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Gamification and English speaking skills through technology among students of bachillerato at a public institution of Loja city. School year 2022-2023.

Gamificación y dominios orales en inglés a través de la tecnología con los estudiantes de bachillerato en una institución pública de la ciudad de Loja durante el año lectivo 2022-2023.

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Dedication

I would like to dedicate this research work to my parents: Maria and Juan, who were my motivating force every day of my life. Similarly, I would like to dedicate it to my sources of inspiration to continue growing professionally, my siblings: Edwin, Liliana and Medardo. Finally, I dedicate this work to my unconditional friends who gave me the strength to believe in my capabilities as a professional.

Jennifer Karla Ortega Vegas

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Jennifer Karla Ortega Vegas

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1. Title

Gamification and English speaking skills through technology among students of bachillerato at a public institution of Loja city. School year 2022-2023.

2. Resumen

El bajo nivel de dominio del inglés en Ecuador en comparación con otras naciones ha llamado más la atención dentro del sistema educativo del país debido a que algunas barreras pueden impedir el desarrollo de la lengua extranjera. Una de las principales relevancias para mejorar las habilidades orales es acortar la brecha para relacionarse con otras personas de diferentes culturas, crear vínculos profesionales y ampliar la comprensión de los intereses personales y educativos. En este contexto, el presente trabajo pretende examinar la eficacia, aplicación y percepciones de la gamificación a través de la tecnología en el desarrollo de las destrezas orales en inglés entre los estudiantes de bachillerato de una institución pública. Además, este trabajo adoptó la forma de un diseño de estudio de caso, con un análisis en profundidad de metodología mixta. Los datos se recogieron mediante pretest y post test de un grupo, notas de campo y un cuestionario mixto. En cuanto al análisis de los datos, se presentó en forma descriptiva y temática. En los resultados, esta investigación mostró que los estudiantes aumentaron sus puntuaciones en las habilidades de vocabulario, gramática, fluidez y pronunciación después de la aplicación de la gamificación a través de la tecnología, por otra parte, la incorporación los elementos de la gamificación logró promover a que los estudiantes desarrollen sus habilidades de habla inglesa, así como los estudiantes expresaron que la gamificación impulsó sus habilidades de habla, ya que los motivó a practicar el idioma. Este estudio ha encontrado que, en general, la gamificación mejoró las habilidades de expresión oral de los estudiantes porque ellos ejecutaron herramientas digitales basadas en TICs que potenciaron sus habilidades orales encontrando solución a las cuestiones diagnosticadas previamente.

Palabras claves: *inglés como lengua extranjera, eficacia de gamificación, estrategia innovadora, enseñanza de inglés.*

2.1 Abstract

The low level of English proficiency in Ecuador compared to other nations has drawn more attention within the country's education system because some barriers may prevent the development of the foreign language. One of the main relevance in improving oral skills is to bridge the gap in relating to other people from different cultures, create professional links and broaden the understanding of personal and educational interests. In this context, this paper aims to examine the effectiveness, application and perceptions of gamification through technology in the development of English speaking skills among students of bachillerato at a public institution. Furthermore, this work took the form of a case-study design, with in-depth analysis of a mixed methodology. The data was gathered via one-group pretest and posttest, field notes and a mixed questionnaire. Regarding the data analysis, it was presented in descriptive and thematic form. In the results, this research showed that students increased their scores in vocabulary, grammar, fluency and pronunciation skills after the implementation of gamification through technology, moreover, the incorporation of gamification elements succeeded enhance the students to develop their English-speaking skills, as well as learners expressed that gamification boosted their speaking skills since it motivated them. This study has found that generally gamification improved the students' speaking because they executed activities based on ICTs that enhanced their speaking skills by finding solutions to the previously diagnosed issues.

Keywords: *English as a foreign language, effectiveness of gamification, innovative strategy, teaching English.*

3. Introduction

The low level of speaking English proficiency in comparison to other countries has increased attention within Ecuadorian education. Actually, the importance of English speaking skill is powerful in bridging gaps to connect with people from different cultures, build working relationships, and improve their understanding of personal interests. Similarly, speaking is an interactive meaning-making process which produces, receives, and processes information (Brown, 1994). Therefore, the Ministry of Education proposed that students had to accomplish a B1 level in order to develop their speaking production, especially in the case of teenagers who should be able to hold conversations.

Unfortunately, since the mother tongue of Ecuadorian people is Spanish, it has been evident that students are not able to learn a foreign language because they may bewilder the two languages (Gooding, 2021). Likewise, teachers did not use dynamic methodologies to give students the opportunity of interacting frequently and enjoying the class (Cruz, 2019).

For the aspects mentioned above, the following questions have been proposed: What is the effectiveness of gamification through technology in the development of English speaking skills? Could gamification elements help to the development of students' speaking skills? What are those learners' perceptions when incorporating gamification elements to improve their speaking skills level?

There is extensive literature focusing on motivational strategies for improving the English language as a Foreign Language (EFL) classroom. Firstly, Nunan (1991) stated that it is important to hold a conversation in the foreign language for success in dominating another language. Based on this statement, Deterding et al. (2011) argued that games have indescribably transformed the educational landscape with a greater emphasis on learner-centered pedagogy. In addition, according to Wael et al. (2018) practicing language through gamification is a crucial factor for encouraging the students' speaking skills. Similarly, some studies found that gamification improved the speaking learning process since it motivated students' participation (Asih & Halisiana, 2022; Pramana et al., 2020; Marin-Pacurucu & Argudo-Garzón, 2022).

Even though most of these studies have demonstrated that gamification can engage the development of speaking skills for learning English as a foreign language, there are other situations and factors that are required to be clarified. Initially, the researcher did not find previous studies which described and found the feelings of students when applying gamification in speaking skills. Furthermore, there is no past research focus on the setting of 2do year of bachillerato students within a public institution of Ecuador.

This study was carried out in a total of 40 hours during the school year 2022-2023, where 2nd year of bachillerato students were able to develop their speaking skills of vocabulary, grammar, pronunciation and fluency, this process was through the incorporation of gamification elements using technology, which motivated to participate, practice and improve learners' skills. Despite the significance of this study, there were certain limitations during the intervention: the main one was the lack of time to review each student's skill development. Similarly, students had difficulties at the moment of receiving questions or commands.

Before the aforementioned, the main objectives addressed in this research were: a) to demonstrate the effectiveness of gamification using technology in the development of English speaking skills among students of bachillerato at a public institution in the city of Loja during the 2022-2023 school year b) to apply gamification elements by using technology in the development of English speaking skills among students of bachillerato at a public institution in the city of Loja during the 2022-2023 school year c) to identify the students' perceptions about the elements of gamification that improve the English speaking skill among students of bachillerato at a public institution in the city of Loja during the 2022-2023 school year.

4. Theoretical Framework

There is a large body of published studies, theories, articles, and websites describing the role of gamification through the use of technology in learning English speaking skills. These variables will be addressed separately and together in the following section, keeping in mind that it is literature from recent years.

4.1 Technology and Education

Technology advances over the years. As Franssen and Koller (2016) state technology is defined as a technique or a procedure that looks for the progress of society within any context. Due to the improvements that arise on a daily basis, technology is capable of presenting resources that cover and improve any area of study.

Technology in education generally focus on how technology can be used to enhance teaching and learning, and how it can be integrated into educational settings in a meaningful way. Thus, the initial background starts from Technological Pedagogical Content Knowledge (TPACK) which describes the knowledge and skills that teachers need to effectively integrate technology into their teaching practice. This framework suggests that successful technology integration requires an understanding of both the content being taught, the pedagogical strategies that are most effective for teaching that content, and the technology tools and resources that can support and enhance learning (Farhadi & Öztürk, 2023).

4.1.1 Technology in English as a Foreign Language Acquisition

By means of certain technological resources, learners can improve their ability to master a foreign language, thanks to the positive impact of technology in today's environment within education. According to a study published by Shaharane et al. (2016) comments that it is vital to identify the most commonly used learner learning tools as it enhances the ability to acquire and achieve English language proficiency.

In fact, digital tools have transformed the landscape of English as a Foreign Language (EFL) acquisition, making it more accessible and convenient for learners (Le & Hung, 2021). Therefore, if a digital resource support is introduced in the classroom for English as a foreign language acquisition, students' outcomes will be more successful around good proficiency in practicing speaking skills. For that reason, the following variable under study emerged.

4.2 Gamification

There are many ideas about the term gamification, and it is used in different contexts because it can capture people's attention to complete something through the experience of the game. Besides, Kim et al. (2018) affirms that there are possible variations on the starting point of gamification, so it is difficult to determine the precise origin of its concept. Similarly, the employment of narratives to change the setting around a routine task, the establishment of social rivalry, and the motivating of behavior through badge and reward systems are all instances of gamification (Hanus & Fox, 2015).

4.2.1 Gamification in Education

As a result of the interest in implementing games focused on the improvement and motivation for the acquisition of knowledge within a non-game context, gamification for educational purposes came up. Otherwise, the most evident place to start gamifying education is in the content environment of online courses (Saleem et al., 2021). In other words, gamification was introduced through digital resources as a teaching technique within the educational process, and it had the intention to immerse the learners in experiences that encourage their curiosity to learn and enhance themselves.

On the other hand, gamification not only supports students' engagement in fun learning. Rather, this improves instructional effectiveness in students' learning and academic performance, and it allows students to check their own progress (Kim et al., 2018). Although, students can be rewarded with knowledge and skill enhancements through their active participation in gamification elements as well as in their exciting learning experiences.

