

**Gamification and role play to strengthen students' English utterance fluency skills  
at Camilo Torres school in Aguazul-Casanare**

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### **Dedication**

This research paper is dedicated to my beloved Leonel H. Rodríguez Morales, who provided unwavering support and inspiration throughout the entire study.

I also want to dedicate this study to the teachers who answered all my questions, patiently guided me in building every chapter, and made this research possible.

Above all, to the All-Powerful God, who has never left me aside and who has given me the knowledge, courage, and optimism I needed to complete this study.

### **Abstract**

This study presents the results of an action research project aimed at determining how the performance in utterance fluency in English is developed in ninth-grade students at Camilo Torres Restrepo School in Aguazul-Casanare through gamification and role-play as didactic techniques. Gamification was based on the video game 'Trace Effects', while the dramatic technique of role-play was designed from it. Additionally, a pedagogical intervention was carried out to strengthen abilities such as to use speed in favor, to use pauses and hesitations, to give appropriate feedback, to self-correct in a dialogue, to clarify the message effectively, and to negotiate meanings in a conversation when necessary. It is important to work in the classroom so that students acquire a balanced speaking rhythm, neither too slow nor too fast, allowing time for thought before speaking. To measure utterance fluency, categories such as speed fluency, breakdown fluency, and repair fluency were used broken down into six indicators. These had a positive impact on utterance fluency performance evidenced by increased participation from advanced and superior levels when comparing pre-intervention and post-intervention results. Inferential statistical analysis, using the Shapiro-Wilk normality test and the Wilcoxon significance test, revealed statistically significant differences. This confirms that gamification and role-play strategies contributed to improving students' performance in utterance fluency in a second language.

**Keywords:** utterance fluency, role-play, gamification, video game, pedagogical intervention

## Resumen

Este estudio presenta los resultados de una investigación-acción cuyo objetivo era determinar el desarrollo del desempeño en la fluidez del discurso en inglés de estudiantes de noveno grado en la Escuela Camilo Torres Restrepo de Aguazul-Casanare, mediante el uso de las técnicas didácticas de gamificación y juego de roles. La gamificación se basó en el videojuego 'Trace Effects', mientras que la técnica dramática del juego de roles se diseñó a partir de este. Además, se llevó a cabo una intervención pedagógica encaminada a reforzar habilidades como la velocidad adecuada al hablar, el uso de pausas y vacilaciones, la retroalimentación efectiva, la autocorrección en diálogos, la claridad del mensaje y la negociación de significados cuando sea necesario. Es importante trabajar en el aula para que los estudiantes adquieran un ritmo de habla equilibrado, sin ser ni demasiado lentos ni demasiado rápidos, permitiendo tiempo para pensar antes de hablar. Para medir la fluidez del discurso, se emplearon categorías como la velocidad del habla, la duración de las pausas y la corrección de la fluidez, desglosadas en seis indicadores. Estos tuvieron un impacto positivo en el rendimiento de la fluidez del discurso, evidenciado por una mayor participación de los niveles avanzado y superior, al comparar los resultados antes y después de la intervención. El análisis estadístico inferencial, utilizando la prueba de normalidad de Shapiro-Wilk y la prueba de significancia de Wilcoxon, reveló diferencias estadísticamente significativas. Esto confirma que las estrategias de gamificación y juego de roles contribuyeron a mejorar el desempeño de los estudiantes en la fluidez del discurso en su segundo idioma.

**Palabras clave:** fluidez del discurso, juego de roles, gamificación, videojuego, intervención pedagógica

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## **Introduction to the Research Study**

In this first part of the study, the most pertinent aspects of the problem's context to be delimited were addressed. Subsequently, the research's generative question was also posed. Based on these two aspects, the general objective and the three specific objectives to be achieved were formulated. Finally, the identified scopes and limitations of this master's thesis were outlined.

### **Context of the Research Problem**

The Instituto Colombiano para la Evaluación de la Educación (ICFES) evaluates students' levels of English performance according to the standards of the Common European Framework of Reference for Languages (CEFR). These international standards describe language ability on a six-point scale, from A1 for beginners up to C2 for those who have mastered a language.

At the standardized test ICFES-Saber 11, it was decided to include a level below A1, called A-, because in Colombia there is a population that is below the first level of the CEFR (A1); this level corresponds to those minimum achievements that involve the handling of vocabulary and basic grammatical structures. Similarly, a higher level than B1 was included for those students who exceeded the level assessed, called B+.

Currently, the way in which this type of test evaluates students' communicative competence in English is through vocabulary, grammar, and reading comprehension activities. However, this test does not assess oral skills, which discourages teachers from working on them in the classroom and limits the students' growth.

In Colombia, by the year 2022, the results of ICFES-Saber 11 test showed that students in eleventh grade from Camilo Torres Restrepo School (CTR) presented an English performance

level A1, considerably higher than the percentage of performance level obtained in the Casanare department, and Colombia (ICFES, 2023) and (López, 2023). As shown in Table 1.

**Table 1**

*Percentages of Students by Level of English Performance*

Aggregation levels	Performance levels - 2022				
	A-	A1	A2	B1	B+
Colombia	44%	28%	17%	9%	2%
Casanare department	49%	33%	14%	4%	1%
Camilo Torres Restrepo	38%	40%	20%	2%	1%

*Note.* This table shows the percentages of students by level of English performance in Colombia, Casanare Department, and Camilo Torres Restrepo School by the year 2022. *Source.* Author based on ICFES (2023) and López (2023).

Nevertheless, the overall proficiency among today's students from Camilo Torres Restrepo School in the English test continues being low on the report of the standardized test applied. The result indicates that 38% of CTR students who submitted the English test in application 2022 reached Level A-. This level corresponds to those minimum achievements that involve only the handling of vocabulary and basic grammatical structures. Therefore, young learners continue having difficulties with their language learning process.

According to the Common European Framework, specific standards for the ability to interact with another speaker are what constitute conversation. For level A1, students must answer greetings and farewell, ask them to repeat the message when they do not understand it, and reinforce with gestures what is said to make themselves understand using non-verbal language (Ministerio de Educación Nacional, 2016).

However, in my experience as a teacher, this level is not evident in most students because the conversational skill is the least worked in the classroom, limiting it to the repetition of dialogues. Regardless of its importance, teaching speaking skills has been undervalued, and most of the EFL/ESL teachers have been continuing their teaching of speaking skills just as memorization of dialogues or repetition of drills (Rao, 2019).

Speaking is composed of four subskills: grammar, vocabulary, pronunciation, and fluency. When having a conversation, the last one is more complicated. Fluency is one of the hardest sub-skills to develop since it involves constant interaction with the foreign language that we are learning and also because it requires putting all the knowledge of that language into practice through orality (Jiménez & Gómez, 2019).

Therefore, the low level of English proficiency among students has created the need to find out new techniques on how to tackle the issue. Thus, the problem posed in this research refers to the necessity of implementing new pedagogical practices, which conduct important changes during the learning process of English as a foreign language, that allow them to develop their communicative competences.

According to recent research by Khidhir and Wali (2019), Iñamagua (2016), and Cuitiño et al. (2019), gamification and drama techniques are excellent strategies to support learning in a variety of educational contexts and promote attitudes and behaviors among learners, like creativity, motivation, autonomy, and collaboration. The idea is to offer a new path to promoting oral communication since students need to acquire solid speech skills to perform better at the university and later when they need to establish communication in their role as professionals.

In sum, the students from CTR school are unable to have a fluent conversation in English because they possess very basic conversational skills for their age, insomuch as their

performance level in handling the language is lower than expected. Hence, it is necessary to implement a pedagogical proposal based on gamification and role play for teaching English, which allows for improving the speaking competencies of the learners, having in mind the great influence of new technologies and the different options that gamification can offer to the students not only for entertainment but also for education.

### **The Research Questions**

To what extent do gamification and role play develop students' English utterance fluency skills at Camilo Torres Restrepo School in Aguazul-Casanare?

#### ***Specific Questions***

What is the current situation of students' English utterance fluency skills?

What is the statistical significance of the pedagogical intervention implemented regarding the utterance fluency behavior in the students of Camilo Torres Restrepo School in Aguazul-Casanare?

### **Objectives**

#### ***General Objective***

To determine how the performance in utterance fluency in English is developed in ninth-grade students at Camilo Torres Restrepo School in Aguazul-Casanare through gamification and role-play as didactic techniques.

#### ***Specific Objectives***

To analyze the level of students' English utterance fluency before and after the research study.

To develop an action plan through gamification and role play as didactic techniques to improve students' English utterance fluency.

To describe, through inferential statistics, the pedagogical intervention on the utterance fluency behavior in the students.

## **Scope and Limitations of the Study**

### ***Scope of the Study***

Even though English speaking skill is incorporated into the curriculum, there are a lot of obstacles that prevent students from becoming more proficient communicators in EFL. Therefore, the general purpose of this study was to determine how twenty-five (25) ninth-grade students from Camilo Torres Public School improved their speaking utterance fluency in a foreign language through interactive context learning based on gamification and the drama technique of role play. Hence, the research findings were supported by empirical data and used gamification and role play as creative techniques to engage students and improve their speaking utterance fluency. This study was conducted over a period of six months. Throughout this time, all necessary data were gathered and analyzed.

### ***Limitations of the Study***

During this study, some aspects were not under control, and the manner in which they were addressed to avoid affectation included the following: there was a lack of computers and laptops per student to carry out the gamification strategy; hence, it was necessary that students work in pairs. There were possible human errors in the measurement of indicators, so it was necessary to check the data twice to confirm the information. Furthermore, two students withdrew from the school, and three students didn't bring the informed consent signed; consequently, the sample was reduced from 30 to 25 students.

## **Rationale of the Study**

The contribution of the research to the students is to offer them the possibility of new tools to improve their speech in English, supported by pedagogical strategies, in the classroom. The idea is to promote automatic fluency among the learners that allows them an effective oral communication. In this regard, Skehan (2009) states that fluency is the capacity to produce speech at a normal rate and without interruption.

The contribution of the study to the research is to test, through an applied study, two strategies to teach oral expression in English. According to Cruz (2020), oral expression has been relegated in secondary education behind reading and writing. Regardless of a teacher's preference, new approaches to the development of that particular skill are required for the student's holistic formation. Therefore, this study integrates didactic games through gamification and the drama technique of role play to develop fluency in a specific educational setting.

Gatbonton and Segalowitz (2005) state that it is difficult for teachers in many parts of the world to accept that activities like games, role-plays, and problem-solving can actually count as "real teaching" because they are accustomed to highly structured activities like teaching grammar rules, conducting drills, and teaching vocabulary lists. Therefore, the contribution of this study to the teacher-researcher is to offer the opportunity to find a different pedagogical strategy to strengthen students' English utterance fluency skills in the classroom. According to Jimenez and Gómez (2019), fluency has been identified by foreign language teachers and researchers as the most time-consuming and difficult sub-skill to develop.

The contribution of the study to the educational community is to offer new strategies that could help students strengthen their skills in English. Although the school's overall average has improved in recent years, students still do not yet possess the B1 proficiency level that the

Ministry of Education has set for what students must understand and be able to demonstrate in the English as a foreign language domain, as specified in Guide 22 (Ministerio de Educación Nacional, 2016).

The innovation of this study is the treatment of different types of fluency that are unknown in the classroom (Segalowitz, 2010). Therefore, it is possible to understand the diverse types of fluency and use one of them, utterance fluency (UF), as a way in which students demonstrate their proficiency on a second language. Currently, within oral fluency, what has been developed is perceived fluency (PF), but the most important is utterance fluency (UF), because in practice it is what allows to demonstrate the ability for an individual to be understood by another.

## **Literature Review**

### **Introduction to the Literature Review**

The main objective of consulting the literature review was to know what has been done in the field of this study and, in this way, have a starting point. To identify relevant publications related to this study, it was necessary to design a specific search formula that includes the specific term “fluency” and at least one of the words “gamification or role play” and “speaking learning strategies and approaches and EFL”. These keywords were executed in the databases Scopus and Google Academic with criteria that included the search period from January 2014 to September 2023 to capture the most current literature during the last ten years. This search was done in Spanish and English.

In addition, it was necessary to include some exclusion criteria to limit the scope of the study and, in this way, to include publications that guarantee high quality:

1. Publications were included when the core of the research was fluency, language learning, role play, and gamification.
2. Only publications that were possible to download as PDFs were included.
3. Texts online weren't included because some of them weren't possible to access without paying or because the size was huge.
4. All the methodologies of the publications were included.

### **State of the Art**

The most important findings are described below, in chronological order from the oldest to the most recent.

The conference carried out by Brown (2003), entitled “Promoting fluency in EFL classroom” begins by exploring a number of definitions of fluency found in the literature. The

paper then proposes that teachers should provide students with a complete set of language tools, help them learn to make language choices, develop six language strategies and use five approaches, in their classrooms that promote fluency.

It is a theoretical study, and the approach implemented was the qualitative action research. The main findings of this paper are that even among native speakers' fluency is a relative problem. Since fluency is a matter of degrees, it is likely possible to achieve some level of fluency at every language proficiency level.

Hence, it is necessary assisting the students to develop fluency in English and providing them with the entire spectrum of communicative language tools, choices, and strategies. Also, teacher should ideate activities that force students to convey a message, evaluate their progress, beyond its accuracy, and have open discussions about fluency with them.

In sum, this conference contributes to the study to the extent that it allows to know communicative language strategies that the teacher-researcher can use to increase fluency among the students through an intervention plan that encourages them to make constructive mistakes and creates many opportunities to practice.

The research carried out by Gathbonton and Segalowitz (2005), entitled "Rethinking communicative language teaching: a focus on access to fluency" has as its principal goal to propose a communicative language teaching (CLT) methodology designed to promote automatization without jeopardizing its communicative nature.

It is a theoretical study, and the approach implemented was the qualitative action research. A class was taken as reference, which one was divided into two groups of eight to ten students. The main findings were that the ACCESS approach to succeed in its automatizing goal,

the main task of classroom activities is to meet three specific criteria - the activity must be genuinely communicative and inherently repetitive, and the utterances it elicits for learning must be functionally formulaic.

This study contributes to this research because it defines the term fluency, giving it an automatic connotation. Besides, it outlined an approach that aims directly at promoting fluency in a manner compatible with a communicative approach to language teaching using role-plays and games as didactic teaching techniques.

Skehan (2009) is the author who encompasses some of the main indicators for measuring fluency in his article entitled 'Modelling Second Language Performance: Integrating Complexity, Accuracy, Fluency, and Lexis.' The purpose of this article is to offer a theoretically motivated and empirically grounded account of complexity, accuracy and fluency (CAF) in second language performance.

The article is theoretical. On the other hand, the research methodology implemented was the qualitative approach. The main findings in this article were that complexity, accuracy, and fluency are important dimensions of second language performance but that they need to be supplemented by measures of lexical performance. This study is important for the research, since it presents a range of measures of utterance fluency that capture the different indicators of performance that have to be rated.

Segalowitz (2016) wrote a theoretical study entitled "Second language fluency and its underlying cognitive and social determinants". The goal of this paper is to explore a possible explanatory framework for understanding second language fluency that goes beyond description.

It was reached conclusion that to understand the determinants of second language fluency, it is necessary to recognize the cognitive foundations of second language fluency

phenomena. This, in turn, necessitates knowing how these cognitive components are closely linked to the social-motivational framework that language learners are situated within.

This paper contributes to the research because it makes a distinction among three aspects of second language fluency to study, namely, utterance fluency, cognitive fluency, and perceived fluency.

Cuitiño et al. (2019) carried out a classroom study entitled “Promoting fluency and accuracy in English through role play”. The objective was to promote fluency and accuracy in 34 fourth-grade students from a subsidized school in Chile. It was a mixed approach, and the instruments for collecting information were oral performance tests, and a semi-structured interview with a questionnaire. The sample was 34 students between the ages of 9 to 10.

The results showed that, by the end of the implementation of the role play by pairs, students' scores in fluency and accuracy had increased significantly. Also, students' confidence when speaking, their liking of English subject and the self-perception of their oral competence had improved after such intervention.

This study is important for the research because utterance fluency was measured at the beginning and at the end of the implementation of the role play practice by an analytic rubric for oral performance using two dimensions: fluency and oral accuracy. In the first dimension, there were three criteria to be evaluated: speech speed (total number of words in a given time frame), duration of pauses (number and length), and fluency correction (reformulation, self-correction, and repetitions). In the second dimension, there were two criteria to be evaluated: conversational grammar (error-free structures) and lexical resources (words and language appropriate to the communicative situation).

The undergraduate thesis entitled “Fortalecimiento de la fluidez en inglés como lengua extranjera por medio de la gamificación” written by Jimenez and Gomez (2019), aims to establish the effectiveness of gamification to strengthen fluency in English as a foreign language among students of a private school.

On the other hand, the research methodology implemented was the qualitative approach of action research. The instruments used were observation, field diary, interview, survey, audio recording, and evaluation format. The population was 34 students, 20 boys and 14 girls, between the ages of 8 and 11, from Colegio Universidad Libre. The sample was 13 students, 8 girls and 5 boys, selected randomly. The authors' finding was that gamification allows students to strengthen their fluency in English by designing interactive and communicative spaces that favour the exchange of ideas and opinions among students using the foreign language. Furthermore, the classroom didactic strategy to improve the student's fluency as regards its learning objectives should focus on mitigating reformulation, working on pause fillers, promoting paraphrasing, and practicing short pauses.

This thesis is useful for the research to the extent that it allows us to understand that gamification strengthens perceived fluency in English because it is an innovative proposal that employs elements of games to motivate and interest students in learning English as a second language in the classroom. Additionally, the application of gamification produces favorable outcomes in terms of student performance and interaction.

The undergraduate thesis entitled “Juegos Didácticos para Mejorar la Expresión Oral del Idioma Inglés en Estudiantes de una Institución Educativa Privada, 2021” written by Sandoval (2021), presented as the main goal to establish how using didactic games helped students at a

private school improve their oral English expression skills. It was an experimental quantitative study. The instruments used were a checklist and interview. The technique was observation.

The sample was 63 second-grade high school students, with two groups, one control (33 students) and the other experimental (30 students), who were chosen through intentional non-probability sampling. The author found significant improvements in oral expression skills such as pronunciation, grammar, vocabulary, and fluency using didactic games in the classroom.

