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The contribution of picture-based storytelling and Flip App® -based formative feedback into secondary school students' oral fluency

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List of acronyms

AI	: Artificial Intelligence
AR	: Action Research
ASR	: Automated Speech Recognition
EFL	: English as a Foreign Language
ELSA	: English Learning Speech Assistant
ICT	: Information and Communication Technology
MINEDUC	: Ministerio de Educación de Chile
PPP	: Presentation, Practice and Production
SO	: Specific Objective
TCA	: Thematic Content Analysis
T-R	: Teacher Researcher

Abstract

This action research (AR) study explores the contribution of picture-based storytelling and formative feedback using the Flip App® to improve secondary students' oral fluency. Study participants from 9th to 12th grade attended a weekly extracurricular English workshop in a public school in Concepción, Chile. Students used pictures and storyboards to narrate stories; the Flip App® was used to self-record videos, track progress, and receive feedback. Pre- and post-intervention tests assessed students' oral fluency. A post-intervention survey identified students' perceptions of the intervention. Moreover, insights into the study were provided through teachers' audio-logs. In terms of the quantitative results, although these were not statistically significant, participants demonstrated important improvements in their oral fluency. The qualitative findings revealed positive students' opinions on the whole intervention. The implications of this study highlight the importance of using picture-based storytelling and providing formative feedback through video-based apps in EFL school contexts, as this approach might influence students' content engagement, foster self-regulated learning, and enhance oral fluency.

Keywords: Oral fluency, pauses, hesitations, picture-based storytelling, secondary school students.

CHAPTER I

INTRODUCTION

1.1 Problem identification and aim

In alignment with the Chilean EFL curriculum according to the Ministerio de Educación de Chile (MINEDUC, 2016), the development of linguistic fluency assumes an important role among secondary school students. The curriculum entails the expectation for students to achieve a proficiency level of B1 or lower intermediate according to the Council of Europe's *Common European Framework of Reference for Languages* (Council of Europe, 2018), upon completion of secondary education. To attain this objective, the Chilean EFL curriculum proposes to guide teachers' practices through the application of new technologies to enhance students' communicative proficiency among peers and improve their learning development. This approach is supported by the work of Shadiev et al. (2021), who highlighted the role of technology in facilitating authentic learning experiences and fostering cultural exchange among learners from diverse backgrounds.

Despite the learning aims previously provided by MINEDUC, in this research context, secondary school students from a public school in Concepción, Chile struggle developing productive language abilities. This is apparent based on speaking diagnostic tests, the low results on which reflect that these students' EFL biggest challenge is oral fluency production. Students' inability to spend an appropriate length of time when developing ideas through pauses and hesitations reflect the reality of the secondary EFL classroom, in which there are few opportunities for oral practice. Students' reduced exposure to interactive and culturally relevant language learning experiences, even as part of a multicultural school, also becomes a challenge for developing their oral production due to lack of content engagement. Conventional teaching methods often neglect the dynamic nature of language, especially when addressing the integration of information and communication technology. This may be due to the limited instructional school class time – it only has a morning schedule-, which barely transcends grammatical orientation rather than communicative language proficiency or cultural understanding. In this regard, de Jong and Perfetti (2011) have revealed that oral fluency improves only through consistent practice, while Hennebry (2014) has noted that local culture often has a marginalized role in EFL lessons, which might eventually further compound the issue. Thus, this observation of the context underscores the need to implement teaching strategies that address effective oral fluency development in the EFL classroom, as well as considering students' identity and their technology background knowledge. For these reasons, this AR project aims to explore the contribution of picture-based storytelling and formative feedback given through the Flip App® upon a group of secondary school students in supporting their oral fluency.

This AR project proposes the use of community photographs to describe local stories and share them with classmates using the Flip App®, which is a tool for

recording and uploading narrations and facilitating measurements of speech rate over time, 2 minutes per each. As Lamb (2017) has suggested, the Flip App® is an excellent tool for language instruction due to its user-friendly nature and effectiveness in teaching speaking. Its functions permit students to upload videos, so they can practice their oral fluency through ongoing practice during the intervention period, which allowed the teacher-researcher to provide feedback. The proposed use of meaningful local pictures when applying storytelling through the Flip App® is in line with Brown and Habegger-Conti's (2022) explanation that exploring our cultural imaginaries using photographs guides learners in crafting descriptions of people and cultures, because it encourages the development of a more comprehensive narrative. Following these practices, it was expected to create an environment that not only meets the MINEDUC curriculum requirements for secondary school students but also engages them in a meaningful classroom environment by infusing respect among peers, information and communication technology into language learning.

1.2 General objective

The general objective of this study is to explore how the implementation of picture-based storytelling and receiving formative feedback through the use of the Flip App® supports the development of English oral fluency among secondary school students.

CHAPTER II

THEORETICAL FRAMEWORK

2.1 The speaking skill

The ability to speak a mother-tongue language plays an essential role in effective communication. Eventually, this skill becomes crucial for learning a second language since it “implicates a number of important language-related functions, such as phonological working memory, lexical learning, and acquisition of vocabulary” (Costandi, 2016, p. 89). Furthermore, Luoma (2004) indicates that communicating in a foreign language is a very difficult and time-consuming skill. This is due to the fact that speakers must master an appropriate vocabulary and sound system for the language with minimal hesitation.

It should be noted that far more components are involved in oral production than in simply knowing a language. According to Burns and Joyce (1997), speaking is an interactive process where meaning is constructed by producing and receiving information. Similarly, Thornbury (2005) suggests the term “practice” as a key word involved in the attainment of oral production. He states that “by practice is meant, not practice of grammar and vocabulary, but practice of interactive speaking itself” (p. 28). Building on this idea, Thornbury (2005) also explains that a lack of practice may affect the fluency; automaticity; and, most importantly, self-confidence of students.

On this topic, Nunan and Bailey (2008) explain that learners feel as though speaking a new language is harder than practicing any other skill. The reason for this is that learners cannot modify what they wish to say. In our Chilean context, the traditional methods developed in EFL classrooms mostly fail to address communicative skills due to the fact these barely transcend grammar or vocabulary translation (Yilorm, 2016). Consequently, negative affective factors such as lack of confidence may prevent the learner from being able to communicate and interact with others, impeding the process of successfully acquiring an L2. In effect, observable findings in the teaching experience at the very beginning of the school year, revealed students’ lack of ability to spend an average length of time developing ideas through extended pauses and frequent hesitations which reflected limited opportunities for oral practice in EFL lessons.

Thus, for the purpose of this investigation and to achieve possible benefits, oral fluency was regarded as a skill that should be developed in a secure and comfortable environment. This requirement is further highlighted by offering learners the opportunity to record only their voices and not their facial expressions since “no one can learn a language without motivation, positive attitudes and beliefs, and supportive emotions” (Oxford, 2013, p. 64).

2.1.1 Fluency

Some researchers, such as Nunan (2018), define fluency as “the ability to maintain a stream of speech without lengthy pauses or hesitation” (p. 3). While other investigations describe it as the ability to “express oneself at length with a natural, effortless, unhesitating flow” (Council of Europe, 2018, p. 144) being a crucial component of speaking proficiently in a foreign language. According to Tavakoli and Wright (2020), the capacity to manage fluent interactions in an effective manner ensures that the speaker can be understood by the listener and can maintain a suitable conversation given the context, purpose, and audience. As mentioned in previous definitions, oral fluency can be understood in EFL research not only about the speed of oral discourse but also about the capacity for effective communication. In this study, understanding the main components of oral fluency is crucial, as it directly influences how students develop their skills for engaging in real-world dialogues.

Previous studies focused on oral fluency, as the one developed by Götz (2013), investigated how formulaic sequences might be enhanced with a group of 80 German EFL learners. The subjects were university students aged between 20-25 years, and they were divided into treatment and control groups. In this eight-week intervention, the students practiced using prefabricated chunks in several speaking tasks such as role-plays, discussions, and presentations with explicit teaching and encouragement to use formulaic sequences in speech. Speech samples collected before and following the intervention were analyzed, with increased use of formulaic language and improved temporal measures, reduced frequency of pauses, and increased speech rate. The study showed that L2 fluency instruction needs to focus on formulaic language.

In alignment with previous definitions (CEF, 2018; Nunan, 2018; Tavakoli & Wright, 2020) of fluency, and the need highlighted by Götz (2013) on the use of formulaic language, the current research operates on the notion that linguistic proficiency can be attained at beginner levels by using written prompts as guidelines when narrating oral stories. Notably, this can be achieved if studying is made enjoyable for students through interactive activities and the usage of new or repurposed terminology, thereby enhancing the experience of learning a new language. Acknowledging the significance of fluency is a crucial aspect of this study. However, it is also imperative to understand fluency not only as a conceptual element but as a measurable parameter for assessing the progress of our students.

Therefore, the following sections outline the expected approaches for measuring the main aspects of fluency elements (length of pauses and frequency hesitations) and the most reliable tools to evaluate them.

2.1.2 Utterance fluency

Gatbonton and Segalowitz (2005) note that while many communicative language teaching (CLT) classrooms encourage overall fluency, they lack the repetition necessary for students to develop automatic fluency. Segalowitz (2010)

further asserts that L2 mastery and high levels of utterance fluency require automatization, with repetition being a major route to achieving this automaticity.

However, how fluency is developed in our Chilean context might reveal lack of progress in this area. To illustrate, Morrison's (2018) study conducted in Chile showed that both teachers and the oral activities included in school textbooks focused more on developing speaking than on enhancing oral fluency. In school contexts, the challenges might be related to the fact that evaluating and measuring oral fluency efficiently are still under study. Practicality seems to be one of the most difficult tasks, along with the different alternatives researchers have adopted to evaluate fluency components, and the under exploration of new technological tools (Guz, 2015; Rossiter et al. 2010). Under these circumstances, it is underscored the importance of considering oral fluency to address these pedagogical gaps effectively, as in this research practice is a key component.

Segalowitz (2016) presents a different perspective in the realm of oral fluency, dividing its components into three main domains: cognitive, utterance, and perceived. The former is defined as the ability to transform thoughts into speech, while utterance fluency relates to the fluency of the speech itself. On the other hand, perceived fluency involves the listener's judgment of how effortlessly the speaker can express thoughts verbally. Above all domains, Segalowitz (2010) states that utterance fluency has received the most extensive research focus due to its compatibility with quantitative analysis of variables such as speed, repair, and breakdown. The author asserts that these features are measurable, which generates more reliable results.

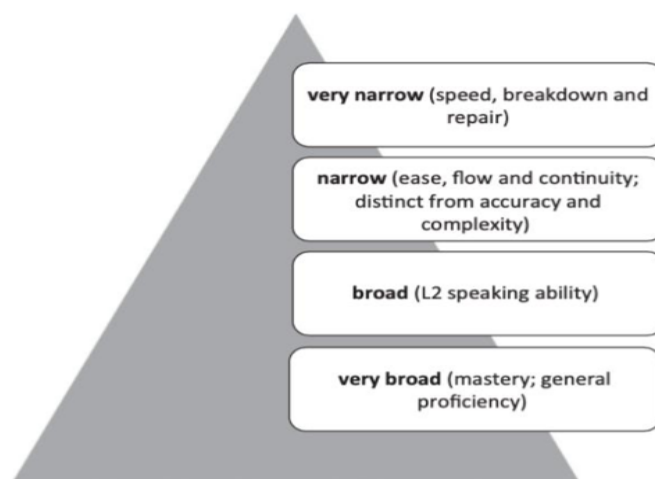
In respect to this issue, the following sections will explore how researchers have developed different methods and technological tools for measuring utterance fluency, specifically repair and breakdown components.

2.1.3 Fluency measures

The time between pauses and the frequency of dysfluency signals such as hesitations are important components of fluency. Both human judgment and new evaluative apps are available for analyzing these components (Tavakoli & Write, 2020). Therefore, fluency can be objectively measured because the amount of time spent pausing and the frequency of interruptions can be reliably calculated (Lennon, 1990). In this sense, Tavakoli and Hunter (2018) have provided a list of the most commonly used fluency measures in different L2 studies from the latest decades.

Figure 1

Four approaches to defining fluency



Source: Tavakoli & Hunter, (2018, p. 343)

For the purpose of this research, the focus is on one main component known as very narrow, and its categorization of breakdown measures, which indicates when the flow of speech is disrupted by silent or filled pauses (Tavakoli & Skehan, 2005).

Breakdown measure classification:

- I. Silent pauses are defined as intervals of silence within the flow of speech (Cucchiari et al., 2002). The importance of this study aligns with Williams's (2023) definition of pausing as one of the most perceptible indicators of a lack of fluency, which might impact the interlocutor's understanding. In this research, pauses were measured by their duration in seconds, with its total mean serving as an indicator for a pre- and post-test result comparison.
- II. Hesitations, also commonly known as filled pauses (Smith & Clark, 1993), can be defined as a form of vacillation during the decision-making process. They are usually represented by sounds such as *um*, *uh*, *er*, or *ah*. In this research, hesitations were measured by their frequency in oral discourse taking into consideration that a fluent conversation is characterized by a minimal use of fillers (Housen & Kuiken, 2009).

To obtain key information regarding students' oral fluency, the measurement of their length of pauses and the frequency of hesitations, investigating about different digital tools that could potentially assist in data collection was taken into consideration.

2.1.4 Technological tools for speech measurement

With the introduction of digital technology, methods for measuring oral fluency have changed. Therefore, researchers can more accurately and effectively examine temporal components of fluency. Previously, the mechanical assessment of fluency depended on a clock and a one-second quiet scale, resulting in a degree of measurement error. At present, however, several digital software tools exist to help researchers more precisely measure the temporal features of fluency. For the purpose of this study, two main tools were applied, ELSA Speak® and Audacity®.

English Learning Speech Assistant (ELSA) Speak®¹ is an automated speech recognition (ASR) technology that utilizes an artificial intelligence (AI) to provide any user with feedback analysis on spoken language. The following main components are evaluated: *pronunciation, intonation, fluency, grammar, and vocabulary*. For the purpose of this research, a decision was made to focus only on the *fluency* component. It is important to consider, as Michael (2017) asserts, that ASR in ELT suffered from a poor reputation since users encountered too many false positives or false negatives during the processing of their speech. However, recent technological developments have led to new levels of accuracy and recognition quality, opening new opportunities in this field. To add reliability to the data analysis, the integration of an additional application, Audacity®, was considered.

A software such as Audacity®² offers deep insights into oral fluency components through manual analysis. Its tools enable any researchers to calculate pause length and hesitation frequency; this permit complementing and comparing data provided by ELSA Speak®. To illustrate the Audacity® functionalities, Martinez (2010) explains: “Audacity can then be used to record any sound of our choice, secondly, we can digitize tapes and records; and third and most important, we can edit all kind of sounds in exactly the same way we edit a text” (p.98). Considering this description, it can be stated that Audacity® works as a multifaceted software for researchers who aim to precisely process audio data.

Both ELSA Speak® and Audacity® seem to provide complementing functionalities which might improve measurement of oral fluency in terms of precision and validity. Different are the advantages of these digital tools that can make any researcher develop more comprehension on students’ oral fluency needs. Therefore, it is important to continue investigating new approaches for fluency assessment, as it is picture-based storytelling, an interesting strategy to develop oral fluency which will be described in the following section.

2.2 Picture-based storytelling

Many research investigations have explored the efficacy of applying storytelling to enhance the speaking proficiency of students. Notably, it has been concluded that the use of storytelling through picture description empowers learners with an improvement in oral production by stimulating real, authentic communication

¹ See examples of the use of ELSA Speak® in Appendix H

² See examples of the use of Audacity® in Appendix I

with their peers (Arguello San Martin, 2019; Fajriani et al., 2021; Liskinasih & Marcelina, 2023). Moreover, Gillen (2015) indicates that any digital storytelling initiative can be deeply rooted in the community and have a strong social educative aim.

As demonstrated in previous studies, storytelling in EFL acquisition emphasizes the importance of incorporating narrative elements into learners' oral communication processes to develop oral production. To exemplify the effective organization of any storytelling, Morrow (1985) classified narrative structural components including an introduction, middle of a story, and a conclusion, the author also added a setting that specifies time, location, and characters. Integrating these narrative components, students can structure and organize their ideas and story events in a logical sequence verbally, thereby enhancing oral fluency.

Encouraging participants to share stories or give presentations inevitably entails an acceptance of repetition. To pursue the aims outlined in this research, it is important to consider that through practice and repetition of oral skills students will reinforce the ability to create and edit their work. Therefore, allowing learners to engage in practice dialogue might be beneficial for their oral fluency. As Pahl and Rowsell (2020) reflect, students who are given the chance to practice these interactions show a noticeable improvement in confidence and fluency on subsequent tries.