In line with Rodríguez and Sánchez (2020), “By incorporating a gamified environment in the classroom, teachers have many advantages that traditional learning and teaching methods do not have” (p.14). Therefore, the role of gamification in the educational environment fosters innovative learning in which the blackboard and memorization are no longer applied, and the reason why they are not implemented is due to the fact that they do not develop improvements for meaningful and motivational enrichment of training activities.

4.2.2 Gamification for English as a Foreign Language Acquisition

When students feel comfortable with a new technique implemented through

gamification, they have the opportunity to acquire a foreign language skill efficiently. This statement was demonstrated by Roig's study (2022) where gamification provided a positive effect on learners' motivation and engagement in learning a foreign language.

Similarly, it has been verified that the implementation of digital games in classes increases the interest in learning new languages at any level; it also creates responsibility for the student's own learning. A simple study by Hitchens and Tulloch (2018) affirms that pupils' expectations for future English language learning changed as a result of digital gamification.

Overall, gamification can make learning English as a foreign language more fun and engaging, while also providing opportunities for students to practice and improve their language skills in a variety of contexts.

4.2.2.1 Gamification Elements

In 2019, Alomari et al. published a paper in which they described the different elements within gamification. First, the points are the numerical values used to assess the performance of individuals. Second, badges stimulate students to compete by showing their achievements in a visual way. Third, leaderboards present progress to their peers in order to encourage students to raise their grades. Fourth, rewards come in a variety of forms, and they can be adapted to the difficulty of each task. Fifth, social factors could be incorporated within games, such as discussions, teamwork, hosting, and a variety of others. Sixth, time-limited activities motivate pupils to complete the activities within a certain amount of time and take it as a real challenge.

However, each of the above elements are essential since by implementing them and knowing their motivational purpose as resources, they lead to the goal of acquiring a foreign language. As two researchers argue “game elements are responsible for supporting learning motivation and managing learners' speaking practice to improve their fluency” (Thanh Thuy & Quoc Hung, 2021, p.82).

4.2.2.2 Gamification Strategy

After mentioning all the elements to gamify a classroom to acquire a foreign language. It is connected to the gamification focus as a strategy; it is a process that through

a series of game elements is able to fulfill the objective of engaging learners to acquire a foreign language. As Kim (2021) stated, the combination of gamification elements is effective in motivating the learner. Likewise, Rodriguez and Sanchez (2020) argued gamification strategy is an effective means for students to learn easily.

Gamification Development Process. The development of a strategy based on gamification involves a process where the phases are presented along with the activities to be executed in each one of them. A book about gamification in learning and education by Kim et. al (2018) identifies these phases. The first phase is the analysis of objectives which are planned according to performance needs, deficiencies, preferences and skills to be achieved. The second phase deals with the design of gamification elements that identifies and selects motivational strategies to design dynamic instructions. The third details the development of programs to incorporate instructional media, games and assessment tools to aid in the development of the objective. In the last phase, the learning achievements and the enjoyment of the process by the participants to achieve their objectives are evaluated and improved.

Each of the process phases addresses the objective of improving learning performance through a gamification strategy. Therefore, it is essential to recognize their purpose and components in order to follow an efficient process for teaching with this methodology.

4.2.2.3 Effectiveness of Gamification

Motivation. The achievement of an action or objective has a reason, it has not always been easy for the learner to find a motive to achieve a goal. However, motivation has been a challenge in the educational field, but gamification has seen motivation as a primary focus. Numerous studies have revealed that the implementation of a gamified classroom engaging and motivating for learners. An investigation about the impact of gamification on students showed that most learners were entertained by gamification, and it could motivate students to learn (Zainuddin et al., 2020). Another study by Jo et al. (2018) showed that the gamified flipped classroom environment fostered higher motivation and engagement in students. These findings are in line with those of Özdener and Demirci (2018) who found that there was a higher motivation in gamified classrooms in comparison to non-gamified classes.

Feedback. As is well known, feedback allows taking the time to analyze and look for better solutions to enrich performance. Therefore, gamification allows the learner to improve and engage their focus to improve their results at any stage. By incorporating some gamification elements, students can be informed of their progress, orientation and performance; the objective of this is to improve their learning. Research about benefits gained from gamification expressed a strong sense of accomplishment produced by constructive feedback generated by specific gamification elements such as challenges, rewards, and leaderboards (Huang & Hew, 2018).

Improve students' performance level. The performance level describes each student's use of a language, it increases as the student's participation and learning progress in any activity. At this point, it is important to mention that through an evaluation it is possible to assess the academic performance of students. Thus, once technology and gamification are introduced in the classroom, they allow students to associate assessments with fun and no longer fear completing them (Artar & Huseynli, 2019).

Five research papers have been examined to identify whether gamification can improve the performance level of students (Orhan Göksün & Gürsoy, 2019; Groening & Binnewies, 2019; Hidayat, 2021; Zainuddin et al., 2020). These findings imply that gamification tools have a positive and far-reaching impact on students' level performance.

4.2.2.4 Students Perception of Gamification

Learners may experience gamification into the classroom in a variety of ways, some of them with more positive perspectives than others. In fact, the study of Zahedi et al. (2021) points out that there are gender distinctions in how one form of enjoyment is preferred over another.

The following are some of the student perspectives on gamification categorized by Kim et al. (2018). Starting with captivating students where their learning interaction is more engaging and it does not become tedious. Similarly, the students' control in what they can do and the interaction with other peers. Another important point for students is to express themselves in a formal and educational way. Finally, the discovery and exploration as students can find new learning tools by putting it into practice with other browsers.

Some of the other students' perspectives reported in various studies have been:

Anxiety. This is because one of the elements of gamification can create a sense of pressure or competition to perform well. (Melissa et al., 2022). Although, it is important to note that not everyone will experience anxiety related to gamification. For some students, gamification may actually help to reduce it by providing a sense of accomplishment.

Challenging. Learners may find some elements of gamification challenging, as some students may adapt more quickly than others. For example, an English learning class may start with simple vocabulary words and gradually increase the difficulty level as the students' knowledge improves; therefore, it creates challenges by providing learners with increasingly difficult tasks and goals as they progress. Additionally, students may be distracted because it is something new that excites them easily (Chan & Lo, 2022).

Competition. Because of the rewards presented by this strategy, students aim to be better and score high, which results in elevated competitiveness (Putra, 2020). For instance, many gamified experiences allow learners to compete against each other, either directly or indirectly. This can create a sense of competition that motivates students to practice harder and achieve more.

Completion. Students feel a sense of pride in achieving and completing their goal. This goal according to Robinson (2020) included knowledge retention due to students' acceptance of gamification. However, it is important to ensure that the rewards and recognition offered by gamification are meaningful and aligned with the learning goal. If the rewards are perceived as insignificant, students may lose motivation or interest in the gamified experience (Smiderle et al., 2020).

Friendship. This perception was reported in the study of Yildirim (2017), students indicated that the games were cooperative because they interacted and the class did not become tedious. In addition, by encouraging learners to work together towards a common goal, such as completing a task or answering questions, this can foster a sense of teamwork and community among learners.

Relaxed and entertained. Children could feel relaxed and entertained because their

classes are out of their comfort zone which used to be chalkboard and memorization. Bicen and Kocakoyun (2018) showed that the gamification system was entertaining and relaxing when learning something, according to the students.

Excitement. Learners experience excitement by being immersed in a gamified environment (Alabbasi, 2017). Students could feel emotion by learning something through gamified tools.

Although students' reactions to games and their interests have not been the subject of interest in some studies, their perceptions must be taken into account when gamifying a classroom for effective teaching.

4.2.2.5 Tools for Gamification in Classroom

There are a variety of tools or applications that can be incorporated for classroom gamification. It has been noticed that the results of one study indicate that using gamification allows teachers to employ different tools to select appropriate activities to fulfill learners' needs (Lawrance et al., 2021). Regardless, the tools that it will mention cover the main points to be considered.

ClassDojo. It is a digital page that encourages motivation and active engagement of students in the classroom by giving them points for their participation. Likewise, its objective is to provide an easy-to-use digital classroom that can be customized according to the needs of the classes, allowing the teacher to score points, and to evaluate the performance of their students. Azzouz (2021) confirms that ClassDojo has a motivational value to support teaching by using gamification.

Baamboozle. This website allows users to create and apply games related to the topic of the class to be developed. In addition, it offers certain elements that are part of the gamification such as points and rewards. Furthermore, baamboozle consists of participating in groups by choosing a box containing a question or extra points, the team that scores the most points wins, but sometimes these points can be lost by choosing and answering a wrong box.

Gamifying learning and raising student involvement in the classroom can be done with the help of these tools. That is, teachers can create a more interactive learning environment that encourages students to acquire new information and skills by utilizing gamification elements through apps (Zainuddin et al., 2020).

4.3 Speaking

The English language has allowed the enrichment of human life since it provides access to different parts of the world for any purpose. English basic language skills are divided in four, they are reading, writing, listening and speaking. As Recino (2019) argues speaking is a kind of communication that enables one to verbally convey information to another. It means, speaking is an important tool in the life of the individual since it allows people to express their ideas and communicate with the world. Similarly, speaking is one of the biggest challenges when learning a new language because a non-native speaker is immersed in many issues that prevent it from being reproduced or reached. Although, Putra (2020) states speaking is a difficult skill to be taught and learned.

Conversely, the importance of speaking can be relevant in different contexts, including: English for interacting with others in social settings, such as having small talk, expressing opinions or holding informal conversations; English in a business context, especially when making presentations, haggling with clients or chairing meetings; English for academic contexts, i.e., making presentations, participating in group discussions or preparing written work.

In order to be efficient English speakers, learners should concentrate on refining their skills in each of these areas, as each speaking purpose entails a different set of language structures and strategies. Subsequently, learners can improve their social, professional, educational, and personal speaking abilities to become more productive English communicators.