This study is important to this research to the extent that perceived fluency improves after applying the strategy of didactic games in English language learning.

The master thesis entitled “Gamificación en la expresión oral del inglés de estudiantes de una institución educativa, Villa María del Triunfo, 2021” carried out by Ramirez (2022), had as its principal objective to determine the influence level of gamification in the English oral expression of undergraduate students from Peru.

Likewise, the research was quantitative approach. The level was causal correlational, and the design was non-experimental. The sample was 90 third-grade students in high school from ‘Juan Valer Sandoval’ Educational Institution. The techniques used for data collection were the survey and observation, and the instruments were the questionnaire and the checklist.

The findings showed that oral English expression and fluency of students had significant improvements using online gamified applications such as Duolingo, Edmodo, Lyrics Training, Kahoot. and Voscreen.

This thesis contributes to the research because it demonstrates the incidence of gamification on the perceived fluency dimension, from a quantitative point of view, through the use of statistical techniques.

The master thesis entitled “Estrategias de gamificación para mejorar la habilidad oral en el aprendizaje del inglés en los estudiantes universitarios, Cusco, 2022” written by Salas (2022), had as its main objective to establish whether the strategies of gamification improve oral skills in learning English in university students.

The approach was quantitative, and the design was quasi-experimental. The instrument used were questionnaires. On the other hand, the population was 63 pre-intermediate English language students at a Cusco university's language institute. The sample was 31 students in pre-intermediate level I as a control group.

This study presents as main findings that the use of gamification strategies in the classroom helps students learn English by strengthening their oral communication skills. Also, it was found that the use of gamification techniques greatly increased oral fluency during English language learning. This is because students increase their exposure to speeches in an organized and consistent way, achieving easier and more spontaneous communication.

This thesis is important for the research as it poses that the implementation of gamification strategies significantly improves the perceived fluency of oral skills in English learning because students increase their participation in the presentation of speeches in an organized and coherent manner, achieving easier and more spontaneous communication.

Suzuky and Kormos (2023) wrote an article entitled “The multidimensionality of second language oral fluency: Interfacing cognitive fluency and utterance fluency”. The study aims to examine how underlying linguistic knowledge contributes to students' fluent speech production.

The sample size was 128 Japanese learners of English, ranging from 18 to 27 years of age. It is an empirical study. A quantitative approach was established. The instruments were tests and four English speaking tasks. The model applied presents a conceptual emphasis on speech

fluency in criteria such as speed, pauses, hesitations, repetitions, and reformulation, and it demonstrated that while speed and repair fluency may vary based on task characteristics, the breakdown fluency may remain constant across tasks.

This study contributes to the research because it analyzes the speaking performance of students through tests that assess utterance fluency in terms of breakdown, speed, and repair fluency.

The study carried out by Sayow and Marsevani (2024) entitled “Improving high school students’ speaking skill through role play strategy: A classroom action research” had as objective to investigate how using the role-play strategy affects students' motivation, attitude, and effort when honing their English speaking abilities. The study was an action research project structured into distinct stages, including planning, action, observation, and reflection. The research instruments used were pre-test, post-test and observation.

The sample was 20 eighth-grade students from a high school. The main findings demonstrated the effectiveness of the Role Play Strategy in enhancing students speaking abilities in terms of task performance, grammar, vocabulary, fluency, and pronunciation. This study contributes to the research because it demonstrates that the use of Role Play Strategy in classroom instruction is an effective in enhancing student motivation for speaking.

### **Theoretical Framework**

This theoretical framework aims to address the most relevant theoretical aspects that support this research: the drama technique of role-play, gamification for fluency, oral skills, and fluency in oral skills.

### ***Dramatic Technique of Role Play***

Role play is an educational activity where pairs assume characters in a defined scenario or context (Cuitiño et al., 2019). Another definition describes role play as a dramatization incorporating every day and real-life situations to improve oral expression in a second language (Castillo, 2020). From another perspective, role play is a dramatic technique used to promote learning and empathy (Martinez, 2021).

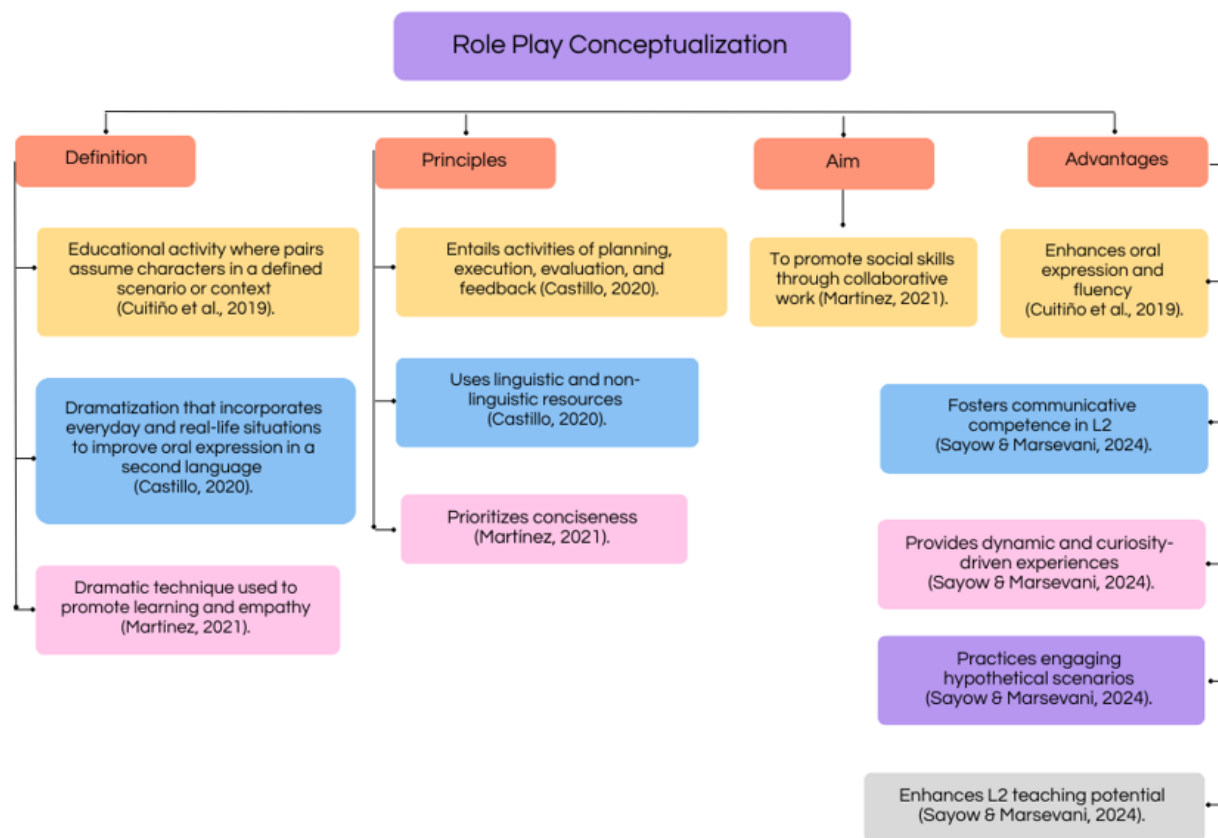
Role play is considered a dramatic technique because it involves the enactment or performance of roles, characters, and situations, which are fundamental elements of drama. It mirrors drama by eliciting emotional engagement, exploring conflicts and resolutions, providing a platform for creativity and imagination, and fostering learning and empathy through immersive experiences. Thus, role play's connection to drama lies in its theatrical nature, emphasis on character portrayal and interaction, and its ability to engage participants and observers in meaningful explorations of human experiences (Martinez, 2021).

A role play is an educational activity where groups, pairs or individuals assume specific roles or characters within a set scenario or context. The goal is to encourage real-life interactions, enabling students to practice and apply their skills in an engaging manner. Qing (2011), as cited in Cuitiño et al. (2019) highlights role-play as a typical social communicative activity within a communicative approach. The rationale of the communicative approach emphasizes the significance of crafting meaningful role-play activities within the English classroom framework to foster students' communicative competence, making it a crucial aspect of language learning.

Role playing offers several advantages. Firstly, it engages and motivates students, providing a dynamic learning experience. Secondly, it enables students to practice hypothetical scenarios, facilitating deeper understanding and retention of concepts. Additionally, it enhances

current teaching strategies by fostering collaboration and interaction among students. This collaborative effort promotes the development of real-world skills such as cooperation, negotiation, debate, teamwork, persuasion, and communication. Moreover, role playing boosts students' speaking performance, making language learning more lively and engaging. Overall, it serves as a valuable technique for energizing the classroom, stimulating students' curiosity, and enriching language acquisition (Sayow & Marsevani, 2024).

The principles underlying role-play encompass learning through practical engagement, drawing from philosophical ideas. This teaching method is highly flexible, allowing groups to select characters in varied ways without strict guidelines. Rehearsal plays a pivotal role in achieving effective outcomes, while analysis and evaluation are crucial for maximizing learning benefits. Role-play sessions should prioritize conciseness. Furthermore, fostering social skills through collaborative group work (Martinez, 2021). The aforementioned is summarized in Figure 1.

**Figure 1***Role Play Conceptualization*

*Note.* This figure illustrates the conceptualization of role play, including its definition, principles, aim, and advantages, as reported by various authors.

***Gamification for Fluency***

Gamification, an anglicism derived from the neologism 'gamification', is a learning technique that adapts the essence, thinking, elements, techniques, and mechanics of games (and/or video games) to the educational-professional context. Its aim is to achieve better outcomes, such as improving understanding of certain knowledge, enhancing skills, or rewarding specific actions, among many other objectives (Pacheco & Causado, 2018).

There are many didactic strategies for the development of oral competences in the classroom. One of them is gamification. Deterding et al. (2011) define gamification as the design of game elements in contexts outside the play field.

Training objectives are provided via gamification in education. The students view these goals as challenges to overcome to move from one stage to another. In the end, the challenge and level change become part of the learning result. This provides L2 educators with different options to effectively plan the language learning and fluency levels they work with and to rethink their practices based on the similarities they find in games and learning (Figueroa, 2015). This same author established a positive correlation between second language learning and gamification. Learners feel more motivated by the game elements and the feedback this technique offers.

On the other hand, Mora et al. (2015) point out the importance of knowing the methods and their main characteristics before starting gamification as a process. Hence, they conducted a literature review on gamification design and developed frameworks.

Shi (2015) focuses on promoting the motivation of students doing educational game design more fun, and in this way, they would have advanced learning outcomes. Hanus and Fox (2015) assessed the effectiveness of gamification elements in the classroom using the gamified curriculum. Their results found that students showed more motivation, satisfaction, and empowerment. Nevertheless, they advise the importance of evaluating the existing empirical evidence behind trends by educators before implementing these approaches in the classroom.

Subhash and Cudney (2018) present a systematic literature review on how gamified learning systems enhance student engagement, motivation, and performance in higher education. They identify essential elements suitable for this educational level, such as badges, points, and

leaderboards. They conceptualize gamification as a powerful motivational tool when it is well-designed and properly implemented. Popova (2018) offers a selection of techniques to improve the learning process by considering modern youth's characteristics. Some are gamification, blended learning, a meta-subject approach, learning using a problem situation, and a role-playing game.

Toda et al. (2019) presented a paper in which they analyzed the game elements employed in gamified learning environments using an existing taxonomy. Their main contribution is the detailed taxonomy that can be used to evaluate other gamification designs. Alsawaier (2019) examines several publications on gamification according to the research design and proposes a mixed-method research to improve our understanding of gamification in different contexts.

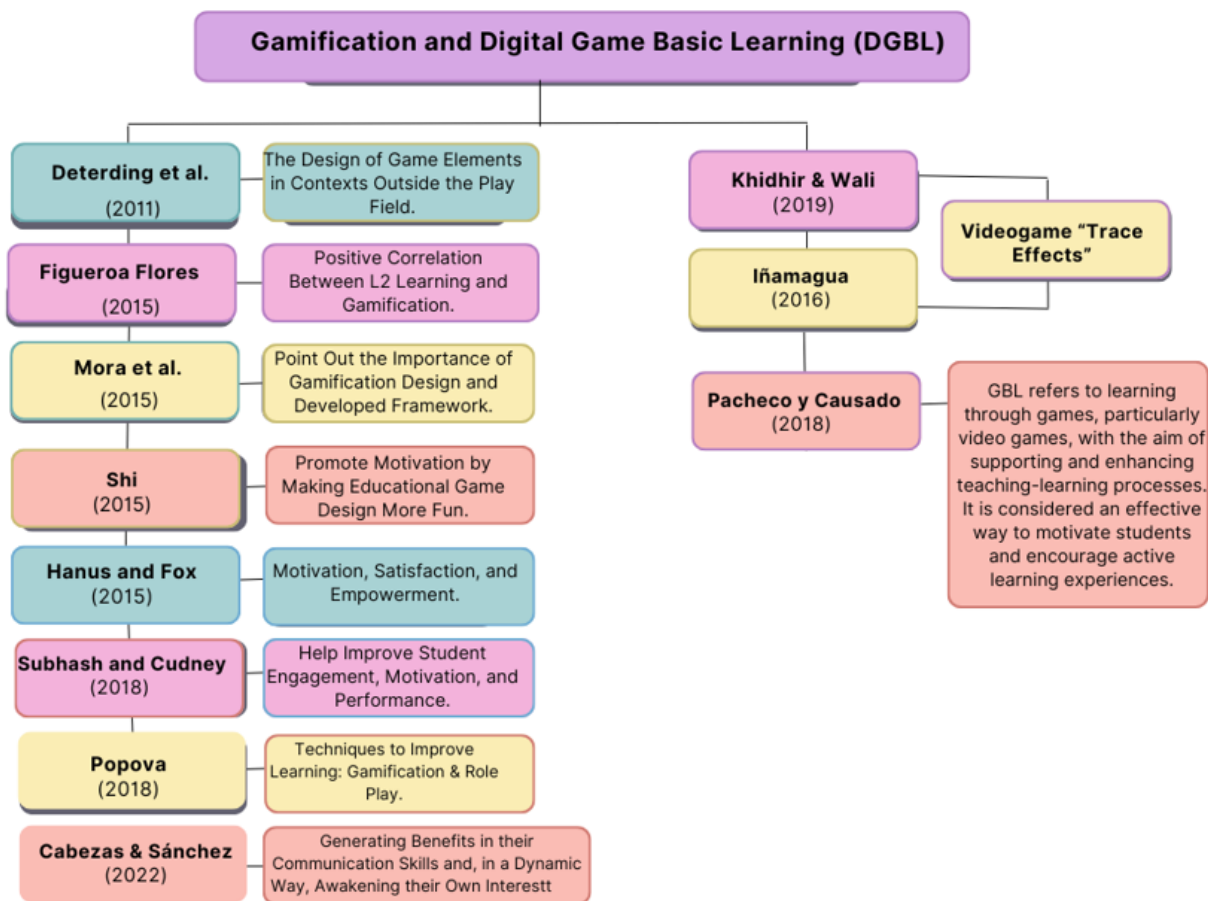
Rapp et al. (2019) summarized 14 articles by identifying three main themes: the determination to improve the quality and usefulness of theory in the field of gamification, the improvements in design practice, and the adoption of a critical gaze to uncover side-effects of gamification designs. They concluded that gamification studies would benefit from theories about the complexity of human behavior, the exploration of the many opportunities of games, and ethical reflection on the use of game design elements.

Implementing gamified study models is crucial for modern education, as these allow students to approach English learning from different perspectives, generating benefits in their communication skills and dynamically awakening their interest (Cabezas & Sanchez, 2022). Additionally, these authors define gamification as a favorable tool for the learning and teaching processes of both students and teachers, as it allows for the establishment of virtual scenarios using various educational games. This approach has been shown to motivate students to learn and actively participate in their own learning processes.

On the other hand, in an empirical and quantitative study about the videogame “Trace Effects” (2014) with Iranian universities, it was found that there had been improvement in the following areas: creating a pleasant and fascinating environment for students, improving technological skills, increasing motivation for learning, and immersion in second language virtual reality (Khidhir & Wali, 2019).

Already in the Latin American context, Iñamagua (2016) also with the mentioned videogame, now with Ecuadorian undergraduate students found in a qualitative study that this is an excellent tool to help EFL students learn vocabulary (meaning and pronunciation). They feel more comfortable, motivated, and committed while working on it.

Moreover, Perez (2022) conducted a qualitative and quantitative study with university students from Colombia. It was discovered that the specificities of English pronunciation significantly improved and had a beneficial effect in the setting of an online course on the Moodle platform equipped with interactive games. The previously mentioned concepts are outlined in Figure 2.

**Figure 2***Essential Concepts: Gamification and Digital Game Basic Learning*

*Note.* This figure summarizes various studies on gamification and digital game-based learning (DGBL), highlighting key findings and contributions from different authors.

A concept derived from gamification is Digital Game-Based Learning (DGBL), which has simply been referred to as the manipulation of digital games aided by the use of computers for the purpose of teaching and/or learning. One very effective element or tool within DGBL is video games (Khidir & Wali, 2019). Iñamagua (2016) also notes that DGBL is a type of gameplay that has defined learning outcomes. Generally, game-based learning is designed to balance subject matter with gameplay and the ability of the player to retain and apply this subject

matter to the real world. From another perspective, Game-Based Learning (GBL) refers to learning through games, particularly video games, with the aim of supporting and enhancing teaching and learning processes. It is considered an effective way to motivate students and encourage them to participate in active learning experiences.

### *Oral Skills*

Colombia is not a bilingual country like other nations. Hence, English is taught as a non-native language (English as a Foreign Language, EFL). Given its importance as a universal language, the Ministry of Education in Colombia has established within its policy to improve the quality of English teaching to achieve better levels of performance in this language. Thus, it is intended that students graduating as bachelors from the school system achieve B1 English proficiency level, according to the Common European Framework of Reference (CEFR).

However, the latest 2023 national ICFES results showed that the level of 11<sup>th</sup> graders is still lower; most of them (71%) are between -A and A1 levels (ICFES, 2023). It means that before enrolling in university, not even half of students reached the minimum score. One of the causes of this problem is the way teaching is done, which is still instructional, based on grammatical content and written vocabulary, without taking into account the contexts or real significant situations, as well as the social and affective aspects (Agualimpia & Pacheco, 2021).