A clear summary on how picture-based activities can be developed in the EFL classroom is provided by Ekaningsih and Haq (2022). In this conducted study, the main objective was to use storytelling and sequenced pictures for the organization of oral ideas. Findings from the study suggest that more significant results in oral performance, motivation, confidence, and storytelling organizational abilities came from participants that engaged the most with picture-description oral tasks.

Considering aforementioned studies, through the description of community/family photographs, it is expected that picture-based storytelling could play an important role in the development of a meaningful learning experience. This could be achieved by retelling and sharing recorded stories through the Flip App®. According to Langellier and Peterson (2004), telling stories to people can help us show how both we and others see ourselves in the world. When developing stories about our community or family, we represent our own heritage, roots, and culture. For this reason, the proposed strategy will enhance awareness of student backgrounds through descriptive and dynamic activities.

2.3 Use of the Flip App®

With the advancement of the technological era, the incorporation of information and communication technology (ICT) media into the realm of education is not a novel concept. Numerous past studies have fused different technology-based media, specifically, ICTs, with language learning for speaking lessons. According to Syafii et al. (2019), the use of multimedia presentations has been

demonstrated as an excellent method for improving speaking skills. As teachers, we must take advantage of these platforms, exploring the most suitable tools for encouraging deep inquiry. It is also necessary to examine the roles of both students and teachers.

Hence, within the scope of this investigation and to align with the primary objectives of this research, a decision has been made to employ the Flip App®. Previously known as Flipgrid®, the Flip App® can be described as a multimedia recording platform that contains several essential features, including grids, topics, responses, and replies, to facilitate learners' engagement. A grid functions as a type of virtual learning community. Inside, teachers can give the grid a name, create a unique Flip App® code, or utilize the one that is generated automatically. Topics serve as discussion starters, prompting participants to collaborate on the platform. Students then reply to these prompts by making and uploading videos, allowing them to express their creative storytelling. Moreover, Budiarta and Santosa (2020) indicate that "Flipgrid enables students who are not really confident in expressing their ideas in face-to-face interaction to perform really well in responding to the topic of Flipgrid discussion" (p. 14).

Insights into students' perceptions are totally relevant for this study to understand the impact of the Flip App®, emphasizing how use of the app, along with teacher-researcher provided feedback, encourages learners to develop oral narrations through video recordings. In this study, the Flip App® plays an important role in providing comprehensive analysis on the impact of the use of this platform.

2.4 Formative assessment

When talking about assessment, it is important to emphasize the importance of delivering meaningful feedback. Klimova (2015) defines this process as "a crucial role in any educational process since it can significantly improve both learner's and teacher's performance and indicate some key aspects of their performance which can be improved" (p.172). Therefore, any information that students receive regarding their performance is referred to as feedback. In accordance with Kerr (2017), there are two types of feedback: non-corrective feedback in the form of affirmation or encouragement, or it can be corrective feedback that draws the learner's attention to mistakes. In terms of corrective feedback, Ellis et al. (2006) defines it as a response to a learner's utterance that contains error.

Ellis (2009) further classifies corrective feedback delivered by teachers into six main types: direct feedback, indirect feedback, metalinguistic feedback, electronic feedback, feedback focus, reformulation. Over all classifications, and in accordance with the aims of this research which is providing formative feedback on pauses, hesitations, and use of picture-based storytelling as a main strategy in the fluency-based task, the definition for feedback focus will be highlighted. Defined by Wiboolyasarini et al (2022), feedback focus "refers to whether the teacher makes an attempt to correct the majority of the learners' errors or focuses on a few specific types of faults." (p.34).

Table 1
Written corrective feedback type

Dimension	Type	Definition
Teacher's provision	Direct feedback	The teacher provides the correct version to the learner.
	Indirect feedback	The teacher identifies the existence of an error but does not rectify it.
	Metalinguistic feedback	The teacher provides a metalinguistic clue as to the error's nature.
	Electronic feedback	The teacher highlights an error and provides a link to a concordance file containing examples of proper usage.
	Feedback focus	This refers to whether the teacher makes an attempt to correct the majority of the learners' errors or focuses on a few specific types of faults.
Students' responses	Reformulation	The teacher enhances the learners' entire content in order to create as much native-like written language as possible while maintaining the integrity of the original text.
	Revision required	The student is tasked with correcting typos or rewriting the content.
	No revision required	The learner is not required to revise the text for errors or rewrite it.

Note. Reprinted from “A typology of written corrective feedback types” (Ellis, 2009), as edited by Wibooyasarin et al. (2022) in “EFL learners' preference for corrective feedback strategies in relation to their self-perceived levels of proficiency”. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1353186.pdf>

As unusual as this might sound, research in EFL indicates that participants want and expect correction. Actually, students are more eager to receive correction than their teachers are willing to do it (Roothoof & Breeze, 2016). Teacher-researchers shall reflect upon this assertion, since thinking about providing the most suitable feedback to students sometimes leads to many teachers' misconceptions especially in oral tasks. For example, avoiding immediate feedback in students' oral performance, thinking this might lead to negative emotional responses, which can be detrimental to their learning process.

In response to this encountered issue, the following section will offer better alternatives to this approach, which can serve as the basis for later feedback.

2.4.1 Formative feedback applied in educational contexts

Ellis et al. (2006) described specific and timely feedback as the most beneficial. For oral fluency, this entails giving students feedback immediately, mainly when they are observed to have many pauses or hesitations. Such feedback assists the learners in noticing when they have problems with fluency and helps them achieve a more natural speaking pattern (Khoram et al., 2020). Malecka et al. (2020) work to support this view; the authors noted that feedback should address areas that the student can work and develop. Among all the tasks, fluency feedback, which is

assigned to the element of pauses and hesitations, is considered rather crucial because fluency directly influences a learner's communication

Moreover, Shadiev & Feng (2023) emphasized that corrective feedback is an essential tool that promotes linguistic development. The authors found that feedback on oral fluency aids learners in improving their speech control and awareness, enabling them to monitor and adapt as necessary. This aligns with Uddin (2022), who asserted that feedback on fluency should predominantly consist of positive reinforcement, but occasionally occasional negative feedback to gain learners' confidence in task performance while simultaneously promoting progress

In our Chilean context, a study developed by Aranguiz and Quintanilla (2016) highlighted the importance of feedback at improving oral production. In this study, the researchers performed a pilot study on oral corrective feedback strategies in the Chilean classroom. One of the main results was that explicit correction and metalinguistic feedback are used mainly by teachers. Their findings indicate that different feedback strategies should be applied to cover aspects of language use related to fluency. This is in line with the approach adopted in the current research whereby feedback for the length of time for a pause and frequency of hesitation was given using the Flip App®.

On the other hand, in a study developed by Sheen (2008), it was analyzed the impact of language anxiety by applying a survey based on ESL learners' ability to notice when their teacher corrected their mistakes (indicated by whether the learners corrected their errors) and on their subsequent learning. The conclusions of this study revealed that students with low anxiety levels were much more inclined to fix their mistakes after receiving corrections and consequently benefited from them. Therefore, this research implies that students with high anxiety levels may disrupt their capacity to process any input in their working memory. This research illustrates the importance of being aware of what and how feedback can be provided, and that knowing our students is paramount.

Feedback on fluency in speaking tasks is essential for learners to communicate more fluently and coherently, and to achieve it is relevant to be aware of our students' needs. Thus, awareness of speech pauses, and frequent hesitations can cause the improvement of fluency to enhance the overall communicative performance since teachers can deliver instructed feedback that directly targets particular language fluency components. According to Ellis et al. (2006), this focused feedback is central to language acquisition since it directs the learners toward better language use and excellent proficiency.

2.5 Students' perceptions

The perceptions that learners themselves maintain are among the many components that can impact their learning results and overall EFL language improvements. Students are more likely to participate enthusiastically in class activities and succeed academically when they demonstrate a high degree of

satisfaction with their learning experiences (Gray & DeLoreto, 2016). In addition, Bandura and Watts (1996) note that the self-confidence of students is reflected in how they view their educational experiences. When they recognize that their hard work has been worthwhile and when others recognize their potential, learners are more likely to adopt positive perceptions of their own self-efficacy. In fact, upon noticing progress in their language skills, participants experience an enhanced positive outlook on their self-efficacy, leading to increased motivation to invest effort in their studies (Graham, 2006).

Recent EFL studies, such as the one conducted by Sukrutrit (2023), have demonstrated the relevance of students' perceptions to enhance a more supportive classroom environment. Results from this study revealed that students preferred recording videos when developing speaking tasks. Listening to participants' opinions, such as the ones exemplified, might have improved their effectiveness in practicing speaking skills.

To explore the influence of the diverse inner representations from learners inside the EFL classroom after the intervention period and, specifically, their role on learning and oral production, a decision was made to develop an open-ended questionnaire for collecting participants answers. Cooper (2013) highlights the need for self-awareness from teachers toward the perceptions of students to understand their performance and attitudes in a specific context. According to Hafrizal et al. (2021), "it can be concluded that perception is the ability to see, understand, and then interpret a stimulus to produce interpretation" (p. 480).

As previously described, we must consider the importance of listening to students' opinions, as they are the central focus of our profession. Their reflections and opinions guide us when creating lessons that are more engaging and responsive to their needs.

2.6 Teacher-researchers' perceptions

Teacher-researchers' perceptions play a crucial role in action research. To start with, reflections during research help teachers understand different types of educational knowledge and actions, manage challenges, and identify pathways for change. While doing research, reflections can help teachers become conscious of the various types of knowledge and actions in education, the underlying tensions and challenges, and the necessary steps to instigate change across multiple levels (Luttenberg et al., 2017; Wai-Shing, 2008).

Teachers' reflections enhance their own self-assessment on their practices. As Crawford (2022) states "challenging and questioning one's own practice is an expectation of the professional work of a teacher and an embedded part of the wider systemic culture of the school or education context" (p.58). Additionally, Pellerin and Nogués (2015) explained that an effective teaching practice involves introspection on one's beliefs, and attitude which clearly fosters a continues learning culture in educational contexts. Participating in reflective practices enables any educator to

evaluate their methodologies resulting in better professional development (Farrell, 2018). Encouraging teachers to reflect upon their own work led them to reflect as well on their moral, social, ethical, and emotional dimension within and beyond the classroom (Farrell, 2024).

In terms of the tensions and the challenges, Guerrero-Hernández and Fernández-Ugalde (2020) illustrated how reflection in action research could be used to improve practice by reflecting on the benefits, challenges and tensions of collaborative research-practice partnerships. These perceptions shape students' learning environment and impact their motivation and academic success.

In this research, reflections about the challenges, expectations, or limits encountered not only direct thinking and behavior but also serve as a tool to oversee the progress closely. These reflection progresses offer feedback, direction, and essential inquiries about what is suitable in the specific situation becoming a source of experiential knowledge to any researcher, essentially, to reconstruct that knowledge through reflection.

2.7 Empirical studies

Over the last decade, several empirical studies have been conducted, providing valuable data and evidence on main topics regarding this research, such as oral production, formative feedback, the use the Flip App®, the perceptions of both students and teacher-researchers. The following paragraphs will provide an overview of studies that are connected to this investigation, offering deeper insights into practical research and outcomes.

Oral fluency in EFL has recently taken precedence in numerous studies. Different approaches and tools have been studied concerning assisting students in improving their speaking skills, with a specific focus on fluency development. San Martín et al. (2020) used a picture description storytelling tool to enhance oral production with second-grade EFL students in Ecuador. The action research was carried out among twenty-five six- and seven-year-old students at a private school in Guayaquil. Storytelling activities were conducted once weekly for the class by using visual aids such as flashcards, posters, and digital images. Results showed significant increases in vocabulary use and fluency measures, which suggested increased confidence and a willingness to engage in oral activities. The authors underlined that visual-aid storytelling is in the position to develop the communicative competence of young EFL learners, especially when classroom time is the only opportunity for practicing English. This study aligns with the approach adopted in this investigation and will provide valuable insights for future comparison or analysis.

In a study by Razmi et al. (2014), 60 intermediate EFL learners in Iran attended a course on digital storytelling, which comprised 12 sessions. Learners were between 19 to 26 years old and formed an experimental and control group. The experimental group went through the process of story planning, script writing, storyboard development, and producing digital stories with software like Windows

Movie Maker. Pre- and post-tests for speaking ability with indices of accuracy, fluency, and comprehensibility were conducted. Speaking performance significantly improved in experimental group students compared to the control group in terms of mainly fluency and narrative structure. The authors underlined that this digital storytelling created an authentic context for using a language, thus increasing students' confidence while speaking in English, which furthermore integrated several linguistic competencies.

On the other hand, when discussing about speaking activities we cannot leave aside the relevant role that students play in AR. Listening to learners' voices in the research process is crucial for gaining a comprehensive understanding of the factors influencing their learning experiences and outcomes. Foster (2020) provided a research agenda for the subsequent decade on oral fluency in second language acquisition. She relieved the need for a deeper understanding of fluency development concerning cognitive, linguistic, and social factors influencing speaking performance. It is pointed out that conventional communicative methods may not provide adequate automatization of language production necessary for fluent speech. In this study, students' contexts were considered paramount in the development of oral tasks to connect them with meaningful activities aiming self-reflection and deeper engagement in the learning process.

The influence of the strategies and tools applied can be better understood through the exploration of students' engagement with the designed activities for this study. As teacher-researchers, any answers or reflections will allow us to evaluate different learning alternatives proposed for our students, and if these are the most appropriate for our school contexts. To exemplify, Lowenthal and Moore (2020) developed exploratory research which had the purpose of exploring students' perspective in the use of Flipgrid® in online lessons. The instrument applied was a survey with Likert-scale questions administered to 79-graduate students from three different classes. Findings indicated positive responses on the use of Flipgrid®, highlighting the improvement of students' attendance and interaction.

In our Chilean context, Contreras et al. (2023) explored the perceptions of EFL teacher-training students about how effective video recording the Flip App® method is in aiding in speaking skills development. Precisely, their investigation highlights challenges faced by university students while striving to improve their speaking skills online during the pandemic outbreak. The findings revealed that pedagogical approaches like frequent use of the Flip App® video recordings can significantly enhance oral fluency confidence whilst enhancing self-esteem thereby improving individual's perceptual experience of speaking competence.

These studies examine the importance of innovation in developing oral fluency in EFL settings. Researchers identify effective paths to enhance speaking skills via techniques and aids such as using visual aids and storytelling with students from different contexts and ages. Further emphasizing explicit fluency instruction and automatization in language production needs specific practices to be set up for fluency development but, most importantly, to pay attention to our students' voices.

Although it has been a real uphill battle for EFL educators, especially after the outbreak of COVID-19, the research findings give valuable insights that proved effectiveness in students' oral fluency development by ensuring a blend of approaches and in the creation of learning environments conducive to fostering speaking skills in EFL settings.

CHAPTER II

METHOD

3.1 Type of research

The proposed study is an action research (AR) project in accordance with the objectives of this investigation. As stated by Burns (2015), AR “is a research approach that is grounded in practical action (the action component) while at the same time focused on generating, informing, and building theory (the action component)” (p. 19). In this study, the teacher-researcher undertakes an inquiry within a specific educational setting to support secondary school students’ oral fluency. The implementation of picture-based storytelling and formative feedback using the Flip App® to support students’ pauses and hesitations during oral communication was used to address this concern. In accordance with Kemmis and McTaggart (1988, p. 10), this qualitative inquiry involved a cyclical process of planning, acting, observing, and reflecting that emphasizes the iterative nature of educational improvement and knowledge generation. Once addressed the main problem, the teacher-researcher conducted a pre-intervention test. Additionally, three intervening EFL workshops were carried out, and formative feedback was provided to all participants. Afterward, a post-intervention test was applied. Throughout the study, a reflective process took place, where the teacher-researcher recorded all reflections based on the experiences, difficulties, and challenges of conducting action research. These reflections were complemented by open-ended surveys administered to all participants at the end of the intervention. All data collected served as a repository for insights and further analysis.

3.2 Description of participants

This AR project was conducted in a Chilean public school in Concepción. The group of participants was selected as a convenience sample of 12 secondary school students: 7 Chilean and 5 foreign students from Colombia and Venezuela, aged between 14 and 17 years. All participants, from ninth to twelfth grade, took part in an English as a Foreign Language (EFL) extracurricular workshop. According to Berg and Lune (2012), this type of sample involves selecting subjects who are readily available. In this context, students who felt motivated and willing to participate attended the sessions. The participants' level of English ranged from elementary to pre-intermediate, based on previous diagnostic tests administered at the beginning of the school year. The school environment, described as multicultural, reflects the diverse heritages, traditions, and customs from different countries as outlined in its institutional education project.

3.3 Research question and objectives

As Surg (2010) states, deeper understanding of a topic can lead to the emergence of numerous questions. Therefore, having guidance on the specific questions and objectives based on the main challenge of our educational contexts becomes paramount in AR.

