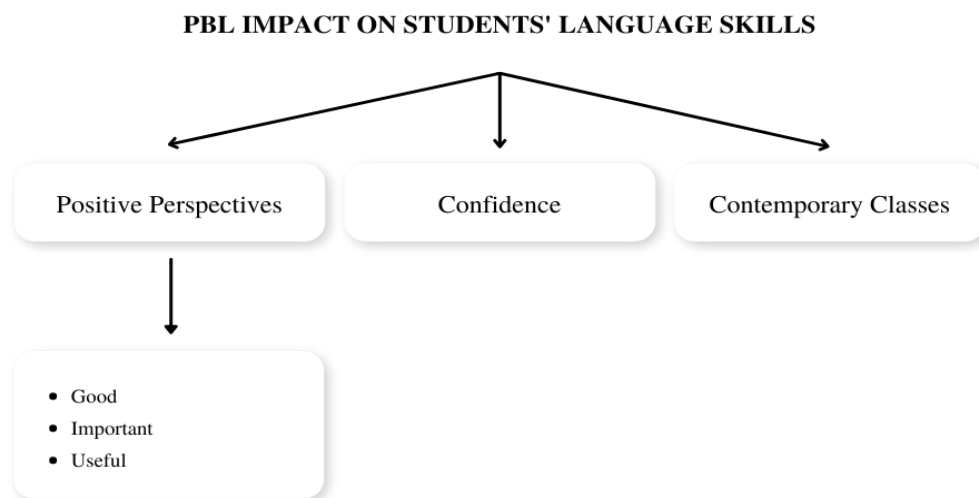
Note. The figure shows how project-based learning develops positive aspects in students.

8.3.2. *Gamification Strategies Impact on Students' Speaking Skills*

For this category, the data analyzed emerged from the answers provided by the participants when they answered the first question of the open-ended questionnaire (see Figure 13), which aimed at gathering students' opinions towards the gamification strategies used by the teachers throughout the implementation of the didactic sequence and how they helped them to foster their speaking skills. After analyzing the participants' answers thoroughly, the following two subcategories arose: *confidence* and *aid.*

8.3.3. *Confidence*

With respect to the *confidence* subcategory, six out of the eleven participants that answered the questionnaire claimed that the gamification strategies implemented by the teachers helped them to increase their confidence. According to some students, confidence fostered their overall speaking skills by giving them the opportunity to speak often in class, increasing their vocabulary, and making it easier to communicate their ideas. For instance, a participant mentioned, "It helped me feel more comfortable and confident when I have to talk".

Furthermore, the gamified strategies served as a bridge to create trust between the teachers and the students and build rapport among them to facilitate communicative experiences in the classroom.
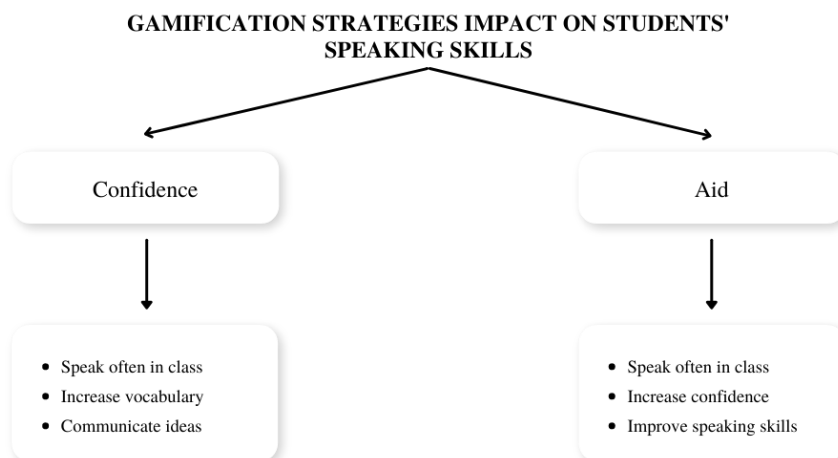
8.3.4. *Aid*

Regarding the *aid* subcategory, eight participants contemplated the gamification activities as a tool that helped them to improve their speaking skills as many of these activities aimed at making them speak about different aspects and interacting with both their peers and teachers. For example, a participant affirmed, "They helped a lot because in most of the activities we had to speak, I feel that the more you speak, the more you improve your skills". Likewise, another subject mentioned, "Yes, I think that this exercise help[ed] us to be more confident with our knowledge and to share with the classmates, and with this, improve our skills [to] be better teacher[s]". In view of the above, it can be concluded that the participants perceived the gamification activities of the course as a helpful strategy to foster their speaking skills due to their focus on communicative tasks.