Educators use different teaching methods that contextualize the approaches that guide the nature and learning of language. These methods are the points of view from which a systematic process of linguistic knowledge is derived for English language teaching. The approaches can be grouped into five: traditional, natural, structural, communicative, and humanistic (de Palacios, 2020).

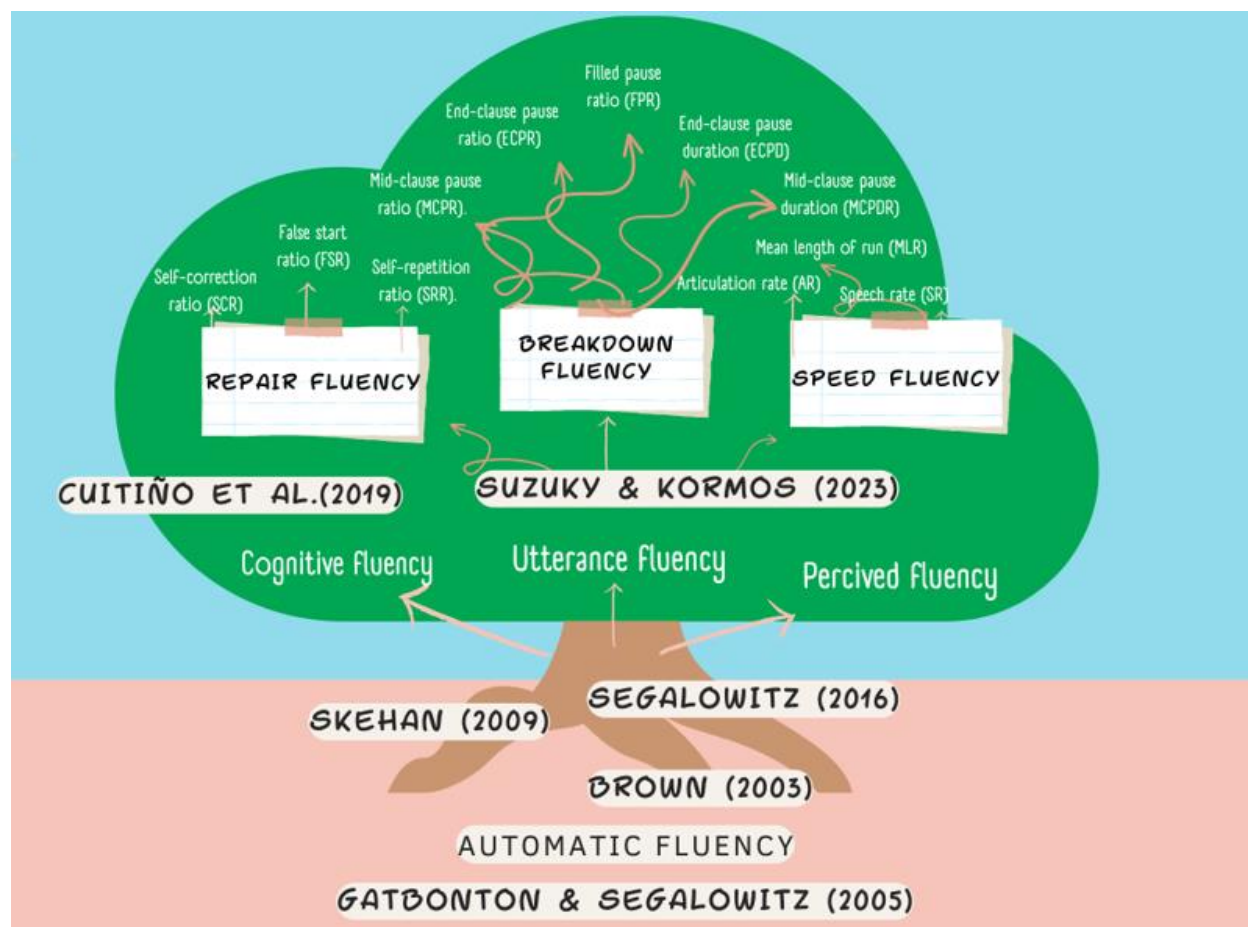
Among the different classroom techniques to teach oral expression in English are: the use of images, songs, karaoke, role-playing, dramatization, the use of didactic dialogue cards, thinking routines, cognate identification, paper crafts (puppets), mobile device apps, video editing, and didactic games (offline and online) (Cruz, 2020).

A limitation of techniques to teach oral expression is a passive attitude and lack of participation, which makes it difficult for the teacher to give feedback on dialogues and help the pupils in the learning process. If the student does not like to participate, if he has a low level of speaking, and above all, if he has low motivation to learn since there is no positive disposition by the student. The attempt to progress in developing communicative competence in English is truncated.

The lexical competence of English has four critical aspects for oral expression: spoken grammar, vocabulary in conversation, pronunciation, and fluency (Brown, 2001). The category of verbal fluency expression should consider that not only fast speaking but pauses are equally important in communication and self-corrective aspects.

### ***Fluency in Oral Skills***

This section presents the concepts that underpin this research. First, the concept of Automatic Fluency (AF) is defined, which is the root term of this study. Then, three aspects of second language fluency are distinguished (utterance fluency (UF), cognitive fluency (CF), and perceived fluency (PF), according to Segalowitz (2016). After that, the variables that constitute utterance fluency as proposed by Suzuky and Kormos (2023) are presented. Finally, the eleven indicators for measuring the variables that constitute utterance fluency proposed by the same author are defined. As shown in Figure 3.

**Figure 3***Essential Concepts: Utterance Fluency*

*Note.* This figure represents the evolution of the concept of fluency, based on the works of Brown (2003), Gatbonton and Segalowitz (2005), Skehan (2016), Cuitiño et al. (2019), and Suzuki and Kormos (2023).

The term Automatic Fluency (AF) is defined by Gatbonton and Segalowitz (2005) “as the smooth and rapid production of utterances, without undue hesitations and pauses, that results from constant use and repetitive practice” (p. 326).

According to Segalowitz (2016), it is necessary to distinguish three types of second language automatic fluency: cognitive fluency, perceived fluency, and utterance fluency.

Segalowitz (2016) points out that L2 cognitive fluency refers “to the fluid operation (speed, efficiency) of the cognitive processes responsible for performing L2 speech acts. This includes not just the articulatory act itself but the mobilization and temporal integration of mental processes that give rise to the utterance” (p. 6). Segalowitz (2016) refers L2 perceived fluency as “subjective judgments of L2 speakers' oral fluency. Researchers often use such judgments to assign fluency levels to the L2 speakers under study” (p. 12). Segalowitz (2016) defines L2 utterance fluency as “the fluidity of the observable speech as characterized by measurable temporal features, such as syllable rate, duration and rate of hesitations, filled and silent pauses” (p. 5).

Utterance fluency is traditionally been explained through the triadic model of speed fluency, breakdown fluency, and repair fluency (Skehan, 2016). This framework was empirically validated to examine the extent to which speech fluency is distinguishable from other constructs of L2 oral proficiency, such as accuracy and complexity (cognitive fluency), and was assessed through picture narration (Suzuki & Kormos, 2023).

Based on the aforementioned, for this study, conceptually, utterance fluency refers to the manner in which syllables are vocalized to form words and, in turn, sentences. This includes rhythm, pauses, and necessary corrections to ensure understanding.

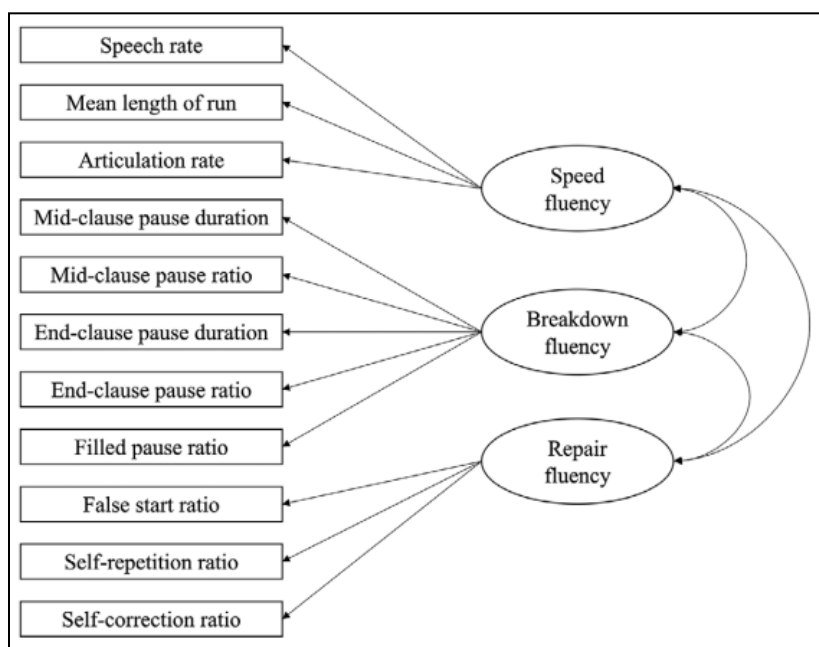
This dimension, Utterance Fluency (UF), is subdivided into three categories, namely *Speed fluency*, *Breakdown fluency*, *Repair fluency* as stated by Suzuki and Kormos (2023). This author defined these categories as follows: Speed Fluency (SF) is, in the opinion of Suzuki and Kormos (2023), “is concerned with the density of information or speed of delivery and thus is typically measured by articulation rate (i.e., the number of syllables produced over speech duration excluding pauses)” (p. 40). Breakdown fluency (BF) in the words of Suzuki and

Kormos (2023), refers “to pausing behavior and is commonly operationalized in terms of the frequency, duration, type, and location of pauses” (p. 40). Repair fluency (RF), as claimed by Suzuki and Kormos (2023), covers, by definition, “a range of disfluency phenomena, including self-corrections, false starts, and verbatim repetitions” (p. 40).

Suzuki and Kormos (2023), are the authors who proposed that the categories speed fluency, breakdown fluency, and repair fluency can be measured through eleven indicators. As shown in Figure 4.

**Figure 4**

*A Three Factor Model of Utterance Fluency*



*Note.* This figure illustrates a three-factor model consisting of speed, breakdown, and repair fluency categories, along with the indicators used to measure each category. Adapted from *The Multidimensionality of Second Language Oral Fluency: Interfacing Cognitive Fluency and Utterance Fluency* (p. 53), by Suzuki and Kormos, 2023, Cambridge University Press.

The variable *speed fluency* is measured through three indicators, as follow:

1. Articulation rate (AR). As per Suzuki and Kormos (2023), AR is measured by “the mean number of syllables produced per second, divided by total phonation time (i.e., total speech duration excluding pauses)” (p. 44).

2. Speech rate (SR). In accordance with Suzuki and Kormos (2023), SR is “the mean number of syllables produced per second, divided by total speech duration time, including pauses” (p. 44).

3. Mean length of run (MLR). Suzuki and Kormos (2023) explain that MLR is “the mean number of syllables produced in utterances between pauses” (p. 44).

The variable *breakdown fluency* is measured through five indicators, as follow:

1. Mid-clause pause ratio (MCPR). As Suzuki and Kormos (2023) claim, MCPR is “the mean number of silent pauses within clauses, divided by the total number of syllables produced” (p. 44).

2. End-clause pause ratio (ECPR). In the opinion of Suzuki and Kormos (2023), ECPR is “the mean number of silent pauses between clauses, divided by the total number of syllables produced” (p. 44).

3. Filled pause ratio (FPR). Suzuki and Kormos (2023) define FPR as “the mean number of filled pauses, divided by the total number of syllables produced” (p. 44).

4. Mid-clause pause duration (MCPD). Suzuki and Kormos (2023) state that MCPD is the “mean duration of pauses within clauses” (p. 45).

5. End-clause pause duration (ECPD). Suzuki and Kormos (2023) describe ECPD as the “mean duration of pauses between clauses” (p. 45).

The variable *repair fluency* is measured through three indicators, as follow:

1. Self-correction ratio (SCR). As per Suzuki and Kormos (2023), SCR is “the mean number of self-correction behaviors, divided by the total number of syllables produced” (p. 45).

2. False start ratio (FSR). Suzuki and Kormos (2023) interpret FSR as “the mean number of false starts/reformulations, divided by the total number of syllables produced” (p. 45).

3. Self-repetition ratio (SRR). According to Suzuki and Kormos (2023), SRR is “the mean number of self-repetitions, divided by the total number of syllables produced” (p. 45).

## **Research Design**

### **Introduction to the Research Design**

This chapter explains in detail the methodological design that is considered most appropriate to carry out the research, the context, the participants, the teacher-research role, and some ethical aspects to validate the study. Additionally, it describes the instruments used to collect data and the pedagogical intervention.

### **Methodological Design**

#### ***Research Method***

Action research was the methodology used for this study, as it aimed to find solutions to a specific issue that arose in a particular educational context, in this case, the English classroom. Regarding this type of research, Perez (2019) states that its main focus is the dialectical relationship between theory and educational practice, as it enables the teacher as the main actor of research through his own action to solve the problems encountered in the research process.

The proposed research is descriptive, quasi-experimental, mixed-type, and framed within Action Research (AR). In this type of research, study subjects are not randomly selected but are already established. Additionally, there is no contrast with a reference group without treatment, as occurs in experimental research (Cohen et al., 2007). The use of this methodology is justified in this research because it is appropriate for educational studies, where the aim is to describe the behavior of individuals in the face of different educational variables. In this case, it examines how the parameters of English utterance fluency change in these students due to the use of gamification and role-play.

The quasi-experimental research in this study focused on identifying how independent variables such as gamification and role-play were related to the dependent variable, fluency in

speech, and what impact they had on the previously established quantitative parameters. Due to its nature, there was no control over other elements that influenced the study subjects. Another advantage of using this type of research is that the teacher-researcher worked with a preexisting group of participants who met the study criteria and were also accessible, facilitating the process and reducing costs.

### ***Research Approach***

This research combines both a qualitative and quantitative approach; hence, it is a mixed approach. Qualitative research seeks to comprehend and interpret social and human reality (Jiménez, 2019), focusing on understanding people's individuality and their reality as a result. Therefore, this research operates under this approach due to the immersion and interaction of the teacher-researcher within the context where the study sample is located.

Pérez (2019) examined several references and found that category, coding, and triangulation with other authors were the most frequently used qualitative analysis techniques. In this study, these three techniques are applied.

The research approach used in this study is also quantitative, as inferential statistics is employed to estimate the utterance fluency variable within the communication process. This allows for determining the dispersion of the data when comparing the results of the pre-test with those of the post-test once the intervention process with the students has concluded. Additionally, the study utilizes the eleven numerical indicators proposed by Suzuki and Kormos (2023) to measure utterance fluency, including speed, breakdown, and fluency, as previously explained.

In summary, this research is of a mixed type because it combines both qualitative and quantitative approaches. The qualitative aspect is evident in the interventions aimed at improving

utterance fluency, while the quantitative aspect is expressed through the measurement of utterance fluency and the analysis of the results.

### **Context of the Research**

This study was carried out at Camilo Torres Restrepo, a public school located in Aguazul-Casanare. Since 1971, it has been offering education services at the primary and secondary levels. The school's mission is to educate individuals who possess the fundamental skills to contribute to the development of a progressive, communicative, tolerant, just, and socially aware society, prepared to face the challenges of the future.

This educational institution is characterized by serving a population aged between five to nineteen years during the day. The students come from both functional and dysfunctional families, with 75% belonging to strata 1 and 2. The institution also serves vulnerable individuals with special educational needs.

### ***Population and Sampling Procedures***

The target population for this study comprised 121 ninth-grade students from Camilo Torres Restrepo, specifically grades 9A, 9B, 9C, and 9D. The sample used in the study consisted of twenty-five 9D grade students. Among them, thirteen were female students aged between 14 and 17 years old, and the remaining twelve were male students aged between 14 and 16 years old. These students were classified as being at level A1 in English proficiency. They came from single-parent, nuclear, and extended families and belonged to socioeconomic strata levels 1 and 2. Their income mainly derived from both the informal and formal sectors of the urban economy. The participants attended English classes on Mondays and Wednesdays, with a duration of 3 hours per week. Prior to the study, all participants and their parents were informed about the study's objectives, and they voluntarily signed an informed consent form.

According to the purposes of this study, the selected sample procedure was non-probabilistic and the type was convenience sampling (Cohen et al., 2007). The teacher-researcher chose this sample because she was their full-time English teacher, which ensured unrestricted access to the sample. A common characteristic of the sample was that they were in the 9D grade and had a minimum proficiency level of A1 in English.

The representativeness of a non-probabilistic selective sample, like the one used in this study, is justified by the researcher's understanding that it does not aim to represent the entire population but rather represents itself, especially in small-scale research (Cohen et al., 2007).

### ***Ethical Protocol***

This research study based on improving English utterance fluency through gamification and the drama technique of role-play did not cause harm or adverse consequences to the students engaged in it. It offered the opportunity to assess a new learning strategy to improve the oral fluency competencies of the learners. Nevertheless, it was necessary to ask the participants for permission to use the data collected from the research and protect them from any harm or risk. Therefore, the following measures were implemented to minimize risks:

Only students whose parents or guardians signed the informed consent form were allowed to participate. The informed consent form included detailed information about the research, such as its objectives and the methods and timing of data collection.

The informed consent form was provided in Spanish to ensure that the adults responsible for the students understood the purpose of the research. It also informed them about the option to withdraw from the study without facing any academic consequences.

Also, participants' integrity, anonymity, and confidentiality were not compromised since the data collected during the study were kept private. Finally, the information collected did not ask questions related to personal or sensitive issues. It was only related to academic research.

The application of the data collection process was framed by the above-mentioned measures, which were established by the teacher-researcher and validated by the thesis advisor. To get access to the population, it was necessary to work at Camilo Torres Restrepo School and get permission from the academic coordinator. For this purpose, it was compulsory to fill out the format for academic projects established by the institution, in which aspects like the problem, justification, purpose, goal, indicator, methodology, timetable, resources, and project impact were included. Once this permission was granted, and as an English teacher in 9D grade, the intervention was made during the last term of the academic year. Parents or attendants of students had to sign the informed consent.