3.3.1 Research question

To what extent does the use of picture-based storytelling and formative feedback given through the Flip App® support the English oral fluency of secondary school students

3.3.2 General objective

The general objective of this study is to explore how the implementation of picture-based storytelling and receiving formative feedback through the use of the Flip App® supports the development of English oral fluency among secondary school students.

3.3.3 Specific objectives (SO)

1. To assess participants' oral fluency in terms of pauses and hesitations when using picture-based storytelling before and after the intervention
2. To identify participants' perceptions of the use of picture-based storytelling and formative feedback through the Flip App® in supporting their speech rate (pauses and hesitations) after the intervention
3. To reflect on the benefits, tensions and challenges experienced before, during and after the action research

3.4 Research problem

The national curriculum guidelines (Ministerio de Educación, 2016) emphasize the practice of speaking skills through specific objectives and outcomes. MINEDUC's guidelines also emphasize the need to offer students diverse opportunities to participate in meaningful activities such as dialogues, presentations, role plays, as well as use different tools to assess their performance. However, in a public school in Concepcion, Chile, secondary school students encountered difficulties with oral activities due to extended pauses and frequency hesitations leading to numerous of speech breakdowns. In addition to this, reductions in the school schedule limited opportunities to improve oral fluency, thus providing feedback required. To address these challenges, a strategy was implemented during extra-curricular workshops focused on practicing storytelling using pictures from students' community background. This approach provides students with opportunities for fluency practice in a meaningful way. The use of storyboards and prompts during the intervention enhanced the structuring of their narratives, while the application Flip App® assisted in regulating the duration of their oral narrations. The feedback provided during the intervention aimed to address the learners' difficulties with pauses and hesitations during practice. Implementing this strategy may enhance secondary students' confidence in their speaking skills, particularly their fluency.

3.5 Action research: Design and development

In the initial piloting stage, some research instruments such as the pre and post intervention test and the students' survey were evaluated with the assistance of three high school students as test-takers. These students did not participate in the intervention. The pilot stage provided guidelines on the overall written design and development process, clarified the assessment purpose, and ensured the content and vocabulary were appropriate for students' proficiency level. For ethical

considerations, an informed consent form ³was delivered to all students and parents before starting the sessions. Throughout the intervention period, three main extracurricular workshops were developed onsite. Each lesson plan ⁴was designed by following a presentation, practice, and production (PPP) framework where students were expected to record two-minute video narrating different story components (beginning, middle, end) each class. The main story was based on a picture of students' community background. During the research development, the teacher-researcher recorded different audio-logs reflecting on the challenges and development of the entire process. Those reflections provided insights for the research analysis. Participants completed an open-ended survey after the intervention on the use of picture-based storytelling, the use of the Flip App®, and the formative feedback provided.

3.6 Stages of the action research plan

The following table provides information in regards of the activities planned during the intervention.

Table 2

Action plan design

Sessions Date	Activity and Instruments	Research objective
Pre-intervention May 7 th , 2024	Piloting pre/post test	(1) To assess participants' speech rate fluency in terms of pauses and hesitations when using picture-based storytelling before and after the intervention
	Piloting the students' open-ended questionnaires	(2) To identify participants' perceptions of the use of picture-based storytelling and formative feedback through the Flip App® in supporting their speech rate (pauses and hesitations) after the intervention
Pre-intervention May 10 th , 2024	Pre-intervention test	(1) To assess participants' speech rate fluency in terms of pauses and hesitations when using picture-based storytelling before and after the intervention
	Teacher's audio log n°1	(3) To reflect on the benefits, tensions and challenges experienced before, during and after the action research
Intervention - Session 1 May 13 th , 2024	Teacher's audio log n°2	(3) To reflect on the benefits, tensions and challenges experienced before, during and after the action research
Intervention - Session 2 May 28 th , 2024	Teacher's audio log n°3	(3) To reflect on the benefits, tensions and challenges experienced before, during and after the action research

³ See Appendix G for detailed written informed consent form

⁴ See example of a lesson plan in Appendix R

Intervention -
Session 3
June 4th, 2024

Post intervention July 9 th , 2024 July 9 th , 2024	Post-intervention test Students' perceptions survey	(1) To assess participants' speech rate fluency in terms of pauses and hesitations when using picture-based storytelling before and after the intervention (2) To identify participants' perceptions of the use of picture-based storytelling and formative feedback through the Flip App® in supporting their speech rate (pauses and hesitations) after the intervention
	Teacher's audio log n°4	(3) To reflect on the benefits, tensions and challenges experienced before, during and after the action research

Source: own elaboration

3.7 Data collection techniques

This research used different sources for data collection during the intervention. There were two quantitative instruments: *pre-post intervention tests using an analytic rubric* and *ongoing formative rating scale*. The qualitative instruments included an *open-ended questionnaire*, and *audio diary logs*. All instruments are explained in detail in the following sections.

3.7.1 Pre-post intervention test (Appendix A and B)

A pre-post intervention test was selected to collect data on oral speech fluency and hesitations, as well as the use of picture-based storytelling, before and after the intervention. The items in this instrument were divided into three dimensions: *assessing students' pauses during oral production*, *assessing students' hesitations during oral discourse*, and *assessing students' use of pictured-based storytelling to describe community/family pictures*. All dimensions included one main activity. The test consisted of an approximately 6-minute evaluation of a peer couple (Students A and B); the test was conducted and recorded in another available classroom to avoid distractions and external noise to ensure the reliability of the instrument. The data provided from students' oral fluency to be analyzed, length of pauses and frequency of hesitations, was organized in comparative tables. However, composite measures (i.e., two aspects of fluency combined; Tavakoli & Wright, 2020) were needed for deeper analysis. The integration of an additional fluency metric: Length of speech was paramount for a better reliability of the analysis as students might have shown reduced pauses or fewer hesitations during post-intervention but without considering length of speech, the conclusions regarding the effectiveness of the intervention— whether positive or negative —would remain incomplete and potentially misleading. This combined measure approach enabled the teacher-researcher to develop an in-depth analysis. For section 3, use of picture-based storytelling, the instrument employed was an analytic rubric, because while a

holistic rubric is more user-friendly and effective, it does not provide the diagnostic data that an analytical rubric does, which can be used to enhance future teaching and learning (Brown, 2012). This definition aligns with the cyclical research approach introduced earlier to emphasize the importance of analytic rubrics for facilitating reflection and analysis based on data assessment.

3.7.2 Open-ended questionnaire (Appendix C)

The open-ended questionnaire has been constructed around five dimensions: students' perceived contribution on oral hesitation, students' perceived contribution on oral pauses, students' perceptions on the use of picture-based storytelling, students' perceptions on receiving formative feedback, and students' perceptions on the use of the Flip App®. Each dimension contains one item (five in total) addressing one key open-ended question. It thus aims to identify secondary school students' perceptions about the use of picture-based storytelling and formative feedback through the Flip App® at supporting their pauses and hesitations during the intervention. Regarding the use of this instrument, Züll (2016) notes, "Open-ended questions are more suitable than closed-ended questions for measuring knowledge, because they not only minimize the likelihood that respondents will try to guess the right answer but also often yield more reliable and valid information" (p. 2). For that reason, the opinions reported in this study may have important implications for future triangulation in the data analysis. Additionally, this instrument was conducted in Spanish to obtain more reliable, valid, and unbiased feedback from the participants. This instrument was applied after the intervention so participants could reflect upon their overall experience of the use of picture-based storytelling and the received formative feedback through the Flip App®. By gathering this relevant information, future research directions may benefit from the insights provided by the students.

3.7.3 Audio diary logs (Appendix D)

This instrument follows a semi-structured format to prevent off-topic ideas from the teacher-researcher. It has been designed to unpack the teacher-researcher's reflections upon experiences, difficulties, and challenges while conducting this AR project. Among different qualitative instruments, the use of audio diary logs has emerged as a potent tool in endeavors to better explore this issue. Káplár-Kodácsy and Dorner (2020) have described how audio logs provide a direct window into educators' reflections upon their teaching practices, while for Jones et al. (2015), audio diaries are a personal space "to express experiences and emotions that were relevant at a particular time" (p. 396). Throughout the intervention, the teacher-researcher is expected to generate reflective ideas addressing three guided questions. These questions are strategically organized and aligned with three key dimensions; each question corresponds to a specific dimension: (a) Teacher-researcher's reflections upon her own didactic teaching development experience; (b) Teacher-researcher's reflections upon problems or difficulties in the EFL teaching/learning process; and (c) Teacher-researcher's reflections upon challenges to be addressed in the EFL teaching and learning process. It is expected that all data collected using this instrument would be helpful to develop students' learning and improve the teacher-researcher's practices.

3.7.4 Formative assessment rating scale (Appendix E and F)

A formative assessment rating scale was constructed around three dimensions: *To assess students' pauses, to assess students' hesitations, and to assess students' use of pictured-based storytelling.* According to Luoma (2004), this instrument “defines the structure of an assessment and provides instructions to participants about what they should do” (p. 51). It eventually contributed to providing all the information needed to students to avoid negative washback effects. A formative assessment rating scale was used in every session, because providing students with comprehensive and helpful feedback could provide positive effects on their fluency and assist them in realizing what they were doing well and what needed improvement. This instrument was also essential for measuring the frequency of hesitations, the length of pauses, the use of visual prompts, and storytelling structure components during oral tasks. Records of pauses and hesitations were registered in the rating scale using two digital tools ELSA Speak® and Audacity®; students were aware of their progress by receiving this formative feedback through the Flip App®. The use of formative rating scales every session ensured the evaluation concentrates on the key aspects that needed to be observed and improved. Moreover, results offered insights into the contribution of AR in students' learning progress especially in oral fluency aspects, as identified later in open-ended survey responses.

3.8 Data analysis techniques

Given the diversity of instruments and tools employed in this action research project, the data collected were analyzed with varying techniques. The results obtained from the pre- and post-intervention tests were evaluated in individual sections. For sections 1 and 2, the explicit results for the students' pause lengths and frequency of hesitations were taken directly from Audacity®. These results were presented in a comparative table, including speech length for robust analysis, as the analytic rubric lacked this criterion. This approach allowed for a more comprehensive and deep analysis. The results for picture-based storytelling were analyzed in Section 3 with an analytic rubric designed and validated by teacher educators from the master's program to evaluate students' performance. After data were collected from the pre- and post-intervention tests, a Shapiro-Wilk normality test was used to calculate the normality of the data distribution. Habibzadeh (2024) states that a Shapiro-Wilk test is generally used for small sample sizes ($n < 50$). Subsequently, a Wilcoxon signed test was applied to obtain the statistical significance of the data. Finally, a descriptive data analysis was performed to provide deep insights into the students' results. According to Loeb et al. (2017), such an analysis simplifies data to help readers understand the main implications of the research. Qualitative data was obtained through an open-ended questionnaire and audio logs. Later, these were analyzed with a thematic content analysis technique (TCA). The main goal of this analysis was to identify and outline the themes and subthemes arising from the students' and the teacher-researcher's frequency of responses. According to Bengtsson (2016), “In qualitative content analysis, data are presented in words and themes, which makes it possible to draw some interpretation of the results.”

CHAPTER IV

FINDINGS

4.1 Specific Objective 1: To assess participants' oral fluency in terms of pauses and hesitations when using picture-based storytelling before and after the intervention

In this chapter, the data collected from the intervention are presented in alignment with the specific objectives.

4.1.1 Comparative analysis of fluency measurement tools

The following section compares the data between software tools applied to recognize empirically the most reliable one for this study and analyzes the results of the pre-intervention test.

Table 3

Comparative pre – test results using ELSA Speak® and Audacity® software tools

Participants	ELSA Speak®		Audacity®	
	Pause Length (sec)	Total Length of Speech (sec)	Pause Length (sec)	Total Length of Speech (sec)
Student 1	2	6	7	4
Student 2	0	3	0	1
Student 3	1	22	17	22
Student 4	2	12	4	9
Student 5	Not recognized by the software	10	3	8
Student 6	0	12	5	12
Student 7	Not recognized by the software	Not recognized by the software	0	2
Student 8	9	42	76	40
Student 9	12	90	17	98
Student 10	Not recognized by the software	Not recognized by the software	0	1
Student 11	3	18	7	9
Student 12	3	5	4	7

Note: Data provided indicates comparative results from pre-test using ELSA Speak® and Audacity® software tools. "Not recognized by the software" means the software was unable to detect or measure the input.

^a "Sec" represents seconds in Table 1.

^b Data provided by ELSA Speak® and Audacity® are approximate to ensure consistency in the presentation of results.

Source: own elaboration

The comparison of data between ELSA Speak® and Audacity® in Table 3, showed notable differences in the measurements of pause durations for the specified group of students. Both ELSA Speak® and Audacity® are speech analysis tools; however, the differences in the results between these two may be related to the approaches or algorithms that each tool employed to identify the duration of pauses. For Student 3, ELSA Speak® reported a 1-second pause, a thorough examination by Audacity® showed a total of 17 seconds pause length with multiple pauses during the speech. This large difference suggests that Audacity®, as being a manual software, provided with more specific and sensitive information to even the smallest gaps in oral tasks.

On the other hand, neither Audacity® nor ELSA Speak® recognized any pauses for Student 2 (0 seconds), demonstrating that both programs were consistent in their application with this specific student. Noticeably, Audacity® gave Student 5's audio a pause time of 3 seconds, while ELSA Speak® considered it too short to be recognized. This case example showed that ELSA Speak® was probably weaker in handling shorter audio samples. Audacity® seemed to be more robust, since its features allowed the manual analysis to be more precise in terms of seconds or milliseconds of pauses distributed through a length of speech.

These comparisons revealed that Audacity® measured the pauses as consistently longer than ELSA Speak®. The reasons could be that Audacity® did a more granular analysis and most likely had more sensitive detection that picked up smaller, more frequent pauses. Most probably, ELSA Speak® employed some other methodology; as an ASR technology that used artificial intelligence (AI), it might be filtering out shorter pauses or collapsing closely spaced pauses into single, longer ones, hence its generally lower pause lengths. While both tools provided valuable insights into speech patterns, Audacity®, as manual software, seemed to provide more detailed pause length results. In this detailed classification, one may find applications requiring very fine-grained speech analysis, such as language learning, where nuances in pauses significantly affect assessment strategies and set the plans for follow-up improvements.

Moreover, ELSA Speak® might be more applicable for native speakers, or students with a higher level of oral proficiency as in English teaching programs where the detailed analysis of pauses is less critical, and the detection of language becomes easier to be recognized rather than in elementary language students who still struggle with pronunciation of certain vocabulary.

Comparing both software tools in depth proved that Audacity® performed more accurately, reliably, and consistently, which were prime requirements in this study for the analysis of speech metrics. The processing of audio data and all the features available for in-depth analysis were critical factors in making a decision.

With all this in mind, Audacity® was implemented as the main tool for data analysis in the later stages of this research to maintain the data's integrity and reliability.

4.1.2 Pre-and post-intervention test results – Pauses length

Table 4 compares results from both pre- and post- intervention test on pause length and speech length. The analysis presents variation in students' performance, including the ones who improved and those who did not. Combined with pause length time, the total length of speech was added for a more complete and reliable analysis.

Table 4
Statistical comparative results of students' pause length

Participants	Pre-test		Post-test	
	Pause Length (sec)	Total Length of Speech (sec)	Pause Length (sec)	Total Length of Speech (sec)
Student 1	7	4	2	7
Student 2	0	1	0	0
Student 3	17	22	12	19
Student 4	4	9	7	11
Student 5	3	8	0	5
Student 6	5	12	2	8
Student 7	0	2	1	5
Student 8	76	40	11	32
Student 9	17	98	23	82
Student 10	0	1	0	3
Student 11	7	9	2	11
Student 12	4	7	2	9
SUM	140	213	62	192
MEAN	12	18	5	16
MEDIAN	5	9	2	9
MODE	0	1	2	11
SD	21.07	27.55	7.00	22.43

Note: Data provided by Audacity® on pause and speech length are approximate to ensure consistency in the presentation of results.

Source: own elaboration

As seen in Table 4, most of the participants showed a general tendency towards shorter pauses, since the median pause length dropped from 5 seconds in the pre-test to 2 seconds in the post-test. The mode changed from 0 to 2 seconds, which means that little pauses did occur more often in the post-test. This decrease in the standard deviation of the pause durations from 21.07 seconds during the pre-

test to 7 seconds during the post-test was indicative of a more thorough improvement across the participant group.

Pre-test data illustrated a mean in speech length of 18 seconds, with a total speech length of 213 seconds; post-test data showed a mean of speech segment length of 16 seconds, with the total speech length marginally shorter at 192 seconds. Despite this apparent paradox of decline, it should first be remembered that other measures indicated an increase in speech fluency. The median length of speech remained at 9 seconds, which demonstrated there was a small change in the central tendency of speech lengths. Longer speech segments were more prevalent, which was seen in the obvious change in mode from 1 second in the pretest to 11 seconds in the post-test. The standard deviation of speech duration decreased from 27.55 seconds to 22.43 seconds. Thus, a drop in variability is implied, with an increased consistency of speech patterns after the intervention.

