



**UNIVERSIDAD NACIONAL DE CHIMBORAZO
FACULTAD DE CIENCIAS DE LA EDUCACIÓN HUMANAS Y TECNOLOGÍAS
PEDAGOGIA DE LOS IDIOMAS NACIONALES Y EXTRANJEROS**

Description of mobile learning through Duolingo to improve speaking skills in English as a foreign language learning.

**Graduation thesis for the degree of Licenciado en Pedagogía de los Idiomas
Nacionales y Extranjeros**

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DEDICATION

I dedicate my research work firstly to God who is my guide, strength, and drive to achieve my goals. A special feeling of gratitude to my mother who has been my motivation and the person who has taught me the meaning of perseverance, commitment, and my principles and values. This is for you, my Chulita. For my brother Jorddy who showed me that every tear of effort brings a reward. For my two grandparents who, despite not being with me today, I know that they watch over me. This victory is for the pride of you. I give special thanks to my girlfriend Mabell who has been guiding and supporting me on this learning path to see me achieve my goals.

This achievement is for you, my family.

Alejandro Pazmiño

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Alejandro Pazmiño

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RESUMEN

El avance del aprendizaje de idiomas asistido por el uso del sistema móvil (MALL) con la adopción de las aplicaciones para el aprendizaje móvil (m-learning) ha abierto oportunidades sin precedentes para los estudiantes que acogen la cátedra de inglés como lengua extranjera (EFL). Por el contrario, los estudiantes ecuatorianos de primaria se enfrentan a dificultades lingüísticas, especialmente en lo que respecta a las habilidades de expresión, fluidez, habilidades gramaticales orales y ansiedad. Por esta razón, Duolingo, una aplicación móvil, en esta investigación se propone como una herramienta eficaz para mejorar la competencia oral de los estudiantes a través de un conjunto de actividades didácticas de aprendizaje y recuperación proporcionado por la aplicación. Este proyecto investigativo cuasiexperimental utilizó la verificación de hipótesis, métodos cualitativos y cuantitativos como una prueba de entrada y de salida, misma que es acreditada con una rúbrica de expresión oral Cambridge A2, además, una hoja de observación y una encuesta a los estudiantes para establecer el grado de satisfacción y dificultad en el aprendizaje móvil con la aplicación de Duolingo. Treinta y uno alumnos de primaria participaron en este estudio. Con base en los resultados anteriores, es incuestionable que Duolingo ayudó a los estudiantes de quinto grado de la Unidad Educativa Martiniano Guerrero Freire a lograr habilidades de habla adecuadas, tanto en la buena pronunciación como en la fluidez del idioma. Además, se acortó la curva de aprendizaje de EFL, lo que se refleja en la guía de pre-test, post-test, encuesta y observación aplicada, donde la visión de los estudiantes de aprender inglés cambió considerablemente. El investigador aboga por el uso de Duolingo para el programa de escuela primaria EFL y en educación general, ayuda a los estudiantes a aprender las habilidades habladas

Palabras clave: aprendizaje móvil, aprendizaje de idiomas asistido por móvil (MALL), habilidades de expresión oral, estudiantes de inglés como lengua extranjera (EFL), aplicación Duolingo.

ABSTRACT

Mobile Assisted Language Learning (MALL) advancement with the embracement of mobile learning (m-learning) apps have opened up unprecedented opportunities for English as a Foreign Language (EFL) learners. Conversely, Ecuadorian elementary students face language struggles, especially concerning to speaking skills in the areas of spoken fluency, oral grammar skills, and anxiety. For this reason, Duolingo, a mobile application, is proposed in this research as an effective answer to improve students' oral proficiency through a set of remediation activities using this learning app. This quasi-experimental research used verification of hypotheses, qualitative and quantitative methods such as a pretest, posttest, speaking rubric, observation sheet and students' survey to establish how mobile learning aided speaking skills. Thirty elementary students were involved in this study. The data gathered shows that students who were instructed using Duolingo activities during remediation lessons in and out of the classroom gave learners not only a remarkable achievement on speaking posttest, but also increased students' motivation and confidence. Based on the above results, it is unquestionable that Duolingo helped the fifth grade students of the Martiniano Guerrero Freire Educational Unit to achieve adequate speech skills, both in good pronunciation and fluency of the language. In addition, the learning curve of EFL was shortened, which is reflected in the pre-test, post-test, survey and applied observation guide, where the students' vision of learning English changed considerably. The researcher advocates the use of Duolingo for the EFL elementary school program and in general education, it helps students to learn the skills spoken.

Keywords: mobile learning, Mobile Assisted Language Learning (MALL), speaking skills, English as a Foreign Language (EFL) learners, Duolingo app.

Reviewed by:



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CHAPTER I: INTRODUCTION

Information and Communications Technology (ICT) has efficiently accelerated English as a Second Language (ESL) and English as Foreign Language (EFL) learning processes since the inclusion of the first generation of home computers in the classroom in the 1980s (Alsied & Pathan, 2013). Throughout this time, teachers and school administrators have integrated technology-based tools such as multimedia computers and laptops in classes and mainstream curriculum development. Notwithstanding, educators run into technical and practical problems by applying this technology in the classroom, however, teachers who fail implementing this language learning through computers are considered behind the times (Khubyari & Narafshan, 2018).

Since many language schools and their teachers wanted to make teaching and learning flexible, authentic, independent, and student-centered, there was a full-scale change in the use of technology in the classroom. Mobile technologies such as smartphones and tablets paved their way into the teacher-student interaction by becoming a necessary and natural part of instruction and providing learners easy-to-access knowledge, accelerated learning, and fun exercises to practice what they learned in class (Khubyari & Narafshan, 2018). By these means, Mobile-Assisted Language Learning (MALL) emerged and became quite popular with instructors and learners with the rise of mobile phones due to their far-reaching effect on acquisition of the English language when students use their phones to learn (Çakmak, 2019).

Unfortunately, studies have revealed that Ecuador is the last country in all of Latin America and in the 93rd position in the world, to develop the four English language skills: writing, reading, listening and speaking (Education First, 2020).

Consequently, in this nation teaching strategies and learning experiences need to be more attractive and understandable, so it would be considered a fundamental requirement in Ecuadorian students to be prepared in the management of mobile applications and websites, to be able to acquire the English language in a natural way (Sun et al., 2017).

For this reason, with the implementation of MALL specifically with Duolingo app, the Ecuadorian students will be able to fulfill their goals of improved proficiency and speaking skill in the preferred learning idiom.

1.1 Research Problem

Fifth grade elementary students from Martiniano Guerrero Freire experience considerable EFL difficulties concerning speaking skills such as incompetence in speaking English fluently, making grammatical mistakes in oral communication, and experiencing anxiety and lack of motivation to speak confidently and clearly during instruction in the classroom.

1.2 Problem Statement

Learning English has become a relevant factor in succeeding in academic and professional life. Passing proficiency tests are required when graduating from schools and universities. This makes public elementary schools have EFL classes mandatorily. Various studies show these elementary students lack proper and individualized EFL instruction and

authentic communicative materials to support with success their lessons and instructions. These learners lack resources for meaningful communication with native speakers and inability to travel to English language countries. In addition, not participating in a collaborative learning with technological resources or MALL does not offer students the possibility to quickly developed the acquisition of a new foreign language skill (Alzatma, 2020).

Speaking skills are the most difficult skills to learn for EFL students due to the fact students are required to talk in a fluent and articulated form to successfully communicate (Rao, 2019). Besides that, seeking correct words, utilizing grammar, and producing intelligible pronunciation and rhythm are subskills to be acquired during the learning of speaking skills (Turkben, 2019). Due to all these complex elements, oral skills are the most complicated skills to learn from the four basic English language skills. Unless EFL teachers find a way of developing and training oral skills, students will not become fluent speakers (Rao, 2019).

The most meaningful skills that aid students in solving everyday life problems is being a good oral communicator (Sreena & Ilankumaran, 2018). This is how elementary students are also in a disadvantage not being able to communicate satisfactorily during their EFL classes. Thus, with very good results, mobile learning has been used to progress oral skills in elementary schools (Abunowara, 2014; Haerazi et al., 2020). Mobile technology has been accompanying in-class instruction for some time having instructors as facilitators of knowledge. Indeed, mobile technology instruction makes regular classes attention-grabbing, significant, and useful. Due to their computing characteristics such as read or create documents and presentations, and access to the websites and apps, smartphones have become ubiquitous in all academic subjects and lessons (Al-Mohammadi, 2014; Haerazi et al., 2020; Hussin et al., 2012; Sun et al., 2017).

Minimal research attention has been conducted towards how mobile learning and mobile apps have improved formal EFL testing and end of year exams due to the fact that researchers have not evaluated that data with the studies data. Besides, there are still few studies on mobile apps increasing speaking language skills and insufficient analysis whether teachers are being trained in the use of M-learning or not. By examining different mobile research studies and using qualitative and quantitative research methods, teachers can better explain how mobile learning technology aid improving elementary students' speaking skills. With this understanding, teachers and researchers can design and monitor mobile apps results and their variables and tied them to achieve better results. To such a degree, instructors can to engage their students with better mobile apps strategies to create new kinds of learning activities that will meet students' spoken communicative goals.