The informed consent gave specific information about the research and advised the population to read it carefully to decide whether the students could participate. To comply with the ethical considerations of the research, the students were informed that their participation was voluntary and that there would not be academic repercussions if they decided to withdraw from the study at any point.

### **Data Collection Techniques**

The data collection technique used in this research were the use of pre-designed tests with similar characteristics. An input one to know the baseline on five general questions to establish the utterance fluency. And an output one to evaluate the outcome of the intervention through gamification and role play. A pre-test is linked to a post-test in order to compare results before

the intervention versus after having used gamification and role play as learning strategies (Cohen et al., 2007).

### ***Description and Rationale of the Instruments***

**Utterance Fluency Pre-Post tests.** Pre-test and post-test designs are widely used in educational research, mainly to measure changes resulting from educational interventions. These designs allow researchers to categorize students, the subjects of study, into performance groups. In the proposed research, the aim was to determine the proportion of change in fluency parameter scores, categorizing the participants into four levels of performance; superior, advanced, intermediate, and low, similar to the levels proposed by Cuitiño et al. (2019), who identified the levels as outstanding, satisfactory, average, and low.

The test data collection technique is highly relevant to quasi-experimental studies that generate quantitative data. This technique involves analyzing the difference between pre- and post-strategy scores. If the mean post-test score is higher than the mean pre-test score, and there are significant changes in the proposed categorization, it can be concluded that the intervention might be responsible for the improvement. This conclusion is reached after analyzing the internal and external validity of the design (Cohen et al., 2007).

A pre-test was used to collect quantitative data (see Appendix B). The procedure for collecting the information was as follows: The material supporting the instrument was presented to the students in a PowerPoint presentation. The opening slide was shown to the entire group on the TV and consisted of six terms from a vocabulary list that was used in some of the pre-test questions. This was done to verify the students' understanding of the vocabulary.

The second slide presented a typical example of the questions that should be asked during the interview. Additionally, it included an image associated with the answer. This question was

numbered as zero (0) and was discussed with the entire group, explaining how they should respond, as follows:

Question 0: What is your name? Since the goal was to assess the students' English speaking fluency, it was emphasized that they should not only state their name but also provide additional information related to the question. Students were instructed to include parts of the question in their responses, such as their full name, how they are referred to by family, teachers, friends, and others, any nicknames they may have and their origins, among other relevant details. Spanish was exclusively used for all explanations related to the response model.

Once the participants had a general understanding of the research and its implications, the teacher-researcher proceeded to explain the interview process. The interviews were conducted individually, using a laptop, a voice recorder, five printed sheets of images, and a pen for data collection. The instrument was then administered to the sample.

Only one student was asked to remain in the classroom, while the remaining twenty-four students were requested to leave. This was done to prevent contamination of the sample by avoiding the students knowing the questions beforehand and having time to prepare their answers. The first participant sat in front of the teacher-researcher, who encouraged him to relax and approach the activity naturally. The student could read the question and see an image related to the answer on the teacher's laptop. Additionally, the teacher verbally asked the question, verified the student's comprehension, and displayed a physical image associated with the answer to the participant.

After understanding the question, the student was given approximately ten seconds to organize his answer. The participant signaled readiness to answer with a hand gesture, and the response was recorded. Once again, the student signaled completion of their answer with a hand

gesture, and the recording was paused accordingly. It is important to note that the voice recording captures only the five answers each participant provided to the five pre-test questions.

At the conclusion of each interview with a participant, the teacher-researcher saved the audio, asked the participant to leave the room, and then called in the next participant as per the list. The importance of keeping the questions confidential from the other students was emphasized to prevent them from pre-planning their responses. This procedure was repeated for all 25 students, allowing the teacher-researcher to obtain audio recordings from each participant.

After completing the research, students took the post-test to assess whether the pedagogical intervention using gamification and role play had impacted students' utterance fluency (see Appendix C). The data collection procedure for the post-test was similar to that of the pre-test. Once again, the interviews were conducted individually, using a laptop, a voice recorder, five printed sheets of images, and a pen for data collection. The instrument was then administered to the sample.

Only one student was asked to remain in the classroom, while the remaining twenty-four students were asked to leave. The first participant sat in front of the teacher-researcher and responded to five (5) similar questions used in the initial utterance fluency test (pre-test). The teacher verbally asked each question, verified the student's understanding, and displayed a physical image associated with the answer to the participant.

After understanding the question, the student was given approximately ten seconds to organize their answer. The participant signaled readiness to answer with a hand gesture, and the response was recorded. Once again, the student signaled completion of their answer with a hand gesture, and the recording was paused accordingly. It should be clarified that the voice recording only captured the five answers each participant provided to each of the five post-test questions.

At the conclusion of each interview with a participant, the teacher-researcher saved the audio, asked the participant to leave the room, and then called in the next participant as per the list. This procedure was repeated for all 25 students, allowing the teacher-researcher to obtain audio recordings from each participant.

**Teacher-researcher Field Diary.** The researcher uses a field journal to write what he observes, hears, and perceives through his senses (Hernández, 2017). Hence, this instrument allowed the teacher-researcher to make notes about reflections, ideas, emotions, thoughts, perspectives, and reactions of the students during the implementation of the pedagogical intervention, following the communicative language strategies proposed by Brown (2003) to stimulate the ability to communicate fluently (see Appendix E).

### ***Validation Procedures***

Validity refers to 'the extent to which instruments measure what they are intended to measure' (Huertas & Oyola, 2017). To validate the pre-test designed to assess students' utterance fluency, it was necessary to have two English teachers from Camilo Restrepo School review the instrument to ensure its effectiveness. Both experts validated it through a written interview, where the English teachers responded to six (6) items: logical questions, conversational interaction, understandable vocabulary, inquiries about oral English fluency, question length, and suggestions for improvement.

### **Pedagogical Intervention and Application**

The intervention was designed according to the communicative language strategies proposed by Brown (2003) to stimulate the ability to communicate fluently. Six proposals of intervention were developed focusing on the following topics: ability to use speed in favor, ability to use pauses and hesitations, ability to give appropriate feedback, ability to self-correct in

a dialogue, ability to clarify the message effectively, and ability to negotiate meanings in a conversation when necessary. Each proposal of intervention comprised six components: overall time, grade, date, lesson, objective, teacher materials, student materials, introduction, warm-up, lead-in, practice, and assessment.

Over a period of six weeks, the teacher-researcher implemented the pedagogical intervention by spending 20 minutes at the beginning of each Wednesday class explaining a communicative language strategy aimed at enhancing fluent communication. Following each intervention, students engaged in role-plays based on the video game 'Trace Effects' to apply the communicative language strategies that had been explained (see Appendix D).

### ***The Video Game – Trace Effects***

Trace Effects is a video game released by the Ministry of State/Bureau of Educational and Cultural Affairs/USA for the first time in 2014. It serves as a didactic resource designed with pedagogical objectives for students aged 12-16. The concept behind the game is that as students play, they enhance their English language skills as a foreign language (United States Department of State, 2012).

By definition, the video game is a 3-D software program that can be accessed offline as a DVD. It has gained widespread use worldwide as one of the most important and successful tools for English Language Learning (ELL). The game's guidelines are exceptionally clear and easy to understand, making them straightforward to implement. This video game was selected because, during the Colombia Bilingual program from 2014 to 2018, the National Ministry of Education introduced it as a didactic tool to be used in public schools to enhance students' English communication skills.

Furthermore, two international studies support the benefits of this educational tool in enhancing players' linguistic competence. These studies are: 'Promoting EFL Learners' Linguistic Competence via Videogame Play: Trace Effects: An Empirical Study' by Khidhir and Wali (2019), and 'Using “Trace Effect” Computer Video Games as a Didactic Tool in the EFL Classroom to Enhance Students' Vocabulary in Eleventh Grade at San José de Calasanz High School' by Iñamagua (2016). These studies were previously discussed in detail in the literature review section.

The video game was played for two hours on Wednesdays over a span of seven weeks. Students were always socializing strategies to obtain points, rewards, and badges. For this, it was necessary to understand the vocabulary and expressions used in the different scenes of each of the seven chapters. The teacher-researcher was always supporting the learning process, clearing up students' doubts and providing meaningful feedback. For a detailed overview of how Chapter 1 of the video game unfolds, please refer to Wilfrido (2021). The remaining six chapters can be found within this YouTube account.

### ***Role Play***

The technique of role play was used to promote utterance fluency among learners. According to Altun (2015), role-play is a study in which students act out specific roles through saying and doing. In addition, the same author adds that role play has been found to be an extremely successful methodology for teaching languages. High levels of thinking, feeling, and movement are involved, and this eventually helps to build skills in the language learning process.

Role play allows the development of communicative competences. Students need to use their grammar and vocabulary knowledge to communicate in the target language. Hence, this drama technique is an excellent tool to improve utterance fluency in the classroom. Cuitiño et al.

(2019) states that role play is the typical social communicative activity within a communicative approach.

For the purposes of this research, a peer mode was used to improve utterance fluency. Random couples were formed and given communicative situations based on scenes from the video game 'Trace Effects,' which students had previously engaged with. Subsequently, they presented by heart the short six dialogues of approximately 5 to 7 communicative exchanges, having in mind the communicative language strategies proposed by Brown (2003). The topics of the role-plays included greetings and farewells, places, professions, food, clothes, and prices (Appendix D).

## **Data Analysis**

### **Introduction to Data Analysis and Findings**

This section covers the following aspects: data management procedure, the mathematical expression of the indicators, data layout, the findings, their graphical representation, illustrating how gamification and role play influenced each of the indicators. Additionally, it presents the results obtained from inferential statistical techniques, including the Shapiro-Wilk normality test and the Wilcoxon test.

### **Data Management Procedures**

For obtaining the parameter total speech duration time in seconds, including pauses, the duration of the mp3 audio of each student was taken. The online application Syllable Counter, which counts the total number of syllables in a word or sentence, was used to determine the number of syllables produced. To establish the number of silence pauses within clauses, it was done manually by listening to each of the audios. The same procedure was repeated for obtaining the values of the number of self-corrections and the number of self-repetitions.

To establish the number of filled pauses, it was counted the times that appeared fillers like *uhm*, *eer*, *uh*, and *umm* (Brown, 2001). The total phonation time was calculated by taking the total speech duration time in seconds minus the total number of silence pauses.

### ***The Indicators' Mathematical Expression***

Identification and classification consist of examining some common elements in the data that allow them to be classified into content categories. The categorization was carried out in accordance with Suzuky and Kormos (2023), who theoretically proposed eleven indicators to measure the utterance fluency.

The initial letters of each category's headings were used in the codification; the data collection was divided into three main categories: *Speed fluency*, *Breakdown fluency*, and *Repair fluency*. For this study, the first category, *Speed fluency (SF)*, was subdivided into two indicators, Articulation rate (AR) and Speech rate (SR), because they were the most relevant to the speech level of the population under study.

For the second category, *Breakdown fluency*, two indicators were taken: Mid-clause pause ratio (MCPR) and Filled pause ratio (FPR), for being the most representative selected students' pauses when they spoke in English. For the third category, *Repair fluency*, two indicators were analyzed: *Self-correction ratio (SCR)* and *Self-repetition ratio (SRR)*, because they were the resources most used by the students in this study. Once the six (6) indicators mentioned above were established, a spreadsheet was constructed in which the formulas proposed by Suzuki and Kormos (2023) for both the pre-intervention and post-intervention were operationalized.

### ***Layout***

Rating scale for speed rate (SR): low SR occurs when the value of the indicator is  $x \leq 0.5$ ; intermediate SR occurs between  $0.51 \leq x \leq 0.84$ ; advanced SR occurs between the ranges  $0.85 \leq x \leq 1.09$ ; and superior SR occurs when the range is  $x \geq 1.10$ .

Rating scale for articulation rate (AR): low AR occurs when the value of the indicator is  $x \leq 0.9$ ; intermediate AR occurs between  $0.91 \leq x \leq 1.24$ ; advanced AR occurs between the ranges  $1.25 \leq x \leq 1.49$ ; and superior AR occurs when the range is  $x \geq 1.5$ .

Rating scale for Mid-clause pause ratio (MCPR): low MCPR occurs when the value of the indicator is  $x \geq 0.08$ ; intermediate MCPR occurs between  $0.06 \leq x \leq 0.07$ ; advanced MCPR

occurs between the ranges  $0,04 \leq x \leq 0,05$ , and superior MCPR occurs when the range is  $x \leq 0,03$ .

Rating scale for filled pause ratio (FPR): low FPR occurs when the value of the indicator is  $x = 0,0$ ; intermediate FPR occurs between  $0,0 < x \leq 0,25$ ; advanced FPR occurs between the ranges  $0,26 \leq x \leq 0,45$ ; and superior FPR occurs when the range is  $x \geq 0,46$ .

Rating scale for Self-repetition ratio (SRR): low SRR occurs when the value of the indicator is  $x \geq 0,07$ ; intermediate SRR occurs between  $0,04 \leq x \leq 0,06$ ; advanced SRR occurs between the ranges  $0,01 \leq x \leq 0,03$ ; and superior SRR occurs when the range is  $x = 0$ .

Rating scale for Self-correction ratio (SCR): low SCR occurs when the value of the indicator is  $x = 0,0$ ; intermediate SCR occurs between  $0,01 \leq x \leq 0,02$ ; advanced SCR occurs between the ranges  $0,03 \leq x \leq 0,04$ , and superior SCR occurs when the range is  $x \geq 0,05$ .

For the analysis of normality, we conducted the Shapiro-Wilk non-parametric test on independent samples to assess the variable involved in the pre-intervention process. We formulated the hypothesis test as follows:  $H_0: \mu_1 = \mu_2$ , indicating no significant difference between the averages of the dimensions intervened prior to implementing gamification and role play strategies; and  $H_a: \mu_1 \neq \mu_2$ , indicating a significant difference between the averages of the dimensions before implementing gamification and role play strategies. Based on the decision criterion: If the (p-value) is  $\geq 0,05$ , we do not reject  $H_0$  (indicating no differences). If the (p-value) is  $< 0,05$ , we reject  $H_0$  (indicating differences).

The Wilcoxon Test of Related Samples (a Non-Parametric test) was utilized to assess whether the differences shown in the charts are statistically significant. A comparison of the averages was conducted between the pre-intervention data and the post-intervention data. The

Wilcoxon signed-rank test in SPSS was employed to ascertain the significance of these differences.

### Results of Utterance Fluency Level

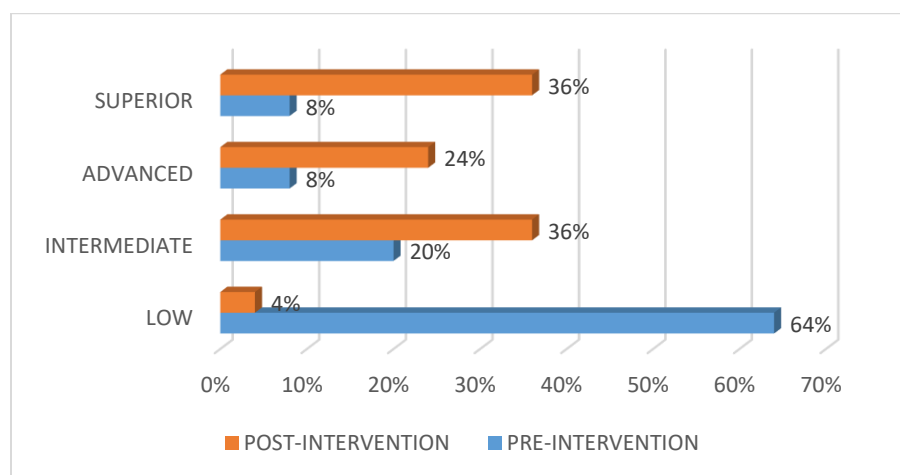
In accordance with the first specific objective of this study, which aims to analyze the level of students' English utterance fluency before and after the research study the following graphs are presented to explain and correlate the findings.

The data were expressed using numerical and graphical language, employing relative percentages. Frequency data histograms were presented, where the X-axis depicted relative percentages and the Y-axis represented each fluency indicator. Performance levels were indicated by a blue color for the initial scenario and a red color for the final scenario, with performance levels categorized as low, intermediate, advanced, and superior. Results were charted for both pre-intervention and post-intervention phases.

Figure 5 illustrates the *Speed Fluency* category for the Articulation Rate (AR) indicator.

**Figure 5**

*Performance Articulation Rate (AR)*



*Note.* This figure illustrates the enhancement in the Articulation Rate (AR) indicator across all performance levels when comparing the initial situation with the final situation.

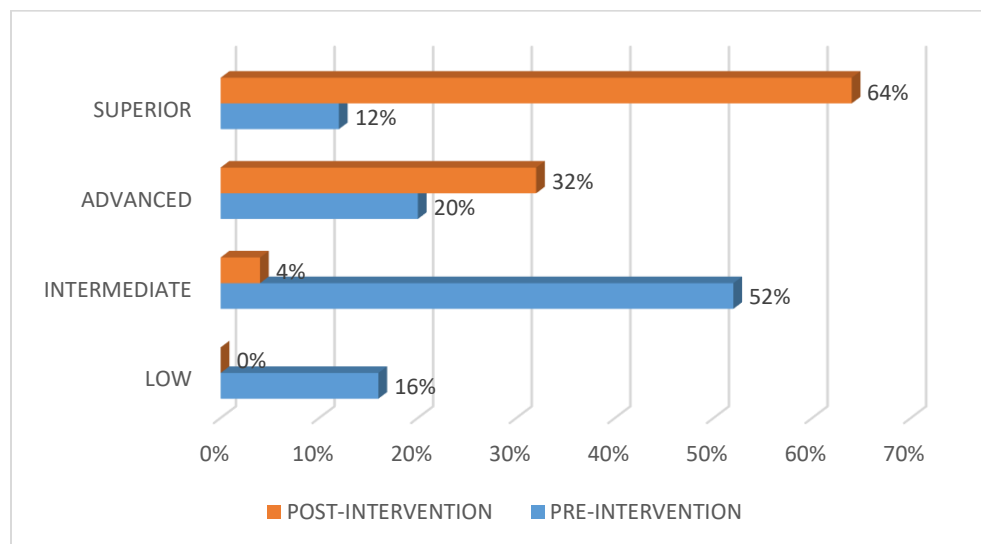
Regarding the Articulation Rate (AR) indicator, when comparing the initial situation with the final situation, an enhancement was observed across all performance levels, demonstrating that the majority of students increased the number of words produced during phonation time (see Figure 5). Furthermore, there was a decrease in the performance level *Low* and an increase in the *Superior* level.