Most students' individual performance showed relevant reductions in both speaking and pause length time. To exemplify, Student 8's performance was better developed, reducing pause length time from 76 seconds in the pre-intervention test to 11 seconds in the post-intervention test. Additionally, Student 3 also reduced the pause length from 17 to 12 seconds. These improvements are just some examples that reflect the influence of the intervention on students' oral performance. However, it is also relevant to show students' results from the ones who had little improvement or even a slight decline. For example, Student 2 maintained the pause length time in both evaluations, as for Student 4, there was an increase in the performance from 4 to 7 seconds, indicating a drop in his overall performance in pause length. While most of students increased or maintained their results on speech length, some others decreased it. For instance, Student 9's results indicated a drop from 98 seconds to 82 seconds in the total mean of speech length.

The analysis of pre- and post-test scores for pause and speech times in seconds shows that the intervention generally contributed positively to participants' speech clarity. In general terms, the intervention's efficacy was represented through the overall reduction in pause times and the improvement in the consistency of speech length. Although most students showed noticeable improvement, the analysis also underlines how important it is to consider individual differences in how each particular participant responded to the intervention. The results provided useful information for refining and improving future speech fluency interventions. In the future, such interventions might therefore be tailored to maximize the effect on speech performance by individualizing each participant's needs.

4.1.2.1 Wilcoxon signed-rank test — Pauses length

A Shapiro-Wilk normality test was applied to calculate the normality test data from the pre and post-test. Results revealed a W statistic of 0.502 and a p-value of less than 0.001. This low p-value suggested that the post-test data do not follow a normal distribution. Consequently, a Wilcoxon signed rank test was appropriated for further analysis of these data.

Table 5
Wilcoxon signed-rank test results – Pauses length

Metric	Value
W-value	14
Z-value	-1.376
p-value (Z)	0.08379
Mean (W)	27.5
Standard Deviation (W)	9.81

Source: own elaboration

The Wilcoxon Signed-Rank Test delivered a W-value of 14, whereas the associated Z-value is -1.376. As the small sample size was 12 (N = 12), it was considered both the W-value and Z-value, as the Wilcoxon statistic tends to approximate a normal distribution. Moreover, a p-value corresponding to the Z-value is 0.08379, which is higher than the significance number of 0.05, suggesting that the comparative result analysis from the pre and posttest is not statistically significant. Therefore, the null hypothesis cannot be refuted. These findings show that the intervention did not generate a statistically significant improvement in performance in the criterion of length pauses.

4.1.3 Pre- and post-intervention tests- Hesitation frequency

Table 6 shows a comparison of data between the pre- and post-intervention tests. The results provided a detailed analysis of overall measures and individual differences. In addition, total speech length data has been added to complement and provide more robust analysis.

Table 6
Statistical comparative results of students' hesitation frequency

Participants	Pre-test		Post-test	
	Frequency of hesitations	Total Length of Speech (sec)	Frequency of hesitations	Total Length of Speech (sec)
Student 1	3	12	2	9
Student 2	1	2	1	2
Student 3	0	0	2	4
Student 4	1	20	3	13
Student 5	0	0	0	4
Student 6	3	9	1	14
Student 7	0	0	0	5
Student 8	12	41	8	46
Student 9	2	44	2	38

Student 10	0	0	0	2
Student 11	3	9	1	4
Student 12	1	3	0	0
<hr/>				
SUM	26	140	20	141
MEAN	2	12	2	12
MEDIAN	1	6	1	5
MODE	0	0	0	4
SD	3.33	15.53	2.23	14.87

Note: Data provided by Audacity® on frequency of hesitations and speech length are approximate to ensure consistency in the presentation of results.

Source: own elaboration

The total frequency of hesitations in the pre-intervention test was 26, while the mean was 2 per participant. In the post-intervention test, there were fewer hesitations, 20 altogether; however, the mean for the participants was the same, 2. In terms of the median, it remained at 1, demonstrating no significant change. The result of 0 reflected in the mode, indicating that zero hesitations were the most repeated results in both tests. A small variation in the hesitation frequency suggests a more consistent improvement, and this one can be seen in the standard deviation result, where it dropped from 3.33 in the pre-intervention test to 2.23 in the post-intervention test. The overall results provided in both tests show that fewer participants hesitated more often, which might reveal improvements in students' oral performance.

In terms of speech length during the pre-intervention, the results showed a total of 140 seconds, along with a mean of 12. As for the post-intervention test this one demonstrated a slightly higher overall result of 141, with a repeated mean of 12 seconds. In the post-intervention test the median result was 12 seconds in comparison with the 6 seconds in the pre-intervention test, indicating the central tendency shifted toward longer speech. It could be suggested that the participants' oral fluency and speaking confidence improved since the mode change from 0 in the pre-intervention test to 4 in the post-intervention test. As for the standard deviation result, this one dropped from 15.53 to 14.87, which might indicate that there was less variability in students' length of speech

At the individual performance level, several students made important improvements at lowering the frequency of hesitation as well as at improving the length of the speech. For example, Student 8 increased fluency by reducing frequency of hesitation from 12 in the pre-test to 8 in the post-test and increasing length from 41 to 46 seconds. However, some students showed no improvement or minor reductions, as Student 5, who did not improve but maintained his performance, or Student 3, who had no hesitations during the two evaluations, but improved speech duration from 0 to 4 seconds.

The results of this study indicate important changes in the frequency of hesitations since this fluency aspect dropped despite a shorter speaking duration. The data suggest an improvement in the overall quality of fluency, as fewer breakdowns occurred, which enhanced the students' fluency even though the length of speech was reduced.

4.1.3.1 Wilcoxon signed-rank test results– Hesitation frequency

The normative of the data from the pre- and post- intervention test was assessed using a Shapiro-Wilk normality test. The results showed a W-statistic of 0.918, and a p-value of 0.272, which indicated that the data do not follow a normal distribution. Therefore, a non-parametric test, such as the Wilcoxon-signed rank test, was applied for data analysis.

Table 7

Wilcoxon signed-rank test results- Hesitations frequency

Metric	Value
W-value	9
Z-value	-0.8452
p-value (Z)	0.198
Mean (W)	27
Standard Deviation (W)	11.58

Source: own elaboration

The Wilcoxon signed-rank illustrates a p-value of 0.198. This result is higher than 0.05, revealing this section is not statistically significant. These results indicate that the null hypothesis cannot be refused. Concluding that the results exposed, did not have a significant improvement in the criterion of frequency of hesitations.

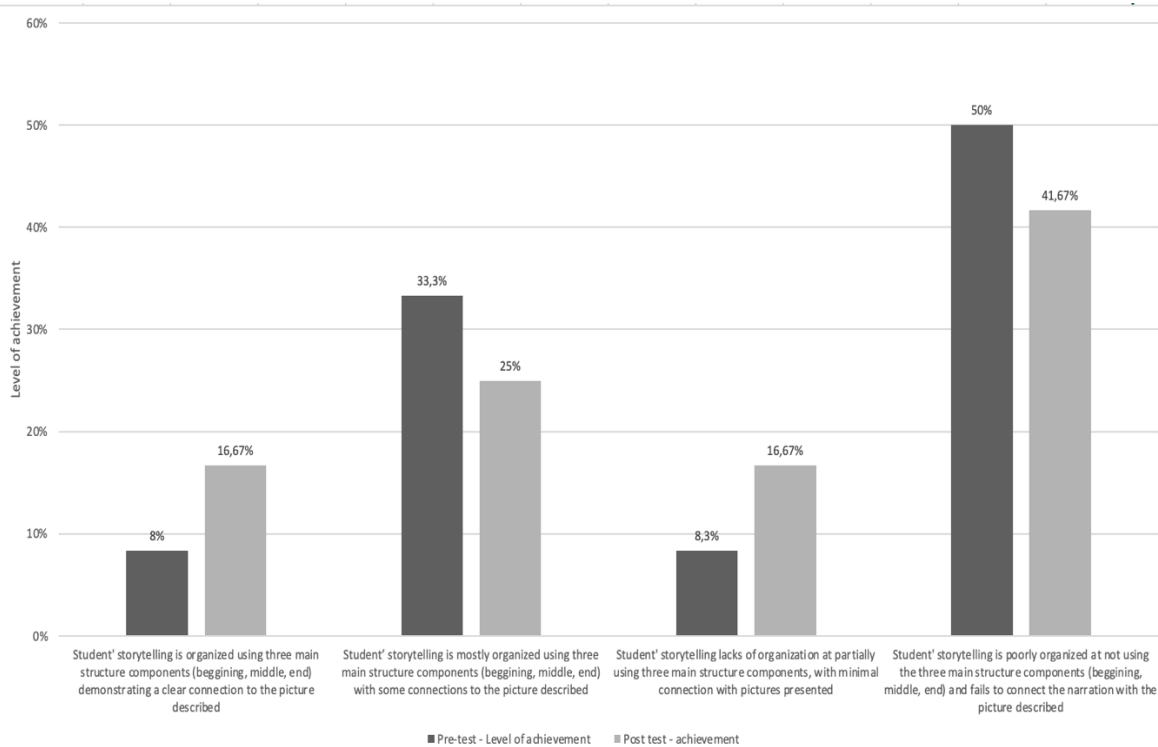
4.1.4 Pre-and post-intervention test results– Organization of narrative components

The following information on Figure 2 illustrates overall percentual statistics per criterion; Table 8, statistical comparative results of the item “organization of narrative components”; while Table 9 information related to the Wilcoxon signed-rank test results about the significance of the study.

To understand how the intervention influenced the students' narrative skills, the pre- and post-intervention test results can be contrasted regarding how the narrative elements were orally developed in stories using pictures of students' communities. To obtain reliable results, an analytic rubric was applied.

Figure 2

Statistical comparative results of the organization of narrative components



Source: own elaboration

The students' percentage on the level of achievement of whose storytelling was very well organized and engaging increased from 8% to 16.67%, thus showing some progress toward producing well-structured narratives aiding community pictures. The percentage of students who mostly organized the narrations and connected it to picture in use dropped from 33.3% in the pre-test to 25% in the post test, which might represent mixed results. This may, however, be the result of a redistribution in which one of the students achieved the highest positive criterion, and another student moved to the third last criterion, *lack of organization*. The percentage of students' level of achievement with poorly organized storytelling dropped from 50% to 41.67%, suggesting a positive improvement, although some other students still struggled with organizing narrative components.

Table 8

Statistical comparative results of students' organization of narrative components

	SUM	MEAN	MEDIAN	MODE	SD
Pre-intervention	12	3	3	1	2.45
Post-intervention	12	3	3	2	1.41

Source: own elaboration

While gains or decreases differed, the mean and median values of 3 in the pre- and post- intervention test indicate that generally, the students maintained the level of their performance. More students were able to obtain a medium level of organization in their narratives, as seen by the mode rising from 1 in the pre-test to 2 in the post-test. The standard deviation decreased drastically from 2.45 in the pre-test to 1.41 in the post-test, indicating a decrease in variability and therefore pointing toward more homogeneous performance among the students.

Comparing pre- and post-intervention tests in terms of the structure of narrative elements, the intervention positively affected some students' skills when narrating storytelling orally. Whereas in some cases, students made substantial progress in coherence and engaging stories, the general line of development reflects that further work and support are necessary for all students to use the three main structural elements effectively and continuously. These findings suggest that future improvements should focus on the provision of individualized support to enable every participant to more fully exploit the features of all the structural elements in their storytelling. By attending to these explicit demands, EFL teachers will be able to help students achieve greater narrative coherence and fluency and hence enhance their overall oral storytelling skills.

4.1.4.1 Wilcoxon signed-rank test —Organization of the narrative components

The null hypothesis of the Shapiro-Wilk normality test is rejected, suggesting that the post-test data deviates from a normal distribution (0.05). Consequently, a non-parametric test, such as the Wilcoxon signed-rank test, is appropriate to analyze further data.

Table 9

Wilcoxon signed-rank test results - Organization of the narrative components

Metric	Value
W-value	2.5
Z-value	-1
p-value (Z)	0.159
Mean (W)	-1.00
Standard Deviation (W)	2.74

Source: own elaboration

Results provided in Table 9 revealed the p-value is higher than 0.05; therefore, it can be concluded that they are not statistically significant. Moreover, it can be also stated that the null hypothesis cannot be rejected.

Comparing pre- and post-intervention tests in terms of the structure of narrative elements and connecting them with the picture described, the intervention positively impacted some students' oral storytelling skills. Even in some cases, some students made relevant progress in creating coherent and engaging stories. The

findings highlight the need for further exploration on how storyboards and use of community pictures during the intervention could have helped students with the necessary tools to incorporate structural elements for organizing their narratives. By attending to these explicit demands, EFL teachers could be able to help students achieve greater narrative coherence and fluency; hence, enhance their oral storytelling skills through meaningful pictures.

4.2 Specific Objective 2: To identify participants’ perceptions of the use of picture-based storytelling and formative feedback through the Flip App® in supporting their speech rate (pauses and hesitations) after the intervention

All data provided by the open-ended instrument applied, revealed interesting insights into students’ perceptions regarding the use of picture-based storytelling and all the formative feedback received during the intervention through the Flip App®. The organization of the information was based on five dimensions, along with themes, subthemes, frequency, and extracted examples.

4.2.1 Students’ perceptions of oral hesitations

Students’ perceptions on different factors that contributed to their oral hesitations are revealed in Table 10. All findings are classified into two categories: Pronunciation difficulties, and vocabulary limitations. The table also includes the frequency in which students articulated their ideas, and illustrated examples retrieved from the open-ended survey. This thematical content analysis provides some insights into what students encountered during EFL oral communication.

Table 10

Students’ perceived contributions to oral hesitation

Theme	Subtheme	Frequency	Examples
Factors contributing to oral hesitations	Pronunciation difficulties	8	“El nerviosismo, la ansiedad de no pronunciar bien una palabra en inglés.” (Student 1) “No se pronunciar bien, y creo que me cuesta mucho hablar porque me da vergüenza.” (Student 10)
	Vocabulary limitations	5	“Me cuesta organizar mis ideas, hago pausas porque no sé mucho vocabulario y me cuesta la pronunciación.” (Student 5) “Dudo mucho de si la palabra que ocupo es la correcta o no, me pone inseguro.” (Student 9)

Note: See Appendix J for complete classification of students’ answers.

Source: own elaboration

Per students' perceptions, during the intervention period, they encountered difficulties with pronunciation and limited vocabulary, both of which contributed to their hesitations while speaking English. With a frequency of eight times, students mentioned their apprehension about making mistakes in mispronunciation, which led them to hesitate when speaking. For example, some students expressed some anxiety about mispronouncing certain words, and according to them this effect heightened their hesitancy. Additionally, several students mentioned that their restricted vocabulary made them hesitate with more frequency. Furthermore, one student expressed that not knowing the right words to convey message and organize his thought, further slowed his speech.

4.2.2 Students' perceptions of oral pauses

The students' perceptions in regards of their pauses on oral communication are organized in Table 11. This is classified into two different subthemes: Confusion and miscommunication, and self-awareness and improvements. Moreover, frequency and examples of students' answers were added.

Table 11

Students' perceived impact of pauses on oral communication

Theme	Subtheme	Frequency	Examples
Impact of pauses on oral communication	Confusion and miscommunication	11	<p>“Que a veces no se entiende lo que uno dice o se malinterpreta.” (Student 3)</p> <p>“Yo creo que con las pausas la persona que me escucha puede no entenderme bien lo que quiero decir.” (Student 5)</p>
	Self-awareness and improvement	9	<p>“Me ayudó un poco porque yo no sabía cuántas pausas a veces realizaba cuando hablaba en inglés, ahora estoy más consciente.” (Student 5)</p> <p>“Con la retroalimentación me di cuenta de que hago muchas muletillas como eh o el em.” (Student 6)</p>

Note: See Appendix K for complete classification of students' answers.

Source: own elaboration

The findings show the frequency on which students report those topics when answering the open-ended survey. The analysis is supported by extracted examples from the instrument. Students' comments about pause length showed revealed that most of the times result in frequent breakdowns in communications. The frequency of their answers (11 times) reported that somehow their constant pauses make difficult the comprehension of the listener in their intended message. One student, for example, explains that these pauses might lead to misinterpretations. The answers demonstrate how students understood that constant pauses could eventually impact the efficacy in fluid communication. Nonetheless, in nine instances, the students' responses indicated that receiving feedback improved their awareness of pauses, hence boosting their self-awareness and development. A student noted his awareness of the use of filler words like *uh* and *um*, prompting him to concentrate on reducing unnecessary pauses and improving his fluency.