4.3.1 Speaking in EFL Classroom

In education, it is important that the learner is able to achieve the speaking skills to fulfill certain communicative functions in the foreign language, such as expressing greetings, regrets, thanks, apologies or making requests and asking questions. Nevertheless, many

teachers skip teaching speaking due to the fact that they focus on parameters that can be more easily graded. Other educational institutions focus English teaching on oral communication to ensure that traditional repetitive grammar and direct translation are not used. (Jalleh et al., 2021).

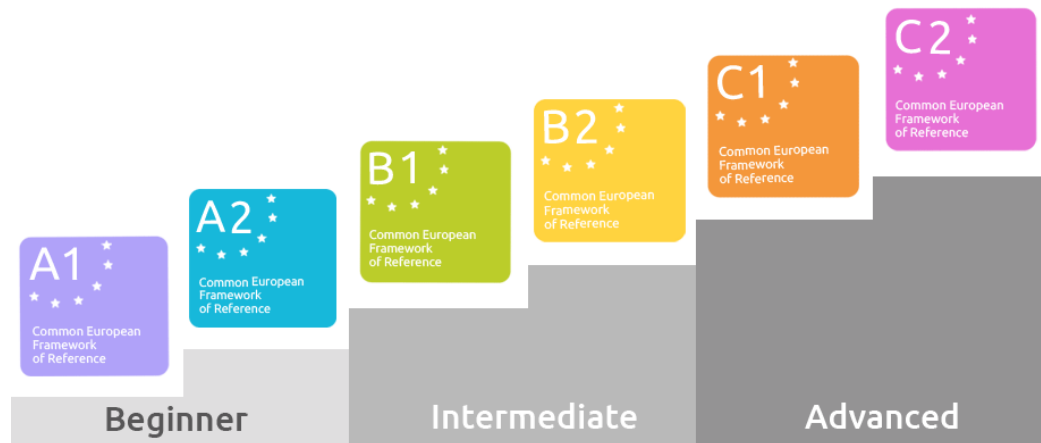
On the other hand, speaking is a productive skill that is interrelated with listening. There are a number of similarities between speaking and listening. For example, students in classes may imitate the way their teachers pronounce words. Therefore, the activities involve both listening and speaking comprehension and expression. As Tunagür et al. (2021) mentions, what children learn in listening activities can facilitate their speaking production.

Additionally, the behavior of Spanish-speaking students when trying to use the foreign language in class is negative. An earlier study shows that students feel anxiety, stress and nerves when speaking in an English class (Shazly, 2022). However, starting a foreign language is usually not easy to acquire on the first try; in fact, students need to practice it outside the classroom as well as in the classroom.

Speaking within The CEFR common reference levels. The term refers to international proficiency standards that detail the levels of language proficiency (*International Language Standards*, 2023) It is important to see the level of different qualifications which can vary among basic users (A1 & A2), independent users (B1 & B2) and proficient users (C1 & C2). They are demonstrated in the following image:

Figure 1.

Common European Framework of Reference for Languages



Note: The six level of the Common European Framework of Reference for Languages (mirko, 2018)

In Ecuador, the speaking proficiency expects students to finish with a B1. This is recognized by Ministerio de Educación (2016). Thus, B1 learners are able to deal with situations where the language is spoken without the need for preparation on everyday topics of personal interest, they should also be able to describe experiences by connecting sentences to give explanations and follow much of everyday conversation and discussion (Alrasheedi, 2020).

Speaking in Bachillerato Education Students. Speaking should provide bachillerato students with opportunities to use the English language in contexts relevant to their needs. The current curriculum of Ministerio de Educación (2016) details "adolescents may sometimes begin to feel more anxiety resulting from not being able to express themselves well, being constantly corrected and feeling inauthentic" (pp. 10). Therefore, it is essential to ensure a friendly environment where speech failures are filtered out without fear for the positive development of another language (Pichon & Kambel, 2022). Equally, it is important to note that speech will later contribute to students' life plan for opening up to new places and problem solving to perform as a good citizen in any international social context.

4.3.1.1 What are speaking skills?

Speaking skills are the ability to talk or communicate comprehensible in the English language. It will support students throughout their daily conversations and this skill can be developed at an early age.

Types of Speaking skill. In this part, some categories of speaking skills proposed by Brown & Lee (2015) are explored:

Imitative refers to the students' imitation of a word, phrase or sentence and the main focus is on pronunciation through the exercise of listening to and orally repeating some words.

The category of intensive interaction, the students practice some phonological and grammatical aspects of the language, this can be seen in activities such as reading aloud with students, a dialogue reading between pairs, etc.

Responsive category which involves the receptive performance of short, sufficient and meaningful responses using interaction and comprehension testing, e.g., a teacher-initiated instruction.

Interactive differs from responsive because it can involve more than two participants for interaction, this interaction can be transactional if the intention is to exchange information, and interpersonal if a person just wants to conserve social relationships.

Finally, the extensive where long monologues can be presented as short speeches, summaries and storytelling.

On the basis of these types, it is possible to easily identify how students' speaking skills can be developed.

Elements of speaking skills. There are some essential points when it comes to speaking skills, which are pronunciation, fluency, grammar and vocabulary (English BINUS University, 2018).

Vocabulary. The words that correspond to a given language; in speaking, vocabulary facilitates the effective production, understanding, and pronunciation of the words used by

students to express themselves. As Cakmak et al. (2021) study reveals that there is progress among the learners that can be seen in their move from learning vocabulary towards speaking participation. Thus, having a larger vocabulary at students' disposal will allow them to communicate the meaning more effectively than if they were to depend only on ambiguous or general terms.

Grammar. The rules of a language for forming sentences in correct order. Grammar is linked to speaking as it allows the correct use of sentence structure for conversation and helps to recognize the tenses to be heard when holding a conversation. Although, Putra (2020) argues grammatical competence helps speakers to use and understand English language structure accurately and immediately. For that reason, being fluent in grammar concepts can make it much easier to express clearly when speaking.

Pronunciation. This is the way sounds are produced in the speech of a language. Students can develop this element by reading and listening to English content in order to identify sounds, intonation, articulation positioning and stress to be able to use them in their speech. But Nagai et al. (2020) propose that pronunciation can have constant errors and it is allowed in students, since native speakers could make mistakes. Accordingly, to help students acquire proper pronunciation, it is crucial to provide them with clear examples as well as lots of practice opportunities. This can involve interactive games, repetition routines, and listening exercises.

Fluency. In Krashen's view (2003), fluency can be achieved not only from speaking but also from the practice of listening and reading comprehension. This is a skill that is achieved with practice. Within speech children listen to certain words and they have the ability to understand and pronounce them appropriately, this is called fluency. Therefore, effective fluency instruction combines the development of each speaking skill with the improvement of listening and reading abilities, the use of different categories based on interactive activities to engage students, and boost their self-confidence in the learning of English language skills.

There are some foundations that need to be considered in teaching and learning speaking. In this regard, students need to know at least the pronunciation, vocabulary and

grammar that they are going to use, they also need to improve them for their successful speaking domain.

4.3.1.2. How to teach Speaking

In this section, some previous studies have revealed that the teaching of communicative language requires methods, strategies and techniques for teaching English as a foreign language, among the most significant ones, the practice of conversations in daily life situations by allowing the learner to relate to a field close to interest. The English as a foreign language curriculum presented by Ministerio de Educación (2016) indicates "methodologies should reflect and respond to learners' strengths and challenges, and facilitate the process of learning by supporting learners' motivation" (p.193).

Another essential aspect is the strategies that focus on selecting and planning meaningful speaking tasks so teachers can be sure that what is being taught is clearly understood or whether additional explanations in some strategies for communication include paraphrasing, circumlocution, repetition, guessing, changes of register, and style.

Five principles for teaching speaking have been suggested by Brown and Lee (2015): a) encourage the use of authentic language b) give intrinsically motivating techniques c) take into account fluency and accuracy d) give to the student's opportunities to initiate oral communication e) focus on the natural connection between speaking and listening.

Hence, an excellent technique seeks to engage students' interest by innovating activities. In other words, innovative instructional techniques provide good learning experiences in language classrooms (Kumar & Vasimalairaja, 2019).

The Engage-Study-Activate (ESA) Model for Teaching. ESA is a methodology that teachers use when instructing students in a foreign language. This ESA method helps to plan classroom lessons in a more flexible, organized and effective way (Dunsmore, 2018). The phases presented by this model are:

The engage phase: this is also called "warm up" due to the fact that games, images, music, brainstorming, etc. are presented in order to prepare and engage the students in class (Laird, 2020).

The study phase: in this phase the focus is on practice and production to learn another language, and the tasks should guide students to develop the activities based on their answers (Weller, 2021).

The active phase: active phase is concerned with informing teachers about how the students' learning process is going and this helps them to notice if there are any problems with the students solving the tasks on their own, thus allowing the teacher to provide feedback in order to solve it (Fithria & Ratmanida, 2019).

The ESA model is a useful approach for class planning, and it offers teachers an accessible structure. It ensures that students are actively participating in the lesson since they have numerous chances to practice and employ the language. Also, it allows teachers to design a dynamic learning environment that successfully facilitates language learners in the development of their language skills.

Assessing Speaking. Although Speaking is a difficult skill to assess according to Correia (2016). It is essential for the teacher to look for assessment strategies that prevent students from showing fear and that are geared to meet the level required of bachillerato students.

In the following sub-theme, taking a look at a form of assessment that is presented in the classroom proposed by Scrivener (1994):

Speaking tests. These are the assessments that include oral tests (presentations or dialogues) that focus on achieving a good scale in the speaking domains. As Cetin (2021) mentions the speaking tests can be multiple-choice, role play, describe and draw, conversational cloze, imitation, etc.