The improvement was achieved by working on Brown's (2003) first communicative strategy, known as the 'ability to use speed to their advantage,' using the scene from the gamified game where the main avatar asks for information about his ID card. This allowed students, while playing the game, to observe what communication with appropriate vocalization is like. This indicator was reinforced with the first role play, which focused on greetings and farewells, resulting in students pronouncing sentences more effectively.

Figure 6 illustrates the *Speed Fluency* category for the Speech Rate (SR) indicator.

**Figure 6**

*Performance Speech Rate (SR)*

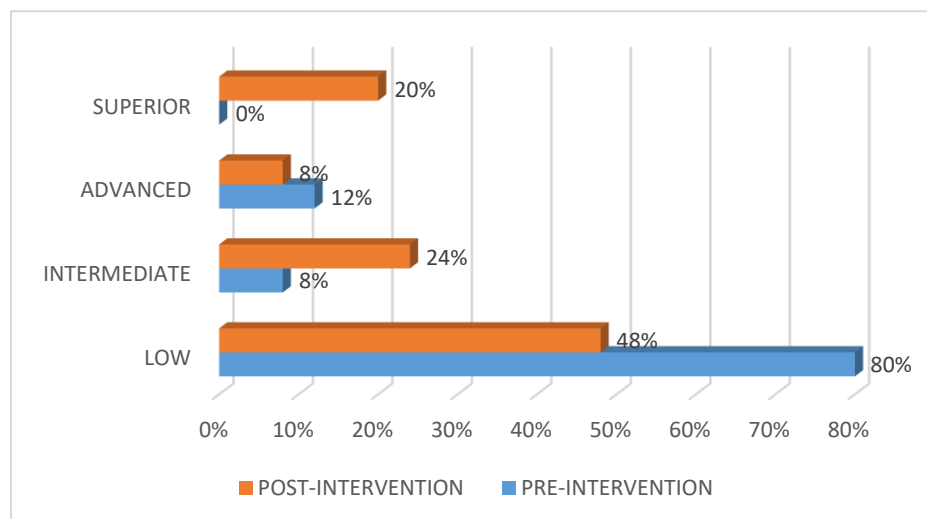


*Note.* This figure illustrates the enhancement in the Speech Rate (SR) indicator across all performance levels when comparing the initial situation with the final situation.

In relation to the Speech Rate (SR) indicator, when comparing the performance between pre-intervention and post-intervention, an enhancement in the advanced and superior performance levels can be visualized (see Figure 6). This indicates that students were able to construct more elaborate sentences when communicating their ideas orally.

This improvement was achieved by working on two of Brown's (2003) communicative language strategies: the 'ability to use speed to their advantage' and the 'ability to negotiate meanings in a conversation'. These strategies were applied using scenes from the gamified game where the main avatar asks for information about his ID card and the farmer's market scene. This allowed students, while navigating the game, to observe how communication with an appropriate pace occurs and how the negotiation of meanings using body language is conducted. This was reinforced with the first role play, which had greetings and farewells as its main theme, and the sixth role-play, which focused on prices in the farmer's market, enabling students to talk at a pace that was neither too slow nor too fast.

The following graph illustrates the *Breakdown Fluency* category for the Mid-Clause Pause Ratio (MCPR) indicator.

**Figure 7***Performance Mid-Clause Pause Ratio (MCPR)*

*Note.* This figure illustrates the enhancement in the Performance Mid-Clause Pause Ratio (MCPR) indicator across all performance levels when comparing the initial situation with the final situation.

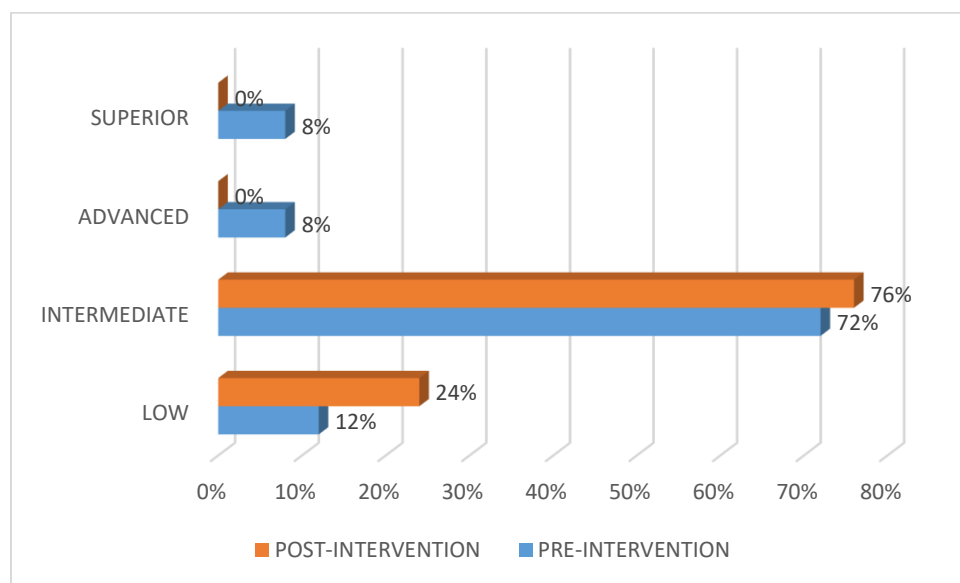
Regarding the Mid-Clause Pause Ratio (MCPR) indicator, when comparing the initial situation with the final situation, an enhancement is evident in the superior, intermediate, and advanced performance levels (see Figure 7). This indicates a reduction in the silent pauses between words within the same sentence, thereby reducing the disruption of fluency in their oral interventions.

The improvement was achieved by working on Brown's (2003) second communicative strategy, known as the 'ability to use pauses and hesitations in favor' using the scene from the game of the 'Student Services Office'; while participants were playing the game, they observed how communication with an appropriate rhythm occurs. This was reinforced with the third role play, which had 'places' as its main theme, enabling students to avoid making pauses within sentences and instead make them at the end.

The following graph illustrates the *Breakdown Fluency* category for the Filled Pause Ratio (FPR) indicator.

**Figure 8**

*Performance Filled Pause Ratio (FPR)*



*Note.* This figure illustrates the enhancement in the Filled Pause Ratio (FPR) indicator across all performance levels when comparing the initial situation with the final situation.

In relation to the Filled Pause Ratio (FPR) indicator, it can be observed that the most representative performance levels were intermediate and low (see Figure 8). Therefore, there was a decline between the initial and final situations as the use of fillers between sentences decreased. This demonstrates that this fluency indicator can be further enhanced through the use of specific words and sounds that would improve the student's discourse.

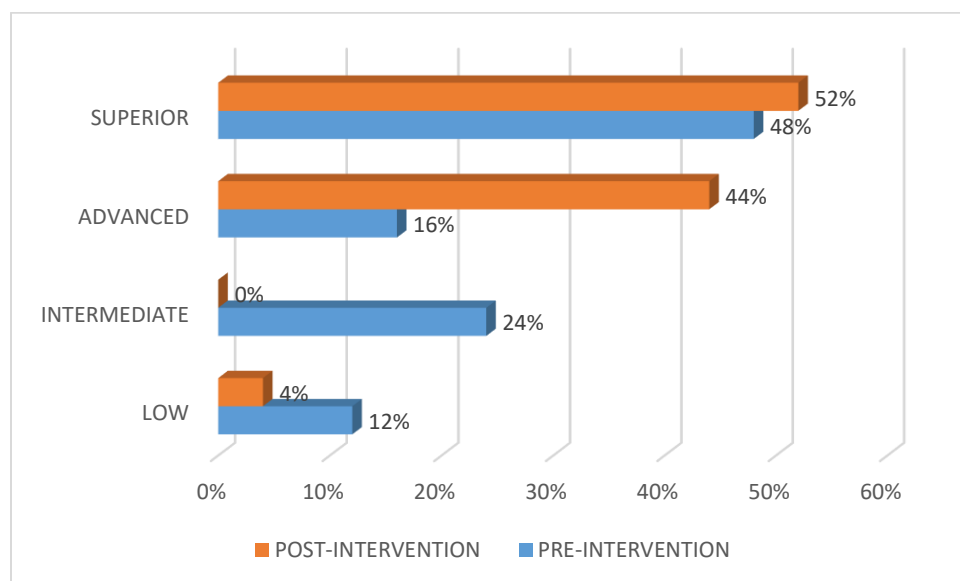
This improvement was achieved by working on two of Brown's (2003) communicative language strategies: the 'ability to use pauses and hesitations in favor' and the 'ability to give appropriate feedback'. These strategies were applied using scenes from the game at the 'Student

Services Office’ and in the ‘library’; while participants were navigating the game, they observed how filler words and sounds are used in a conversation. This was reinforced with the second and third role plays, which had ‘places’ and ‘professions’ as their main themes, helping students to use filler sounds but not filler words.

The following graph illustrates the *Repair fluency* category for the Self-Repetition Ratio (SRR) indicator.

**Figure 9**

*Performance Self-Repetition Ratio (SRR)*



*Note.* This figure illustrates the enhancement in the Self-Repetition Ratio (SRR) indicator across all performance levels when comparing the initial situation with the final situation.

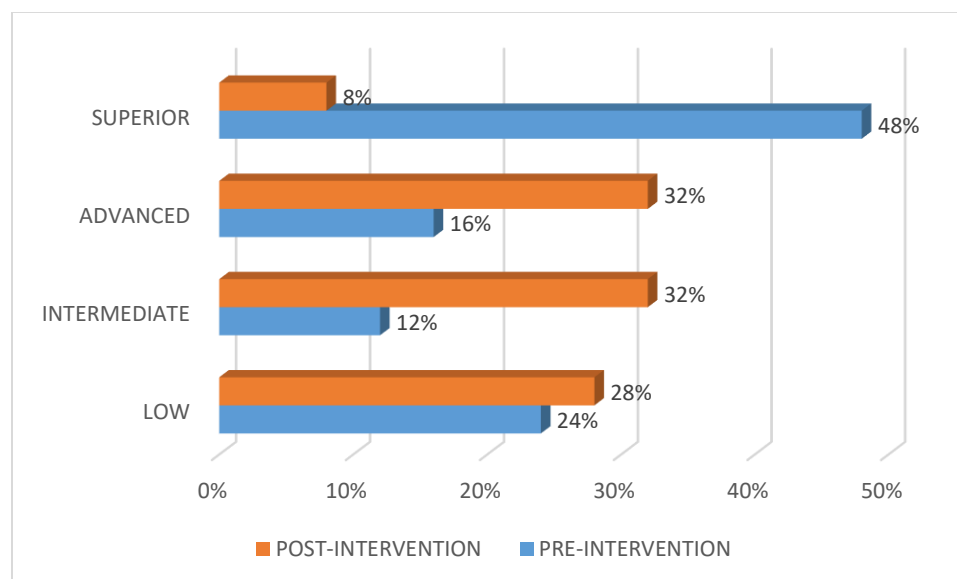
With regard to the Self-Repetition Ratio (SRR) indicator, an enhancement can be observed in the advanced and superior performance levels (see Figure 9). This indicates that students reduced the repetition of words during their oral production, demonstrating increased cohesion and fluency in discourse.

The improvement was achieved by working on Brown's (2003) fifth communicative strategy, known as the 'ability to clarify the message effectively' using the scene from the game at the 'Quad'; while participants were navigating the game, they experienced the need to avoid repeating words in the communicative process. This was reinforced with the fifth role play, which had 'clothes' as its main theme, where the students tried not to repeat words, and if they did, it was as a last resort to clarify the message.

The following graph illustrates the *Repair fluency* category for the Self-correction ratio (SCR) indicator.

**Figure 10**

*Performance Self-Correction Ratio (SCR)*



*Note.* This figure illustrates the enhancement in the Self-Correction Ratio (SCR) indicator across all performance levels when comparing the initial situation with the final situation.

With respect to the Self-correction ratio (SCR) indicator, a boost is observed in the intermediate and advanced performance levels (see figure 10). This demonstrates that students

increased their self-correction behavior when pronouncing certain words in English, improving the communicative act that is what is pursued when studying a second language.

This improvement was achieved by working on two of Brown's (2003) communicative language strategies: the 'ability to give appropriate feedback' and the 'ability to self-correct in a dialogue'. These strategies were applied using scenes from the gamified game at the 'sandwich shop' and at the 'library'. This required students to self-correct while navigating the game in order to progress according to the game's dynamics and earn badges, points and rewards. This was reinforced with the second and third role plays, which had 'jobs' and 'food' as their main themes, ensuring that participants self-corrected any errors in their communicative exchanges. It should be noted that in all scenes of the game, both articulation and speed, as well as self-correction, are addressed.

In summary, the six indicators had a positive impact on improving utterance fluency, which is reflected in better participation at the higher and advanced levels in most of them, considering the comparison between pre-intervention and post-intervention.

Next, the qualitative analysis is presented, addressing the second objective of this research: improving students' English utterance fluency through gamification and role-play as didactic techniques.

### **Results of the Pedagogical Intervention**

Regarding the proposal to improve utterance fluency (see Table 2), the pedagogical intervention aimed to enhance the proficiency in using hesitations and pauses while promoting speed. Furthermore, it aimed to encourage self-correction during conversations and enhance clarity in verbal communication. Brown (2003) discussed the communicative language strategies of enhancing conversational fluency in English.

In the first column of Table 2, the six communicative language strategies are presented. The subsequent columns display the perceived complexity experienced by the students, according to the difficulty level description matrix (Appendix F).

**Table 2**

*Level of Difficulty of the Intervention Proposal*

Communicative Language Strategies (Brown 2003)	Medium*	Difficulty Levels	Low*
Ability to use speed to their advantage	<p>“They assimilated the management of speed in their favor positively, although there were students who went to the other extreme, and speaking too slowly made it confusing to understand the message.” (Appendix E).</p>		
Ability to use pauses and hesitations in favor.		<p>“The use of filler expressions such as 'uhm,' 'eee,' 'uh,' and 'umm' was easily assimilated by the students. However, they found it challenging to use filler words like 'ok,' 'you know,' 'well,' 'so,' etc., perhaps because they had a very limited vocabulary.” (Appendix E).</p>	
Ability to give appropriate feedback			<p>“In pairs where one student had a good mastery of role-playing, feedback was provided using gestures such as nodding in agreement or words like 'right,' 'yeah,' 'okay.' (Appendix E)</p>
Ability to self-correct in a dialogue.			<p>“Self-corrections became more evident when students experienced false starts or stuttering, causing them to acknowledge their mistake with phrases like 'no, that's not right' or 'again, I made a mistake' and</p>

	attempt to rephrase their intervention according to the role-playing game's guideline.” (Appendix E).
Ability to clarify the message effectively	“They used word repetition to clarify messages and also used their bodies to indicate which clothing item they were referring to.” (Appendix E).
Ability to negotiate meanings in a conversation	“This time, the students demonstrated improved participation and collaboration among themselves to clarify the message using hand gestures and repetition of expressions to negotiate meanings” (Appendix E).

*Note.* This table shows the levels of difficulty perceived by the teacher in her researcher’s diary related to the proposal of interventions to boost the utterance fluency among the students.

\* For a description of the levels, see Appendix F.

### **Results of Inferential Statistics**

The research applied inferential statistical techniques that allow to formalize second-order elaborations, between what is found in the pre-intervention with what the post-intervention throws, and determine the significance between the differences.

The following statistical analysis addresses the third specific objective of this research: to describe, through inferential statistics, the pedagogical intervention on the utterance fluency behavior in the students.

#### ***Inferential Statistical Techniques***

The Shapiro-Wilk normality test in SPSS is relevant for sample sizes below 50; the value of  $W$  is between zero and one. Small values of  $W$  reject normality, while values close to one indicate normality of the data. The null hypothesis with a 95% confidence level for the

categories; fluency and oral accuracy pre and post intervention don't follow a normal distribution if  $p < .05$  (Salas, 2022 and Cuitiño et al., 2019).

The Wilcoxon Test of Related Samples (Non-Parametric) was used to verify whether the differences exposed in the charts are statistically significant. There was a comparison of averages between the pre-intervention and post-intervention data. The Wilcoxon sign rank test in SPSS was applied to determine whether these differences were significant. Thus, it can be concluded that the increase in oral fluency and accuracy is significant between the measurements carried out before (pre-intervention) and after (post-intervention), implementing the didactic strategies of gamification and role-play ( $Z = -1.98$ ,  $p < .05$ ) with a 95% reliability. The statistical package IBM SPSS Statistics version 26 was used for the calculation of these tests.

**Shapiro\_wilk Normality Test Analysis.** Table 3 presents the results of the Shapiro-Wilk normality test in SPSS for the pre-intervention and post-intervention phases. The first column lists the six indicators selected for this research, which measure utterance fluency according to the model proposed by Suzuki and Kormos (2023). The column labeled "Estadístico" corresponds to the medians of the data for each indicator; the column labeled "gl" indicates the sample size; and the column labeled "Sig" provides the significance level with 95% confidence. It should be noted that values less than 0.05 indicate non-normal behavior in the data, necessitating the use of a non-parametric statistical test for subsequent analysis.

**Table 3***Shapiro-Wilk Normality Test Result in SPSS*

Indicators	Pre-intervention			Post-intervention		
	Estadístico	gl	Sig.	Estadístico	gl	Sig.
SR	0,913	25	0,036	0,926	25	0,071
AR	0,918	25	0,047	0,930	25	0,086
MCPR	0,724	25	0,000	0,927	25	0,074
FPR	0,814	25	0,000	0,823	25	0,001
SRR	0,816	25	0,000	0,770	25	0,000
SCR	0,920	25	0,052	0,928	25	0,080
TOTAL	0,850	25	0,023	0,884	25	0,054

*Note.* This table displays the Shapiro-Wilk normality test results for both pre-intervention and post-intervention phases. It includes six indicators of utterance fluency based on Suzuki and Kormos's (2023) model and presents the data processed using SPSS V26 software.