4.2.3 Students' perceptions of the use of picture-based storytelling

The students' perceptions of the use of picture-based storytelling are described in Table 12. These classifications are organized into a theme, a subtheme, frequency with which students mentioned related topics, and examples that demonstrate how photographs of family and friends enhance the relatability of storytelling.

Table 12

Students' perceptions of the use of picture-based storytelling

Theme	Subtheme	Frequency	Examples
Ease of describing personal photos	Familiarity and personal connection	7	<p>“Me gustó poder describir fotos de mi familia. Mi mamá vio dos videos que grababa en el liceo hablando de nuestra foto y luego me preguntaba que estaba diciendo.” (Student 7)</p> <p>“Para mí fue mucho más fácil describir una foto grabándome que hacerlo frente a todos, y como eran fotos de gente que uno conocía no había que inventar otras cosas. Aparte uno podía ver otros videos de otros compañeros describiendo sus fotos también.” (Student 9)</p>

Note: See Appendix L for complete classification of students' answers.

Source: own elaboration

In a frequency of seven times, answers indicated that using community or family photographs facilitated their engagement in storytelling. For example, one student remarked, “I enjoyed being able to describe photos of my family.” Another student also noted that discussing familiar photographs in a private setting, rather than in front of an audience, facilitated the process: “For me, it was much easier to describe a photo while recording myself than to do so in front of everyone.” This feedback suggests that picture-based storytelling not only improved students’ comfort but also cultivated a stronger connection to the learning process by employing relatable information.

4.2.4 Students’ perceptions of receiving formative feedback

Table 13 provides key information of the perceptions students held after the intervention about receiving formative feedback on the Flip App®. The categorization of information is centered on a main theme, positive effects of feedback, and a secondary subtheme, increased awareness and confidence. The frequency with which students referenced these topics was analyzed, accompanied by examples.

Table 13

Students’ perceptions of receiving formative feedback

Theme	Subtheme	Frequency	Examples provided
Positive effects of feedback	Increased awareness and confidence	8	“Me dan buen efecto ya que entiendo algunas cosas.” (Student 3) “Me ayuda a saber en qué he mejorado y en qué me falta practicar.” (Student 11)

Note: See Appendix M for complete classification of students’ answers.

Source: own elaboration

The answers provided by the students emphasized that feedback was an essential instrument for self-reflection and enhancement of their oral communication skills. To exemplify, Student 11 mentioned that the provided comments and feedback enhanced his ability to self-monitor progress as well as identify opportunities for making improvements through continuous practice. Furthermore, the contribution of feedback implicitly increased students’ confidence, as building a supportive learning environment motivated them to improve their oral skills. Consequently, the reflective process emphasized the essential function of formative feedback in improving students’ English-speaking proficiency.

4.2.5 Students’ perceptions of the use of the Flip App®

The subsequent table, 14, summarizes students’ perceptions of the Flip App®, emphasizing its favorable reception for monitoring progress, and enhancing confidence and comfort in usage. The analysis was based on the frequency of students’ answers, adding examples to illustrate them,

Table 14
Students' perceptions of the use of the Flip App®

Theme	Subtheme	Frequency	Examples
Positive reception of the Flip App®	Useful for monitoring progress	6	“Me parece bien tener el registro de mi proceso de aprender inglés a la mano para saber cuánto he mejorado o no.” (Student 4)
	Confidence and comfort in usage	6	“Me gustó ocupar la aplicación Flip porque podía hablar sin pasar vergüenza hablando enfrente de mucha gente...” (Student 5) “Me gusta porque se puede comparar los resultados de cómo hablan todos y mejorar.” (Student 12)

Note: See Appendix N for complete classification of students' answers.

Source: own elaboration

The data about students' perceptions of the Flip App® indicate that the app positively influenced both monitoring progress, and confidence and comfort in usage. Six frequent answers highlighted how the tool enhanced their ability to track improvement in spoken communication. Concerning confidence and comfort in usage, in a frequency of six times, it was reported that the app provided a safe and low-pressure atmosphere for practicing speaking. To illustrate, Student 5 stated, “I appreciated utilizing the Flip App® as it allowed me to communicate without embarrassment,” illustrating how the program mitigated the anxiety linked to public speaking. The Flip App® facilitated progress monitoring and enhanced confidence in EFL speaking abilities.

4.3 SO 3: To reflect on the benefits, tensions, and challenges experienced in the action research

The following sections provide key information related to the reflections made by the teacher-researcher before, during, and after the intervention. To provide a better overview, some specific textual examples were added, providing a richer and more nuanced understanding of the themes encountered throughout the action research process.

4.3.1 Teacher-researcher's reflections on the benefits of the intervention

The following information was organized and extracted from five audio log transcripts recorded by the teacher-researcher (T-R), one made before the intervention period, three during the intervention period (one per session), and the

last one recorded after the intervention period. Based on the information provided by the transcripts, the benefits were categorized into three different subthemes: Improved communication skills, use of prompts for idea organization, positive feedback, and encouragement. The item of frequency represents the total number of reflections before, during, and after the intervention.

Table 15

T-R's reflections on the benefits of the intervention

Theme	Subtheme	Frequency	Examples
Benefits	Use of prompts for idea organization	11	<p>“The prompts helped students to organize their ideas.” (T-R. Audio log from the first session)</p> <p>“When they use storyboards or written prompts, they organize their ideas better before speaking.” (T-R. Audio log from the second session)</p>
	Improved communication skills	8	<p>“I saw a little more organization, and that was really good.” (T-R. Audio log from the first session)</p> <p>“Some of the students were improving in terms of hesitations. Most of the students are aware now about what hesitation is, and they are trying to improve it.” (T-R. Audio log from the third session)</p>
	Positive feedback and encouragement	8	<p>“After giving feedback, I could see that some students felt happier and more confident when they saw their progress.” (T-R. Audio log from the second session)</p> <p>“I was so proud of them. Not all of them reached 2 minutes, but at least they tried and improved a little from what it was in the test.” (T-R. Audio log from the first session)</p>

Note: See Appendix O for complete classification of T-R's reflections.

Source: own elaboration

The teacher-researcher's reflection in Table 15 highlights several anticipated advantages associated with the enhancement of students' oral fluency. The teacher aimed to provide students with tools (such as tablets, internet connection, and

storyboards) to enhance the organization and communication of their ideas by encouraging them to engage with the images utilized in the storytelling activity. The recognition of the teacher-researcher of the need for such prompts arose from students' struggle to articulate and organize their ideas fluently. To build more confidence, the use of storyboards and family-related pictures aimed to improve students' narrations properly and develop meaningful content-based learning.

Throughout the intervention (three main sessions), students showed some improvements in their confidence, demonstrated by their engagement in activities and improving their fluency when communicating despite initial reluctance and shyness. The teacher-researcher observed the students' incremental enhancement in fluency, particularly when they improved their ability to organize ideas and convey them with clarity. Rehearsals were instrumental in diminishing the frequency of hesitations and fostering confidence, as students started to increasingly feel acquainted with the activities and experienced reduced anxiety over public performance. During the last session and the post-intervention test, the teacher-researcher noted that students made better connections between photographs and their narrations, showing improvements in their oral organization. Improvements in students' confidence in speaking were also revealed through their progress in their motivation to self-record videos and their less frequent hesitations.

4.3.2 Teacher-researcher's reflections on the challenges of the intervention

Table 16 illustrates the teacher-researcher's reflections on challenges encountered before, during, and after the intervention of the study. The obstacles elucidate both technical and emotional impediments that in accordance to the teacher-researcher's beliefs affected some students' advancement and, indeed, their motivation.

Table 16

T-R's reflections on the challenges of the intervention

Theme	Subtheme	Frequency	Examples
Challenges	Emotional barriers and anxiety	9	<p>“Some students were so anxious about the activity that they hesitated to participate at all.” (T-R. Audio log from the first session)</p> <p>“There are emotional barriers that are challenging, especially when students are too shy to share.” (T-R. Audio log from post-intervention)</p>
	Technical difficulties	6	<p>“I don't know if the internet connection will help me because this is important; without it, I cannot</p>

with the Flip App®	record students.” (T-R. Audio log from the pre-intervention sessions)
Low students’ motivation toward the end of the lesson	<p>“Some students had problems with the Flip App®, so I had to share my cellphone, which caused delays in the lesson.” (T-R. Audio log from the third session)</p> <p>“Some of them wanted to leave the school. I feel like they were relieved that we were finishing the process.” (T-R. Audio log from post-intervention)</p> <p>“The students don’t have the same energy as they did in the first session, and I’m trying my best to motivate them, but it’s getting harder as we approach the end of the intervention.” (T-R. Audio log from the third session)</p>

Note: See Appendix P for complete classification of T-R’s reflections.

Source: own elaboration

An observable key obstacle during this intervention was the technology use. As in this study the use of technological tools was essential for the measurement of oral fluency and providing feedback, the dependence led to challenges such as internet access or prior knowledge regarding the app. In terms of the former, the lack of internet access to some students resulted in delays when recording their videos and influence the flow of the sessions. The second main issue was related to the app used. This one influenced the ones who had not downloaded the app prior to the first session, needing more time to become related to it. This affected students on recording their videos effectively, compared to those who already knew how to manage it.

Some emotional barriers were also involved in this study, as some students showed shyness at sharing their recording with other classmates. This was particularly evident at the beginning of the intervention, considering this as an open, participatory EFL workshop, attended by different secondary-grade-students. Shyness hindered participation and led to some anxiety during the participation of activities where they had to speak in front of the class. Certainly, giving students the opportunity to record their videos without projecting their faces might have later influenced their participation throughout the interventions.

As these workshops were conducted a month before the start of winter holidays, students showed some diminished energy, potentially attributable to tiredness, the post-lunch time schedule, or the monotonous tasks (continuity of storytelling elements). Considering those issues, it can be understood deeply the complexities of developing oral fluency in secondary education, and how important emotional support provided by any teacher-researcher to students, and the technical organization of lesson designed are.

4.3.3 Teacher-researcher’s reflections on the tensions of the intervention

Some tensions encountered during the intervention are revealed in Table 17. The information provided from the teacher-researcher’s audio logs is categorized into a theme, three key subthemes, frequency, and examples. These reflections offer insights into the obstacles that might have impacted the development of the research, as well as students’ engagement and participation.

Table 17
T-R’s reflections on the tensions of the intervention

Theme	Subtheme	Frequency	Examples
Tensions	Shyness and lack of participation	11	“They were so anxious about it that they didn’t want other classmates to see and watch the videos.” (T-R. Audio log from the first session)
			“Still, students are having problems sharing their videos, and many are shy about recording themselves.” (T-R. Audio log from the second session)
	Dependence on written materials	6	“Most of them rely heavily on prompts; only a few students with a higher English level don’t need to depend on them.” (T-R. Audio log from the second session)
			“Some students rely too much on writing things down before they can express their thoughts.” (T-R. Audio log from the third session)
	Challenges with sharing videos	5	“Some students felt too exposed when sharing their videos, so they didn’t want to do it.” (T-R. Audio log from the first session)
			“I am thinking about how difficult it probably will be for them to share part of

their lives with other people they don't know." T-R. Audio log from the pre-intervention sessions)

Note: See Appendix Q for complete classification of T-R's reflections.

Source: own elaboration

The data analysis based on the teacher-researchers' tensions perceived before, during, and after the intervention revealed important obstacles encountered. Firstly, in the pre-intervention stage, the tensions of their reluctance to share videos and engage in oral assignments were the main focus. Prior to the intervention, students showed apprehension in sharing personal narratives due to shyness and the anxiety of peer judgment. The tension persisted during the first intervention session, causing some students to feel too ashamed to record themselves or share their recordings, thus restraining their complete participation.

Some students' reluctance to participate and engage in diverse oral activities persisted throughout the sessions, mainly due to a lack of confidence when speaking. Teacher-researcher's reflections revealed that those with limited English abilities presented this apprehensive behavior because they thought they could not speak in English well enough. The use of storyboards helped learners to structure and organize their ideas orally; however, certain students struggle to develop autonomy since they relied on their written work to communicate. Nonetheless, despite the cons and pros, all participants were able to complete their video recordings effectively. All data provided by the teacher-researcher indicated that although there existed some initial insecurities when speaking, students could overcome their concerns. These improvements might reveal more confidence when articulating oral narrations.

Despite the tensions perceived by the teacher-research during the intervention, this study underscored the need of a more confident and comfortable environment where students can empower themselves to overcome little by little their apprehensions to improve their oral proficiency.

CHAPTER V

DISCUSSION

5.1 Discussion

In this section it is discussed all factors that might have contributed to the overall results, both positively and negatively. It is crucial to analyze these findings considering the literature reviewed and the unexpected challenges encountered during the study's implementation.

5.1.1 Reflections on the overall results

The research showed that picture-based storytelling and feedback positively influenced students' oral fluency. The findings showed important improvements in the extent of pause time reduction and frequency of hesitation. For instance, the total mean of pause time was reduced from 139 seconds on the pre-test to 62 seconds on the post-test, which was a 55% enhancement. Likewise, hesitation frequency was reduced to 20 from 26, showing a 23% reduction. This supports the observation made by Nurdini (2018) regarding how images help in speaking topics to encourage the students to participate confidently and with enthusiasm, effectively enabling the students to carry out the task of speaking more fluently.

Although the gains were not statistically significant, probably because of fewer intervention sessions than planned, qualitative data showed students' positive perceptions of picture-based storytelling, teacher feedback, and the Flip App® usage. Reviewing recorded videos and receiving feedback also made students aware of what went wrong and the time to self-assess their performance. This reflective practice was also beneficial for the development of the speaking skills of the students, and it aligns well with the literature that Budiarta and Santosa (2020) found that the use of video-based tools may enhance the awareness of the oral competencies of the learners. Similarly, Contreras et al. (2023) pointed out that the increased usage of such a tool as the Flip App® contributes to increased confidence, positive self-esteem, and positive self-rated speaking skills.

Multimodal video-based tool applications are a new form of keeping students involved in modern technology-oriented lessons. The Flip App® is a tool that allows students to record and reflect on their spoken language performances in a private but comfortable setting. In this environment, they can find the opportunity to devote much more time to polishing without anyone putting pressure on them. This respects the privacy of the individual students and, at the same time, involves all the students in the learning process. For instance, the participants of the current study reported improved awareness of their pauses and hesitations. Through storytelling and video recording, the process that used to be monotonous or time-consuming was turned into fun, which was turned into a more enjoyable activity. This is in line with Altan (2006) and Pahl & Rowsell (2020), who noted that creative and relatable activities greatly enhance oral fluency in bridging the gap between students' prior experiences and learning content. Therefore, technological tools could grant students an active role in their learning process, allowing self-reflection and confidence over time.

The use of community pictures also played a very important role in creating meaningful learning experiences. Incorporating students' personal stories into lesson planning develops their cultural awareness and creates respect for individual identities- an important approach in a multicultural classroom. One participant reported, "I liked being able to describe photos of my family. My mom watched two videos I recorded at school about our photo and asked me what I was saying" (Student 7, open-ended questionnaire). This anecdote is a good manifestation of the assertion of Langellier and Peterson (2004) that through storytelling, one preserves cultural heritage, roots, and identity. By allowing students to bring personal experiences into the EFL lesson, educators are in a position to offer an inclusive and meaningful learning environment. These findings indicate a larger possibility of integrating storytelling and technology into promoting a connected, reflective, and culturally responsive classroom. In telling their stories and reflecting on the progress made using the Flip App®, students further develop language skills and build confidence, self-awareness, and valuable knowledge of their cultural selves.

The teacher-researcher required constant reflection throughout the intervention to improve teaching practices to meet the students' needs, aligning this with Guerrero-Hernández and Fernández-Ugalde's (2020) work on the importance of incorporating reflection of our teaching practice to benefit students' learning. Acknowledging the students' nervousness while speaking was crucial to adjusting the lessons to make them feel more secure. These insecurities uncovered by the teacher-researcher, along with students' perceptions, suggested that their anxiousness might come from the need to speak without pronunciation mistakes. However, using storyboards as prompts was very useful for improving their confidence for later recording videos, although this raises the concern of students becoming reliant on written text for communication. The reflection process provided more flexibility to the intervention, such as allowing some students to record their voices only when needed and providing more feedback to make them feel confident in speaking.

5.1.2 Limitations of the study

One of the most important limitations to be highlighted in this study was the reduced number of sessions initially planned alongside the interruptions in the school schedule due to anticipated winter holidays, this led to administer the pending post-intervention test after almost a month later, which might have affected the significance of the outcomes. Although the quantitative results did not reflect statistically significant results, the qualitative results revealed positive perceptions from students regarding the intervention. These particular differences highlight the need to continue considering both types of data, quantitative and qualitative, as a mixed-method approach for future research.

Another important issue to be addressed is the small sample sized for this intervention. As Etz and Arroyo (2015) assert, sometimes the generalizability of the findings restrict our ability to assume that results may be applicable to larger groups.