1.3 Problem Formulation

Since mobile learning and phones have considerably enhanced English language learning, its usage has supplemented the traditional classroom instruction. In fact, learning English with smartphones and handheld devices has made learning exciting, significant, and constructive. Because of data-processing features, smartphones aid learners in being able to communicate synchronously and asynchronously with others, exchange documents, and surf the internet. Then, mobile devices become a rich and independent English language source.

By these components, mobile learning is the response to improve speaking skills due to the fact students are always communicated and constantly taught and reinforced by native speakers' lessons and authentic materials (Hussin et al., 2012; Krishnan et al., 2020).

This is why m-learning improves English oral skills in a constant and measured way (Al-Mohammadi, 2014) especially in the three problems identified during pretest and first observation classes and mentioned in the research problem description. These problems are namely: lack of ability to speak English in an assured manner, making unintelligible grammar errors, and anxiety and absence of motivation to practice target speaking goals.

How can mobile learning through Duolingo app help Martiniano Guerrero Freire elementary 5th graders increase oral communicative skills in their EFL classroom since they do not speak fluently, correctly, and confidently?

1.3.1 Guiding questions

How does the interaction between m-learning and fifth graders contribute to better students' speaking skills in the areas of pronunciation and fluency using understandable and continuous knowledge?

How can mobile learning develop students' grammar for speaking tasks and oral presentations through accessible knowledge, repetition, and gamification features?

What are students' views on the usage of mobile learning apps to motivate them to speak and reduce their anxiety?

1.4 Research hypotheses

(Hi) Duolingo app as mobile learning does improve fifth graders' speaking skills of Martiniano Guerrero Freire.

(Ho) Duolingo app as Mobile learning does not improve fifth graders' speaking skills of Martiniano Guerrero Freire.

1.5 Objectives

1.5.1 General objective

To demonstrate how the use of m-learning through Duolingo app aids Martiniano Guerrero Freire elementary 5th graders to achieve EFL proficiency growth in improving speaking skills and subskills in face to face and online classes.

1.5.2 Specific objectives

Specific Objective 1: To show through of the methodology qualitative and quantitative with the used of pretest, posttest, survey and observation sheet, how the usage of m-learning through Duolingo app makes students attain good pronunciation and fluency.

Specific Objective 2: To identify the importance of how m-learning through Duolingo app assists students in acquiring correct grammar during oral speech activities.

Specific Objective 3: To establish how m-learning through Duolingo app helps students become motivated to perform speaking tasks without anxiety.

CHAPTER II: THEORETICAL FRAMEWORK

2.1 Historical Background

2.1.1 *ICT and MALL*

ICT has influenced modern language teaching, remaining essential in classroom instruction since technology emerged in the educational field. Now terms like digital literacy or computer literate have emphasized attention and consideration to critical education skills apart from literacy and numeracy (Hafifah, 2020). Students need to be taught computer instruction lessons so they can use, create, or process information through active online participation in class and school (Shkvyr et al., 2020). Moreover, the ministry of Education from Ecuador through pedagogical analysis identified the priority to use ICTs in the national Ecuadorian curriculum. Now, ICT related to didactic tools and educational projects is mandatory from first grade to high school so students can harness their computer science skills (IBEC, 2017).

During the 1990s, ICT was incorporated in all English learning levels (Ekinçi & SireKaya, 2018) making traditional methods of teaching evolve into instruction aided by computers programs and multimedia (Hwa, 2018). This technological shift made instruction easily accessible, and learners were able to participate actively. At the same time, students were accountable about their own learning processes. Accordingly, ICTs have created authentic EFL learning environments where instruction is not taught by native speakers (Khan & Kuddus, 2020).

The rapid advancement of ICT through the years modified formal in-class teaching, making it more effective and easier to grasp given the evolution of unlimited educational resources of computer technology. Similarly, instruction has been taking a new shape from traditional learning, learning with audio, video, e-learning, and distance learning to this paradigm that is mobile learning. That is to say, distance learning became e-learning, knowledge conducted through the internet, with the innovation of ICT, and e-learning became m-learning with the software development of ICT (Stošić & Bogdanović, 2013).

MALL is a subset of mobile learning or m-learning, being Computer-Assisted Language Learning (CALL) its predecessor (Çakmak, 2019; Morchid, 2020). It is worth noting that MALL is not only an advancement from CALL and its core archetypes, but also has its own far-reaching character. This is due to its reinventing to the instructional environment required for language learning (Morchid, 2020).

Apart from this, MALL benefits student-centered instruction to language objectives in which constant and voluntary use are significant components. MALL instruction for language learning purposes stem from a theoretical structure that is a combination of language content and language learning methodology. Then, MALL adapts to the nature of language learning goals, namely target language, and learners' self-sufficiency, that is the design for those tasks to successfully accomplish those language goals (Morchid, 2020).

By converging mobile technology and e-learning, MALL is the response of learning communities that are interested in a personalized, life-long global instruction (Çakmak, 2019; Khubyari & Narafshan, 2018; Sun et al., 2017). On top of that, MALL is a teaching and learning tailored-student methodology that employs smartphones and handheld devices

such as iPads, tablets, mp3 players, e-book readers, digital dictionaries, and voice recorders to name a few, connected to the internet giving teachers and students a constant social and content interaction and quick access to target language anywhere, anytime (Çakmak, 2019; Khubyari & Narafshan, 2018). Therefore, using MALL as an instructional approach provides learners with profound, sophisticated understanding of target language, content, and learning connections (Khubyari & Narafshan, 2018).

In addition, MALL is a trend in the EFL teaching around the world as it strengthens language proficiency and online participation; students can create instructional presentations in a digital format and become autonomous in their learning choices (Haerazi et al., 2020). This learning independence is another unique feature that MALL approach supplies learners with the way target content and language is presented and easily acquired (Shamsi et al., 2018). Now, students can take the control of their own learning because it is not only happening in the classroom, but also outside of it, as they dedicate time and practice to be engaged with target language and what they do with language in their mobile devices. This is also a great bonus since instructional classroom time is limited. Thus, MALL reduces dependence on their teachers, which prepares learners to hone more complex problem-solving skills (Lutfi, 2020).

Furthermore, by generating digital content, MALL delivers direct connections to linguistic and verbal input anywhere or anytime (Shamsi et al., 2018). Therefore, MALL facilitates listening comprehension and speaking tasks by providing students with scaffolding activities where they constantly remember key vocabulary and grammar (Hwang et al., 2016). These activities are comprised of a linguistic assortment of listening and speaking tasks where students achieve communicative competence through one to one or group interaction. To illustrate, social networking sites (SNSs) have created an ever-changing and virtual world of digital information in today's societies. Through interaction and communication students acquire linguistic abilities in a faster way (Ahn & Lee, 2016). This socialization component of SNSs betters English-speaking skills of learners in grammar, fluency, and pronunciation when used appropriately (Khan & Kuddus, 2020). SNSs give students extra time and diminish teacher-students distance. This led to a relaxing studying environment where EFL learners feel motivated to carry out speaking tasks anxiety-free (Namaziandost & Nasri, 2018).

Next, providing an unrestrained pedagogic atmosphere and not occurring during classroom instruction, MALL makes specialist knowledge and infinite comprehensible input and gives immediate assessment and feedback (Pennington & Rogerson-Revell, 2019). Second language acquisition (SLA) makes well known that instant speaking feedback is essential when teaching intelligibility and pronunciation to EFL students in order to avoid grammar and fossilized mistakes (Baker & Burri, 2016).

Additionally, poor EFL speaking skills are common during public elementary school education. To complicate matters, some EFL instructors have bad classroom practices and reduce EFL teaching to grammar rules and memorized lists of words, turning the class into boredom and passivity. Even EFL adult learners think learning a language consists of memorizing grammar rules and rehearsed dialogues. On the opposite, MALL with moving animations and comprehensible videos engage learners better than textbooks and notebooks. Moreover, with its level of effective integration, MALL provides the means to overcome

deficits in fluency and pronunciation, giving students target language practice in those two speaking subskills. MALL application is global due to its creating effective and authentic EFL learning (Sun et al., 2017).

Needless to say, educators should train students how to learn English on the go by teaching them how to use the most effective MobApps outside the classroom. There are many language learning apps in the market, however, students do not know what apps are best and how to use them effectively. Direct mobile apps instruction during classes is a must so students can non-stop obtain information, self-assess, and have feedback. Likewise, this kind of instruction makes the learning process more personal. Learners can study whenever and wherever they want and how they prefer to do self-study. However, there are two factors that define the learning: how the mobile app can perform its teaching feature and the student's ability to use the device. Active and powerful lessons can be achieved when instructors combine those two factors (Lutfi, 2020).

Specifically, Bretts and Kercher (1999, as cited in Lutfi, 2020) introduced a paradigm about how teachers should prepare students' skills, so they become independent learners and lifelong learners. They named five components for their Autonomous Learning Model (ALM): the first is orientation, where teachers highlight the value of being an independent learner since intelligence is highly increased by taking ownership of knowledge. At the same time, it is demonstrated through tasks that success is guaranteed by being self-sufficient. Second, development stage, where learners use tools and activities to increase autonomous education. Third, enrichment tasks are carried out where learners gain awareness and expertise by having real-life and hands-on experiences in the class. Stage four is a project or seminar where learners exhibit their newly learned skills with an authentic audience. The final stage is a study or task in great detail, the most complex activity of all stages. Here, students must integrate everything they learned and established new knowledge.