Meaning of each indicator

SR: Number of syllables produced divided by total speech duration time, including pauses.

AR: Number of syllables produced per second, divided by total phonation time.

MCPR: Number of silent pauses within clauses, divided by the total number of syllables produced

FPR: Number of filled pauses, divided by the total number of syllables produced

SRR: Number of self-repetitions, divided by the total number of syllables produced.

SCR: Number of self-correction behaviors, divided by the total number of syllables produced.

The present analysis examines the normality of six speech fluency indicators (SR, AR, MCPR, FPR, SRR, and SCR) using a pre-intervention dataset. The Shapiro-Wilk test was employed to determine if these variables exhibited a normal distribution.

The findings indicate that the MCPR (Silent pauses between clauses/Total syllables) and FPR (Filled pauses/Total syllables) indicators do not adhere to a normal distribution as their p-values are less than 0.001. In the case of the SRR parameter (Self-repetitions/Total syllables), the test evidence ( $p < 0.001$ ) suggests that the distribution of self-repetitions in participants' speech is likely not normal. This indicates that the pattern of self-repetition frequency may differ from what is expected in a normal distribution.

On the other hand, the SR (Syllables/Total duration), AR (Syllables/Second-phonation time), and SCR (Self-corrections/Total syllables) indicators exhibit greater ambiguity regarding their normality ( $p = 0.05$ ). This implies that a more thorough analysis of the relationship between syllable speed, syllables per second rate, self-corrections, and speech fluency in the pre-intervention context is required, as these variables may have a non-normal distribution.

Based on the results, we conclude that there is sufficient statistical evidence to assert that the MCPR, FPR, and SRR indicators, which are related to silent pauses, filled pauses, and self-repetitions, may not follow a normal distribution in the pre-test of speech fluency. The normality of SR, AR, and SCR, which measure aspects of speech speed and accuracy, is less evident.

For the post-intervention analysis, we first examined the SR indicator, which represents the relationship between the number of syllables produced and the total speech duration, and we discovered indications of a possible normal distribution at both assessment points. The p-values for the pre-intervention were 0.036 and 0.071 for the post-intervention, demonstrating this. It is important to note that the Shapiro-Wilk test can be sensitive to large samples, which may result

in statistical significance even when deviations from normality are minimal. However, these values are lower than the typical significance level of 0.05, which would indicate a deviation from normality.

Secondly, we examined the AR indicator, which measures the rate of syllables produced per second in relation to the total phonation time. We observed a possible normal distribution at both assessment points, with p-values of 0.047 for the pre-intervention and 0.086 for the post-intervention. Again, the same caution should be applied regarding the sensitivity of the Shapiro-Wilk test to large samples, even if these values are lower than 0.05, which would indicate a possible normal deviation.

On the other hand, the MCPR indicator shows a significant change between pre-intervention and post-intervention, reflecting silent pauses between clauses in relation to the total number of syllables produced. In the previous analysis, the data clearly show a non-normal distribution ( $p < 0.001$ ), whereas in the subsequent analysis, the distribution seems to have shifted towards a possible normality, with a p-value of 0.074. This change could indicate a shift in the pattern of silent interruptions throughout the study.

However, the FPR and SRR indicators, which represent the frequency of filled pauses and self-repetitions in relation to the total number of syllables produced, respectively, maintain a non-normal distribution in both examinations. In the previous examination, the p-values were less than 0.001, and in the subsequent examinations, the p-values were close to zero. This demonstrates that neither of these utterance fluency elements is normally distributed at any assessment point.

Finally, both the pre-intervention and post-intervention show a possible normal distribution ( $p = 0.052$ ), while the SCR indicator reflects the frequency of self-corrections in relation to the total number of syllables produced.

**Wilcoxon Signed-Rank Test Analysis.** As it has already been determined that the data is dispersed, it became necessary to use the Wilcoxon test as a non-parametric statistical method to demonstrate the relationship between the independent variables, gamification and role play, and the dependent variable, utterance fluency.

In the left column, Z is the statistic representing the standard deviation of the medians, and Sig. is the significance level with 99% confidence ( $p \leq 0.001$ ). If it is less than 0.001, there are significant differences between the standard deviations. In columns 2, 3, 4, 5, 6, and 7, the values for each indicator are listed.

**Table 4**

*Significance Results by Indicator*

	SR	AR	MCPR	FPR	SRR	SCR
Z	-4,372	-4,372	-4,103	-3,680	-1,630	-3,007
Sig.	,000	,000	,000	,000	,103	,003

*Note.* This table shows the Wilcoxon Signed-Rank Test results, used to analyze the relationship between gamification, role play, and utterance fluency.

Where each category is composed of two indicators, namely:

Speed fluency

SR: Comparison of the indicator post-intervention and pre-intervention number of syllables produced divided by total speech duration time, including pauses.

AR: Comparison of the indicator post-intervention and pre-intervention number of syllables produced per second, divided by total phonation time.

#### Breakdown Fluency

MCPR: Comparison of the indicator post-intervention and pre-intervention number of silent pauses within clauses, divided by the total number of syllables produced

FPR: Comparison of the indicator post-intervention and pre-intervention number of filled pauses, divided by the total number of syllables produced.

#### Repair fluency

SRR: Comparison of the indicator post-intervention and pre-intervention number of self-repetitions, divided by the total number of syllables produced.

SCR: Comparison of the indicator post-intervention and pre-intervention number of self-correction behaviors, divided by the total number of syllables produced.

The analysis of the Wilcoxon significance test revealed significant differences between the pre-intervention and post-intervention results in various aspects related to speech fluency. A statistically significant difference was observed ( $Z = -4.372$ ,  $p = 0.001$ ) when considering the SR category (Syllables per Total Duration). According to this result, participants, based on the elements obtained from gamification and role play, were able to articulate a greater number of syllables compared to the total speech duration after the intervention.

Given that participants were able to convey more information in the same time period, this improvement can be interpreted as increased efficiency in verbal expression due to gamification and role play. Additionally, the AR indicator (Syllables per Second-Phonation time)

showed a significant difference ( $Z = -4.372$ ,  $p = 0.001$ ). This finding demonstrates that the syllable production rate per second increased significantly after the intervention. The improvement in verbal production speed indicates that participants have a more fluent and effective oral communication due to gamification and role play.

In summary, statistically significant differences are evident in the speed fluency category, demonstrating that gamification and role-play strategies help improve students' performance in utterance fluency in a second language.

Similarly, we found a highly significant difference ( $Z = -4.103$ ,  $p = 0.001$ ) in the MCPR indicator (Silent pauses between clauses per total syllables). This result indicates that the pattern of silent pauses between clauses has changed significantly in relation to the total number of syllables produced. Increased cohesion and fluency in discourse may be indicated by a reduction in silent pauses, suggesting an improvement in speech organization and structure due to gamification and role play.

In the same way, a statistically significant difference was found in the FPR parameter (Filled pauses per total syllables) ( $Z = -3.680$ ,  $p = 0.001$ ). This difference indicates a significant change in the amount of filled pauses compared to the total number of syllables produced after the intervention. Since participants may have reduced interruptions during their speech, a decrease in filled pauses can indicate an improvement in articulation and speech fluency. In sum, statistically significant differences are evidenced in breakdown fluency, demonstrating that gamification and role-play strategies serve to improve this aspect of students' performance in utterance fluency in a second language.

No significant differences were found between the pre-intervention and post-intervention regarding the SRR indicator (Self-repetitions per Total Syllables) ( $Z = -1.630$ ,  $p > 0.05$ ). This

indicates that the intervention did not significantly alter the frequency of self-repetitions. It is essential to note that, although this aspect did not improve, there were significant changes in other areas of speech fluency, indicating that the intervention had an overall positive effect. Finally, the SCR indicator (Self-corrections per Total Syllables) showed a statistically significant difference ( $Z = -3.007$ ,  $p = 0.003$ ). This difference indicates a significant change in the frequency of self-corrections compared to the total number of syllables produced after the intervention. A higher frequency of self-correction can indicate increased self-awareness and correction during speech, suggesting an improvement in speech accuracy and quality.

Therefore, statistically, an improvement in the repair fluency category cannot be demonstrated because there is evidence of improvement in the self-correction indicator, but the same did not occur with the self-repetition indicator. Therefore, in this parameter, it is not evident that these gamification and role-play strategies serve to improve students' performance in utterance fluency in a second language.

In summary, these findings highlight the benefit of the intervention in most aspects of utterance fluency, including discourse organization and accuracy, syllable production quantity, and speed. This indicates that the intervention through the didactic strategies of gamification and role-play was effective in improving the communication skills of the participants.

## Discussions and Conclusions

This chapter contrasts the research findings with those reported in the literature, based on the state of the art and literature review. Additionally, the Methodological Design section establishes triangulation with other authors who have conducted similar studies. It also presents the conclusions, pedagogical implications, limitations, and areas for further research that have emerged from the data analysis.

### Discussion of the Results from the Level of Utterance Fluency

The basis for comparison was the study conducted by Cuitiño et al. (2019) because it utilizes a common pedagogical strategy, role play. Additionally, it is a classroom study on utterance fluency in Latin America, methodologically working with pre-intervention and post-intervention phases. Finally, it employed common categories such as speed fluency, breakdown fluency, and repair fluency, which were initially proposed by Skehan (2009).

Table 5 presents the percentage results by category according to performance levels for both the pre-intervention and post-intervention phases, for this study as well as for the study by Cuitiño et al. (2019).

**Table 5**

*Percentage Results by Category According to Performance Levels*

Category	Level of performance	Pre-intervention		Post-intervention	
		(Restrepo, 2024)	(Cuitiño et al., 2019)	(Restrepo, 2024)	(Cuitiño et al., 2019)
	Low	40%	0%	2%	0%
Speed fluency	Intermediate	36%	9%	20%	3%
	Advance	14%	62%	28%	15%
	Superior	10%	29%	50%	82%

	Low	47%	0%	36%	0%
Breakdown fluency	Intermediate	40%	21%	50%	9%
	Advance	8%	59%	4%	15%
	Superior	5%	20%	10%	76%
	Low	18%	3%	16%	0%
Repair fluency	Intermediate	18%	24%	16%	9%
	Advance	16%	47%	38%	9%
	Superior	48%	26%	30%	82%

*Note.* This table displays the percentage results by category based on performance levels for both the pre-intervention and post-intervention phases, comparing this study with the findings of Cuitiño et al. (2019).

Regarding the *Speed fluency* category, in the pre-intervention phase, the English proficiency levels of the population in the study conducted by Cuitiño et al. (2019) were high, with 91% of students achieving advanced and superior performance. In contrast, in this study, 76% of the population fell into the low and intermediate proficiency levels. Concerning the *Breakdown fluency* category, in the pre-intervention phase, Cuitiño et al. (2019) found a population more adept at managing pauses while speaking English, with 79% of students achieving advanced and superior performance. In contrast, 87% of the population in this study exhibited levels categorized as low and intermediate. Regarding the *Repair fluency* category, in the pre-intervention phase, both studies show a similar pattern in the use of fluency repair tools when speaking English, with 47% achieving advanced performance in the study by Cuitiño et al. (2019) and 48% of the population in this study assessed as superior in this category (see Table 5).

When comparing the pre-intervention results with the post-intervention results in the *Speed fluency* category, a noticeable increase in the superior performance level from 10% to 50% and in the advanced level from 14% to 28% is observed in this research. On the other hand, in the study conducted by Cuitiño et al. (2019), the superior performance level increased from 29% to 82%, resulting in a decrease in the percentage of students in the advanced level from 62% to 15%. Therefore, there is evidence of improved performance in both cases where the use of the pedagogical strategy of role play had significant effects on improving students' fluency. The results achieved in this research are more conclusive (see Table 5).

When comparing the pre-intervention results with the post-intervention results in the *Breakdown fluency* category, an improvement in the superior performance level from 5% to 10% is observed in this research. On the other hand, in the study conducted by Cuitiño et al. (2019), the superior performance level increased from 20% to 76%. Therefore, there is evidence of improved performance in both cases where the use of the pedagogical strategy of role play had significant effects on improving the management of pauses (see Table 5).

When comparing the pre-intervention results with the post-intervention results in the *Repair fluency* category, an improvement in the advanced performance level from 16% to 38% is observed in this research. On the other hand, in the study conducted by Cuitiño et al. (2019), the increase in the superior performance level is more notable, rising from 26% to 82%. Therefore, there is evidence of improved performance in both cases where the use of the pedagogical strategy of role play had significant effects on improving the *Repair fluency* category (see Table 5).

## Qualitative Discussion of the Pedagogical Intervention

Regarding the qualitative analysis of the intervention, a comparison was made between the field diary of Jiménez and Gómez (2019) and the field diary of this research. In the first column of Table 6, the six communicative language strategies proposed by Brown (2003) are listed. The second and third columns present the reflections recorded in the field diary by the authors Restrepo (2024) and Jiménez and Gómez (2019) for each intervention conducted.

**Table 6**

### *Comparison of Field Diaries*

Communicative language strategies	Field Diary Annotations	
	Restrepo (2024)	Jiménez and Gómez (2019)
Ability to use speed to their advantage	Strategy gamification and role play “They assimilated the management of speed in their favor positively, although there were students who went to the other extreme, and speaking too slowly made it confusing to understand the message” (Appendix E).	Strategy gamification “su discurso es más fluido entre palabra y palabra, es decir, dicen oraciones con un ritmo adecuado” (p.57).
Ability to use pauses and hesitations in favor.	“The use of filler expressions such as <i>'uhm,' 'eee,' 'uh,'</i> and <i>'umm'</i> was easily assimilated by the students. However, they found it challenging to use filler words like <i>'ok,' 'you know,' 'well,' 'so,' etc.,</i> perhaps because they had a very limited vocabulary” (Appendix E).	“los estudiantes construyen frases más largas y utilizan más muletillas evitando los silencios totales, las muletillas más comunes fueron ehhh y repetir las últimas palabras dichas, por ejemplo, and, the” (p. 77). “Las pausas también estuvieron presentes en algunos de ellos lo cual posibilitó una mejor estructuración de sus ideas” (p. 79).

Ability to give appropriate feedback	<p>“In pairs where one student had a good mastery of role-playing, feedback was provided using gestures such as nodding in agreement or words like <i>'right,' 'yeah,' 'okay'</i>” (Appendix E).</p>	<p>“Así mismo, se observó un gran avance en las estrategias de la fluidez tales como ... la reformulación, que permiten mejorar el discurso del estudiante haciendo de este una experiencia más espontánea y natural, debido a que estuvieron en un espacio donde la oralidad era el eje central” (p. 63).  “En compañía de los demás siento que nos corregimos entre todos” (p. 54).</p>
Ability to self-correct in a dialogue.	<p>“Self-corrections became more evident when students experienced false starts or stuttering, causing them to acknowledge their mistake with phrases like <i>'no, that's not right'</i> or <i>'again, I made a mistake'</i> and attempt to rephrase their intervention according to the role-playing game's guideline” (Appendix E).</p>	<p>“En el momento de mostrar las preguntas en inglés algunos estudiantes las comprendían; sin embargo, para asegurarse que habían entendido daban a conocer la traducción al español a la profesora” (p. 62).</p>
Ability to clarify the message effectively	<p>“They used word repetition to clarify messages and also used their bodies to indicate which clothing item they were referring to” (Appendix E).</p>	<p>“...al mirar lo que han escrito se diferencia en las palabras que dice y cómo las dice, pero la idea que transmite es la misma lo cual evidencia que los estudiantes han adquirido mayor vocabulario y existe mayor habilidad para parafrasear y esto permite transmitir</p>

		con éxito la idea principal que quería” (p. 76).
Ability to negotiate meanings in a conversation	to "On this occasion, the students showed better participation and collaboration among themselves to clarify the message by using hand gestures and repeating expressions to negotiate meanings" (Appendix E).	“Adicionalmente, cuando el discurso de algunos de los estudiantes se veía interrumpido a causa de una palabra olvidada, no lograban dar continuidad a la idea y sus compañeros no entendían; por ende, no lograban ayudarlo a descifrar la palabra que quería dar a conocer. De este modo se puede evidenciar la falta de negociación de significados que es la cooperación entre los hablantes para obtener el mensaje que se quiere transmitir” (p. 71).

*Note.* This table displays the reflections recorded in the field diary by the authors Restrepo (2024) and Jiménez and Gómez (2019).

The fluency skills mentioned in Table 6 underscore the importance of working with students in the classroom to master an appropriate speaking pace: neither too slow nor too fast, thus allowing time for thought before speaking. Students should understand silent and filled pauses as communicative resources that enrich their discourse. Additionally, it is crucial to incorporate body language to reinforce oral communication. Speaking errors should be seen as opportunities for improvement in the communication process. The ability to clarify a message requires enriching vocabulary and developing the ability to paraphrase to ensure the listener's understanding. Finally, fostering cooperation with the listener is essential to clarify terms and expressions jointly.

## Discussion of Inferential Statistics Results

Table 7 compares the Shapiro-Wilk normality test results for both pre-intervention and post-intervention obtained by Salas (2019) and Restrepo (2024), who have a similar sample size.

The column labeled "Estadístico" corresponds to the medians of the data for each indicator; the column labeled "gl" indicates the sample size; and the column labeled "Sig" provides the significance level with 95% confidence. It should be noted that values less than 0.05 indicate non-normal behavior in the data, necessitating the use of a non-parametric statistical test for subsequent analysis.

**Table 7**

### *Comparison of Normality Tests*

Studies		Shapiro-Wilk		
		Estadístico	gl	Sig.
Pre-intervention	Salas (2019)	,565	32	,000
	Restrepo (2024)	,850	25	,023
Post-intervention	Salas (2019)	,565	32	,000
	Restrepo (2024)	,884	25	,054

*Note.* This table compares the Shapiro-Wilk normality test results for the pre-intervention and post-intervention phases, as reported by Salas (2019) and Restrepo (2024). *Source.* Salas (2009, p.37) and Restrepo (2024).

According to the findings presented in the previous table using a sample size close in magnitude, it was found that the data from both studies do not exhibit a normal distribution behavior, which ensures greater reliability when applying the subsequent significance test.