Without considering this important issue, the research analysis might become biased. Having a larger sample of participants would strengthen the analysis and conclusions implying a further replication across diverse contexts, thereby enhancing more reliability of the main findings.

The use of both ELSA Speak® and particularly Audacity® each week for measurement of fluency components, and further provide feedback to all students required considerable time and effort. As stated by Martinez (2010), manual software tools such as Audacity® provide detailed analysis on oral fluency, but for teachers this task can be time-consuming. As for this study, the time spent using these tools was significant, which might have taken time away from providing faster feedback to students to enhance fluency. In future implementations, the balance between feedback and practice needs to be carefully managed to avoid overburdening teachers with technological tools applied. Moreover, given the lack of studies comparing the effectiveness of ASR tools and manual software like Audacity® in research settings, this study highlights the need for further investigation into how these tools can be used to improve fluency. Future research should explore whether similar tools to ELSA Speak® can integrate or improve real-time feedback using ASR technology combined with the detailed, manual analysis capabilities of software like Audacity®. Such tools would offer a more comprehensive solution for both educators and learners, providing real-time corrective feedback while also capturing the detailed metrics needed for thorough analysis in research.

Another limitation of this study was the decision to focus on the results provided by Audacity® (measuring the length of pauses and the frequency of hesitations) rather than using the entire analytic rubric previously created. This decision was based on the fact that the analytic rubric criteria descriptors focused only on the reduction of pauses' lengths and the frequency of hesitations without considering the total speaking time (length of speech). The preliminary results showed reductions in the length of pauses and frequency of hesitations as positive; however, discrepancies in the analysis in terms of shortened period of spoken narrations might project some differences in the overall post-intervention test results. For instance, even though students such as Student 8 reduced pause lengths, the total length of speech also dropped. In terms of the instrument and strategy applied, had the whole analytic rubric been used, more statistically significant results could have been reported, as section 1 and 2 in the pre- and post- intervention test only considered pause length and frequency of hesitations. However, without speech length of the students' speech those results would not have reflected the reality of the students' performance.

In EFL lessons developed in this study integrating technology into the classroom raised some concerns as these tools do not always work as expected. Problems can emerge from a variety of reasons, such as lack of internet connectivity, technical issues within the application, or limited prior experience in using the application. While relying on technology, as was done in this research, can bring these challenges, it is always advisable for teacher researchers to have a backup plan in case such resources are not available.

5.1.3 Implications for practice and future directions

This research highlights some key implications for improving teaching strategies within EFL classrooms. The recommendation of using picture-based storytelling assisted by video-based tools, such as the Flip App®, is presented here. These approaches are applied to overcome challenges reported in the literature concerning insufficient oral fluency development with more creative and practical ways of raising students' participation and self-awareness. Including students in educational practices and research is key to recognizing their perceptions about tools like the Flip App®, community pictures, and the feedback process. This ensures the students are valued and heard and allows for a culture of respect among peers. This would help create a class environment that encourages diversity and allows for cultural understanding by sharing personal narratives about family, friends, or social backgrounds. It is particularly relevant in Chilean schools, where the issue of multicultural realities is becoming more and more important. These approaches are necessary for developing cultural awareness and mutual respect among students, thus making learning experiences richer and more meaningful.

The study also highlights several technological potentials, particularly in video-based tools like the Flip App®. Several pieces of feedback obtained from the students during the research showed how essential the Flip App® was in developing confidence, especially for those who have issues while presenting their work in front of others. The app enabled the participants to record videos, and this aspect not only boosted self-confidence among the students but also enabled them to learn how to plan their time and monitor progress through structured feedback. This might help to search and involve the students in active forms of participation to develop their confidence.

Moreover, the results indicate that more research should be conducted to compare the use of ASR tools and manual software like Audacity® in assessing oral fluency. Although ASR tools such as ELSA Speak® may deliver faster feedback than more accurate manual analysis using Audacity®, quicker and detailed analysis will be beneficial for both research and student feedback. As Ellis et al. (2006) stated, feedback, preferably instant and continuous, is conducive to self-observation and self-motivation among language learners. Technology is used in research studies to reduce time spent conducting research and to arrive at measures that are accurate in helping researchers analyze their results and useful in giving feedback. Researchers working within this subject area should be more mindful of these advancements to improve optimal practice when providing feedback to learners.

The continuity for further exploration of teachers' reflections before, during, and after the intervention is encouraged in this research, as such reflections provide valuable insights into whether teachers' beliefs evolve when conducting action research. It is relevant that in studies like this, collaborative work plays a crucial role in helping address misconceptions that might arise when developing any research. Particularly, those reflections should not be developed in isolation, especially for

novice teachers who wish to conduct action research in their school context. In these cases, guidance and mentorship can facilitate their reflecting process, addressing doubts or helping overcome challenging situations. To exemplify, the support from experienced mentors enables teacher-researchers to strengthen their teaching methods and adopt more consistent practices. Additionally, further research could study the effects of collaborative work among teacher-researchers in EFL classrooms, or explore the different reflective strategies applied by novice teachers and more experienced teachers. Another area worth exploring is how cultural and school contexts influence the outcomes of action research, as these factors play a significant role in shaping professional development and instructional improvements.

As previously stated, this study encourages all EFL researchers to continue exploring innovative approaches to enhance oral fluency and facilitate its measurements. Paying attention to students' needs is a must not only to foster a comfortable learning environment but to promote reflective practices aimed at identifying the most effective teaching methodologies.

CHAPTER VI

CONCLUSION

6.1 Conclusions

This study explored the impact of picture-based storytelling and formative feedback using the Flip App® while addressing aspects of fluency, pause length, and hesitation frequency. Diverse methods were applied to collect data and provide information about the influence of the approaches utilized in this study. Concluding findings are exposed in this section.

6.1.1 Summary of the main findings

Regarding SO1, *to assess participants' oral fluency in terms of pauses and hesitations when using picture-based storytelling before and after the intervention*, the overall quantitative results indicated positive findings among participants, considering the post-test was administered almost a month later due to the anticipated winter holidays. Although the significance of the study was higher than 0.05, important improvements could still be achieved in speaking performance. Some students enhanced their oral fluency after the intervention, reflected in the 55% reduction in pause length, and 23% in the frequency of hesitations. The constant practice of using storyboards during the intervention might have influenced how students organized their narrations. This influence was reflected in the percentage of students with the highest level of achievement in the criterion *very well-organized and engaging storytelling*, which increased from 8% to 16.67%, reflecting progress toward producing well-structured narratives using community pictures. Based on the findings, it can be concluded that there were relevant improvements made by a group of students; however, to make it more impactful and achieve more statistically significant results, larger numbers of sessions should be developed.

SO2, *to identify participants' perceptions of the use of picture-based storytelling and formative feedback through the Flip App® in supporting their speech rate (pauses and hesitations) after the intervention*, the students' perceptions revealed positive answers about all independent variables applied in the study. Their answers provided important insights into the relevance of the study for EFL research. Moreover, the answers highlighted the use of community pictures; the researcher was not quite sure how to apply this while respecting the privacy of the participants, yet all the students were willing to bring photographs of their family or friends. Nevertheless, during the first session, it took some time for the students to gain the confidence to record themselves and share videos with the class. Once the first students did so, the other participants started to do it by themselves. In their survey responses, they later discussed the confidence that they cultivated, with some students mentioning that sharing videos in the Flip App® helped them become more confident at speaking than if they were just speaking in front of the class. This finding could also reflect the work they did before they started recording, which involved organizing their ideas by using storyboards, written sentences, and key vocabulary words presented during the lesson, certainly helping students to organize and feel more confident when speaking.

On the other hand, fluency measurements in this study were a time-consuming task because ASR tools are still under development. Moreover, their results do not provide high reliability—at least for non-native speakers who have not acquired an advanced level of English because their spoken language is not even recognized by the software sometimes. This issue entails reliance on manual work, which requires a great amount of time, with that in mind, oral fluency could become a neglected variable educational context (Tavakoli & Hunter, 2018; Rossiter et al. 2010); however, continue exploring methodologies and new technology advances that facilitate fluency measurement must not be seen as problems to overcome in EFL classroom but challenges to be acknowledged in pursuit of our students' learning.

Finally, SO3, *to reflect on the benefits, tensions and challenges experienced before, during and after the action research*, offers a deep analysis of the observable changes or key information about the circumstances lived inside the lessons, as feelings or emotions expressed by students, or situations that were not expressed in other instruments. Teachers' reflections made through the interventions helped to make appropriate changes to improve students' engagement and learning, facilitating better organization of activities. Also, it was a good way to recognize the benefits of the intervention on students' progress, since sometimes a significant part of the reflections was more focused on the challenges and difficulties of the study, rather than on positive issues. To illustrate, the teacher-researcher found that after students were provided with feedback, students felt happier and more confident, as they felt they were making progress at speaking. Another benefit exposed by the teacher-researcher was the organization of their speech through the use of storyboards, which also had an important benefit for students' organization of their oral fluency. Overall, it was a good way to see how perceptions regarding teacher-researcher's work and students' learning evolved during the intervention, and all fear and anxiousness from the very first time changed positively toward the end by expressing how proud the teacher-researcher was of the students' progress and participation.

6.1.2 Personal Reflection

The development of the intervention can be described as both rewarding and challenging. On one side, the positive comments and feedback delivered by the students confirmed the use of picture-based storytelling as an effective learning strategy in an EFL school context. Bringing family or friends' pictures not only allowed participants to connect with their own cultural background, but also to better organize their narrative structure in storytelling. The use of storytelling components, such as photographs or storyboards, might have contributed to their oral fluency improvements.

Additionally, students' self-awareness as revealed in the open-ended survey suggested that feedback delivered by the teacher-researcher made them feel aware of their oral performance and how to improve it. However, as a teacher-researcher,

I believe that this provided feedback could have been continuously reinforced throughout the intervention in more current sessions. On the other hand, sometimes the whole process became more challenging since the measurement of oral fluency components required very detailed work. Getting results on time to provide feedback was very demanding when dealing at the same time with administrative schoolwork.

Unforeseen challenges, such as the early winter vacations and class suspensions, highlighted the need for flexibility in teaching interventions. I initially underestimated how external factors could disrupt the learning process. In future interventions, I would prioritize planning for possible disruptions and ensuring that learning continues, perhaps through digital platforms, during such breaks. Moreover, while the use of technological tools like ELSA Speak® and Audacity® was beneficial, I learned that their implementation requires careful balance. Too much focus on feedback and analysis can reduce the time of the teacher-researcher for lesson planning.

Nevertheless, it is important to as well to consider that the timelines of our designed lesson plans can be interrupted by any urgent situation. As teachers, we must be prepared for changes in the schedule by taking the right considerations. Making the right decisions in favor of the well-being of our students is the most important thing. For example, due to weather-related issues, some students had family urgencies to attend to, which is understandable as they could not continue recording videos, practicing at home, or attending classes regularly after the winter break.

6.1.3 Recommendations

Based on the findings and my own experiences, I propose several recommendations for future interventions to improve students' oral fluency and further studies based on formative feedback or the use of technological tools in EFL.

Firstly, if the number of school days for the intervention is shortened by early vacations or other possible disruptions, as teacher-researchers we must prioritize students' well-being above all else. Checking in with students, especially in difficult situations such as adverse weather conditions might impact families, is the first step to understanding how the organization of the intervention can be adjusted effectively. When conducting action research, we must be prepared for all situations that might disrupt lesson plans. Therefore, for further investigations, a contingency planning can be developed to guarantee learning and to keep the practice going—for instance, assigning optional and non-mandatory online practice during break times—to keep and support students' fluency development going.

The delayed post-test after the winter vacation may have affected the results because students had little practice during the break. Feedback should be given after each session so students can use it in subsequent practice. Also, feedback should be consistent throughout the intervention period to reinforce learning. For future interventions, the disruptions in this early vacation period should take into

consideration the inclusion of more digital tools that allow for remote practice. Platforms like the Flip App® can be used for feedback and ongoing practice when face-to-face sessions are not possible. This will allow continuous opportunities to improve their fluency, even during breaks.

Positive students' perceptions concerning the use of picture-based storytelling suggest a need for further incorporation in EFL research. Applying storytelling alongside students' social background photographs allowed learners to connect learning on personal terms; this engagement would hopefully make EFL activities in any context more engaging and enjoyable. Considering the prompts and the utilized multimedia material in this study could potentially promote and improve oral fluency

Decision regarding the use of only the results provided by Audacity®, namely data on pause length and hesitation frequency, rather than the preliminary whole analytic rubric created, was made to give a closer-to-actual analysis and reflection of the real students' speaking performance. Future interventions need to consider comparing the most effective fluency measurement tools, balancing detailed feedback against overall speech lengths so students can work effectively on their fluency metrics and sustain it for longer period. A comprehensive approach will provide a fuller picture of students' progress.

In conclusion, this study faced several challenges; however, it was also an important insight into how picture-based storytelling and formative feedback using the Flip App® can support oral fluency development. The mixed results reflect the complexity of fluency interventions where quantitative measures and student perceptions play critical roles in assessing success. The recommendations outlined here offer a way forward for improving future interventions to ensure students have the means and support to successfully develop their oral language skills. Further studies should continue testing how best to balance detailed feedback, consistent practice, and the integration of meaningful content to foster long-term fluency improvements in students

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APPENDICES

Appendix A

PRE/POST INTERVENTION TEST

Name: _____ Grade: _____ Score: _____

0- PRE-STAGE

Good morning/afternoon/evening. I'm _____. Before starting the test, can you tell me: how do you feel? Why?

ITEM I:

I. Now, we are going to start with the speaking test. Students A, please answer one of the following questions.

- What is your favorite food? Why? Describe and provide examples
- Can you tell me one festivity celebrated with your family? Describe and provide examples
- What is your favorite band or singer? Why? Describe and provide examples
- How do you celebrate national festivities? Why? Describe and provide examples
- What is your favorite TV or online platform program/movie? Why? Describe and provide examples
- How do you celebrate Christmas in your family? Describe and provide examples

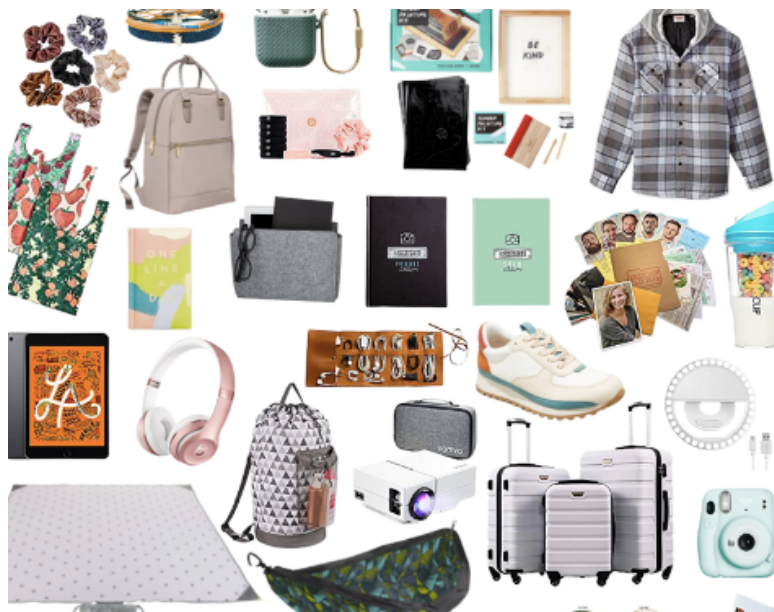
ITEM II:

II. You are going to talk with your classmates and decide about buying a birthday present for a classmate. Choose one of the best suitable options. You have 2 minutes to work on your ideas together

Example:

You and your friend want to buy a present for a classmate's birthday. Talk together about the different things you can buy and decide which would be the best and the most suitable for her/him. Explain your reasons.

Here are some pictures with some ideas to help you:



ITEM III:

3. Now, I'd like each of you to talk on your own about something. This is an individual speaking activity. I'm going to give each of you two photographs of a family. Tell me about what you think is happening in this picture and the story behind this picture.

- Student A: Here's your photograph. Please show it to student B, but I'd like you to describe and talk about it. Student B, you just listen. You have 2 minutes. Thank you.
- Student B: Here's your photograph. Please show it to student A, but I'd like you to talk about it. Student A, you just listen. You have 2 minutes. Thank you.