Lutfi (2020) proved how the ALM combined with MALL helped students improve speaking skills. Because of time restrictions, Lutfi employed orientation, development, and enrichment stages from ALM. This author recommends teachers should be facilitators, content creators, actors, and evaluators, training students to learn more on their own after classes. Guidance must be provided at all stages. To apply these ALM lessons, she used the Quizlet application. Hence, the researcher was determined to find solutions to the students' poor speaking skills, she employed action research to examine how Quizlet can help learners improved their oral skills. Thirty college students who were familiar with ICT were chosen. Observations, questionnaire, and teacher and students were used to gather the data. The key to success was preparing lesson plans that gives students speaking practice by using MALL activities.

2.1.2 SLA and MALL

Crucially, EFL teachers must understand how SLA occurs in students so they can apply effective and beneficial strategies while teaching their lessons. Therefore, the compelling theory where my proposed solution to help elementary learners' speaking skills using mobile learning is Krashen's language acquisition theory. It is outlined in his Natural Approach that states that there is a natural order to learn any language where listening precedes speaking and comprehension precedes production. Krashen's Natural Approach is

grounded in five learning hypotheses that are acquisition/learning hypothesis, monitor hypothesis, natural order hypothesis, input hypothesis, and the effective filter hypothesis (Krashen & Terrell, 1983).

First, the acquisition/learning hypothesis explains there are two instances where EFL students gain knowledge: by learning that requires conscious effort to study language and structure, and by acquisition that is subconscious, and students internalize the language by exposure. Second, monitor hypothesis explains the difference between learning and acquisition since the monitor is that skill that helps students focus on the correct use of the language after some instruction took some time. Third, the natural order hypothesis dictates there is a natural order to learn language structures; those language patterns should be learned in an order that acquisition emulates the way the first language was learned. That is to say, people start with preproduction or listening and gestures, early production or short phrases, speech emergence or long phrases, to intermediate fluency and conversation. Next, the input hypothesis says that to understand target language, the input must be understandable which should be slightly above level $i + 1$. Finally, the effective filter hypothesis defines a learner must be relaxed and open to be a vessel of knowledge or learning will not happen (Krashen & Terrell, 1983).

The implications of using Krashen's Natural Approach have a lot of significance when mobile learning seems to fit in those same hypotheses of the Natural Approach. First, the acquisition/learning hypothesis is supported by mobile learning. Mobile apps provide learners for both opportunities for learning and acquiring language, with a concentration on acquisition since students are exposed to videos where they read and listen stories related to the target language. Second, mobile learning supply students with autonomous learning in a social style. Being independent learners, students are exposed to many vocabulary, grammar, and oral activities contributing to the students' monitors. This relates to the monitor hypothesis where students learn language rules and grammar consciously and use it later to check what is spoken (Friedrichsen, 2020; Uwizeyimana & Niyomugabo 2017)

In accordance with the natural order hypothesis and because mobile learning engages students in more practice to do listening and speaking tasks, students acquire the target language in a natural way by listening and watching authentic speaking activities graded from easy to more complex, and from concrete to abstract. Due to communication taking place, language is learned naturally. Mobile learning provides social experiences through online interactions where learners are active. At the same time, input hypothesis is very connected to the way mobile learning activities present comprehensible input in a meaningful and specific way to learners. Besides, infinite comprehensible input is provided in the mobile app graded activities and meaningful communication is constantly practiced in all digital activities. In addition, mobile learning delivers immediate feedback that contributes to the monitor's students (Friedrichsen, 2020; Uwizeyimana & Niyomugabo 2017).

2.1.3 Speaking: A Challenging Skill

Speaking is the skill that allows students to express and exchange their ideas orally and effectively (Rao, 2019; Turkben, 2019). It is an instrument for communication, and schools or jobs personnel will measure this spoken competence in terms of grades and

international proficiency tests. For this reason, oral skills are the most significant of all four skills. Not only will there be students who cannot convey their ideas and knowledge comprehensibly, but they also will not be able to respond to questions and tasks. Their personal and academic lives will be affected by poor communication skills. Eventually, this would lead to misinterpretations, mistakes, lower productivity, and less employment opportunities (Rao, 2019).

In addition to the EFL instructor's good competence to train oral skills, the students must be aware they should work harder and longer in different areas to be able to pronounce intelligibly and communicate effectively. Therefore, speaking becomes a hurdle for EFL learners and is considered one of the most demanding skills besides writing, due to the fact there are different parts to be addressed to improve speaking skills (Bouzar, 2019). This oral interaction depends on other verbal subskills such as grammar or how to use the language in oral production, pronunciation or how you say words and intonation patterns, fluency or using meaningful chunks or phrases, oral vocabulary or finding correct words, and confidence or ability to perform with minimum anxiety. In this way, learners can construct spoken communication and meaning successfully (Rao, 2019; Turkben, 2019).

First and foremost, a significant factor to improve speaking and pronunciation skills is carrying out more listening activities. Listening influences speaking and this is one main factor during language acquisition because we spend a lot of time listening before speaking when we were babies and children. Listening and pronunciation are interrelated and inseparable. Therefore, when students have not participated in listening activities for a long time, students' pronunciation will not be easily understood or comprehended (Albiladi, 2019).

It should be noted that vocabulary and grammar are essential foundations when it comes to speaking skills. First, learning vocabulary is essential for receptive or listening skills and productive or speaking skills. That is why, lack of vocabulary is one of the reasons of students' poor EFL speaking skills. Students are reluctant to speak since they cannot convey their feelings and ideas in English. This can be summarized in the greater the lexicon, the higher speaking competence learners have. The same is also true for fluency, the bigger the vocabulary, the better the skill to speak with speed and proper expression becomes (Ali et al., 2019).

Second, grammar is key to speak properly because it is the way we put words together to make correct sentences in order to orally communicate. Likewise, practicing the language rules increases the language proficiency considerably. No student can utter correct and intelligible spoken sentences without learning grammar. To such a degree, vocabulary is considered like building blocks, and grammar is the guide to construct proper sentences. Fluency and accuracy are the results of correct grammar and vocabulary (Ali et al., 2019). From the second language acquisition standpoint, teaching grammar overtly aids with oral language acquisition since learners take notice of target grammar and linguistic competence and improve students' fluency and spoken language accuracy. EFL instructors must include discriminatory grammar lessons based on language functions where students will use those structures in planned communicative and authentic tasks (Bahrani & Soltani, 2012; Kreutner, 2015).

Equally important, pronunciation is the speaking subskill that helps learners utter correct sounds when they want to communicate. Pronunciation is the main hindrance students need to overcome so understanding can take place. Not only do students need to learn correct sounds in the letter levels or phonetics, but they need to learn stress, rhythm, and intonation. For all these reasons, EFL teachers must design activities and lessons where learners can differentiate the differences between the different sounds, example vowels, and contrast the difference between English and their first languages. From another standpoint, EFL teachers must include pronunciation lessons where students pay attention to the sounds that do not exist in their native languages (Albiladi, 2019).

Additionally, fluency is another strategic element of speaking skills since it refers to the ability of EFL learners to convey correct and appropriate spoken meaning. Fluency is also the oral skill that controls how students speak smoothly and freely without thinking of grammar structures, pronunciation, and vocabulary. Fluency is very connected to how students feel when they are speaking and practicing target vocabulary. Thus, students need a relaxing environment to be able to practice fluency activities which comprises speaking elements such as pronunciation, stress, silences, and adjustments. (Duran-Karaoz & Tavakoli, 2020; Haberl, 2018). The number one activity par excellence for fluency is repetition and imitation of target oral sentences since learners acquire vocabulary, grammar, and speed without forgetting meaning and language functions (Nation, 1989).

Another aspect influencing speaking skills and all learning dimensions are anxiety and lack of motivation to undertake speaking activities. Krashen and Terrell (1983) summarized three affective variables or internal feelings that are confirmed which profoundly impact second language acquisition in the classroom. The first one is motivation where students with high motivation perform better and participate more. The second one is self-confidence and students with good image about their performance acquire English easily. The third one is absence of anxiety; students with low anxiety tend to engage in activities and attain more target language objectives.

This is the implication for EFL teachers: they must create relaxing environments without anxiety and stress. Instructors must create awareness and educational value of the several benefits of learning English in language settings. By making students feel comfortable, teachers facilitate learning since students will not be feeling negative feelings such as anxiety and avolition that instantly become a deterrent in class. They will make memory and language parts of the brain impaired. In other words, a positive learning environment means no affective filter as stated in Krashen's Input Hypothesis (Krashen & Terrell, 1983).

If this is no possible, a lot of EFL learners grow anxious and nervous when they are engaged in speaking activities (Horwitz et al., 1986). Mobile learning offers a solution to these negative emotions by reducing anxiety and by shifting students' feelings to learning English in a fun way. For instance, learning language apps supply learners with extra activities, videos, time, and confidence inside and outside the classroom (Shamsi et al., 2018).

Finally, to further improve speaking skills in the EFL classroom, EFL instructors should consider micro and macro skills of speaking. They should focus on both aspects of this speaking skills consideration. That is to say, interactional language is the one

used for social interactions. For instance, when people meet, greet each other, have small talk, and recount their experiences. This is the language of socializing. Then, it comes transactional language, this language focuses on the message and people making themselves clearly understood (Richards, 2015).