Consequently, based on these outcomes, it can be inferred that there is a correlation between the students' self-confidence and their speaking performance in the target language.

According to some of the participants' answers, the high sense of confidence they acquired

through the gamification strategies permitted them to foster their speaking skills which improved

their overall communicative competence in English.

Figure 13

Gamification Strategies Impact on Students' Speaking Skills.

GAMIFICATION STRATEGIES IMPACT ON STUDENTS'
SPEAKING SKILLS

Confidence

Aid

- Speak often in class
- Increase vocabulary
- Communicate ideas

- Speak often in class
- Increase confidence
- Improve speaking skills

Note. The figure shows how gamification improved students' speaking skills.

8.3.5. *Using Gamification Strategies in Class*

For this third category of analysis, the data emerged from the responses provided by the

students when they answered the sixth question of the open-ended questionnaire (Appendix B),

which aimed at gathering students' thoughts towards the pros and cons of using gamified

activities in class. After doing an in-depth analysis of this information and codifying it, two main

categories came forth: *The pros of using gamification strategies in class* and the *Cons of using*

gamification strategies in class. From the first main category, Pros *of using gamification*

strategies in class, several subcategories arose. They were: *Improve the learning process,*

Motivate students to learn, Motivate students to participate, Make classes more dynamic, Make

classes more fun, Improve students' motivation, Help students understand complex topics, Help

students be aware of their own progress, Build trust among students and teachers, and finally,

Keep students awake and attentive. And, from the second main category, *Cons of using*

gamification strategies in class, four subcategories originated, which were: *Inaccurate time*

management, Boredness, Distraction, and *Stress* (See Figure 14).

8.3.6. *Pros of using gamification strategies in class*

Regarding the first main category, most of the participants stated that the pros of using

gamification strategies are related to the improvement of their motivation and overall learning

process of the target language. For instance, a participant mentioned, "The pros are that the

activities improve the learning process of the students and motivate them to learn and to

participate". Similarly, another participant stated, "I think they are all pros such as: becoming

classes more dynamic and fun, improving the motivation of students, helping understand the

harder topics and making students aware of their own progress". In addition, many students also

stated some other pros of the gamification strategies and activities such as encouraging them to

learn in a non-traditional way, helping them to build trust among them and their teachers.

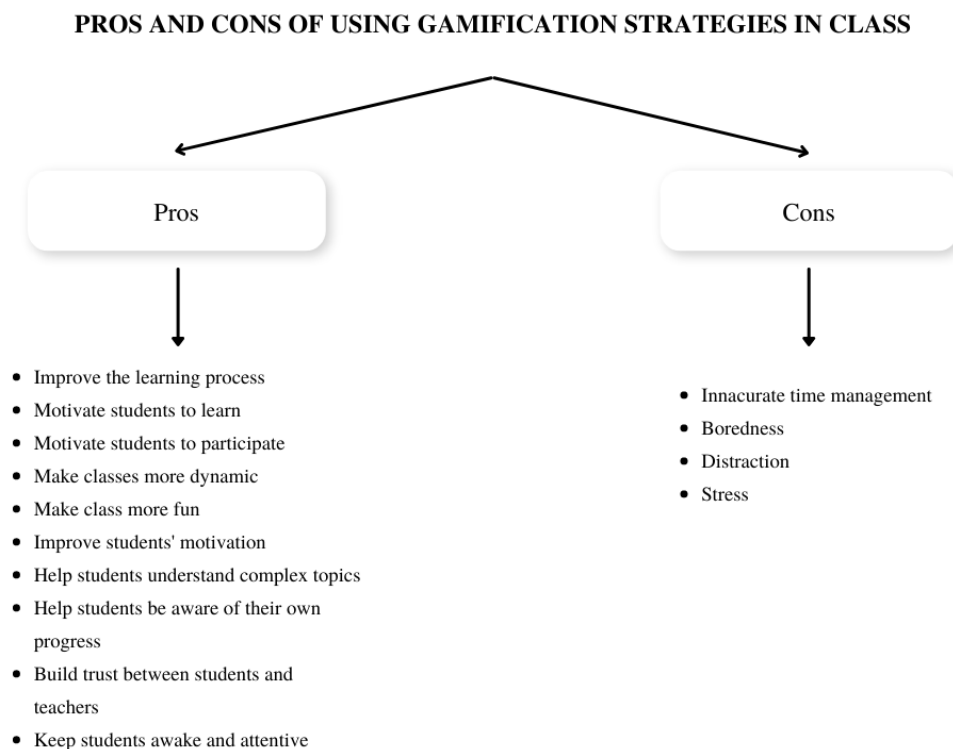### 8.3.7. *Cons of using gamification strategies in class*