The International English Language Testing System (IELTS). There are a variety of tests around the world to assess English language skills, however, this time the researcher has considered a sample of the IELTS speaking test. In accordance with the research conducted by Stigger (2019) IELTS helps to assess the language skills of students who have English as a foreign language, it also contributes as a benchmark to measure the academic learning success of them. Furthermore, this evaluation assesses the four main elements to be

tested in speaking and it consists of interviewing the student in a certain period of time under the following criteria: fluency, vocabulary, grammar and pronunciation.

The IELTS test is divided into three parts: the first part is about general and personal questions of the student, in the second part the interviewer asks to talk about a specific topic, and in the last part some topics and ideas will be discussed.

Consequently, it is extremely important when assessing and improving students' ability to learn another language because of its focus on each speaking skill development.

4.3.1.3 Activities for Speaking skill

A variety of activities are available to develop speaking skills, which can be divided as follows:

Warm-ups that give students feedback on previous topics or give them an introduction to the topic to be learned in each class. This section can include visuals, videos, songs, open questions, dynamics, and mind maps.

The activities for the development of classes can vary according to the content, among the most outstanding for speaking practice could include: dictogloss, finish the sentence, bingo and roulette questions.

Consequently, the following are dynamics outstanding activities designed to improve students' level of speaking skills proposed by Brown and Larson-Hall (2012):

Oral presentations. Students orally present an idea, a report or any topic. It is mostly selected for evaluation by the teacher because it can cover all elements of speaking skill.

Discussion. It is the conversation between students where the teacher's objective is to test the main of the observed discussions. Learners can accomplish some abilities, such as: topic nomination, body language, comprehension signals, control, questioning, etc.

Games. There are different games which help in speaking skill, for example: Crossword puzzles in which the personal information of the students is aligned, but each student has to ask in order to guess the correct name's person. Guess the object, students will cover their eyes and guess the name of the object (asking for its characteristics), this activity

must be related to the class topic.

Role-playing. Students act out any role of another person, it can be in a creativity form. This activity allows learners to lower their anxieties through speaking taking the form of someone else. Also, teachers can control and participate in this activity.

Storytelling. Using images students can create a story. The teacher asks learners to describe the images they see and then they have to create a sequence to tell a story.

Students will be more engaged with activities related to their personal experience and issues in the world around them. As well, the use of activities allows them to practice speaking English, to feel more confident and not to worry about speaking in class. On the other hand, these activities will be a tool for the teacher to evaluate or guide students in their speaking skills.

4.4 Prior Studies of Speaking Skills through Gamification

Gamification is a major area of interest within the field of education for improving speaking skills in EFL, this statement will be evidenced in the below previous studies examined by different authors.

The first serious discussion of the effect of gamification on productive skills was developed by Pramana et al. (2020) through mixed-method research. The objectives of their research were to stimulate engagement, to find out the effects and to discover the responses of the pupils to gamification incorporated in classrooms. Likewise, these researchers aimed to solve the problem of the lack of studies related to gamification through local stories to self-regulate productive skills. Finally, the results obtained from a pre-test, post-test, and questionnaire showed that gamification based on Balinese local stories is an appropriate teaching method to enhance the student's productive skills in their self-regulated learning, and the motivation of students increased after implementing gamification in their learning process.

Another recent research has examined the effects of gamification strategies on improving speaking fluency in EFL elementary schools. In this paper, Marin-Pacurucu and Argudo-Garzón (2022) argued that speaking teaching in EFL only focuses on memorization

and there is still a gap in the ability to apply new technologies in class. Based on this problem, the researchers proposed different questions: What is the effect of gamification strategies on EFL students' speaking fluency in elementary school students? What are the main difficulties in the teacher-student interaction during EFL classes? What is the relation between gamification strategies and EFL speaking skills development? What is the student's perception of gamification strategies to improve speaking fluency? To conclude, this study was designed as a mixed method which presented a pretest, posttest, survey, and evaluation. These instruments made a major contribution to demonstrating that the students, despite not having fluency in speaking skills, were willing and motivated to learn with the innovative methods, also gamification considerably improves the level of fluency of speaking.

A third previous study conducted in Indonesia examined the perceptions of an instructor and 10 students about the integration of an application into the EFL context. This emerged from the problem of a creative, low-cost, low-resource tool to raise the level of a foreign language. Therefore, through an exploratory research method using a questionnaire and a semi-structured interview, Mahbub et al. (2020) concluded that the app engaged the students' attention significantly, promoting teacher-student interaction and a gamified environment for speaking skills made it possible for students to learn joyfully.

Based on two questions related to the implementation of gamification elements (GE) to improve speaking proficiency, Asih and Halisiana (2022) set out to investigate the improvement of speaking in 25 Indonesian students. Although the authors faced the problem that there were few studies related to the appropriate use of GE to improve speaking skills, they began their classroom action research using a survey, observation checklist, and a questionnaire. Their research showed that students' enthusiasm increased when gamification elements such as levels were incorporated, and it showed that students' motivation, understanding, and behavior were positively enhanced by GE. Finally, the researchers recommend that future studies could be conducted on incorporating GE into other skills of English.

Within Ecuador, a master's study was conducted with 53 secondary education students elaborated by Cruz (2019). The research design was qualitative and quantitative

through a pretest, a posttest, a survey, and a questionnaire. The investigator began by identifying the problems within classes which were a lack of innovative dynamics to practice speaking joyfully and frequently in the classroom, also there was no appropriate planning. From this, the researcher set the following objectives: to determine the best type of games for developing speaking skills in students, to identify the most important aspects of speaking skills that are more influenced by the use of games, and to propose a game-based tool to improve speaking skill to the students of the third year of secondary education. Accordingly, the following results were provided: games designed for recreational and educational purposes involve the direct participation of students, and this strategy was highly effective and beneficial for both students and language teachers. Lastly, the author suggests that teachers should update learning strategies taking into account the implementation of recreational activities, such as educational games because they offer a wide range of activities that can be applied to improve speaking skills.

A different Ecuadorian master's thesis elaborated by Torres in 2022 was also taken into account. This research design was qualitative, argumentative and descriptive and focused on identifying the most appropriate interactive activities based on a gamification strategy. This study provides a vision of gamification which concluded the following: different authors agreed with the concept that gamification is a strategy that allows students to play an active role in the learning process, the use of gamification in the educational process and virtual learning environments produces several benefits in the development of students' language skills, and this improves critical thinking, problem-solving and reasoning. Finally, this master's thesis recommends that educational institutions introduce gamification activities in the English curriculum to enhance students' learning.

The key idea of presenting the past studies is to provide relevant information to the research and to the reader about the two main variables which are gamification and speaking skills. This will allow teachers to incorporate new motivational strategies when teaching a foreign language in an EFL classroom. Also, it was found that the main problems are the lack of earlier investigations, the lack of practice of another language in the classroom, the incorporation of the same old methodologies not appealing to the student, and the lack of

knowledge on how to incorporate technologies. Likewise, the best pieces of research showed that gamification is an effective and innovative strategy, it also benefits speaking skills as it motivates student learning through its elements and it promotes student-teacher interaction within the classroom. Despite the different papers, it is essential to conduct more research on students' perceptions within these variables and also on what other tools would help gamify an EFL classroom to improve speaking skills.

5. Methodology

5.1 Setting and participants

This research work was carried out in Loja, Ecuador. It was developed during the 2022-2023 school year in a public school, whose coordinates are -4.003168624976235, and -79.20167449597906. Although the public school has three levels of bachillerato, it gave the opportunity and availability to the researcher to conduct the study with students in the 2nd year of bachillerato (Creswell, 2012). Among the participants, 17 were females and 7 were males, whose ages ranged from 15 to 17 years old, and with a B1 level in the English language skills proposed in the national curriculum of Ecuador. Likewise, the students were assigned a participation code in order to respect the principles of privacy ethics in this research (World Health Organization, n.d.).

5.2 Procedure

5.2.1 Method

The method of this study was the mixed method design, which combines qualitative and quantitative elements of research to provide a panoramic view of the investigation problem rather than using only one (Shorten & Smith, 2017).

Regarding quantitative research, the researcher used the one-group pretest-posttest design because these techniques allowed assessing the before and after effect of an independent variable on a dependent variable (Creswell, 2012).

In order to evidence and describe the attitudes of the participants towards the intervention plan, Allan and Skinner (2020) argue that qualitative research is the best option since it analyzes the words to subsequently describe the main issue under study. Therefore, the researcher implemented field notes that allowed to document patterns of the variables when applying them (Phillippi, 2018). Furthermore, within this qualitative part of the study, the researcher adopted the role of participant observer due to the interest in experiencing the engagement of the activities from the viewpoint of the sampling group (William, 2022).

Likewise, the mixed method through a questionnaire instrument in which participants answered closed ended and open-ended questions with scales was applied. According to Gay et. al (2012) it allows collection of data from a much larger sample in a short period of time.

5.2.2 Research Design

This study was an intervention proposal which took into account the action research procedure proposed by Susman (1983), who establishes that this research begins with the identification of a problem, continuing with the search for information to find a possible solution, then the design of an intervention plan to be applied with the target group of the research, and finally, once the research intervention proposal is applied, the conclusions and recommendations are described according to the results obtained.

The following are the phases of action research proposed by Susman (1983), in which the researcher will describe in detail the implementation of the intervention:

Diagnosing. To undertake this study, permission within the institutions was of vital importance, thus the researcher requested the approval of 40 hours of intervention to the institutional review board, it was necessary to describe the purpose of the project, its development and who would be the possible participants (Creswell, 2012). Once the research was approved, the professor in service of the English classes gave the details to teach the classes, which were from Monday to Friday from 7:50 am to 11:00 am with the students of the 2nd year of bachillerato.