Table 8 displays previous quantitative studies that identified statistically significant differences through the application of various pedagogical strategies and different statistical tests. These studies aimed to measure improvements in fluency performance, including both utterance fluency and perceived fluency (Segalowitz, 2009).

The first column lists the applied didactic strategies. The second column presents the studies based on utterance fluency, and the third column shows the studies focused on perceived fluency.

**Table 8**

*Statistical Significance Comparison for Fluency Studies*

Didactic strategy	Utterance fluency	Perceived fluency
Gamification		Salas (2021) - test de U-Mann-Whitney.
Didactical games		Sandoval (2021) - test de U-Mann-Whitney.
Dramatization		Ramírez (2022) Regresión de Nagelkerke.
Role Play	Cuitiño et al (2019) test de Wilcoxon.	
Gamification and Role Play	Restrepo (2024) test de Wilcoxon.	

*Note.* This table shows previous quantitative studies that found statistically significant differences with the application of various pedagogical strategies and different statistical tests.

Sandoval (2021) noted a significant impact of utilizing educational games on the advancement of English fluency among students at a private educational institution in Lima. This

was substantiated by the U-Mann-Whitney test, revealing notably significant discrepancies when comparing the experimental group's performance before and after strategy implementation.

Salas (2022) suggests that there is a notable distinction in the averages of variables concerning gamification strategies and the fluency aspect of oral proficiency. This deduction stems from the correlation observed between the gamification strategies variable and the fluency dimension within oral proficiency. As a result, it is deduced that implementing gamification strategies substantially improves oral fluency in English learning among pre-intermediate level students at a language institute within a university in Cusco 2022.

Ramírez (2022) suggests that the significance of the ordinal logistic regression test, as indicated by the contrast analysis of likelihood, supports the specific hypothesis 1, confirming the influence of dramatic play ludic strategies on fluency.

Cuitiño et al. (2019) used the Wilcoxon test to assess the significance of these differences. Consequently, it can be inferred that there was a significant improvement in oral fluency between the measurements taken before and after implementing the didactic sequence based on the role-play technique with a 95% reliability.

The gamified game Trace Effects was well received by the participants in this study, aligning with the findings of Khidhir and Wali (2019), who stated that this game creates a pleasant and captivating environment, enhances technological competencies, increases motivation towards learning, and optimizes its quality. In this research, students found it to be an enjoyable way to engage with English. Additionally, the students showed increased interest in the video game due to the support they received not only from the teacher-researcher but also from their peers, who enthusiastically explained what they needed to do to progress to the next level and earn the associated bonuses. Expressions like "It was fun and I learned verbs and

vocabulary" and "It's different and enjoyable to learn with a video game" were heard (see Appendix E).

According to Iñamagua (2016), English teaching video games like "Trace Effects" are excellent tools to help EFL students learn vocabulary (meaning and pronunciation). Students feel more motivated and engaged while working with it, which aligns with the feedback from participants in this study. They reported that repeating scenes from the video game improved their vocabulary, as evidenced by one student asking aloud for the meaning of a word and another responding accurately (see Appendix E).

And finally, it is compared with the didactic strategy to improve oral fluency in English, as presented by Cuitiño et al. (2019). According to these authors, the role-play strategy leads to a significant improvement in the seven dimensions of the English utterance fluency model proposed by Skehan (2009), comparing pre- and post-intervention in elementary students. In this study students were more actively engaged in the role-play activity. Some students declined their partner's help with expressions like "don't tell me, I know," and they organized their responses independently. This demonstrated a higher level of commitment from the students toward the speaking activity (see Appendix E).

### **Research Implications for the Field of Study**

The findings align with existing knowledge examined in the literature review. This demonstrates how the game "Trace Effects" is effective as a motivational tool in learning English. Gamification and role-play strategies show a positive influence on improving utterance fluency. Additionally, Suzuki and Kormos' (2023) model of quantitative indicators for measuring English utterance fluency was validated under classroom conditions.

This research contributes new perspectives by combining two didactic strategies (gamification and role-play) that were previously addressed independently in the literature. It is also the first practical study to explore the application of Suzuki and Kormos' (2023) model of English utterance fluency in a classroom setting. Prior literature had validated Skehan's (2009) utterance fluency model in Cuitiño et al.'s (2019) study. This research aligns with the findings of these previous authors regarding English utterance fluency. However, it comprehensively and exhaustively addresses six indicators recently proposed by Suzuki and Kormos (2023).

The results from Salas (2021), Ramírez (2021), Sandoval (2022), and Cuitiño et al. (2019) all point to the positive influence of gamification and role-play strategies on improving oral fluency. However, the former studies focus on perceived fluency, while the latter study applies it to utterance fluency.

This study has practical implications in the classroom as it pioneers the validation of Suzuki and Kormos' (2023) quantitative model of English utterance fluency. This model is more comprehensive and updated compared to Skehan's (2009) model.

### **Research Limitations on the Present Study**

During the research process, some difficulties arose in manually measuring the indicators. To address this, six out of the eleven indicators proposed by Suzuki and Kormos (2023) were selected for relevance. This necessitated consulting the SPSS manual and systematizing the formulas in spreadsheets to simplify and expedite the required calculations.

### **Recommendations for Further Research**

Given that this is a quasi-experimental, non-parametric study, we must always bear in mind that the results and conclusions serve to identify general trends on the topic.

It is recommended to conduct future experimental studies on the application of Suzuki and Kormos' (2023) English discourse fluency model in classroom settings. This research serves as a starting point for subsequent case studies and/or randomized experimental samples, addressing both discourse fluency and perceived fluency of English as a second language at the high school level.

Additionally, this thesis would be complemented by conducting the same intervention but measuring all eleven discourse fluency indicators using the linguistic software PRAAT, as proposed by Suzuki and Kormos (2023). Similarly, applying the combination of gamification and role-play to improve discourse fluency in primary and university students would also be beneficial.

Finally, future studies are proposed to qualitatively and quantitatively measure the effectiveness of the six communicative strategies proposed by Brown (2003) as specific skills for using English fluency resources at all educational levels.

## **Conclusions**

For this thesis, conceptually, utterance fluency (UF) refers to the manner in which syllables are vocalized to form words and, in turn, sentences. This includes rhythm, pauses, and necessary corrections to ensure understanding.

This study determines that utterance fluency performance can be enhanced by combining the didactic strategies of gamification and role play. To achieve this, the gamified video "Trace Effects" was used along with communicative role play exchanges based on scenes from the game. To understand the effect of these strategies on discourse fluency, the following six indicators were employed: Articulation Rate (AR) and Speech Rate (SR), Mid-Clause Pause Ratio (MCPR) and Filled Pause Ratio (FPR), Self-Correction Ratio (SCR), and Self-Repetition Ratio (SRR).

Regarding the Articulation Rate (AR) indicator, comparing the initial and final situations reveals an enhancement across all performance levels. Most students increased the number of words produced during phonation time. Additionally, there was a decrease in the Low performance level and an increase in the Superior level.

For the Speech Rate (SR) indicator, comparing pre-intervention and post-intervention performance shows an improvement in the advanced and superior levels. This indicates that students were able to construct more elaborate sentences when communicating their ideas orally.

Regarding the Mid-Clause Pause Ratio (MCPR) indicator, comparing the initial and final situations reveals improvements in the superior, intermediate, and advanced levels. This indicates a reduction in silent pauses between words within the same sentence, thereby enhancing the fluency of their oral interventions.

For the Filled Pause Ratio (FPR) indicator, the most representative performance levels were intermediate and low. There was a decline from the initial to the final situations as the use of fillers between sentences decreased. This demonstrates that this fluency indicator can be further enhanced through the use of specific words and sounds that improve the student's discourse.

Regarding the Self-Repetition Ratio (SRR) indicator, an improvement can be observed in the advanced and superior levels. This indicates that students reduced the repetition of words during their oral production, showing increased cohesion and fluency in their discourse.

For the Self-Correction Ratio (SCR) indicator, there is a boost in the intermediate and advanced levels. This demonstrates that students increased their self-correction behavior when pronouncing certain words in English, thereby improving the communicative act, which is the goal when studying a second language.

In summary, the six indicators had a positive impact on improving utterance fluency, which is reflected in better participation at the superior and advanced levels in most of them, considering the comparison between pre-intervention and post-intervention.

After implementing the action plan using communicative language strategies, it is concluded that it is important to work with students in the classroom to master an appropriate speaking rhythm: neither too slow nor too fast, allowing time for thought before speaking. Students should understand that silent and filled pauses are communicative resources that enrich their discourse. Additionally, incorporating body language to reinforce oral communication is crucial. Speaking errors should be viewed as opportunities for improvement in the communication process. The ability to clarify a message requires enriching vocabulary and developing the ability to paraphrase to ensure the listener's understanding. Finally, fostering cooperation with the listener is essential to jointly clarify terms and expressions.

In conclusion, statistically significant differences are evident in the speed fluency category, demonstrating that gamification and role-play strategies help improve students' performance in utterance fluency in a second language. Significant differences are also observed in breakdown fluency, indicating that these strategies effectively enhance this aspect of students' utterance fluency performance in a second language.

However, statistically, an improvement in the repair fluency category cannot be demonstrated. While there is evidence of improvement in the self-correction indicator, the same did not occur with the self-repetition indicator. Therefore, it is not clear that gamification and role-play strategies improve students' performance in this aspect of utterance fluency in a second language.

Finally, these findings highlight the benefit of the intervention in most aspects of utterance fluency, including discourse organization and accuracy, syllable production quantity, and speed. This indicates that the intervention using gamification and role-play didactic strategies was effective in improving the communication skills of the participants.

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## Appendices

### Appendix A

#### *Specialized Analytical Summary (RAE)*

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#### 1. General information

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<b>Type of document</b>	Thesis
<b>Access to document</b>	A research report submitted to Escuela de Ciencias de la Educación ECEDU in partial fulfillment of the requirements for the degree of Magister en Mediación Pedagógica en el Aprendizaje del Inglés.
<b>Title</b>	Gamification and role play to strengthen students' English utterance fluency skills at Camilo Torres school in Aguazul-Casanare.
<b>Author</b>	Olga Milena Restrepo Agudelo
<b>Publication</b>	2024
<b>Keywords</b>	Utterance fluency, role-play, gamification, video game, pedagogical intervention.
<b>Description</b>	<p>This research addresses a prevalent issue faced by many students in an English as a Foreign Language (EFL) context, particularly at Camilo Torres school. The issue involves difficulties in developing oral skills, which are hindered by the need for idiomatic knowledge and the challenge of overcoming fear and embarrassment when speaking. Therefore, there is a necessity to implement pedagogical strategies that actively engage students, capture their interest, and motivate them to enhance their utterance fluency in English.</p> <p>This research contributes new perspectives by combining two didactic strategies (gamification and role-play) that were previously addressed</p>

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independently in the literature. It is also the first practical study to explore the application of Suzuki and Kormos' (2023) model of English utterance fluency in a classroom setting.

The study procedure is founded on action research and documents the results gathered through the implementation of didactic strategies based on a video game named "Trace Effects" and the dramatic technique of role-play, in order to promote utterance fluency in English among 25 ninth-grade students from a public school. The pedagogical intervention was designed according to the communicative language strategies proposed by Brown (2003) to stimulate the ability to communicate fluently.

The research methodology involved a quasi-experimental design with non-parametric analysis, focusing on qualitative and quantitative data collection to evaluate the effectiveness of the combined strategies. Data were gathered through observations, and utterance fluency assessments conducted before and after the intervention.

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## Contents

The document compiles and provides the following structure: cover page, RAE (analytical summary of the document), abstract, table of contents, list of tables, list of figures, list of appendices, introduction, context of the research problem, objectives, scope and limitations, literature review (state of art, theoretical framework), methodological design, data analysis and findings, results, discussions and conclusions, references and appendices.

## Methodology

This study was carried out at Camilo Torres Restrepo, a public school located in Aguazul-Casanare. The population comprised 121 ninth-grade students, specifically grades 9A, 9B, 9C, and 9D. The sample used in the study consisted of twenty-five 9D grade students aged between 14 and 17 years old and had a minimum proficiency level of A1 in English. The participants attended English classes on Mondays and Wednesdays, with a duration of 3 hours per week. According to the purposes of this study, the selected sample procedure was non-probabilistic and the type was

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convenience sampling.

The proposed research is descriptive, quasi-experimental, mixed-type, and framed within Action Research (AR). In this type of research, study subjects are not randomly selected but are already established. Additionally, there is no contrast with a reference group without treatment, as occurs in experimental research (Cohen et al., 2007). The use of this methodology is justified in this research because it is appropriate for educational studies, where the aim is to describe the behavior of individuals in the face of different educational variables. In this case, it examines how the parameters of English utterance fluency change in these students due to the use of gamification and role-play. This research combines both a qualitative and quantitative approach; hence, it is a mixed approach. The qualitative aspect is evident in the interventions aimed at improving utterance fluency, while the quantitative aspect is expressed through the measurement of utterance fluency and the analysis of the results.

The instruments used to collect the information were qualitative and quantitative.

#### **Quantitative instruments.**

- A pre-test was used to collect quantitative data. An input one to know the baseline on five general questions to establish the utterance fluency. the interviews were conducted individually, using a laptop, a voice recorder, for data collection.

- A post-test to assess whether the pedagogical intervention using gamification and role play had impacted students' utterance fluency. The data collection procedure for the post-test was similar to that of the pre-test.

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	<p><b>Qualitative instruments</b></p> <p>- Teacher-researcher Field Diary: The researcher uses a field journey to make notes about reflections, ideas, emotions, thoughts, perspectives, and reactions of the students during the implementation of the pedagogical intervention, following the communicative language strategies proposed by Brown (2003) to stimulate the ability to communicate fluently.</p>
<b>Results</b>	<p>This paper provides the significance of the results obtained, the pedagogical and research implications, the limitations of the present study, and the recommendations for further studies. It also answers the research question: To what extent do gamification and role play develop students' English utterance fluency skills at Camilo Torres Restrepo School in Aguazul-Casanare?</p> <p>Results indicated significant improvements in students' oral fluency, as evidenced by increased willingness to participate in speaking activities, reduced anxiety, and enhanced use of idiomatic expressions. The repetitive nature of the video game and the collaborative aspect of role-play created a supportive learning environment that encouraged peer interaction and self-correction. The inferential statistical analysis of the data validated the intervention, demonstrating that the observed improvements were not due to chance but to the real impact of the implemented strategies.</p>
<b>Conclusions</b>	<p>The findings highlight the benefit of the intervention in most aspects of utterance fluency, including discourse organization and accuracy, syllable production quantity, and speed. This indicates that the intervention using gamification and role-play didactic strategies was effective in improving the communication skills of the participants.</p>

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<b>By</b>	Olga Milena Restrepo Agudelo
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<b>Date</b>	01	08	2024
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**Appendix B***Data Collection Instrument 1 Pre-Test***UNIVERSIDAD NACIONAL ABIERTA Y A DISTANCIA – UNAD****PRE-TEST**

The data collection technique: Interview

The data collection instrument: Interview guide

The registration instruments select: audio recording, sheets and pen.

**INTERVIEW GUIDE**

Summary of procedures

The teacher-researcher asked the selected students five (5) questions and recorded their answers using a voice recorder. Participants were previously asked to refrain from responding in monosyllables and instead used complete sentences that provided a deeper explanation.

Additionally, to encourage fluency in the students, examples through printed images that offered a justification for each question were provided, and unfamiliar vocabulary was explained.

The five (5) questions were:

1. How do you feel today? Justify your answer.
2. Do you know where the science lab is?
3. What do you usually wear in the afternoon?
4. How much does a Coca Cola cost?
5. What ingredients does a hamburger have?

## **Appendix C**

### *Data Collection Instrument 2 Post-test*

#### **UNIVERSIDAD NACIONAL ABIERTA Y A DISTANCIA – UNAD**

#### **POST-TEST**

The data collection technique: Interview

The data collection instrument: Interview guide

The registration instruments select: audio recording, sheets and pen.

#### **INTERVIEW GUIDE**

Summary of procedures

Once the pedagogical intervention had finished, a final utterance fluency test was used. It consisted of an interview guide with five (5) similar questions used on the initial oral performance test (pre-test). The answers were recorded and evaluated using six indicators proposed by Suzuky and Kormos (2023).

1. How do you feel today? Justify your answer.
2. Do you know where the grocery store is?
3. What do you usually wear on weekends?
4. How much does a tomato cost?
5. What ingredients does a pizza have?

## Appendix D

### *Proposal of Interventions*

#### **Intervention #1**

**Overall time:** 20 minutes

**Grade:** 9D

**Date:** 20-09-2023

**Lesson:** ability to use speed to their advantage.

**Objective:** stimulate the ability of students to communicate fluently.

**Teacher materials:** computer, TV.

**Students' materials:** notebook, pencil.

#### **Introduction**

Communicative language strategies are abilities that students need in order to maximize communication. Hence, at the beginning of each class an intervention was done by the teacher-researcher, who explained a communicative language strategy that could help them communicate fluently. During the first intervention it was explained the ability to use speed to their advantage.

This skill means that speaking quickly does not equate fluency. Slow speaking is not bad; fluency refers to the ability to use a good rhythm to structure and convey clear messages while speaking. The intervention finished when learners practiced the role-play to improve fluency.

#### **Procedure:**

**Warm up:** this question is written on the board. What is fluency in spoken language?

Students share their ideas and the researcher encourages them to have an informal class discussion.

**Lead-in:** teacher-researcher (T) explained students (Ss) focused on the ability to use speed to their advantages. According to Brown (2003), speaking at a suitable pace is acceptable even if it is done relatively slowly. In fact, native speakers frequently speak slowly so they have time to reflect while they speak. Therefore, the speed at which speakers can effectively convey their ideas while maintaining clarity of thought is the appropriate speed.

**Practice:** having in mind the videogame “trace effects”, students practice some dialogues using speed in favor. They were encouraged to speak at a normal rate.

**Assessment:** in couples’ students present a short role-play based on chapter 1, scene 2 of the videogame “Trace effects”, to practice the first strategy.

### **Role play – Greetings and farewells**

A: Hello *Tracy*. Welcome to school.

B: Hi, *Mr. Anderson*. Thank you.