In the second main category, many students' opinions towards the cons of the

gamification strategies are highly related to how these strategies or activities are managed in

terms of time and its consequences. For instance, a subject indicated, "A con would be that

sometimes the game is not developed the best way (e.g., in terms of time) and a group of

students can get bored or distracted". Lastly, a participant stated, "Sometimes [it] is very

stressful [to] try to manage the time but [it] is useful". Thus, taking these responses into account,

the biggest con of the gamification strategies is how these activities are guided or directed

bearing in mind the time to develop them. The consequences of an inaccurate time management

might cause detrimental effects on students' performance in class. Some of these downsides

might be lack of time to develop other class activities, distraction, boredness, and even stress.

Figure 14 summarizes the main pros and cons about the use of gamification in class.

Figure 14

Pros and Cons of using Gamification Strategies in Class.

PROS AND CONS OF USING GAMIFICATION STRATEGIES IN CLASS

Pros

Cons

- Improve the learning process
- Motivate students to learn
- Motivate students to participate
- Make classes more dynamic
- Make class more fun
- Improve students' motivation
- Help students understand complex topics
- Help students be aware of their own progress
- Build trust between students and teachers
- Keep students awake and attentive

- Innacurate time management
- Boredness
- Distraction
- Stress

Note. This figure shows the pros and cons of gamification in the classroom.

8.3.8.   *Gamification Strategies and PBL Impact on Students' Speaking Skills*

For this fourth and final category of analysis, the data emerged from the third question from the open-ended questionnaire, which aimed at gathering students' opinions towards the teachers' Project-Based Learning and Gamification strategies pedagogical intervention and its impact on students' speaking skills. After analyzing in detail, the participants' comments on this aspect, a major conclusion could be reached. This major feature was that all participants agreed on a common position regarding the impact the project had on the fosterage of their speaking skills. According to all students, our intervention did contribute to the improvement of their

speaking skills. Additionally, students reflected on the aspects that led them to confirm that our project helped them to improve their speaking skills by highlighting how these skills were before, during, and after the project implementation, and supplemental benefits they acquired. For instance, a subject mentioned, "Yes, because since I had to talk a lot, I had to go through all the verb tenses and look up words in the dictionary, but in the end, I noticed that my use of language improved". Similarly, another student answered, "Yes, by creating slides and talking with my classmates I was able to learn a few words and I also learned to pronounce a little bit better, as well I'm losing my shyness little by little".

Thus, based on these outcomes, most students acknowledged that both their projects and the teachers' project positively influenced the fosterage of their speaking skills throughout this implementation. What is more, students enjoyed additional benefits such as overcoming shyness, lack of confidence, and even anxiety which seemed to be hindrances to the successful development of speaking skills in an EFL classroom.

9. Conclusions

According to the findings, these showed that the majority of students developed linguistic skills in the English language, in regard to time control, class management and interaction skills with peers and teachers in academic scenarios. Consequently, these results supported the theory that gamified strategies in PBL improved students' oral skills. Additionally, it could be concluded that this project implicitly increased the students' confidence levels which highly influence their willingness to participate in class orally.

Furthermore, with respect to the quantitative findings, the analyses performed showed a slight growth in their specific skills of argumentation, mastery of the topic and exemplification. Considering what was stated by Mahtawarmi (2018), the results were attributable to the

differentiation that existed in the intervention group. Consequently, even though the improvement on the quantitative aspect was not particularly high, this only shows the great mastery of the language that the students had before the intervention. In conformity with the limitations of the study, it should be clarified that the time available for the implementation had to be adjusted according to the guidelines given by the university where the project was developed. Likewise, subsequent changes due to purely administrative decisions caused the implementation to take place at a different time during the academic semester than the one intended, which resulted in a readjustment of the planning presented for the development of the project.

Similarly, these small adjustments gave us suggestions and recommendations for future implementations in similar scenarios. The first recommendation had to do with the implementation time. It was hoped that with sufficient time to develop the proposed course, more strategies can be designed to benefit the participants. The second recommendation has to do with the use of new technologies that are emerging in the field of distance education and other virtual environments. In this sense, it becomes essential to continue exploring and adapting new technological tools in order to enhance a solid model in remote presence that allows students to have meaningful learning from scenarios that connect students virtually. Finally, the researchers recommend continuing to explore the use and adaptation of different virtual and blended learning scenarios to provide more alternatives to students in their future academic processes.

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