In this way, EFL instructors must adjust their lessons to enrich transactional or macro language because this language is message oriented. Students who are trained in using transactional language tasks have better interactions among learners in different situations. They would recycle target vocabulary and better their oral speech through guided dialogues, meaningful communication tasks, and scholarly activities that boost their confidence and motivation. This, in turn, improves academic language that is the language used in English proficiency tests (Richards, 2015).

2.2 Theoretical Foundation

2.2.1 Mobile Learning and MobApps

As has been noted, mobile learning is the interplay between mobile devices and learners, so this interaction leads to improved learners' engagement, motivation, and achievement. Through mobile learning activities, learners connect to the internet and access websites and apps to obtain learning content anywhere and at any time. As opposed to face-to-face learning where the teacher cannot individualize instruction perfectly, m-learning prepares learners to be instructed in a specialized and individualized style (Akkara et al., 2020).

Thus, mobile learning encompasses the use of mobile and handheld devices such as smartphones, laptops, iPads, tablets, etc. as learning platforms due to their core features: flexibility, convenience, and accessibility; mobile devices have become an easy and simple to use integral component to the EFL curriculum (Haerazi et al., 2020). M-learning has taken the next step since it underpins several EFL learning theories including audiolingual method, constructivism, communicative language teaching, and student-centered design. This happens when mobile learning exemplifies two key elements from the communicative language theory: authentic input and relevant content (Walsh, 2019).

Of all mobile devices from the market, smartphones are the less expensive and easiest to connect to the internet. That is why mobile phones are the most important part of mobile education. This is usually because some of the mobile phones' typical features are messaging, video camera, and searching online. Teachers can tailor mobile phone activities to help personalize contents, supply critical thinking skills, and enable communicative language goals. Aside from this, by using smartphones, students can practice basic techniques such as exchanging information, inquiry, and social connection with classmates and people from the school. Students can easily find ideas to support their explanations through readily available MobApps (Haerazi et al., 2020).

By these means, MobApps have profoundly changed the way instructors passed target language in the classroom. With the array of educational apps, learners infer and examine knowledge from different perspectives and learning styles. The way target topics and language objectives were taught has been transformed due to the pedagogic design of learning apps to the point the role of the teacher and student keeps changing; the teacher is

a facilitator that provides tasks, so students learn collaboratively and individually according to their curriculum needs (Ghallab, 2020).

In like manner, MobApps engage and stimulate learners' intellectual curiosity by making lessons more meaningful and interactive. This is because mobile apps show videos, music, websites, and social media, and pupils can interact with them, exposing students to a variety of authentic and native language content. For this reason, MobApps are an excellent vehicle to improve speaking and self-improvement skills due to the fact learners can listen, record, analyze, and contrast their speaking responses and articulation to native speakers' pronunciation. Then, students can come up with new answers and even videotape superior responses. Pupils love the video format because it is prevailing in social media. Further, making videos for a project becomes the approach to engage learners speaking English. Needless to say, students enjoy producing videos and turning them into YouTube videos; using this tendency, teachers can assign experiential language activities with some dedicated MobApps to follow up more speaking language goals (Ghallab, 2020).

Therefore, MobApps have proved to upgrade oral communication skills due to their automatic speech recognition (ASR) technology that allows the detection and translation of the spoken language into text by the mobile apps. EFL learners can use their voices to enter words or phrases into their app interface mirroring authentic native speakers' conversations. This ASR feature can be used in face to face or online classroom settings as a dictation, translation, or a human computer interaction tool being dedicated to pronunciation and fluency areas that require more patience and practice on the side of students. In addition to improving students' speaking skills and pronunciation, language learning activities apps that incorporate ASR technology dispelled anxiety and facilitated spoken communication more in comparison to face to face instruction (Ahn & Lee, 2016). ARS mobile device tasks with learners' activities guide their learning to a better articulation and aural comprehension (Sun et al., 2017).

For example, Eztranslate, a translation MobApp which replicates the way people learn their first language by simply listening and repeating. First, students listen and shadow phrases using the speech recognition and translation technology app. Students who struggle with poor vocabulary have found this app very helpful because this MobApp provides ongoing translations and repetitions. Also, grammar and vocabulary acquisition from the translation activities made students fluent because they were imputing phrases from the app (Nguyen et al., 2018).

2.2.2 Duolingo Learning App

Duolingo is a free online game-style language learning tool and the most popular in the category of Education in Google play. It has become useful for teachers since it helps learners acquire and grasp different world languages for students of different ages and skills. Several studies have statistically proven how students improved their English proficiency after using the app. Since the process to begin is simple and free, this app concentrates on teaching the four main skills, such as reading, listening, speaking, and writing. By being a game and using points, this mobile application aids students to be immersed in the English language and motivates them to constantly use the app. Due to its smart algorithms, the

application adapts lessons to areas students need learning and practicing (Nushi & Eqbali, 2017).

Firstly, students choose the language they want to learn. The app welcomes learners with the challenge “pick a daily goal” that ranges from casual, five minutes, to serious, fifteen or more minutes. Then, the app asks if the learner knows the language and asks the student to sit for a placement test. On the other hand, if the learner says he or she knows the language, the app starts with basics lessons. Duolingo is user-friendly so students tap “start” and go straight to the first lesson. Language exercises are made of translation exercises, matching exercises with words and pictures, pairing exercises where students learn synonyms and phrases, listening exercises where they listen to short phrases and must type them, and speaking exercises where learners have to say the words they hear (Nushi & Eqbali, 2017).

Next, each lesson lasts ten to fifteen minutes with exercises as the ones explained with some variations. Visually, students have a progress bar which grows every time they score a correct answer. Wrong answers do not affect the progress bar. One correction feature of Duolingo is the app repeats the wrong question at the end and keeps showing it until learners answer correctly. Moreover, it allows students to repeat lessons even if they are correct. Then, the app rewards learners with encouraging sounds and pictures when they achieve the daily goal. If learners do not open the app and go with the goal, the apps send them reminders to do so. An interesting feature is that Duolingo allows learners typos and let them pass to the next lesson. The app personalizes the activities using the exercises students failed to program new activities addressing those mistakes. In addition, the application lets learners invite friends and compete with them. When they finish a lesson, the app gives them 10 XPs, and students can see the number of XPs their friends have scored. To increase competition, Duolingo notifies learners when their friends have more XPs, and this way, the app engages learners to keep playing and interacting with language activities (Nushi & Eqbali, 2017).

Interestingly, Duolingo does not offer grammar explanations in their lessons; it just simulates an immersion program by providing students with vocabulary exercises, and learners figure out grammar rules. The philosophy is simple, whenever a learner makes a mistake, the student must work harder until learning the rule on their own. Without hesitation, Duolingo with its gamification characteristics keeps learners engaged and motivated to learn by doing it in a non-conscious way. As another advantage, Duolingo app has students take responsibility for their own learning and persuade them to do self-study (Nushi & Eqbali, 2017).

CHAPTER III: METHODOLOGY

3.1 Research focus

In order to devise effective methods to obtain precise results and guarantee results' accuracy in connection to the general and specific goals, this research has been classified in mobile learning as the independent variable and speaking skills as dependent variables such as pronunciation and fluency, grammar in oral responses, and motivation.

According to (Steeferk, 2023), quantitative research is expressed in numbers and graphs, which is used to test and confirm hypotheses. It also tells us that qualitative research is expressed in words, that is, it is used to understand concepts or experiences that are presented in the research (Steeferk, 2023). For this reason the researcher will use a qualitative research to demonstrate the results in a written way with the help of an applied observation guide, and a quantitative research to express the results obtained numerally through a pre-test, post-test and a survey, with this, it will be possible to determine from the starting point the advances presented by the students through the data collection tools used. That is, the researcher will use both quantitative and qualitative research.

3.2 Research Category

This is methods or qualitative and quantitative research in the category of educational research design. This research seeks to establish the casual relationship between speaking skills and mobile learning. It adopts quantitative research methods as well as qualitative to determine how mobile learning activities makes the experimental group speak correctly and satisfactorily. The quantitative methods used were to collect information by means of a Pre-test and post-test, this based on a rubric of Cambridge related to the level of speaking of the students, this will be able to determine the level of English before and after of the implementation of the Duolingo app. In addition, a survey will be used to measure the students' degree of satisfaction and difficulty with the use of the application and how it provided assistance in acquiring a new one.

3.3 Research Type

This were quasi-experimental research since it establishes through verification of hypotheses and quantitative and qualitative methods, how mobile learning aims to improve students' speaking skills through several sessions in the classroom. This means that, by using the application Duolingo and the realization of the activities provides by this tool, the students will reach an increase pronunciation, fluency, and grammar in the expression, build their oral vocabulary. This is done to achieve the goal of improving speaking skills of elementary students.

3.4 Study Population

The population considered for the study was selected by the disposition given to the researcher because the employers of the institution knew the aptitudes and intentions of the agent investigative, because their pre-professional practices were carried out in the place. One time, the purpose of the research was announced and the respective entry to the educational unit was authorized, the study was developed in fall 2022. The Velasco, Martiniano Guerrero Freire Elementary, at an urban school in Riobamba, Chimborazo. This

school is considered to be an average public school like others in the city. It has the Highland school year similar to American schools. This fifth-grade elementary student group is relatively homogenous. Most of the students are Hispanic and attend to school in site. They have smartphones and tablets at home, and some take them to school. Most of these students belong to medium to low-income families.