At this point, the issue in the learners' speaking skills was first hypothesized by the researcher, it was also possible to formulate and define the general research problem in order to have better focus on the investigation, which was: could gamification through technology increase English speaking skills in bachillerato education students? In addition, this overall issue was subdivided into two smaller issues related to the effectiveness and the students' perception about gamification elements on speaking skills through technology.

Furthermore, the researcher applied the pretest to evaluate the vocabulary, grammar, fluency and pronunciation of the students (see Annex. 1).

Action Planning. When the researcher found the problem of the study, the predictive solution was to implement innovative intervention plans focused on the independent variable to improve the dependent variable. Therefore, the ESA (Engage, Study and Active) teaching model was used because its method is flexible and engages students to develop productive

skills in English (Harmer, 2007). These lesson plans contained: the learning objectives, the class topic, the materials, the phases of the model, the process, the time and the interaction in the classroom (see Annex. 5). Additionally, the different elements of gamification were searched, they were: points, leaderboards, rewards, social factors and time-limited activities (Huiyu & Fang, 2021). Likewise, English speaking skills were found, including: vocabulary, grammar, fluency and pronunciation.

Taking action. The intervention plan was designed in accordance with previous findings of the theoretical framework. Thus, its design consisted of 10 lesson plans based on the ESA model, in which the Engage phase contained the warm ups, the explanation of the objectives and the topics, while the Study phase consisted of the activities, exercises and examples, and the Active phase is where the learner produced English language (Laird, 2020). As a whole, two games called Baamboozle and ClassDojo were selected and implemented in class since they provided gamification elements.

Similarly, the activities included in the intervention were divided in Table 1, where the warm-ups referred to the activities performed at the beginning of the class, followed by the actions performed during the development of each class and finally the evaluations considered throughout the study. The purpose of this classification was to maintain organization and efficiency in the delivery of classes.

Table 1

Activities to be considered within each lesson plan.

Warm Ups	Class Development	Assessment
Visuals	Dictogloss	Oral presentations
Videos	Videogames	Discussions
Songs	Role-playing	Dialogues
Pre-teach	Storytelling	Roulette questions
vocabulary	Finish the sentence	Record Video
Open Questions	Sound discrimination	
Dynamics		

Evaluating and reflecting. In the words of Susman (1983) the action research identifies a consequence of the study. The researcher succeeded in implementing the innovative proposal and solving the initial aim of improving the students' development

through gamification using technology, it was evidenced through the posttest. However, there was the challenge of different English levels, the participants did not demonstrate from the beginning the proficiency that they were expected to have in their grade.

5.2.3 Data Collection Sources and Techniques

The researcher elaborated the pre-test and post-test instruments through the paper and pencil technique in order to show the quantitative data of the students' speaking skills level. The pre-test instrument was used to collect the data before the intervention, and the post-test instrument was designed to gather the data after the treatment (Creswell, 2012). In this sense, the paper-and-pencil technique was used to create the questions of these instruments, whereas the selection method consisted of a closed-ended question related to measuring the participants' pronunciation in their speaking skills, whilst the supply method included two open-ended questions asking for spoken responses in order to test the vocabulary, grammar and fluency of the students (Gay et. al, 2012). It is essential to mention that the researcher used the national scale as a reference to score the students' performance (Creswell, 2012).

The qualitative method in this research was the observation through the field notes instrument, which evidenced the activities and reactions in class, the participation type of the researcher, and the application of the elements of the gamification within speaking skills along technological tools (see Annex. 3). According to Gay et. al (2012) field notes help to record the observations in a descriptive and reflective way for the study. For that, the researcher used this instrument to describe relevant aspects that happened in the classroom during the 10 weeks of intervention and it enabled the researcher to reflect on the experiences and thoughts in each observation. In addition, the type of observation was participant observation since the researcher immediately recorded the development of the class in the field notes and participated in the sessions while collecting the information (Gay et. al, 2012). Finally, this instrument provided information on the implementation of badges, points, leaderboards, rewards, social factors and time-limited activities through the use of two technological tools used in equal measure to improve students' speaking skills.

Under a combined technique, a 12-question mixed questionnaire instrument was developed to identify students' perceptions about the independent variable over the dependent

variable, and it was applied at the end of the intervention. This type of instrument provided six quantitative data about the frequency of students' perceptions when applying the gamification elements using technology to improve their speaking skills, and six qualitative data were descriptions about why the participants believe that the gamification elements through technology improved their speaking skills (see Annex. 2). The main reason for the researcher to apply this type of instrument was its ease in collecting data from large groups in a shorter period of time (Gay et. al, 2012).

5.3 Data Analysis

The data obtained from pretest and posttest were numerical. Therefore, the analysis of the students' evaluation scores was described and shown in tables (see Table 1, Table 2, Table 3). The researcher used thematic analysis corroborated with other studies to explain the results of the field notes, these results were presented in narrative form. Moreover, the analyzed results of the mixed questionnaire were presented in tables (see Table 4) and a figure (see Figure 1).

6. Results

6.1. Pretest and Posttest Results

Objective 1. to demonstrate the effectiveness of gamification using technology in the development of English speaking skills among students of bachillerato at a public institution in the city of Loja during the 2022-2023 school year

Table 2

Pre-Test Results on the Performance of 2do Year of Bachillerato Students' Speaking Skills

Students' code	Vocabulary 2,50	Grammar 2,50	Fluency 2,50	Pronunciation 2,50	TOTAL 10
Student 01	1,00	1,00	1,00	1,00	4,00
Student 02	1,00	1,00	1,00	1,00	4,00
Student 03	1,00	1,00	1,00	1,00	4,00
Student 04	1,00	1,00	1,00	1,00	4,00
Student 05	2,00	1,50	2,00	2,00	7,50
Student 06	1,00	1,00	1,00	1,00	4,00
Student 07	1,00	1,00	1,00	1,00	4,00
Student 08	1,00	1,50	1,00	1,00	4,40
Student 09	1,00	1,00	1,00	1,00	4,00
Student 10	1,00	1,00	1,00	1,00	4,00
Student 11	1,00	1,00	1,00	1,00	4,00
Student 12	1,00	1,00	1,00	1,00	4,00
Student 13	1,00	1,00	1,00	1,00	4,00
Student 14	1,00	1,00	1,00	1,00	4,00
Student 15	1,00	1,00	1,00	1,00	4,00
Student 16	1,00	1,00	1,00	1,00	4,00
Student 17	1,00	1,00	1,00	1,00	4,00
Student 18	1,00	1,00	1,00	1,00	4,00
Student 19	1,00	1,00	1,00	1,00	4,00
Student 20	1,00	1,00	1,00	1,00	4,00
Student 21	1,00	1,00	1,00	1,00	4,00
Student 22	1,00	1,00	1,00	1,00	4,00
Student 23	2,50	2,00	2,00	2,00	8,50
Student 24	1,00	1,00	1,00	1,00	4,00
MEAN	1,10	1,08	1,06	1,08	4,35

The pretest showed the prior knowledge of the 2nd year bachillerato students before the intervention plan, in which their speaking skills were evaluated. According to Table 2, this indicated that the average of all participants was 4,35 out of 10 in relation to the criterion-referenced scoring established by the Ministry of National Education (see Annex. 4). Likewise, this showed that all students could not communicate and could not develop a proficient language to master their speaking skills. Therefore, the researcher conducted a study that aims to improve these skills through gamification.

Based on the vocabulary skill, the students used simple vocabulary to convey personal information and they showed insufficient vocabulary for less familiar topics. In addition, they only produced isolated or memorized words.

In regards to grammar, the test showed that students need to improve the use of grammar structures, rules and principals because they could not produce basic sentence form. In fact, some students answered with single words and used incorrect rules when they wanted to talk about when they met their friend. Also, most of the students did not follow the principles of when to add es/s to verbs in the present tense.

For fluency skill, the participants described their friend using an idea card as a guide. However, the students had pauses lengthily before most words and they indicated little communication possible because they did not use fluent and confident speech, and they hesitated and used filler words all the time. Actually, some students did not understand the question and they read the card.

In the last part of pronunciation, students' speech was often unintelligible since students did not pronounce words with the correct intonation and pronunciation. For example, they read as the words were spelled, and they did not identify the different sounds that past tense verbs have. This question asked for reading a text containing vocabulary about friendship, past tense verbs, present tense verbs and a linking word.

In summary, there was a higher percentage of students who needed to improve each speaking skill, which was evident in their lack of vocabulary, incorrect use of grammar, no fluent speaking, and mispronounced words.