A. Can I see your student ID?

B. Sure.

A. Great, but the date is wrong.

B. Can you help me, please?

A: Go to the student’s services office, they’ll make you a new I.D

B: Thank you. I’ll go to the office.

A: Bye, come back if you need more information

B. Okay, bye.

### **Intervention #2**

**Overall time:** 20 minutes

**Grade:** 9D

**Date:** 27-09-2023

**Lesson:** ability to use pauses and hesitations in favor.

**Objective:** stimulate the capacity of students to use pauses and hesitations while they are talking.

**Teacher materials:** computer, TV.

**Students' materials:** notebook, pencil.

### **Introduction**

According to Brown (2003) Native speakers of English often use pauses and hesitations while they are talking. The reason is humans need time to think and they use pausing and hesitating to give themselves that time. Hence, learners need to understand that it is necessary to use them as natural part of the spoken language.

### **Procedure:**

**Warm up:** Teacher-researcher encourage students to remember the first intervention and give some examples using expressions to introduce themselves.

**Lead-in:** T explains Ss that pauses and hesitations must not be badly seen them. On the contrary, as in the previous skill the pauses and hesitations are good tactics to be able to think about the next thing that is going to be said. That is why, using them can generate greater effectiveness in communicative acts. Hence, they may necessity the use of some fillers like *uhm, er, uh, and umm*; other fillers are words such as *okay, you know, well, so, etc.*

**Practice:** having in mind the videogame “trace effects” students practice some dialogues using pauses and hesitation fillers words to appropriately avoid long silences and give them time to think.

**Assessment:** in couples' students present a short role-play based on chapter 1- scene 4 of the videogame “Trace effects”, to practice the second strategy.

### **Role play - Places**

A: Hello young man. Where is your student ID?

B: *Right*, I'll show you

A: Thank you. Please come in

B: I'm looking for Katty. Do you know where she is?

A: *Well*, maybe at the reading room

B: *err* and where is the reading room?

A. At the library

B: *Umm* and where is the library?

A: *You know* next to the student services office

B: *Ok* Great, thanks

A: You're welcome

B: See you

### **Intervention #3**

**Overall time:** 20 minutes

**Grade:** 9D

**Date:** 04-10-2023

**Lesson:** ability to give appropriate feedback.

**Objective:** stimulate the ability of students to give appropriate feedback.

**Teacher materials:** computer, TV.

**Students' materials:** notebook, pencil.

### **Introduction**

All of the signals a listener gives a speaker to let them know whether or not their message is being understood make up feedback. Feedback can convey understanding or misunderstanding, agreement or disagreement, comprehension or confusion, etc. Furthermore,

gestures and facial expressions can be employed as signals in addition to words and sounds to convey these meanings.

**Procedure:**

**Warm up:** Teacher-researcher encourage students to remember the two interventions before and give some examples using different expressions.

**Lead-in:** T explains Ss that feedback are the signals used to indicate that the message is being understood or not, to communicate agreement or disagreement, understanding or confusion, for this, listener and speaker use both words and gestures.

Words might include feedback signals like *really, yep, right, yeah, okay*, etc. Gestures might include a hand signal to continue or stop, or talk faster, or head signals like nodding agreement, showing wonderment, etc. Facial expressions could involve smiles, winks, frowns, quizzical expressions, direct eye contact, evasive eye contact, etc.

**Practice:** Ss practice this set of feedback signals using dialogues from the videogame “trace effects”.

**Assessment:** in couples’ students present a short role-play based on chapter 1- scene 5 of the videogame “Trace effects”, practicing giving appropriate feedback.

**Role play - Professions**

A: Hi Eddy

B: Hey, good to see you again Trace. (*facial expression-smile*)

A: I need to find Emma.

B: Emma is the student’s president, *right?*

A: *yep*, where is she?

B: She is at the farmer market with chef Mark

A: Who is chef Mark? (*facial expression-frowns*)

B: He makes sandwiches. He works in different food places (*direct eye contact*)

A: How do I find chef Mark? (*hand signal to continue*)

B: *Right*, look for the food map.

A: Where is the food map? (*facial expression showing wonderment- hand signal*)

B: At the library (*smile*)

A: *Okey* bye Jhon,

B: Bye Trace.

#### **Intervention #4**

**Overall time:** 20 minutes

**Grade:** 9D

**Date:** 11-10-2023

**Lesson:** ability to self-correct in a dialogue.

**Objective:** stimulate the ability of students to self-correct in a dialogue.

**Teacher materials:** computer, TV.

**Students' materials:** notebook, pencil.

#### **Introduction**

Although native English speakers occasionally make mistakes like mispronouncing words, starting sentences incorrectly, stuttering, backtracking, etc., they rarely experience the same level of embarrassment as many non-native speakers do when they commit these "mistakes." One distinction between these two sets of individuals is that native speakers know how to handle their mistakes better and skillfully fix them.

#### **Procedure:**

**Warm up:** Teacher-researcher encourage students to remember the interventions before and give some examples using different expressions.

**Lead-in:** T explains Ss that the capacity to correct oneself after making mistakes is known as self-correction. This ability is necessary to show a high level of language awareness so, the speaker can correct mistakes made in language and still communicate. Hence, when students detect their own errors is fine to correct themselves.

**Practice:** Ss practice detecting their own flubs and try to correct themselves using dialogues from the videogame “trace effects”.

**Assessment:** in couples’ students present a short role-play based on chapter 1- scene 7 of the videogame “Trace effects”, making errors and correcting their own errors.

### **Role play - Food**

A: Hi. Are you chef Mark?

B: Yes, I am.

A: My name is Trace. Can you take me to the farmer market?

B: I’m too busy right now. I need someone to delivery sandwiches.

A: Can I help you?

B: Ok. I’ll make a sandwich, you’ll give to the right person.

A: No problem.

B: Trace, please delivery to Patt this chicken sandwich.

A: What ingredients does it has?

B: It has peanut, butter, jelly and chicken. And delivery to John this turkey sandwich, please.

A: What ingredients does it has?

B: It has cheese, tomato and turkey

A: Ok, where are they?

B: They are in the park

**Intervention #5****Overall time:** 20 minutes**Grade:** 9D**Date:** 18-10-2023**Lesson:** ability to clarify the message effectively**Objective:** stimulate the ability of students to clarify the message effectively**Teacher materials:** computer, TV.**Students' materials:** notebook, pencil.**Introduction**

One sort of repair that is especially crucial is clarification. A fluent speaker will usually attempt to clarify by rephrasing, defining terms, summarizing, using gestures, drawing a picture, etc. when they notice that the listener is not understanding (through verbal signals, gestures, facial expressions, etc.). The idea is that proficient speakers will employ any strategic at their disposal to clarify their message if they are misunderstood.

**Procedure:**

**Warm up:** Teacher-researcher encourage students to remember the interventions before and give some examples using different expressions.

**Lead-in:** T explains Ss that giving our listeners clarification is crucial to ensuring that they comprehend what we're saying. A fluent speaker will attempt to define, clarify, or use additional methods, like gestures or signals, to make himself/herself understand when he/she notices that listener is not understanding him/her.

**Practice:** Ss practice the ability to clarify the message effectively using sentences from the videogame "trace effects".

**Assessment:** in couples' students present a short role-play based on chapter 1- scene 8 of the videogame "Trace effects", using strategies to clarify the message when they are misunderstood.

**Role play - Clothes**

A: Hi chef Mark. I delivered the sandwich.

B: Great. Here is the next one. Delivery to Bratt

A: What is he wearing?

B: He is wearing a yellow baseball cap and a blue t-shirt.

A: Someone else?

B: Here is the last one. It is a vegetable sandwich. Delivery to Mary

A: What is she wearing?

B: She is wearing a blue jean, and a red t-shirt.

A: Where are they?

B: They are in the parking lot

A: Okay. I'll do it

B: Thank you

**Intervention #6**

**Overall time:** 20 minutes

**Grade:** 9D

**Date:** 25-10-2023

**Lesson:** ability to negotiate meanings in a conversation when necessary.

**Objective:** stimulate the ability of students to negotiate meanings in a conversation when necessary.

**Teacher materials:** computer, TV.

**Students' materials:** notebook, pencil.

**Introduction**

Likewise, fluent speakers who are failing to understand something in a conversation will use whatever verbal signals, gestures, or facial expressions are necessary to get the other speaker to clarify. Typically, negotiation is focused on cooperating to get meaning across; in the process, it sometimes centers on clarifying vocabulary, grammar, or even pronunciation details.

**Procedure:**

**Warm up:** Teacher-researcher encourage students to remember the interventions before and give some examples using different expressions.

**Lead-in:** T explains Ss that is necessary the cooperation between speakers to get the intended message through. Therefore, when a term or sentence is unclear or imprecise, it should be redefined and clarified.

**Practice:** Ss practice cooperation between them to get the intended message through using dialogues from the videogame “trace effects”.

**Assessment:** in couples’ students present a short role-play based on chapter 2 - scene 3 of the videogame “Trace effects”, showing cooperation between speakers.

**Role play - Prices**

A: Can I help you?

B: Hi. Can I please buy some carrots?

A: Sure thing. How many?

B: I’ll take ten carrots. How much do they cost?

A: They are two dollars

B. Excuse me, do you have pumpkins?

A: What sized do you want?

B: A small one.

A: Look at this.

B: How much does it cost?

A: It costs \$1.50

B: That's it. How much do they cost?

A: That will be three dollars and fifty cents

B: Here it is. Thanks a lot

A: No problem, bye

## Appendix E

### *Field Diary*

UNIVERSIDAD NACIONAL ABIERTA Y A DISTANCIA – UNAD	
FIELD DIARY #1	
<b>Teacher-researcher:</b> Olga Milena Restrepo A.	<b>Date:</b> 20-09-23
<b>Overall time:</b> 20 minutes	<b>Number of students:</b> 25
<b>Grade:</b> 9D	<b>Class:</b> English
<b>Objective of the field diary:</b> Identify strengths and weaknesses during the first intervention, based on the ability to use speed to their advantage.	
<b>Reflexions</b>	
<i>Once the intervention #1 was explained and the student presented the role play some of the following situations arose:</i>	
<p>There was a certain apathy towards the activity because it made the students uncomfortable to speak in English, as it is not something usual for them. The students also encountered difficulties in pronouncing some words, perhaps due to deficiencies in vocabulary and the limited interaction among them using English as a means of communication.</p> <p>It was noticeable how intimidating it was for students to express themselves in English, which prevents them from assuming a well-defined body posture, maintaining eye contact with the interlocutor, and speaking with a loud tone of voice. This situation required the teacher-researcher to constantly request them to raise their voice and improve their posture. Some students did not agree to present the role-playing game in front of the class. Therefore, it was only performed in front of the teacher.</p>	

Some students found it necessary to use their notes to carry out parts of their interventions, as they had difficulty remembering the sequences of the role-playing game. A very small group of students (6) was able to reproduce the script without major difficulty. They assimilated the management of speed in their favor positively, although there were students who went to the other extreme, and speaking too slowly made it confusing to understand the message. This showed that it was challenging for them to group words and form sentences.

**UNIVERSIDAD NACIONAL ABIERTA Y A DISTANCIA – UNAD**

**FIELD DIARY #2**

**Teacher-researcher:** Olga Milena Restrepo A.

**Date:** 27-09-23

**Overall time:** 20 minutes

**Number of students:** 25

**Grade:** 9D

**Class:** English

**Objective of the field diary:** Identify strengths and weaknesses during the second intervention, based on ability to use pauses and hesitations in favor.

**Reflexions**

*Once the intervention #2 was explained and the student presented the role play some of the following situations arose:*

There was a strong tendency among the students to translate each intervention into their native language and to ask for the correct pronunciation of words. They pronounced fragmented phrases due to vocabulary forgetfulness, or they mixed them with Spanish words. Many times, they uttered isolated words instead of complete sentences.

It was evident that there was a lack of confidence in expressing themselves in English due to the lack of practice. They even made excuses using expressions like 'teacher, I don't know English.' It was necessary to encourage them to give themselves the opportunity to use this second language as a means of communication

The use of filler expressions such as 'uhm,' 'eee,' 'uh,' and 'umm' was easily assimilated by the students. However, they found it challenging to use filler words like 'ok,' 'you know,' 'well,' 'so,' etc., perhaps because they had a very limited vocabulary.

During communicative exchanges when asking questions, many students lacked the appropriate intonation, which reduced the naturalness of their interventions. The students were motivated to continue with the development of the video game. However, presenting role-playing scenarios continued to be uncomfortable for the majority.

**UNIVERSIDAD NACIONAL ABIERTA Y A DISTANCIA – UNAD**

**FIELD DIARY #3**

**Teacher-researcher:** Olga Milena Restrepo A.

**Date:** 04-10-23

**Overall time:** 20 minutes

**Number of students:** 25

**Grade:** 9D

**Class:** English

**Objective of the field diary:** Identify strengths and weaknesses during the third intervention, based on the ability to give appropriate feedback.

**Reflexions**

*Once the intervention #3 was explained and the student presented the role play some of the following situations arose:*

There was a certain apathy towards the activity because speaking in a second language made participants uncomfortable, as it was not something usual for them. Developing this skill was challenging because students were more focused on memorizing their lines than on paying attention to their peer's interventions and providing appropriate feedback.

The poor pronunciation of some words caused confusion when trying to understand the message being conveyed. In pairs where one student had a good mastery of role-playing, feedback was provided using gestures such as nodding in agreement or words like 'right,' 'yeah,' 'okay.'

Some students confused feedback with translating interventions into their native language, prompting the teacher-researcher to intervene to try to avoid this situation. They showed a very positive attitude when asked to continue with the video game.

**UNIVERSIDAD NACIONAL ABIERTA Y A DISTANCIA – UNAD**

**FIELD DIARY #4**

**Teacher-researcher:** Olga Milena Restrepo A.

**Date:** 11-10-23

**Overall time:** 20 minutes

**Number of students:** 25

**Grade:** 9D

**Class:** English

**Objective of the field diary:** Identify strengths and weaknesses during the fourth intervention, based on ability of students to self-correct in a dialogue.

**Reflexions**

*Once the intervention #4 was explained and the student presented the role play some of the following situations arose:*

Self-corrections became more evident when students experienced false starts or stuttering, causing them to acknowledge their mistake with phrases like 'no, that's not right' or 'again, I made a mistake' and attempt to rephrase their intervention according to the role-playing game's guideline. For the majority of participants, self-correction was difficult, possibly because they struggled to pronounce certain words correctly. There was a lack of naturalness in communicative exchange.

The students showed increased interest in the video game due to the support they received not only from the teacher-researcher but also from their peers, who enthusiastically explained what they needed to do to progress to the next level and earn the associated bonuses. Repeating scenes from the video game improved the students' vocabulary. This was evident when one student asked aloud about the meaning of a word, and another responded accurately. The role-playing game remained a highly demanding activity for the students because they only practiced it during classes. However, they expressed their satisfaction because the activity was done in pairs and they had the option to present it either in front of the entire classroom or in front of the teacher-researcher.

**UNIVERSIDAD NACIONAL ABIERTA Y A DISTANCIA – UNAD**

**FIELD DIARY #5**

**Teacher-researcher:** Olga Milena Restrepo A.

**Date:** 18-10-23

**Overall time:** 20 minutes

**Number of students:** 25

**Grade:** 9D

**Class:** English

**Objective of the field diary:** Identify strengths and weaknesses during the fifth intervention, based on the ability of students to clarify the message effectively.

**Reflexions**

*Once the intervention #5 was explained and the student presented the role play some of the following situations arose:*

Students were more actively engaged in the role-play activity. They found vocabulary related to clothing easy and enjoyable. Some students declined their partner's help with expressions like "don't tell me, I know," and they organized their responses independently. This demonstrated a higher level of commitment from the students toward the speaking activity.

The tendency to read communicative exchanges decreased, and students attempted to simulate the speaking situation presented in the role-play about clothing. They used word repetition to clarify messages and also used their bodies to indicate which clothing item they were referring to. However, there was evidence of difficulty in developing this skill due to their limited vocabulary, which often hindered their use of paraphrasing as a fluency resource. In conclusion, it was evident that the topic proposed in the role-play game favored the practice of this communicative language strategy.

**UNIVERSIDAD NACIONAL ABIERTA Y A DISTANCIA – UNAD**

**FIELD DIARY #6**

**Teacher-researcher:** Olga Milena Restrepo A.

**Date:** 25-10-23

**Overall time:** 20 minutes

**Number of students:** 25

**Grade:** 9D

**Class:** English

**Objective of the field diary:** Identify strengths and weaknesses during the sixth intervention, based on the ability of students to negotiate meanings in a conversation when necessary.

**Reflexions**

*Once the intervention #6 was explained and the student presented the role play some of the following situations arose:*

This time, the students demonstrated improved participation and collaboration among themselves to clarify the message using hand gestures and repetition of expressions to negotiate meanings.

Overall, the students expressed that the communicative strategies were effective because they provided time to organize their thoughts and allowed them to use different means to be understood or clarify their message. They had a positive reception towards the video game, finding it an enjoyable way to engage with English. They also mentioned that thanks to the video game, it was easier for them to participate in role-playing games as they were on the same thematic. They were heard saying things like "It was fun and I learned verbs and vocabulary" and "It's different and nice to learn with a video game."

Students became less reluctant to participate in the teaching strategies over time. However, more practice time is needed to achieve better results. The repetition of dialogues facilitated their assimilation for some students.

## Appendix G

### *Difficulty Level Description Matrix*

Difficulty Levels	Description
High	<p><b>Comprehension:</b> Good understanding of questions and providing appropriate, coherent responses. Ability to maintain conversations on proposed topics</p> <p><b>Rhythm and pauses:</b> More natural rhythm with few pauses, although filler words may appear</p>
Medium	<p><b>Comprehension:</b> Better understanding of questions and ability to respond with complete sentences, though with some effort.</p> <p><b>Rhythm and pauses:</b> Less frequent pauses, but still present. The rhythm is somewhat more fluid but still inconsistent.</p>
Low	<p><b>Comprehension:</b> Difficulty understanding simple questions and responding appropriately. Short responses, sometimes out of context.</p> <p><b>Rhythm and pauses:</b> Long and frequent pauses, slow and hesitant rhythm.</p>