Examples:



APPENDIX B

Pre and post intervention test - Analytical rubric

Dimension	Criterion	Very good (4)	Good (3)	In progress (2)	Needs improvements (1)
<p>Picture-based storytelling</p>	<p>Stage Development in storytelling (Beginning, middle, end of a story)</p>	<p>Student's storytelling is organized using three main structure components (beginning, middle, end), demonstrating a clear connection to the picture described.</p>	<p>Student's storytelling is mostly organized using three main structure components (beginning, middle, end), with some connections to the picture described.</p>	<p>Student's storytelling lacks organization, partially using three main structure components, with minimal connection to the pictures presented.</p>	<p>Student's storytelling is poorly organized, not using the three main structure components (beginning, middle, end), and fails to connect the narration to the picture described.</p>

Appendix C

Cuestionario

Nombre:

Curso:

Fecha:

Instrucciones:

Responde la siguiente encuesta abierta de acuerdo a tus percepciones y opiniones relacionadas a tu producción oral durante las sesiones del taller de inglés realizado durante el primer semestre. Responde libremente en los espacios considerados. Una vez contestadas las preguntas, regresa el cuestionario a tu profesora:

Open-ended questionnaire

1. Según tu opinión: ¿Cuáles son las causas que te llevan a dudar al momento de hablar en inglés? Da tus razones

2. ¿Cuál crees que es efecto que tienen las pausas cuando estás hablando en inglés? Por favor, comparte tus pensamientos y observaciones.

3. ¿Cuál crees tú que ha sido el efecto de la retroalimentación que te he entregado después que hablas en inglés para tu producción oral? Da un ejemplo:

¿Qué te parece el uso de la aplicación Flip cuando hablas en inglés?
Comparte sus ideas sobre cómo esta tecnología ha influido o no en su capacidad para expresarse oralmente:

4. ¿Qué te parecido el uso de imágenes de tu comunidad aplicadas en las actividades orales?

Appendix D

Instrument: Audio – logs (guided questions)

I. Guided questions to support teacher-researcher's reflections on audio logs:

	Pre-intervention	During intervention	Post intervention
Dimensions:	Audio diary log 1	Audio diary log 2-3	Audio diary log 4
<p>1. Teacher-researcher's reflections upon her own didactic teaching development experience</p> <p>2. Teacher-researcher's reflections upon problems or difficulties in the EFL teaching-learning process before and after every session</p> <p>3. Teacher-researcher's reflections upon challenges to be addressed as in the EFL teaching and learning process before and after every session</p>	<p>(1) Reflect on your teaching strategy (picture-based storytelling) and the use of the Flip App® to contribute to students' oral fluency. Are there any potential obstacles that you foresee in facilitating effective learning during the intervention?</p>	<p>(2) Based on your reflections on students' progress and the feedback provided, for which areas of the EFL oral fluency do you think students need more assistance?</p>	<p>(3) What recurring challenges or obstacles have you identified during the EFL teaching and learning process based on previous sessions?</p>

APPENDIX E

Instrument:
Formative Rating - Scale (English version)
Formative evaluation delivered in Flip App®

Formative Rating - Scale

Student's name: _____ **Grade:** _____ **Date:** _____
Time limit for the activity: _____ minutes / **Total speech rate:** _____

ITEM I. Dimension 1: To assess students' pauses

I. Pauses

1. Student manages time during the speech, ensuring that pauses do not compromise the completion of content within the allotted time frame
2. There are few pauses that don't interfere with the comprehension
3. Pauses length time _____

ITEM II. Dimension 2: To assess students' hesitation

II. Hesitations

1. Student manages time during the speech, ensuring that hesitations do not compromise the completion of content within the allotted time frame
2. Hesitations do not obstruct the reader's ability to comprehend the story as a whole
3. Number of frequency of hesitations: _____

ITEM III. Dimension 3: To assess students' use of pictured- based storytelling

III. Use of pictured- based storytelling

1. The storytelling has a logical and coherent structure following the 3 main components (beginning, development, and ending)
2. The visual cues support the development of their oral storytelling
3. Time of narration of story: _____

APPENDIX F

(Spanish version)

Evaluación formativa entregada en Flip App®:

Escala de calificación

Nombre: _____ Curso: _____ Fecha: _____

Tiempo límite para la actividad: _____ minutos / Velocidad del habla:

ITEM I. Pausas

1. El estudiante gestiona su tiempo de habla durante la actividad, asegurándose de que las pausas no comprometan la finalización de la actividad dentro del plazo asignado.
2. Hay algunas pausas que no interfieren en la comprensión
3. Tiempo total de pausas _____

ITEM II. Vacilaciones

1. El estudiante gestiona el tiempo durante el discurso, asegurándose de que las vacilaciones no comprometan la finalización de la actividad dentro del plazo asignado.
2. Las vacilaciones no interfieren en la comprensión para comprender la historia presentada
3. Frecuencia de numero de vacilaciones : _____

ITEM III. Uso de la narración oral basada en imágenes

1. La narración tiene una estructura lógica y coherente siguiendo 3 componentes principales: inicio, desarrollo y final de la historia.
2. Las señales visuales apoyan el desarrollo de la narración oral de historia
3. Tiempo de la narración de la historia _____

APPENDIX G



CONSENTIMIENTO INFORMADO

Yo, _____ expreso mi acuerdo para participar en el proyecto de investigación-acción denominado **“The contribution of picture-based storytelling and Flip app-based formative feedback into secondary school students’ oral fluency”**. cuya investigadora responsable es el Melissa Leonor Soto Huenchupil, profesora de Inglés y tesista de magíster de la Facultad de Educación, Universidad de Concepción, bajo la supervisión del profesor Claudio Diaz Larenas, académico de la Universidad de Concepción, Facultad de Educación.

Este proyecto corresponde al programa Magíster en Innovación de la Enseñanza, Aprendizaje y Evaluación del Inglés de la Facultad de Educación de la Universidad de Concepción. El objetivo general de este estudio es: explorar cómo la implementación de la narración basada en imágenes y la recepción de retroalimentación formativa a través del uso de la aplicación 'Flip' apoyan el desarrollo de la fluidez oral en inglés entre los estudiantes de secundaria

Los objetivos específicos de este estudio son:

I. Evaluar la fluidez oral de los participantes en términos de duración pausas y frecuencia de vacilaciones al usar la narración basada en imágenes antes y después de la intervención.

II. Identificar las percepciones de los participantes sobre el uso de la narración de basada en imágenes y la retroalimentación formativa a través de la aplicación “Flip” para apoyar su ritmo de habla (duración de pausas y frecuencia de vacilaciones) después de la intervención.

III. Reflexionar sobre los beneficios, tensiones y desafíos experimentados antes, durante y después de la investigación-acción.

Se prevé que los componentes de este estudio de investigación-acción en el que usted da su consentimiento para participar, duren un máximo de 6 sesiones (con una duración máxima de 90 minutos cada una), y estos componentes constan de elementos previos, durante y posteriores a una intervención. Los datos para este estudio se recopilarán de las sesiones previas, durante y posteriores a la intervención. Los instrumentos de recopilación de datos para este estudio son un pre y post test de intervención, un escala de valoración, un cuestionario de preguntas abiertas, y grabaciones realizadas por la docente para futuro análisis

reflexivo. El uso de cualquier actividad a realizar durante este proyecto de investigación-acción se limita estrictamente a la ejecución y análisis de los datos de este estudio. Al aceptar participar en este proyecto de investigación-acción, acepta el uso de estos instrumentos de recopilación de datos y da su autorización para ser grabado, y acepta a participar con estos instrumentos. Entiendo que mi participación es voluntaria y anónima y me puedo retirar o rechazar mi participación en cualquier momento sin razón alguna y consecuencias de ningún tipo. La información recogida a través de este proyecto podría aparecer en artículos de revistas académicas y/o en un libro, tanto como en presentaciones públicas de los resultados de investigación. En tales circunstancias, mi nombre podrá ser señalado sólo si autorizo expresamente al investigador responsable para ello. De lo contrario, toda mi información es confidencial. Los datos recopilados serán guardados por la investigador responsable Melissa Leonor Soto Huenchupil en formato virtual y almacenados en carpetas con claves secretas, manejadas sólo por el investigador responsable. Los datos serán utilizados exclusivamente en la presente investigación. Si se desea conocer los resultados y/o procedimientos de la investigación comunicarse, directamente con Melissa Leonor Soto Huenchupil. Esta investigación no conlleva ningún tipo de riesgo o costo para las participantes, resguardando los aspectos de confidencialidad acordados. Entiendo que, por mi firma en este formulario, señalo la aceptación. Concuero con participar en el proyecto de investigación-acción:

Sí ____ **No** ____

Nombre de participante

Firma

Fecha

Fono: _____ **Dirección:** _____

Se solicita firmar dos copias de este formulario, una copia para el investigador responsable y otra para su archivo personal.

Investigadora Responsable

Melissa Leonor Soto Huenchupil

Tesista de Magíster en Innovación de la Enseñanza Aprendizaje y Evaluación del Inglés

Facultad de Educación, Universidad de Concepción,

Profesora de Inglés

Email: melissa.soto.h@gmail.com

Fono: +56 972707866

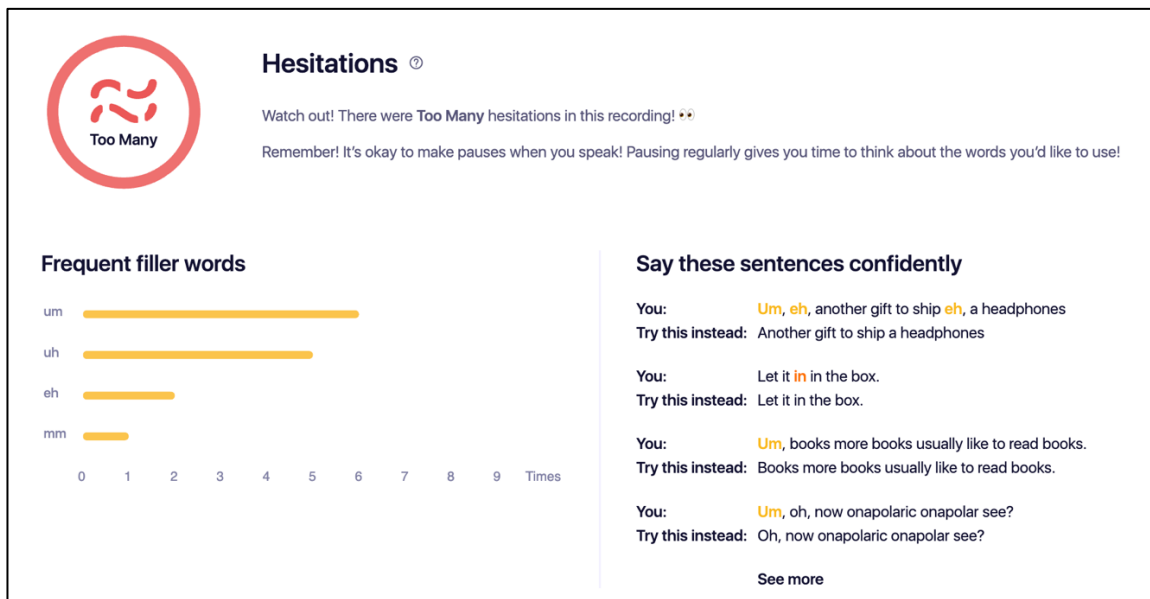
Dirección: Caupolicán 150, Concepción

APPENDIX H

Example of recognized pause length using ELSA Speak®

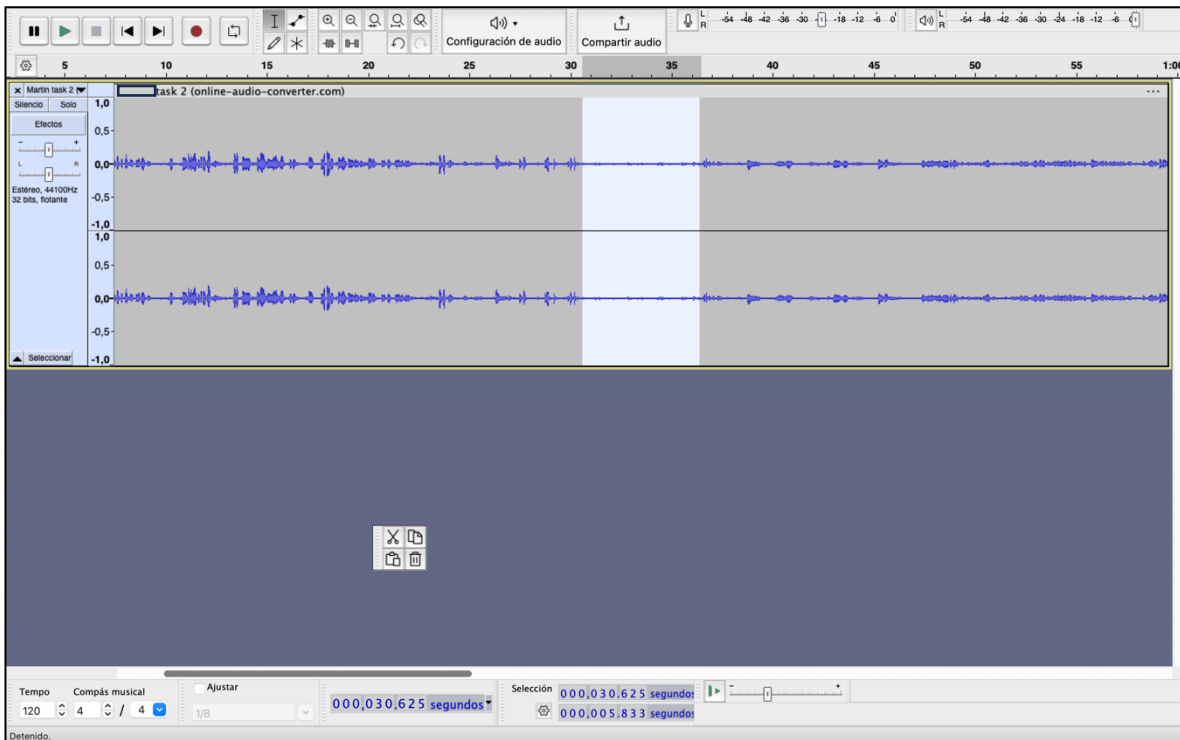


Example of recognized hesitations frequency using ELSA Speak®



APPENDIX I

Example of recognized pause length using Audacity®




Example of hesitation frequency manually identified using Audacity®

E	F
Frequency of hesitations - AUDACITY Classification of Hesitations	
3	/um/ /ah/ /um/
1	/um/
0	0
1	/um/
0	0,000

APPENDIX J


Classification of the total students' responses: *Perceived impact of pauses on oral communication*

Color coding	Theme	Subtheme	Frequency	Answers
Yellow 	Factors contributing to oral hesitations	Pronunciation difficulties	8	<p>"El nerviosismo, la ansiedad de no pronunciar bien una palabra en inglés." (Student 1)</p> <p>"No se pronunciar bien, y creo que me cuesta mucho hablar porque me da vergüenza." (Student 10)</p> <p>"La mala pronunciación que tengo y no poder hablar fluido en inglés." (Student 3)</p> <p>"Mis razones son la pronunciación y el vocabulario, las palabras que uso al hablar." (Student 4)</p> <p>"Me cuesta mucho pronunciar palabras y recordar palabras cuando hablo, y eso me hace dudar." (Student 7)</p> <p>"La pronunciación no estoy seguro cuando digo algunas palabras porque no sé pronunciarlas." (Student 7)</p> <p>"Hago pausas cuando no recuerdo una palabra, no sé pronunciar bien." (Student 10)</p> <p>"Más que nada la pronunciación." (Student 11)</p>
		Vocabulary limitations	5	<p>"Me enredo cuando estoy hablando en inglés." (Student 2)</p> <p>"Mis razones son la pronunciación y el vocabulario, las palabras que uso al hablar." (Student 4)</p> <p>"Me cuesta organizar mis ideas, hago pausas porque no sé mucho vocabulario y me cuesta la pronunciación." (Student 5)</p> <p>"A veces dudo en inglés porque no sé si el vocabulario que estoy utilizando es el correcto o no." (Student 8)</p> <p>"Dudo mucho de si la palabra que ocupo es la correcta o no, me pone inseguro." (Student 9)</p>

Source: own elaboration

APPENDIX K

Classification of the total students' responses: Perceived impact of pauses on oral communication