Table 3***Posttest Results on the Performance of 2do Year of Bachillerato Students' Speaking Skills***

Students' code	Vocabulary 2,5	Grammar 2,5	Fluency 2,5	Pronunciation 2,5	TOTAL 10
Student 01	2,00	1,50	1,00	2,50	7,00
Student 02	2,00	1,50	2,00	1,50	7,00
Student 03	2,00	2,00	1,00	2,00	7,00
Student 04	1,50	2,00	2,50	2,50	8,50
Student 05	2,50	1,50	2,00	2,00	8,00
Student 06	2,50	2,00	1,50	2,00	8,00
Student 07	2,00	1,50	2,00	2,00	7,50
Student 08	2,50	2,50	2,50	2,50	10,00
Student 09	2,50	2,50	2,50	2,50	10,00
Student 10	2,50	2,50	1,00	1,50	7,50
Student 11	1,50	1,50	1,50	1,50	6,00
Student 12	2,50	2,50	2,00	2,00	9,00
Student 13	2,50	2,00	2,00	2,50	9,00
Student 14	2,00	2,50	1,50	2,00	7,00
Student 15	2,00	2,00	2,00	2,00	7,00
Student 16	2,00	2,00	2,00	2,50	8,50
Student 17	2,00	1,50	2,00	1,50	7,00
Student 18	2,50	1,00	1,50	1,50	6,50
Student 19	1,50	1,50	1,00	1,50	5,50
Student 20	2,50	2,00	1,50	2,50	8,50
Student 21	2,00	2,50	2,00	2,00	8,50
Student 22	1,50	1,50	1,00	2,00	6,00
Student 23	2,50	2,50	2,50	2,50	10,00
Student 24	2,00	2,00	2,00	1,50	7,50
MEAN	2,13	1,94	1,75	2,02	7,77

The intervention plan was developed within 10 weeks by the researcher, where the students' completed activities related to enhancing speaking skills and gamification through technology. Similarly, the results obtained from the posttest after this intervention are presented in Table 3, which indicates that the average score of the participants rose to 7.77/10. Therefore, it indicated that the speaking skills level of the students increased, however they still produced minor mistakes.

Second year of bachillerato students were able to use vocabulary resources flexibly to discuss a variety of familiar topics, they incorporated more words when talking about personal information. According to the data, students showed a higher level of improvement in the use of simple vocabulary. This result evidenced that the students increased their knowledge regarding vocabulary skill. But despite the betterment in this aspect, students continued making mistakes with the correct incorporation of words taking into account the context.

Students could use a range of complex structures with some flexibility and often produced error-free sentences, although some grammatical mistakes persisted. Based on the data, grammar skill increased because learners incorporated the structures, usage rules, and some principles such as connectors. Thus, this result showed students learned the components of grammar. Although this skill has increased, learners can make frequent errors with complex structures because they do not fully differentiate the multiple tenses when speaking.

The data showed that fluency was one of the least improved speaking skills. Students were unable to respond without noticeable pauses and may speak slowly, with frequent filler words and self-corrections, they also link basic sentences but with repetitive use of simple connectives and some lack of coherence. Therefore, the result indicated that the students developed less fluency skill practice. Despite the fact that the students had fewer fluency errors, the message they wanted to show was understandable.

In relation to pronunciation skill, this was lucid because learners used a range of pronunciation features with mixed control of intonation and only occasional lapses. Consequently, the data demonstrated a positive growth in the range of spoken utterances. In fact, learners pronounced some words well but with minimal mixed intonation errors.

Table 4

Pretest and Posttest Summary on the Performance of 2do Year of Bachillerato Students' Speaking Skills.

	Pretest	Posttest
Vocabulary (2,50/2,50)	1,10	2,13
Grammar (2,50/2,50)	1,08	1,94
Fluency (2,50/2,50)	1,06	1,75
Pronunciation (2,50/2,50)	1,08	2,02
Total Means	4,32	7,84

As shown in Table 4, it outlines the degree of improvement that occurred as a consequence of the intervention plan using gamified activities to improve the students' speaking skills through technology. The lowest score (1.10/2.50) corresponded to the skill "vocabulary" in word form, but after the intervention the score was higher (2.13/2.50). At the beginning, the skill "grammar" obtained the lowest score in structure usage (1.8/2,50), which contrasts with the result obtained after the treatment (1.94/2,50). The "fluency" skill had a low score at the outset (1.06/2,50), while this score later rose slightly (1.75/2,50). The skill "pronunciation" showed the highest score within intonation (1.08/2.50), then this skill increased the score (2.02/2.50).

Nonetheless, it is noticeable that the posttest overall percentage (7.84) was sufficient to reach the expected scale score (7), as established by the national grading scale.

To conclude, the pretest provided an overview of the students' knowledge of their speaking skills. Afterwards, the effect of incorporating gamified activities with technology for the speaking skills was measured by means of the posttest, in order to later it was corroborated by the analysis and interpretation of questionnaire and field notes.

6.2. Field Notes and Questionnaire Results

Objective 2. to apply gamification elements by using technology in the development of English speaking skills among students of bachillerato at a public institution in the city of Loja during the 2022-2023 school year

Table 5

Gamification Elements Applied.

Questions	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
3.The points made me feel motivated to produce English speaking skills in class.	64%	36%	0	0	0
4.When the teacher showed my progress and all my classmates' progress, it motivated me to practice more English-speaking skills (leaderboard).	52%	36%	8%	4%	0
9. Do you find English classes more enjoyable with the gamification elements (points, rewards, leaderboards, social factor and time-limited activities)?	100%	0	0	0	0

The provided table outlines the game elements of gamification through technology, which were applied by the researcher. This sketch out that 100% of the participants found the different elements more enjoyable as "the classes were more dynamic", also almost three quarters of the students strongly agreed that the points motivated them to produce English, but 4% of the students "disagreed" with the "leaderboard" element, as it did not encourage them to practice speaking in class.

According to the field notes, it corroborated that "points" were numerical values used to evaluate the performance of individuals that contributed to the students' motivation to continue learning and participating in the speaking activities, these were mostly preferred by the students. On the other hand, "the leaderboard" presented the progress of all students and students were not encouraged enough to raise their grades and continue to work better on

their proficiency and speaking tasks, these were because they did not like to show their scores.

6.3. Questionnaire Results

Objective 3. to identify the students' perceptions about the elements of gamification that improve the English speaking skill among students of bachillerato at a public institution in the city of Loja during the 2022-2023 school year.

Table 6

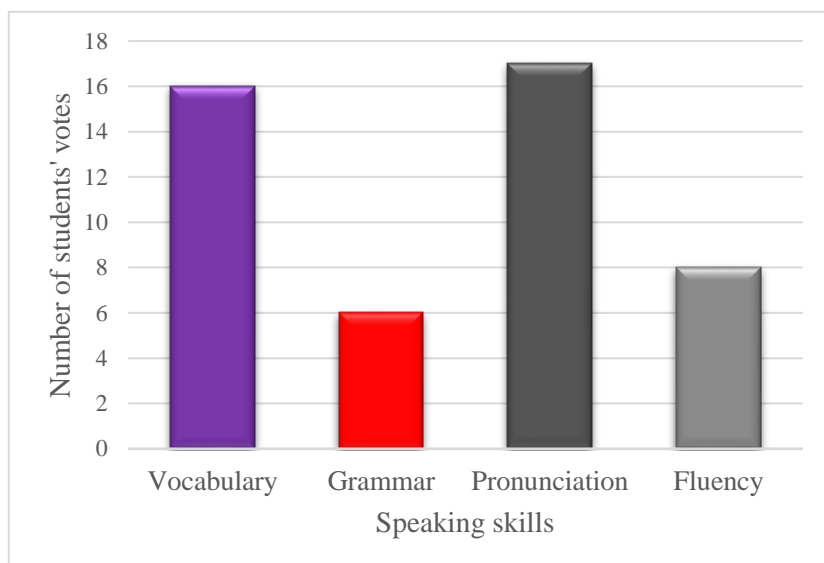
Students' Perceptions

Questions	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
1. The classes allowed me to discover and explore better learning tools to improve my speaking.	40%	52%	8%	0	0
2. I learned to express myself in a formal and more educational way to speak English in classes.	56%	32%	12%	0	0
5. I could have feedback on the activities to develop my English speaking skills through teamwork.	48%	48%	4%	0	0

The data in Table 6 gives information about students' perceptions regarding the lessons focused on improving speaking through gamification. Approximately three quarters, more than three-quarter of the students "strongly agreed" that they learned to "express in a formal and educational way". However, a tiny portion believed they did not have the opportunity to receive "feedback" with the teamwork because "not everyone did the activities".

Figure 2.

Speaking skills improved through Baamboozle and ClassDojo.



As it is presented in the bar graph, students voted 17 times that their "pronunciation" level improved by using the apps, whereas 6 votes stated that learners did not improve their "grammar". This can be validated by the intervention and the posttest applied by the researcher. In fact, the learners upgraded their pronunciation significantly, unlike many learners who felt that they were not able to practice more grammatical structures with the apps.

7. Discussion

The question of this research sought to determine the effectiveness of gamification elements through technology in the development of English speaking skills. The pre-test results showed a low score in the students' speaking skills, but in the post-test the score increased 3.52 points due to the incorporation of gamification elements through technology. These findings are corroborated by Marin-Pacurucu and Argudo-Garzón (2022) who found gamification not just motivates students, but it allows them to considerably improve their speaking level. In line with the previous study, Cruz (2019) affirmed that this strategy helped learners to enhance their speaking skills. These findings were also reported by Huang and Hew (2018) who concluded that gamification built strong feedback into classes. By comparing these results, it is demonstrated that gamification through using technology could improve vocabulary, grammar, fluency and pronunciation since it provides motivation, feedback and increment in the learning outcomes.

The subsequent question in this study was; could gamification elements be applied to the development of students' speaking skills? The students' responses and reactions highlighted the incorporation of gamification elements in the classroom, where the researcher applied two apps based on points, rewards, leaderboards, social factor and time-limited activities within the lessons because they encouraged the practice of speaking skills. This finding is consistent with that of Mahbub et al. (2020) and Kim (2021) who confirmed that gamified apps provided more enjoyment in the English-speaking classroom. These are also supported by Asih and Halisiana's (2022) study which reported students were more enthusiastic for increasing their gamification elements by enhancing the speaking skills process. While previous research has focused on gamification elements through apps, these results demonstrated that students' speaking skills can be successfully fostered by employing some innovative strategies.