3.5 Sample Size

There are thirty-one students divided into 15 male students and 16 female students. The age range is from 8 to 10 years. None of them have learning disabilities and concentration difficulties. It is also to be noted that the experimental group is directly taught by the researcher in order to prevent factors that may change the results of this study. In essence, a sole experimental group was utilized to prove the proposed hypothesis. This implied a comparison between two obtained means.

3.6 Techniques and Data-collection Instruments

The researcher employs pretest and posttest to gather data for pronunciation, fluency, and grammar skills. The pretest and posttest are applied before and after the mobile learning intervention in order to identify students' knowledge and establish relationship between the variables. The pretest and posttest are the same and have activities where students see pictures, read some questions, and have some prompts. This helps students understand what they have to answer for each part of the pretest and posttest. The researcher trains another teacher to be the assessor, so the researcher is the interlocutor, and both evaluated students in pairs. This is done to follow A2 Cambridge speaking test style to evaluate students, this way used this rubric for establish topics the researcher selected for their feedback in Duolingo.

The speaking rubric assesses pronunciation, fluency, grammar, and vocabulary and accompanies the pretest and posttest booklet. The rubric is divided into six bands from 0 to 5 emulating the Cambridge KET rubric. It helps analyzed students' strengths and weaknesses during speaking responses, so the researcher can identify what topics and lessons should be selected and assigned to students from the Duolingo app.

There is an entry observation sheet and exit observation sheet that are applied to the students' answers when using Duolingo app during the remediation phase. These observation sheets that are both the same, help monitor students' speaking skills progress from a wider perspective. It is similar to the rubric and is filled out by the researcher. Besides having the same descriptors as the rubric, this sheet has some descriptors as the final survey. It has items such as "teacher sees enthusiasm in the beginning and during activities", "students are interested in the lesson", and "learners are motivated to do the speaking tasks." This observation sheet has the intention of helping the researcher choose Duolingo activities that were effective in speaking skills and fun to practice and increase motivation.

The purpose of this survey as the last variable of this research is to evaluate the degree of difficulty and satisfaction on the part of the students when using the application of Duolingo throughout the study process, this to determine if the implementation of the digital tool is easy, accessible, fun, fun, complicated and optimal in the acquisition of a new foreign language.

It should be noted that the validity and reliability of the speaking pretest, posttest, observation sheet, and rubric are confirmed due to the fact that all of them are based on the international proficiency A2 Cambridge KET speaking test and topics found in it. This information is obtained from the Cambridge A2 Key preparation website which are worldwide accepted to assess learners at this level. However, this validity and reliability criteria is adapted to this specific study and Ecuadorian students' reality.

To prepare the remediation lessons and mobile learning activities and the way all activities would be done, I chose Krashen's language acquisition theory outlined in his Natural Approach to develop the way English would be acquired during classroom activities and Duolingo lessons. From first understanding comprehensible information, listening, and checking information, and then interacting with communicative activities, students were able to learn and speak in an intelligible and fluent manner (Krashen & Terrell, 1983).

In this regard, I employed the Krashen's theory because language, despite being learned in a natural context, is a repetitive process in which speakers consolidate diction by making hypothesis in the language of other speakers (Carrasquillo & Rodrigues). In this sense, Krashen's theory is the most pertinent one for explaining the ontological reality of my student's language (Krashen & Terrell, 1983).

Throughout the remediation phase, students were taught how to carry out speaking activities using Duolingo app, in the level beginner equivalent to Cambridge A2. They reviewed Cambridge A2 proficiency test topics such as personal information, family, friends, hobbies, daily activities, holidays, and neighborhood places through an array of listening and speaking activities. Then, students practiced needed target vocabulary and tackled speaking tasks such as practicing target vocabulary for the topics mentioned by repeating sentences and then recording responses in the Duolingo app.

To protect participants' identity and safety, Belmont principles are applied during all the progress of this research in accordance with the Ecuadorian communication law. So potential harm of students will be minimized. That is to say, students' faces will be covered and consent forms to be participants of this study are sent home with help of the regular classroom teacher.

3.7 Data Analysis and Interpretation Techniques

Firstly, to validate the pretest, posttest, and survey, the researcher used Cronbach's Alpha which measures internal consistency. That is to say, how the test items are reliable and if they measure the same characteristics, and how the response values for each participant reflect the same consistency. Secondly, to validate the normality of the data of 31 participants, the researcher used the Shapiro-Wilk normality coefficient test and The Kolmogorov-Smirnov test. So, this data involved in this research is verified and has had a normal distribution. To validate if the positive hypothesis is acceptable, the Wilcoxon test is used to verify both hypotheses and show if there is or is not a significant difference between the variables of the hypotheses in this research. The Wilcoxon test compares two sets that come from the same participants so the researcher can investigate if there is a change in the two hypotheses and see which one is normal. It should be noted that the instruments used during the development of this research were validated through expert criteria.

CHAPTER IV: RESULTS AND DISCUSSION

4.1 Test

4.1.1 Pretest

4.1.1.1 Instrument Validation

This is the Cronbach's Alpha Interpretation Index for the pretest.

Table 1

Cronbach's Alpha Interpretation Index

Interval to which the Cronbach's alpha coefficient belongs	Reliability assessment of the analyzed items
[0; 0.5]	Unacceptable
[0.5; 0.6]	Poor
[0.6; 0.7]	Weak
[0.7; 0.8]	Acceptable
[0.8; 0.9]	Good
[0.9; 1]	Excellent

Note: Cronbach Alpha performance index. (By: Jonathan Alejandro Pazmiño Carrera).

In order to carry out the sample of the present research, an instrument (pretest) was designed in the first instance, which is structured in 5 questions that are presented in Table 2, below:

Table 2

Item statistics

Items	Media	Deviation	N
Gender	1,516	,5080	31
Language Competence	5,548	1,6091	31
Pronunciation	4,839	1,6950	31
Fluency	4,968	1,8526	31
Oral Communication	4,581	1,8032	31
Total	4,984	1,6046	31

Note: Data obtained with the SPSS program. (By: Jonathan Alejandro Pazmiño Carrera).

The results for the calculation of Cronbach's alpha coefficient for the first instrument are detailed in Table 3 below:

Table 3*Total element statistics*

Items	Average of scale if the element has been suppressed	Scale variance if the element has been deleted	Total correlation of corrected elements	Cronbach's alpha if the item has been deleted
Gender	24,919	64,368	,072	,964
Language Competence	20,887	43,662	,892	,895
Pronunciation	21,597	42,974	,871	,898
Fluency	21,468	40,449	,905	,893
Oral Communication	Average of scale if the element has been suppressed	42,453	,830	,905
Total	24,919	41,923	,997	,880

Note: Data obtained with the SPSS program. (By: Jonathan Alejandro Pazmiño Carrera).

Table 4*Scale statistics*

Media	Variance	Deviation	Element numbers
26,435	65,212	8,0754	6

Note: Data obtained with the SPSS program. (By: Jonathan Alejandro Pazmiño Carrera).

Table 5*Reliability statistics*

Cronbach's Alpha	Element numbers
,924	6

Note: Final value of the reliability of the items analyzed. (By: Jonathan Alejandro Pazmiño Carrera).

The test of validity of this instrument was carried out by means of Cronbach's alfa, obtaining the results of the reliability coefficient obtained $AC = ,924$ as shown in table 5. Therefore, the instrument meets the parameters of reliability according to the index of interpretation of Cronbach's alpha; the instrument has assessment of the reliability of the items analyzed; it is excellent, so they have internal consistency of scale of each item.

4.1.1.2 Data Normality test

Table 6*Data Normality test*

Shapiro - Wilk	Kolmogorov – Smirnov
n<=50	n>50

Data Normality test						
Items	Kolmogórov-Smirnov			Shapiro-Wilk		
	Statistical	Number	Significance	Statistical	Number	Significance
Gender	,346	31	,000	,638	31	,000
Language Competence	,288	31	,000	,856	31	,001
Pronunciation	,269	31	,000	,857	31	,001
Fluency	,227	31	,000	,882	31	,003
Oral Communication	,239	31	,000	,877	31	,002

Note: Data obtained with Shapiro-Wilk and Kolmogorov-Smirnov normality test. (**By:** Jonathan Alejandro Pazmiño Carrera).

To determine the normality of the data of 31 subjects, the Shapiro-Wilk normality coefficient was applied. In this sense, the results allow us to determine that the data are abnormal or asymmetric, which means that we will use non-parametric statistics to compare the data. The results are detailed in Table 7 below:

Table 7

Shapiro-Wilk test

Items	Statistical	Number	p-value
Gender	,638	31	,000
Language Competence	,856	31	,001
Pronunciation	,857	31	,001
Fluency	,882	31	,003
Oral Communication	,877	31	,002

Note: Data obtained with the Shapiro-Wilk test. (**By:** Jonathan Alejandro Pazmiño Carrera).

Decision and conclusion

As $p\text{-value} = <0.05$ then we reject the null hypothesis and accept the alternative hypothesis. For instance, the data do not have a normal distribution, therefore, we will apply non-parametric statistics.