Color coding	Theme	Subtheme	Frequen cy	Answers
Light blue 	Impact of pauses on oral communication	Confusion and miscommunication	11	<p>"Un efecto de confusión y miedo." (Student 1)</p> <p>"Que a veces no se entiende lo que uno dice o se malinterpreta." (Student 3)</p> <p>"Yo creo que con las pausas la persona que me escucha puede no entenderme bien lo que quiero decir." (Student 5)</p> <p>"Cuando realizó muchas pausas yo misma me olvido de lo que estoy hablando y mi compañera que no me entendía bien." (Student 6)</p> <p>"No sé decir algunas palabras en inglés y también es la pronunciación la que hace que haga pausas." (Student 7)</p> <p>"Las pausas son útiles al hablar, pero en exceso pueden confundir a la persona que escucha." (Student 8)</p> <p>"Supongo que si hago muchas pausas no entenderán lo que quiero decir." (Student 9)</p> <p>"Hago pausas cuando no recuerdo una palabra, no sé pronunciar bien." (Student 10)</p> <p>"Las pausas a veces me confunden y a veces no puedo continuar hablando bien." (Student 2)</p> <p>"A veces los demás no me entienden si hago pausas largas." (Student 11)</p> <p>"Las pausas me hacen olvidar lo que estoy diciendo y los demás no me entienden." (Student 6)</p>
		Self-awareness and	9	<p>"Bien ya que puedo modular mejor." (Student 1)</p> <p>"Me doy cuenta de algunos errores." (Student 3)</p> <p>"Bueno, porque me hace tener una idea más clara en lo que me estoy equivocando y mejorar." (Student 4)</p>

improvement

"Me ayudó un poco porque yo no sabía cuántas pausas a veces realizaba cuando hablaba en inglés, ahora estoy más consciente." (Student 5)

"Con la retroalimentación me di cuenta de que hago muchas muletillas como eh o el em." (Student 6)

"Mas o menos ejemplo: hacía muchas pausas." (Student 7)

"Con los comentarios pude saber si estaba mejorando o no." (Student 12)


"Pude ver en qué aspectos necesito trabajar más en mis pausas." (Student 9)

"Me siento más seguro al controlar mejor mis pausas." (Student 8)

Source: own elaboration

APPENDIX L


Classification of the total students' responses: Perceived use of picture-based storytelling

Color coding	Theme	Subtheme	Frequency	Answers
Pink 	Ease of describing personal photos	Familiarity and personal connection	7	<p>"Me gustó describir fotos de mi familia. Mi mamá vio dos videos que grababa en el liceo hablando de nuestra foto y luego me preguntaba qué estaba diciendo." (Student 7)</p> <p>"Para mí fue mucho más fácil describir un foto grabándome que hacerlo frente a todos, y como eran fotos de gente que uno conocía no había que inventar otras cosas. Aparte uno podía ver otros videos de otros compañeros describiendo sus fotos también." (Student 9)</p> <p>"Me gustó porque describí una foto con mis amigos." (Student 2)</p> <p>"Me gustó describir momentos bonitos con mi familia." (Student 4)</p> <p>"La foto con mis amigos me trajo buenos momentos." (Student 5)</p> <p>"Describir una foto familiar me ayudó a no tener que inventar historias complicadas." (Student 8)</p> <p>"Me resultó más fácil describir imágenes de mi comunidad porque conocía a las personas." (Student 12)</p>

Source: own elaboration

APPENDIX M


Classification of the total students' responses: Perceived impact of receiving formative feedback

Color coding	Theme	Subtheme	Frequency	Answers
Green 	Positive effects of feedback	Increased awareness and confidence	8	<p>"Me ayudó a saber en qué he mejorado y que me falta por mejorar" (Student 11)</p> <p>"Me gusta leer los comentarios porque así sé si hago muchas pausas." (Student 9)</p> <p>"Me ayuda a saber en qué he mejorado y en qué me falta practicar." (Student 11)</p> <p>"Con la retroalimentación me di cuenta de que hago muchas muletillas." (Student 6)</p> <p>"Me dan buen efecto ya que entiendo algunas cosas." (Student 3)</p> <p>"Me ayudó a sentirme más seguro al hablar." (Student 7)</p> <p>"Me hizo darme cuenta de qué aspectos de mi pronunciación necesitaba mejorar." (Student 10)</p> <p>"Me gusta recibir comentarios porque me ayudan a mejorar mis pausas." (Student 9)</p>

Source: own elaboration

APPENDIX N


Classification of the total students' responses: Perceived impact of the use of the Flip App®

Color coding	Theme	Subtheme	Frequency	Answers
Purple 	Positive reception of the Flip App®	Useful for monitoring progress	6	"Me parece útil ya que deja registrado mi avance en inglés." (Student 1) "Me parece bien tener el registro de mi proceso de aprender inglés a la mano para saber cuánto he mejorado o no." (Student 4) "Me gusta leer los comentarios para ver cómo hablo." (Student 12) "El registro de mi voz me ayuda a ver cuánto he mejorado." (Student 5) "Me gusta tener mis avances en video para revisarlos después." (Student 2) "Puedo comparar mis videos con los de mis compañeros para aprender más." (Student 9)
		Confidence and comfort in usage	6	"Me gustó ocupar la aplicación Flip porque podía hablar sin pasar vergüenza hablando enfrente de mucha gente, y era entretenido ver otros videos." (Student 5) "Me gustó porque no era necesario grabarnos la cara, lo importante era nuestra voz." (Student 10) "Me ayudó bastante ya que me dio la seguridad de compartir mi video." (Student 11) "Fue más cómodo porque podía hablar sin la presión de que me vieran." (Student 6) "Me gusta porque se puede comparar los resultados de cómo hablan todos y mejorar." (Student 12) "Me gustó compartir mi video con los demás, fue entretenido y aprendí mucho." (Student 8)

Source: own elaboration

APPENDIX O

Classification of the T-R's reflections on the benefits of the intervention

Color coding	Theme	Subtheme	Frequency	Answers
Pink 	Benefits	Use of prompts for idea organization	11	<p>"Students could develop connections with the pictures they are describing, but they need prompts to explain their ideas." (T-R. Audio log from the pre-intervention sessions)</p> <p>"They needed some tools to explain their ideas, to talk, and to develop these connections with the pictures they were describing." (T-R. Audio log from the pre-intervention sessions)</p> <p>"They used prompts to develop their ideas, and that was something important." (T-R. Audio log from the first session)</p> <p>"The prompts helped students to organize their ideas." (T-R. Audio log from the first session)</p> <p>"Without these prompts, students were lost and couldn't articulate their thoughts as well." (T-R. Audio log from the first session)</p> <p>"When they use storyboards or written prompts, they organize their ideas better before speaking." (T-R. Audio log from the second session)</p> <p>"I realized that organizing thoughts on paper makes it easier for students to speak fluently." (T-R. Audio log from the second session)</p> <p>"Without the prompts, I think it would be difficult for students to articulate their ideas clearly." (T-R. Audio log from the second session)</p> <p>"Prompts helped a lot with making the storytelling clearer and more organized." (T-R. Audio log from the third session)</p> <p>"Without the prompts, it would have been too difficult to develop an idea due to a lack of vocabulary." (T-R. Audio log from the third session)</p>

			"They know they have to use the prompts when organizing their ideas; it helps them structure their thoughts." (T-R. Audio log from the third session)
Improved communication skills	8		<p>"One of the main objectives is that the students could provide feedback, and through that, students could probably have an influence on their oral fluency." (T-R. Audio log from the pre-intervention sessions)</p> <p>"Students could organize their ideas first. They practiced it with other classmates." (T-R. Audio log from the first session)</p> <p>"I saw a little more organization, and that was really good." (T-R. Audio log from the first session)</p> <p>"Some students were improving in terms of hesitations, trying to reduce the number of hesitations used in speech." (T-R. Audio log from the second session)</p> <p>"I think that most of them are becoming more aware of their hesitations and working on speaking better." (T-R. Audio log from the second session)</p> <p>"Some of the students were improving in terms of hesitations. Most of the students are aware now about what a hesitation is, and they are trying to improve it." (T-R. Audio log from the third session)</p> <p>"I have seen some improvements in terms of hesitations, and students are trying to avoid repeating little words while speaking."</p> <p>"I don't hear too many hesitations so probably that is the one thing that could have improved." (T-R. Audio log from post-intervention)</p>
Positive feedback and encouragement	8		<p>"I hope everything that I will teach them will be helpful for them to develop a little bit more confidence and fluency during the intervention period." (T-R. Audio log from the pre-intervention sessions)</p> <p>"I was so proud of them. Not all of them reached two minutes, but at least they tried and improved a little from what it was in the test." (T-R. Audio log from the first session)</p>

"I always try to encourage students by telling them 'You can do it' and supporting their ideas to help them improve." (T-R. Audio log from the second session)

"After giving feedback, I could see that some students felt happier and more confident when they saw their progress." (T-R. Audio log from the second session)

"I provided them with positive comments like 'Very good job,' to encourage them and motivate them for the next session." (T-R. Audio log from the third session)

"They seemed more motivated when they received positive feedback after their recordings." (T-R. Audio log from the third session)


"Still, I have a couple of students who I think did really well."

"I think they did a good job overall, they did their best even if they struggled." (T-R. Audio log from post-intervention)

Source: own elaboration

APPENDIX P

Total classification of the T-R's reflections on the challenges of the intervention

Color coding	Theme	Subtheme	Frequency	Answers
Yellow 	Challenges	Emotional barriers and anxiety	9	<p>"Some students get really nervous when I am near them during the activity, even though I try not to make them uncomfortable." (T-R. Audio log from the pre-intervention sessions)</p> <p>"One student who suffers from anxiety is making progress but still relies on the storyboard for speaking." (T-R. Audio log from the pre-intervention sessions)</p> <p>"They were shy, even the students who were not shy felt quite shy because the others didn't want to share." (T-R. Audio log from the first session)</p> <p>"A student told me she felt very nervous when practicing in front of me." (T-R. Audio log from the first session)</p> <p>"Some students were so anxious about the activity that they hesitated to participate at all." (T-R. Audio log from the first session)</p> <p>"Some students get really nervous when I am near them during the activity, even though I try not to make them uncomfortable." (T-R. Audio log from the second session)</p> <p>"One student who suffers from anxiety is making progress but still relies on the storyboard for speaking." (T-R. Audio log from the second session)</p> <p>"Some students are really nervous when I am near them during the activity, and I try not to make them uncomfortable." (T-R. Audio log from the third session)</p> <p>"There are emotional barriers that are challenging, especially when students are too shy to share." (T-R. Audio log from post-intervention)</p>


Technical difficulties with the Flip App®	6	<p>"I don't know if the internet connection will help me because this is important; without it, I cannot record students." (T-R. Audio log from the pre-intervention sessions)</p> <p>"The app took a long time to upload the video, which slowed down the session." (T-R. Audio log from the first session)</p> <p>"Some students get really nervous when I am near them during the activity, even though I try not to make them uncomfortable." (T-R. Audio log from the second session)</p> <p>"One student who suffers from anxiety is making progress but still relies on the storyboard for speaking." (T-R. Audio log from the second session)</p> <p>"Some students had problems with the Flip App®, so I had to share my cellphone, which caused delays in the lesson." (T-R. Audio log from the third session)</p> <p>"I faced a lot of challenges with the connection of internet, climate issues, the winter holidays, and then I got the flu for a whole week." (T-R. Audio log from post-intervention)</p>
Low students' motivation toward the end of the lesson	6	<p>"I have low expectations regarding what my students could achieve; they always surprise me." (T-R. Audio log from the pre-intervention sessions)</p> <p>"As the activity progressed, some students lost motivation because it felt repetitive." (T-R. Audio log from the first session)</p> <p>"By the end, some students were just relieved the activity was over." (T-R. Audio log from the first session)</p> <p>"Some students are losing motivation as they are repeating the same activity of describing the same picture, and I'm concerned they won't stay engaged." (T-R. Audio log from the second session)</p> <p>"The students don't have the same energy as they did in the first session, and I'm trying my best to motivate them, but it's getting harder as we approach the end of the intervention." (T-R. Audio log from the third session)</p>

"Some of them wanted to leave the school. I feel like they were relieved that we were finishing the process." (T-R. Audio log from post-intervention)

Source: own elaboration

APPENDIX Q

Total classification of the T-R's reflections on the tensions of the intervention

Color coding	Theme	Subtheme	Frequency	Answers
Purple 	Tensions	Shyness and lack of participation	11	<p>"Some students were very willing to share their personal pictures, but others were really shy." (T-R. Audio log from the pre-intervention sessions)</p> <p>"I think it will be hard for some students to convince them to record videos due to their shyness (T-R. Audio log from the pre-intervention sessions)</p> <p>"Students didn't want to share their videos." (T-R. Audio log from the first session)</p> <p>"They were so anxious about it that they didn't want other classmates to see and watch the videos." (T-R. Audio log from the first session)</p> <p>"Even the students that were not shy felt quite shy because the others didn't want to share." (T-R. Audio log from the first session)</p> <p>"A lot of them found it difficult to speak in front of the camera because they were embarrassed." (T-R. Audio log from the first session)</p> <p>"Still, students are having problems sharing their videos, and many are shy about recording themselves." (T-R. Audio log from the second session)</p> <p>"Many students are reluctant to speak because they feel they don't know English well enough and are ashamed." (T-R. Audio log from the second session)</p> <p>"Students hesitated to share their videos, and some refused to participate due to the fear of being judged." (T-R. Audio log from the third session)</p> <p>"They are getting more confident now, but some still hesitate when recording themselves." (T-R. Audio log from the third session)</p> <p>"Most of them talk by giving their opinions, but when I wanted them to speak about their decisions, they were very quiet." (T-R. Audio log from post-intervention)</p>

Dependence on written materials	6	<p>"Students didn't want to share their videos without prompts." (T-R. Audio log from the first session)</p> <p>"Students are still very dependent on written prompts and paper, which they use to organize their ideas before speaking." (T-R. Audio log from the second session)</p> <p>"Most of them rely heavily on prompts; only a few students with a higher English level don't need to depend on them." (T-R. Audio log from the second session)</p> <p>"They are too dependent on pencil and paper to organize their ideas. Some don't use it, but others need it to communicate." (T-R. Audio log from the third session)</p> <p>"Some students still need their storyboards to describe their pictures." (T-R. Audio log from the third session)</p> <p>"Some students rely too much on writing things down before they can express their thoughts." (T-R. Audio log from the third session)</p>
Challenges with sharing videos	5	<p>"The most difficult part was getting them to share their videos." (T-R. Audio log from the first session)</p> <p>"Some students didn't want to participate because they were very shy about their videos." (T-R. Audio log from the third session)</p> <p>"They were anxious about recording their voices and sharing their videos, especially in the beginning." (T-R. Audio log from the third session)</p> <p>"It was really difficult to make them speak with each other... when they have to, they couldn't." (T-R. Audio log from post-intervention)</p> <p>"I am thinking about how difficult it probably will be for them to share part of their lives with other people they don't know." (T-R. Audio log from the pre-intervention sessions)</p>

Source: own elaboration

Appendix R

Example of a lesson plan design

Sessions / Dates	Learning Objective	Activities and Procedures	Time	Material	Assessment
Intervention - Session 1 May 14 th , 2024	To orally identify storytelling main components included in a community photograph using storyboards and the Flip App®	<p>Pre Oral Icebreaker activity: Students play a throwing ball game which contains different personal questions such as what is your name? what is your favorite music? Where are you from? Students share their answers as a whole class activity to get to know each other before lesson starts.</p>	10 min	<p>Presentation about storytelling components: https://view.genially.com/663857bf7e3ecf00142c337a/presentation-storytelling-session-1</p> <p>Storyboard:</p>	Students uploaded videos to Flip App® will be assessed by the teacher using a formative rating scale to assess pauses, hesitations, and use of picture-based storytelling
		<p>Introduction to storytelling: Students identify the main narrative components (introduction, plot, ending; characters; setting) of a storytelling and their role at describing them orally. Examples are provided.</p>	10 min	<p>https://drive.google.com/file/d/1hEPj5-Gdhqy0NHsRc5T06jZRJVazfUoE/view?usp=drive link</p> <p>Prompts: https://drive.google.com/file/d/11ckHxLEdWP9ueyv-</p>	

		<p>While Use of picture-based storytelling:</p> <p>Using a personal family/community picture, students get in pairs to help each other to identify storytelling key elements such as characters, plot, setting using storyboards and prompts in each other's pictures.</p>	<p>15 min</p>	<p>wYieyDFp4RN0g7yH/view?usp=drive_link</p> <p>https://drive.google.com/file/d/1Z0iAg00IBDMNI5YNSsidenXK3Hh4iqGy/view?usp=drive_link</p> <p>https://drive.google.com/file/d/1MHmrMuiYAsYAFyWx_6AhvWdVnk9Tt8YU/view (If</p>	
		<p>Students gather in groups of 4 and share their previous organized ideas on their storyboards with the rest of the students. Each student has 2 minute to describe the general idea story, while the rest of students listen and take-notes on the main ideas.</p>	<p>8-10 min</p>	<p>needed)</p>	

		<p>Students share their opinions/ideas as a whole-class discussion about the elements they could recall from their classmates' picture descriptions by answering the following questions projected on the board: what similarities or differences did you notice among the descriptions? What elements of storytelling were the most repeated in the story descriptions?</p>	<p>10 min</p>		
		<p>Post Use of Flip App®: Students gather in pairs share their storytelling general plot description and descriptions of characters, and record each other's for 2 minutes and upload their videos to Flip App®.</p>	<p>20 min</p> <p>Total time: 80' min aprox</p>		