A third question in this research was; what are those learners' perceptions when incorporating gamification elements to improve their speaking skills level? The questionnaire identified the perceptions of students such as: discovery and exploration of learning tools, a formal way of expressing themselves, motivation in developing speaking skills, and acquiring feedback on topics. This analysis supports the categorization perspectives of Kim

et al. (2018) book which presented the gamification experience of learners into a classroom. These results contradicted two findings (Melissa et al., 2022; Chan & Lo, 2022), which studies stated that learners felt anxiety and challenged towards the element of gamification. It can therefore be assumed that the students' views could change in terms of personal affinity.

The biggest limitation is related to the research methodology, this study did not use a control group, therefore, these results cannot be generalized, which suggest future studies through other experiments.

8. Conclusions

This study has found positive the incorporation of gamification to improve students' knowledge retention and practice through motivation. The combination of gamification achieved effectiveness and improvement of speaking in the vocabulary, grammar, pronunciation and fluency skills. Each skill had an improvement, for example, the students were able to expand their vocabulary, order the sentences according to the tense, intonate some words well and express better with few errors.

The gamification element provided encouragement as follows; the points acquired through the ClassDojo and Baamboozle applications motivated the learners to continue producing and participating in the speaking activities, but the leaderboard presented with ClassDojo did not encourage them to continue working on their speaking tasks. The results confirm that gamification is a good and innovative option for the development and enrichment of learning English as a foreign language, as it was able to improve the speaking skills of pronunciation, fluency, grammar, and vocabulary. However, there may be some elements that do not contribute to engaging the learner.

Due to the fact that there were no previous studies describing students' perceptions of gamification for their speaking skills, this research was able to categorize them and find them relevant for future citations. The most obvious finding that emerged from the mixed questionnaire was that students felt entertained by the ClassDojo and Baamboozle tools because of their components, which were related to gamification elements. In addition, they were able to discover and explore better learning tools to express themselves in a more formal way. Moreover, learners perceived that they improved their pronunciation thanks to the motivation of the gamification elements. Thus, learners considered gamification as a positive support tool, as they enjoyed it and improved their speaking skills.

9. Recommendations

Considering the whole conclusions gathered, this study states the following two recommendations:

The researcher recommends exploring the use of gamification and technology in language learning to improve English speaking skills. By combining these approaches, learners can have fun while practicing their English speaking skills and achieve their language learning goals in a more effective and engaging way.

Furthermore, technology can provide learners with immediate feedback on their English-speaking skills, allowing them to identify areas for improvement and track their progress over time. This can be particularly helpful for learners who may not have regular access to native English speakers for feedback and practice.

10. Bibliography

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11. Annexes

Anexo 1. Pretest/Posttest.



UNIVERSIDAD NACIONAL DE LOJA

**FACULTAD DE LA EDUCACIÓN, EL ARTE Y LA COMUNICACIÓN
DEPARTMENT OF PEDAGOGIA DE LOS IDIOMAS NACIONALES Y**

EXTRANJEROS


DATA COLLECTION INSTRUMENT: PRE-TEST & POST TEST

Dear student, you will be asked some questions by the researcher. Please answer them carefully.
These answers will be anonymous and confidential.

Student's code: __

Speaking part 1. Introduction and interview Vocabulary	Speaking part 2. Individual long turn Grammar and Fluency	Speaking part 3. Talk alone Pronunciation
<p><i>Let's talk about your personal information.</i></p> <p>What's your name?</p> <p>How old are you?</p> <p>Do you have a lot of friends?</p> <p>How often do you see your friends?</p> <p>For how long do you know them?</p>	<p><i>Now, have a look at the card and you have one minute to think about what you're going to say.</i></p> <div style="background-color: #cccccc; padding: 5px;"> <p>Student Task Card Describe your friend. You should say:</p> <p style="text-align: center;">Who is he/she</p> <p style="text-align: center;">When did you meet</p> <p style="text-align: center;">Why is he/she so important to you and say what do you like about your friend the most.</p> </div>	<p><i>In this part, you are going to read the following text.</i></p> <p>On Friendship Day, her class organized a party in which everybody had to make presents and give them to their best friends. Jennifer was expecting a lot of gifts from her friends on that day. However, when the day arrived, all the presents were shared among her classmates.</p>

Annex 2. Mixed Questionnaire.

 Universidad Nacional de Loja		FACULTAD DE LA EDUCACIÓN, EL ARTE Y LA COMUNICACIÓN DEPARTMENT OF PEDAGOGÍA DE LOS IDIOMAS NACIONALES Y EXTRANJEROS				
Please answer this questionnaire sincerely in order to know about your perception of learning English through gamification elements for improving speaking skills.						
No.	Item/Perception	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
1	I was able to feel proud of myself by completing my goals of enhancing my speaking skills through gamification. .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	The gamification elements allowed better control over what I did in class and my interaction with my classmates.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	Through gamification I learned to express myself in a formal and more educational way when speaking.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	I was able to discover and explore better learning tools with gamification to improve my speaking.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	I felt relaxed with gamification because my classes were out of my comfort zone when I was exercising my speaking skills.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	I experienced excitement when I immersed myself with the gamification elements to drill my speaking.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7	Did the elements of gamification captivate you to learn speaking skills?	Why?				
8	Did gamification make you feel competitive to learn speaking skills? why?	Why?				
9	Did gamification improve your teamwork to develop speaking skills?	Why?				
10	Did gamification make you feel anxious to practice speaking skills?	Why?				
11	Did you find your speaking classes more entertaining with gamification?	Why?				
12	Did you find the gamification elements a challenge to improve your speaking skills?	Why?				

Annex 4. National Grading Scale.



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REFERENCE FOR ENGLISH SPEAKING SKILLS

Qualitative score range	Quantitative score range
Very satisfactory	9-10
Satisfactory	7-8.99
Little satisfactory	4-6.99
Needs to improve	1-3.99
Fail	0

LESSON PLAN 3

LEVEL: Bachillerato		TOPIC: Introducing People	
LEARNER OBJECTIVE: Students will be able to introduce someone else by an oral presentation in front of the class to demonstrate 100% fluency.		TEACHER MATERIAL: "Roleplay Activity" use of virtual cards, students need their sheet of paper, a pen and a dictionary. Baamboozle: https://www.baamboozle.com/	
PHASE	PROCEDURE	TIME	INTERACTION
ENGAGE	<p>The class will start with the use of the App (Baamboozle) to give them feedback on introductory questions and how to answer them. Here the class is divided into 3 groups to compete by answering questions by speaking.</p> <p>Then, the teacher will tell them that they are going to develop an activity called "roleplay" in which, using digital cards related to how to introduce people, they will have to recreate or role-play it in class.</p> <p>Tell them that they are going to motivate themselves and improve their speaking skills through the activity.</p> <p>Explain that it is important for them to develop their ability to acquire the English language because it helps them to express themselves fluently.</p> <p>Inform them that at the end of the week they should be able to introduce another person and present it through an oral presentation.</p>	<p>120 min-3 periods</p> <p>15 min</p>	T (Teacher) – S (Students)
STUDY	<p>First the teacher will explain how the class will be conducted, what will be used and how the students will be evaluated at the end of the lesson.</p> <p>Afterwards, the teacher will explain what Roleplay is and give an example on what they have to do, this by using an example digital card and showing through the in focus to the whole class.</p> <p>After that, each group will have a card with the information they have to present.</p> <p>Students will have 20 minutes to organize who will pass and what each will talk about.</p> <p>After the first group's presentation, the teacher will ask general questions to everyone, for example: What was the boy doing? What words did he use to describe the girl, this at the end of each group.</p>	<p>10 min</p> <p>10 min</p> <p>5 min</p> <p>20 min</p> <p>30min</p>	<p>T-S</p> <p>S-S</p>
ACTIVE	<p>Students are going to join in pairs with the purpose of making an oral presentation introducing their partner and using the previously learned words.</p>	30min	S-T

LESSON PLAN 4

LEVEL: Bachillerato		TOPIC: Past Simple	
LEARNER OBJECTIVE: Students will be able to answer questions about their past experiences through roulette questions in order to develop their speaking fluency.		TEACHER MATERIAL: "Roulette questions", projector, headphones, students need their sheet of paper, a pen and a dictionary. Video Past Simple: https://n9.cl/xtu73 Roulette: https://es.piliapp.com/random/wheel/ ClassDojo Platform: https://bit.ly/3Shq4Gr	
PHASE	PROCEDURE	TIME	INTERACTION
ENGAGE	The class will begin with the dynamics of the broken telephone, which consists of separating the students in two rows in order to pass a sentence related to the topic to be discussed. This sentence will be played through an earphone and will be passed to the last student who will dictate what he/she heard. Then, the teacher explains that videos explaining the structure of the past simple will be used and examples will be given to the whole class (using projector). Tell them that grammar is important in English because it strengthens their fluency in the language. Inform them that at the end of the week they will be evaluated using a "Roulette question" and these activities will count as extra points for their ClassDojo avatar.	120 min-3 periods 15 min	T (Teacher) – S (Students)
STUDY	We will begin by explaining the structure of the Simple Past (affirmative, negative, questions). Examples will be given by completing together with the students an activity uploaded in ClassDojo. Then, a roulette question will be shown through the projector where there will be 3 questions regarding past experiences that the students must answer, the students who answer will add 2 points to their avatar. Now the students will make 5 questions, 5 negative sentences and 5 affirmative sentences using the simple past related to an event that happened to them. Finally, they will sit in pairs and practice speaking by asking the 5 questions written above to their partner, here a point will be added to those who are doing the activity.	20 min 5 min 20 min 30min	T-S S-S
ACTIVE	Students will answer by speaking a series of questions chosen by the website "roulette questions", these questions are about their personal experiences.	30min	S-T