4.1.1.3 Descriptive Statistics

The results detailed in Table 8 show the measures of central tendency such as media, median, standard deviation, and error, where the items valued were the following: Sex, Language Competence, Pronunciation, Fluency and Oral Communication.

Table 8*Descriptive Statistics*

Variable	Media	Median	Standard Deviation	Error
Gender	1,52	2,00	.508	,091
Language Competence	5,55	6,00	1,60	,289
Pronunciation	4,84	6,00	1,69	,304
Fluency	4,97	6,00	1,85	,333
Oral Communication	4,58	4,00	1,80	,324

Note: Description of statistical data. (By: Jonathan Alejandro Pazmiño Carrera.)

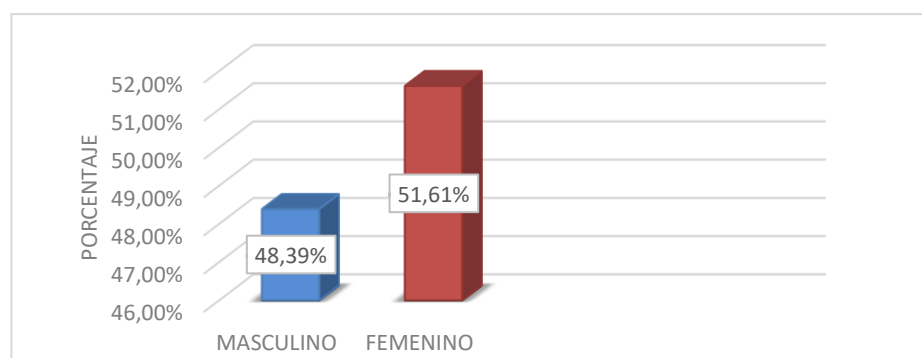
4.1.1.4 Results of the application

The results obtained from the pretest, applied to 31 subjects that make up the study population, are presented below. In order to carry out the analysis in a more objective way, a database was developed in Cronbach's Alpha; where all the information obtained was emptied and later analyzed by means of tables and graphs.

Table 9*Population Gender*

Categories	Frequencies	Percentage	Percentage valid	Percentage accumulated
Masculine	15	48,4	48,4	48,4
Feminine	16	51,6	51,6	100,0
Total	31	100,0	100,0	

Note: Data obtained with the SPSS program. (By: Jonathan Alejandro Pazmiño Carrera).

Figure 1*Population Distribution by Gender*

Note: Percentages of population distribution by gender are indicated. (By: Jonathan Alejandro Pazmiño).

Demographic data were collected from the respondents, among which the gender of the population was asked, the sample size was 31 subjects of which 15 are male and 16 are female. Among the population surveyed it was found that 51.6% corresponded to women and 48.3% were men.

Table 10

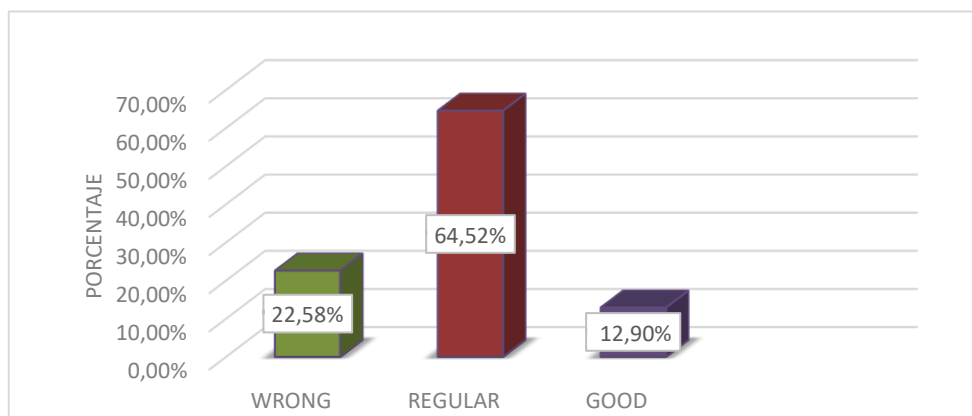
Assessment of pronunciation, fluency and grammatical skills

Categories	Frequencies	Percentage	Percentage valid	Percentage accumulated
Wrong	7	22,6	22,6	22,6
Regular	20	64,5	64,5	87,1
Good	4	12,9	12,9	100,0
Total	31	100,0	100,0	

Note: Data obtained with the SPSS program. (By: Jonathan Alejandro Pazmiño Carrera).

Figure 2

Distribution of the population according to English pronunciation, fluency and grammatical skills.



Note: The percentages of population distribution are indicated according to english pronunciation fluency and gramatical skills. (By: Jonathan Alejandro Pazmiño Carrera).

The second section consisted of four questions focused on obtaining information about knowledge of pronunciation, fluency, and grammatical skills. The results show that 64.52% of the population corresponds to people who present a regular knowledge; 22.58% of the population has no knowledge of pronunciation, fluency, and grammatical skills and only 12.9% of the respondents corresponds to subjects who present a good knowledge of pronunciation, fluency, and grammatical skills.

Table 11

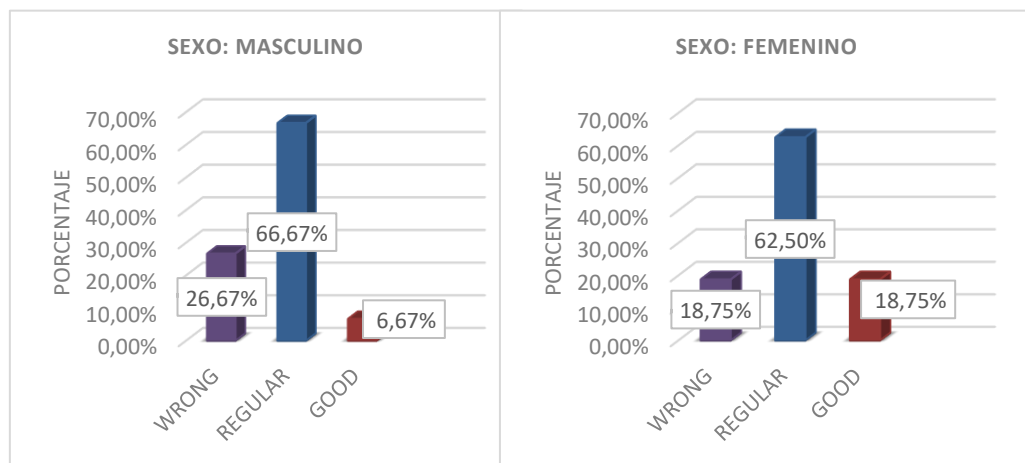
Distribution of assessment results according to gender

Gender		Frequency	Percentage	Percentage valid	Percentage accumulated
Masculine	Wrong	4	26,7	26,7	26,7
	Regular	10	66,7	66,7	93,3
	Good	1	6,7	6,7	100,0
	Total	15	100,0	100,0	
Feminine	Wrong	3	18,8	18,8	18,8
	Regular	10	62,5	62,5	81,3
	Good	3	18,8	18,8	100,0
	Total	16	100,0	100,0	

Note: Data obtained with the SPSS program. (By: Jonathan Alejandro Pazmiño Carrera).

Figure 3

Distribution of assessment results according to gender



Note: Percentages of gender distribution of evaluation results are indicated. (By: Jonathan Alejandro Pazmiño Carrera).

The third section of the analysis allows us to determine the evaluation through the segmentation of the data according to gender; where it was observed that 26.7% of the male population has no knowledge of English pronunciation, fluency and grammatical skills, while 18.8% corresponds to the female gender. 66.7% of the male population has a fair knowledge, while 62.5% of the female population has a fair understanding of English. The 6.7% of the male population, which corresponds to only one person, has a good knowledge of English pronunciation, fluency, and grammatical skills; while 18.8% of the female population has good pronunciation, fluency, and grammatical skills.

4.1.2 Posttest

4.1.2.1 Instrument Validation

In order to carry out the sample of the present research, an instrument (posttest) was designed in second instance, which is structured in 5 questions that are presented in Table 12, below:

Table 12

Item Statistics

Items	Media	Deviation	Number
Language Competence	6,774	1,2304	31
Pronunciation	6,581	1,3850	31
Fluency	6,323	1,4694	31
Oral Communication	6,839	1,4398	31

Note: Data obtained with the SPSS program. (By: Jonathan Alejandro Pazmiño Carrera).

The results for the calculation of Cronbach's alpha coefficient for the second instrument, which are detailed in Table 13 below:

Table 13

Total Element Statistics

Items	Scale average if the element has been deleted	Scale variance if the element has been deleted	Corrected total element correlation	Cronbach's alpha if the item has been deleted
Gender	33,145	32,487	-,004	,905
Language Competence	27,887	22,162	,781	,815
Pronunciation	28,081	21,035	,769	,816
Fluency	28,339	21,723	,645	,844
Oral Communication	27,823	21,676	,669	,838

Note: Data obtained with the SPSS program. (By: Jonathan Alejandro Pazmiño Carrera).

Table 14

Summary Element Statistics

	Media	Minimum	Maximum	Range	Minimum/Maximum	Variance	Element number
Elements media	6,629	6,323	6,839	,516	1,082	,040	5

Note: Data obtained with the SPSS program. (By: Jonathan Alejandro Pazmiño Carrera).