LESSON PLAN 5

LEVEL: Bachillerato		TOPIC: Past participle - regular verbs (review)	
LEARNER OBJECTIVE: Students will be able to pronounce participle past verbs through a video recording to demonstrate 100% fluent intonation.		TEACHER MATERIAL: Video, projector, students need their sheet of paper, a pen and a dictionary. Present perfect video: bit.ly/3i3XmLb Virtual dice: https://www.dado-virtual.com/2-dados/20-caras.html ClassDojo Platform: https://bit.ly/3Shq4Gr	
PHASE	PROCEDURE	TIME	INTERACTION
ENGAGE	First a video will be shown for them to guess the tense that will be spoken today, this video is about several animation movies like Shrek and marvel. Then, they will be asked about the verbs in participle that came out in the video and the students will have to mention them. The teacher will tell them that in order to improve their speaking they should be fluent in pronunciation because it is important to raise their achievement in this one. Then, the teacher will explain the objective of the class, how the class will be developed and how students will be evaluated.	120 min-3 periods 10 min	T (Teacher) – S (Students)
STUDY	The teacher will explain the sound of regular verbs through speaking with examples. Also, students will have to pronounce them out loud.	30 min	T-S
	Then, the students will choose 16 verbs in participle and will put them in the order they want making a 4x4 table, the verbs they could choose will be shown in front by using the projector.	20 min	S-S
	Therefore, a bingo will be made with the regular verbs and they will have to repeat them every time they hear, also teacher will use virtual dice in order to choose the verbs, at the end the student or students who win will be given a surprise gift and two points to their ClassDojo avatar, also all students will have 1 point for participation.	30 min	S-T
ACTIVE	Each student will make a video in which they pronounce 3 verbs of each sound in the past tense /t/ /d/ /id/.	30min	S-T

LESSON PLAN 6

LEVEL: Bachillerato		TOPIC: Diphthongs	
LEARNER OBJECTIVE: Using a chart, students will be able to orally pronounce words with the 5 diphthongs to demonstrate 100% fluency.		TEACHER MATERIAL: Sound discrimination, video, projector, worksheet, a pen and a dictionary (digital). Baamboozle: https://www.baamboozle.com/game/1306561	
PHASE	PROCEDURE	TIME	INTERACTION
ENGAGE	The teacher will begin by showing pictures and asking students what they are, once they identify what they are, proceed to show how to write them and tell them why they are there. The teacher will say that students will learn diphthongs which are the combination of two vowel sounds. Learning this will be necessary to achieve greater fluency in a foreign language as it will allow them to better understand how it differs from their native language, since English is not always pronounced exactly as it is written.	120 min-3 periods 10 min	T (Teacher) – S (Students)
STUDY	Now, the teacher will develop the activity with the whole class called "sound discrimination". Orally, words will be repeated for everyone to hear and say which one does not belong to the group, for example: with /ei/-may-name -go -rate the students will have to repeat the words that are part of the diphthong, but clap when they are not. Then, in order for them to classify correctly the words according to the diphthong, the baamboozle app will be presented and the students will have to divide the words according to their group (annex 3). Then, they will be given a worksheet where in pairs they will complete activities related to the topic.	30 min 20 min 30 min	T-S T-S S-S
ACTIVE	Individually students will make a chart with 2 words for each group of diphthongs and these will be presented orally. As an optional activity they can use the baamboozle app at home and find other games about diphthongs.	30min	S-T

LESSON PLAN 7			
LEVEL: Bachillerato		TOPIC: Present Perfect	
LEARNER OBJECTIVE: Students will be able to produce a dialogue in pairs to talk about a recent event in their lives.		TEACHER MATERIAL: Dialogues, projector, slides, a pen and a dictionary. ClassDojo: https://bit.ly/3Shq4Gr	
PHASE	PROCEDURE	TIME	INTERACTION
ENGAGE	The teacher will start with the dynamic "one lie, one truth", this consists of giving the students two short facts, these will be in past participle and learners will have to guess which one is the lie and which one is the truth, for example: I recently moved house (true), I have lived in Loja for 4 years (False). Then the teacher will explain the objective, importance and evaluation of this lesson. Then, the teacher will ask if they remember the regular verbs in past participle, the students will have to give some of them.	120 min-3 periods 10 min	T (Teacher) – S (Students)
STUDY	The teacher will present the structure of the present perfect through the projector and slides. Also, these slides will have example and exercises to solve with the whole class.	30 min	T-S
	After covering the topic, the teacher will project a dialogue so that the students can understand how a dialogue is made. Therefore, students will comprehend its structure.	20 min	T-S
	Afterwards, the students will work in pairs, they will transcribe and complete in their notebook one of the dialogues presented on the board. They will also have to read it. The first 3 couples to read the dialogue will have 3 extra points to their ClassDojo avatar.	30 min	S-S
ACTIVE	Once the topics have been addressed, the students will have to elaborate a dialogue using the present perfect tense, it also has to be presented by speaking, and this dialogue in pairs will be about a recent event in their life.	30min	S-T

LESSON PLAN 8			
LEVEL: Bachillerato		TOPIC: Relative Pronouns	
LEARNER OBJECTIVE: At the end of the lesson, students should be able to write a text about a popular place in their city using relative pronouns and presenting it orally.		TEACHER MATERIAL: Projector, worksheet, a pen and a dictionary. Baamboozle: https://www.baamboozle.com/game/1036009	
PHASE	PROCEDURE	TIME	INTERACTION
ENGAGE	The teacher will start with the dynamic "Up, down", this consists of students making a circle and through commands given by the teacher, they have to raise their head and look at a partner or lower it, students who look at each other lose. Next, the teacher will explain the objective, importance and evaluation of this lesson. Then, the teacher will ask if they know about the relative pronouns. The teacher will explain that this lesson is important for them to form complex sentences in speaking and writing.	120 min-3 periods 10 min	T (Teacher) – S (Students)
STUDY	The teacher will present the relative pronouns (which, where, whose, that, who, when, where, why) showing and explaining their meaning, usage and examples through a digital image. Students will then be divided into 4 groups to complete some examples of the topic by speaking, using Baamboozle. Then, each student will complete a worksheet consisting of 10 sentences without relative pronouns. After treating the topic, the teacher will project a short text for students to recognize the relative pronouns and what the reading is about.	20 min 30 min 10 min 20 min	T-S S-S S-S S-T
ACTIVE	In groups of three students will create a 7-line text about a popular place in their city using relative pronouns and present it orally in class.	30 min	S-T

LESSON PLAN 9

LEVEL: Bachillerato		TOPIC: Homophones	
LEARNER OBJECTIVE: Students will be able to pronounce homophone words in order to develop their vocabulary and improve their spelling when speaking.		TEACHER MATERIAL: Projector, papers, a pen and a dictionary. Baamboozle: https://www.baamboozle.com/game/203379 Youtube video: https://n9.cl/5pa95	
PHASE	PROCEDURE	TIME	INTERACTION
ENGAGE	The teacher will start by showing a video without explaining the topic, at the end the students will be asked what they noticed in the video: is there something different? is there something similar? Then, the teacher will explain what homophones are, which are words that sound the same but have different meanings. Next, the teacher explains the objective of the lesson. In addition, she will tell them that they will be motivated and improve their oral expression through the activities. She will also ask the students if they know of another example with this case.	120 min-3 periods 10 min	T (Teacher) – S (Students)
STUDY	The teacher is going to hand out some papers that contain a homophone word, then each student is going to look at their paper and get up to look for their homophone pair, for example: Juan has "eight" and Pablo has the word "ate" then they join together. After that, in pairs they will look in their cell phone for a picture or text matching their word, i.e. If Juan got the word "eight" he will have to show a picture that contains that word, this can be a picture, text or image in his cellphone. Next, the class will be divided into two groups in which the students have to write in their notebook all the homophone words of their classmates, they will have to exchange the words by speaking (it is not allowed to read the classmate's paper). Once the topic is introduced, students will develop a competition in 4 randomly selected groups. The Baamboozle application will be used. Here they will have to choose and pronounce the correct homophone word, otherwise they will lose points in the game.	20 min 20 min 30 min	S-S S-S S-T
ACTIVE	Finally, students will have to pronounce 3 pairs of homophone words to demonstrate their improvement in speaking English.	30 min	S-T

LESSON PLAN 10

LEVEL: Bachillerato		TOPIC: Linking Words-Post test	
LEARNER OBJECTIVE: Students should be able to produce a short text about what they liked most in the English classes, using linking words by speaking at the end of the lesson.		TEACHER MATERIAL: Projector, a pen and a dictionary. Baamboozle: https://www.baamboozle.com/game/1357575	
PHASE	PROCEDURE	TIME	INTERACTION
ENGAGE	The teacher will start by showing some linking words (additionally, also, moreover, furthermore, besides, similarly, because, for example, but, and) using Baamboozle. Then, the teacher will explain linking words importance, which helps your English flow logically. These words act as signals, helping learners to move easily from one idea to another, and to see the relationships between sentences or paragraphs. Also, the position of those linking words will be described. Next, the teacher explains the objective of the lesson. In addition, she will tell them that they will improve their oral fluency	120 min-3 periods 10 min	T (Teacher) – S (Students)
STUDY	Students will have to look up the meaning of each linking word in pairs. Then the teacher will show an example of a short text with linking words. Additionally, students will have to produce a 3-line text about what they liked most about their English class. While the students are doing the activity, one by one (list order) they will go to the teacher to answer the post-test. Once the students finish the test, they will answer a survey related to the project variables.	30 min 50 min 10 min	T-S T-S S-S T-S
ACTIVE	Students will orally present a text about what they liked most about the English classes by using linking words.	20 min	S-T