Table 15*Reliability statistics*

Cronbach's Alpha	Cronbach's alpha based on standardized items	Element number
,905	,913	5

Note: Reliability value based on standardized items. (**By:** Jonathan Alejandro Pazmiño Carrera).

The test of validity of the instrument was carried out by Cronbach's alba, obtaining the results of the reliability coefficient $AC = .905$. Therefore, the instrument meets the parameters of reliability according to the index of interpretation of Cronbach's alpha as shown in tables 13 and 15; the instrument has an assessment of the reliability of the items analyzed that is excellent. That is to say, they have internal consistency of scale of each item.

4.1.2.2 Data Normality Test

To determine the normality of the data of 31 subjects, the Shapiro-Wilk normality coefficient was applied. In this sense, the results allow us to determine that the data are abnormal or asymmetric, which means that we will use non-parametric statistics to compare the data. The results are detailed in Table 16 and 17 below.

Table 16*Normality Tests*

Items	Data Normality test					
	Kolmogórov-Smirnov			Shapiro-Wilk		
	Statistical	Number	Significance	Statistical	Number	Significance
Gender	,346	31	,000	,638	31	,000
Language Competence	,292	31	,000	,750	31	,000
Pronunciation	,267	31	,000	,782	31	,000
Fluency	,232	31	,000	,803	31	,000
Oral Communication	,301	31	,000	,833	31	,000

Note: Data obtained with Shapiro-Wilk and Kolmogorov-Smirnov normality test. (**By:** Jonathan Alejandro Pazmiño Carrera).

Table 17*Shapiro-Wilk Normality Test*

Items	Statistical	Number	p - value
Gender	,638	31	,000
Language Competence	,750	31	,000
Pronunciation	,782	31	,000
Fluency	,803	31	,000
Oral Communication	,833	31	,000

Note: Data obtained with the Shapiro-Wilk test. (**By:** Jonathan Alejandro Pazmiño Carrera).

Decision and conclusion

As $p < 0.05$ then we reject the null hypothesis and accept the alternative hypothesis, for instance, the data do not have a normal distribution, therefore, we will apply non-parametric statistics.

4.1.2.3 Descriptive Statistics

Table 18 describes the results of the descriptive statistics in which we can identify the media, median, standard deviation, and error. These results allow us to describe the sample through the media that represents the center of the data distribution. Here, we can observe that in the variables Language Competence, Pronunciation, Fluency and Oral Communication, there is an asymmetric distribution. Therefore, the values of the standard deviation allow us to determine that there is a greater dispersion of the data.

Table 18

Descriptive Statistics

Variable	Media	Median	Standard Deviation	Error
Gender	1,52	2,00	,508	,091
Language Competence	6,77	6,00	1,23	,221
Pronunciation	6,58	6,00	1,38	,249
Fluency	6,32	6,00	1,46	,264
Oral Communication	6,84	6,00	1,44	,259

Note: Description of statistical data. (By: Jonathan Alejandro Pazmiño Carrera.)

4.1.2.4 Results of the application

Table 19

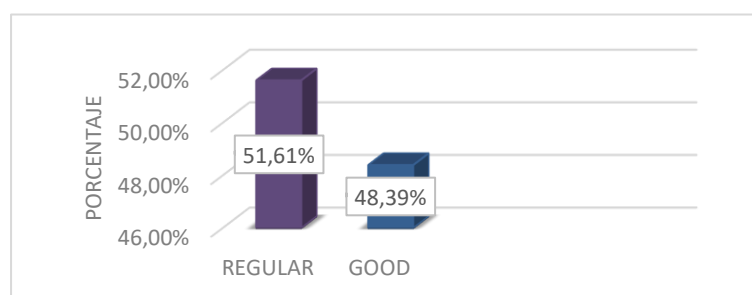
Post-procedure evaluation

Categories	Frequency	Percentage	Percentage valid	Percentage accumulated
Regular	16	51,6	51,6	51,6
Good	15	48,4	48,4	100,0
Total	31	100,0	100,0	

Note: Data obtained with the SPSS program. (By: Jonathan Alejandro Pazmiño Carrera.)

Figure 4

Distribution of the results of the post-test instrument



Note: The percentages of distribution of the results of the post-test instrument are indicated. (By: Jonathan Alejandro Pazmiño Carrera.)

After the intervention was carried out in order to improve the skills and competencies of pronunciation, fluency and grammatical skills. The results show that there is an improvement, since 51.6% of the population corresponds to a regular knowledge, while 48.3% presents a good knowledge for the development of English essential skills.

Table 20

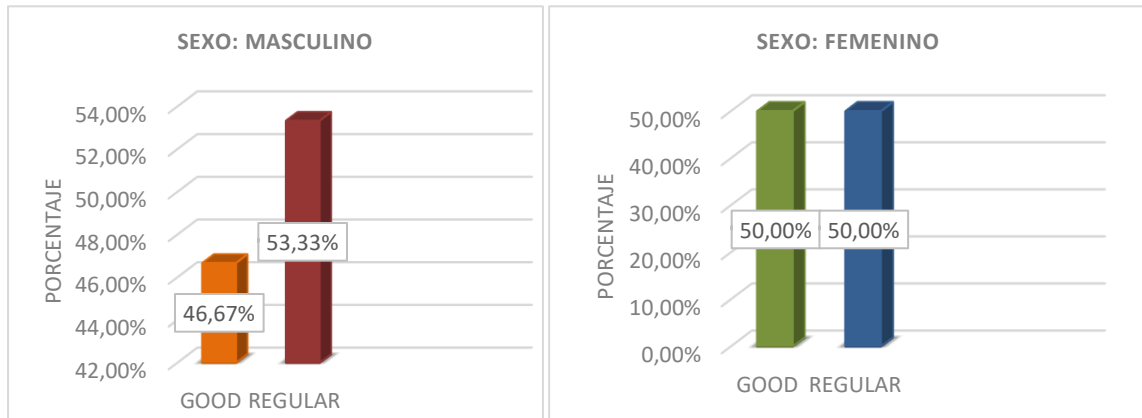
Assessment of the test according to gender

Gender		Frequency	Percentage	Percentage valid	Percentage accumulated
Masculine	Regular	8	53,3	53,3	53,3
	Good	7	46,7	46,7	100,0
	Total	15	100,0	100,0	
Feminine	Regular	8	50,0	50,0	50,0
	Good	8	50,0	50,0	100,0
	Total	16	100,0	100,0	

Note: Data obtained with the SPSS program. (By: Jonathan Alejandro Pazmiño Carrera).

Figure 5

Distribution of posttest results according to gender



Note: The percentages of distribution of the results of the post-test. (By: Jonathan Alejandro Pazmiño).

In this section of the analysis, it is possible to determine the evaluation through the segmentation of the data according to gender. The 46.67% of the male population presents a good knowledge for the development of good English pronunciation, fluency and grammatical skills; while the female population presents 50.0% of improvement. The 53.33% of the male population has a regular level for pronunciation, fluency, and grammatical skills in English and 50% of the female population has a regular evaluation.

4.2 Survey

4.2.1 Instrument Validation

Table 21*Case Processing Summary*

		Number	%
Cases	Valid	31	100,0
	Excluded	0	,0
	Total	31	100,0

a. Elimination by list is based on all variables in the procedure.

Note: Summary of the survey case process. (By: Jonathan Alejandro Pazmiño Carrera.)

In order to carry out the sample of the present investigation, a survey was designed in third instance. It is structured in 10 questions; the first 5 items have a Likert scale of five categories which are the following very difficult, difficult, neutral, easy and very difficult. These categories have a maximum score of 25 points. The last five questions present a five-level Likert scale with the following categories: not satisfied, not very satisfied, moderately satisfied, very satisfied, extremely satisfied.

Table 22*Total Element Statistics*

Items	Scale average if the element has been deleted	Scale variance if the element has been suppressed	Total correlation of corrected elements	Cronbach's alpha if the item has been deleted
1. ¿Encuentra fácil el aprender inglés través de la aplicación Duolingo?	33,81	11,828	,536	,844
2. ¿La metodología y actividades impartidas por Duolingo fueron sencillas de desarrollar?	33,94	12,796	,560	,840
3. ¿Usted considera que mediante la aplicación de Duolingo se logre adquirir una competencia optima del idioma inglés?	33,90	12,290	,485	,848
4. ¿Considera que el tiempo empleado en Duolingo dificulta la accesibilidad a otra actividad académica?	34,32	15,026	,000	,864
5. ¿Encontró a la aplicación de Duolingo una herramienta cómoda de manejar?	32,84	11,273	,664	,830
6. ¿Se encuentra satisfecho con la implementación de Duolingo como recurso didáctico y pedagógico para el aprendizaje del idioma inglés?	33,42	10,518	,884	,805

7. ¿Estimula al estudiante en la participación e interacción de ideas con una mayor capacidad en el idioma inglés?	33,58	11,785	,736	,824
8. ¿Los conocimientos, las destrezas y las aptitudes propuestas en la aplicación de Duolingo desarrollan adecuadamente la competencia del idioma inglés?	33,35	13,837	,219	,866
9. ¿Con la utilización de Duolingo los inconvenientes surgidos durante el desarrollo de la enseñanza del inglés se resuelven con mayor eficiencia?	33,45	12,456	,568	,839
10. ¿Piensa usted que Duolingo es una aplicación que cumple con los parámetros para el desarrollo de las destrezas principales del inglés?	33,29	11,880	,755	,824

Note: Data obtained with the SPSS program. (By: Jonathan Alejandro Pazmiño Carrera).

The results for the calculation of Cronbach's Alpha coefficient for the survey are shown in tables 23, 24, and 25:

Table 23

Item Statistics

Items	Media	Deviation	Number
1. ¿Encuentra fácil el aprender inglés través de la aplicación Duolingo?	3,52	,724	31
2. ¿La metodología y actividades impartidas por Duolingo fueron sencillas de desarrollar?	3,39	,495	31
3. ¿Usted considera que mediante la aplicación de Duolingo se logre adquirir una competencia optima del idioma inglés?	3,42	,672	31
4. ¿Considera que el tiempo empleado en Duolingo dificulta la accesibilidad a otra actividad académica?	3,00	,000	31
5. ¿Encontró a la aplicación de Duolingo una herramienta cómoda de manejar?	4,48	,724	31
6. ¿Se encuentra satisfecho con la implementación de Duolingo como recurso didáctico y pedagógico para el aprendizaje del idioma inglés?	3,90	,700	31
7. ¿Estimula al estudiante en la participación e interacción de ideas con una mayor capacidad en el idioma inglés?	3,74	,575	31

8. ¿Los conocimientos, las destrezas y las aptitudes propuestas en la aplicación de Duolingo desarrollan adecuadamente la competencia del idioma inglés?	3,97	,547	31
9. ¿Con la utilización de Duolingo los inconvenientes surgidos durante el desarrollo de la enseñanza del inglés se resuelven con mayor eficiencia?	3,87	,562	31
10. ¿Piensa usted que Duolingo es una aplicación que cumple con los parámetros para el desarrollo de las destrezas principales del inglés?	4,03	,547	31

Note: Data obtained with the SPSS program. (**By:** Jonathan Alejandro Pazmiño Carrera).

Table 24

Scale Statistics

Media	Variance	Deviation	Element number
37,32	15,026	3,876	10

Note Data obtained with the SPSS program. (**By:** Jonathan Alejandro Pazmiño Carrera).

Table 25

Reliability Statistics

Cronbach's Alpha	Elements Number
,854	10

Note: Statistical value of reliability in Cronbach Alpha. (**By:** Jonathan Alejandro Pazmiño Carrera).

The test of validity of the instrument was carried out through Cronbach's alpha, obtaining the results of the reliability coefficient $AC = .854$. Therefore, the instrument meets the parameters of reliability according to the index of interpretation of Cronbach's Alpha; the instrument has assessment of the reliability of the items analyzed as good, so they have internal consistency of scale of each item.

4.2.2 Data Normality Test

To determine the normality of the data of 31 subjects, the Shapiro-Wilk normality coefficient was applied. In this sense, the results allow us to determine that the data are abnormal or asymmetric, which means that we will use non-parametric statistics to compare the data.

Table 26

Normality Test

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistical	Number	Significance	Statistical	Number	Significance
1. ¿Encuentra fácil el aprender inglés través de la aplicación Duolingo?	,393	31	,000	,672	31	,000

2. ¿La metodología y actividades impartidas por Duolingo fueron sencillas de desarrollar?	,396	31	,000	,619	31	,000
3. ¿Usted considera que mediante la aplicación de Duolingo se logre adquirir una competencia optima del idioma inglés?	,322	31	,000	,747	31	,000
4. ¿Considera que el tiempo empleado en Duolingo dificulta la accesibilidad a otra actividad académica?	,335	31	,000	,744.	31	,000
5. ¿Encontró a la aplicación de Duolingo una herramienta cómoda de manejar?	,375	31	,000	,696	31	,000
6. ¿Se encuentra satisfecho con la implementación de Duolingo como recurso didáctico y pedagógico para el aprendizaje del idioma inglés?	,265	31	,000	,805	31	,000
7. ¿Estimula al estudiante en la participación e interacción de ideas con una mayor capacidad en el idioma inglés?	,350	31	,000	,740	31	,000
8. ¿Los conocimientos, las destrezas y las aptitudes propuestas en la aplicación de Duolingo desarrollan adecuadamente la competencia del idioma inglés?	,362	31	,000	,721	31	,000
9. ¿Con la utilización de Duolingo los inconvenientes surgidos durante el desarrollo de la enseñanza del inglés se resuelven con mayor eficiencia?	,365	31	,000	,733	31	,000
10. ¿Piensa usted que Duolingo es una aplicación que cumple con los parámetros para el desarrollo de las destrezas principales del inglés?	,362	31	,000	,721	31	,000

Note: Normality test of the data obtained. (By: Jonathan Alejandro Pazmiño Carrera.)

Table 27*Shapiro-Wilk Test results*

Statistics	Number	Significance
,672	31	,000
,619	31	,000
,747	31	,000
,744.	31	,000
,696	31	,000
,805	31	,000
,740	31	,000
,721	31	,000
,733	31	,000
,721	31	,000

Note: Data obtained with the Shapiro-Wilk test. (By: Jonathan Alejandro Pazmiño Carrera).

Decision and conclusion

As $p < 0.05$ then we reject the null hypothesis and accept the alternative hypothesis. For instance, the data do not have a normal distribution, therefore, we will apply non-parametric statistics.

4.2.3 Descriptive Statistics

Table 28*Descriptive Statistics Table*

Items	Media	Median	Standard Deviation	Error
Item 1	3,52	4,00	,724	,130
Item 2	3,39	3,00	,495	,089
Item 3	3,42	4,00	,672	,121
Item 4	3,00	3,00	,000	,000
Item 5	4,48	5,00	,724	,130
Item 6	3,90	4,00	,700	,126
Item 7	3,74	4,00	,575	,103
Item 8	3,97	4,00	,547	,098
Item 9	3,87	4,00	,562	,101
Item 10	4,03	4,00	,547	,000

Note: Description of the statistical table. (By: Jonathan Alejandro Pazmiño Carrera.)

4.2.4 Results of the application

Table 29

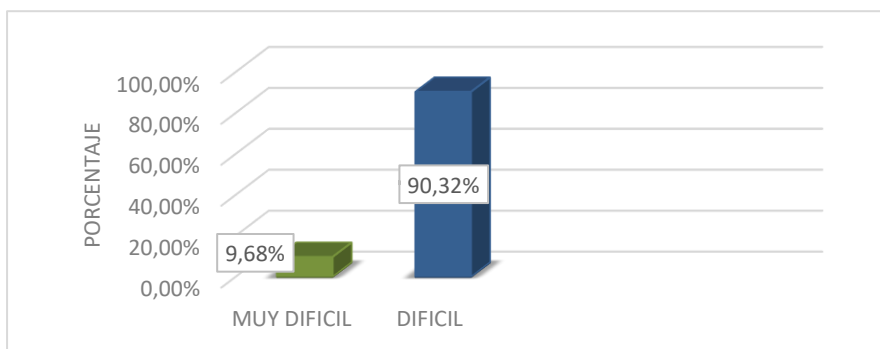
Distribution of the population according to the degree of difficulty

Category	Frequency	Percentage	Percentage valid	Percentage accumulated
Muy Difícil	3	9,7	9,7	9,7
Difícil	28	90,3	90,3	100,0
Total	31	100,0	100,0	

Note: Data obtained with the SPSS program. (By: Jonathan Alejandro Pazmiño Carrera).

Figure 6

Assessment of the Degree of Difficulty of Using Duolingo for Learning English



Note: The percentages are indicated in the evaluation of the degree of difficulty with the use of Duolingo to learn English. (By: Jonathan Alejandro Pazmiño Carrera).

90.3% of the population mentioned that the use of the Duolingo app for learning English presents a degree of difficulty, while 9.7% considered it to be very difficult. These results show that for most of the respondents mentioned that the Duolingo application presents difficulties in learning English grammar skills, reading, listening and pronunciation.

Table 30

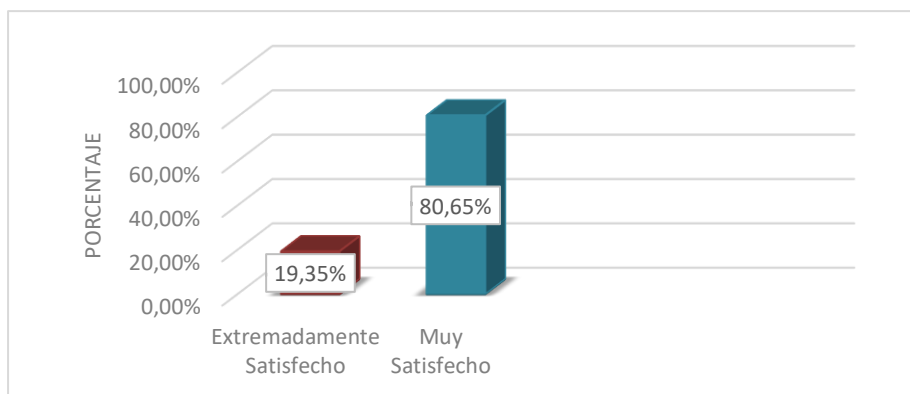
Distribution of the population according to the degree of satisfaction with the use of the Duolingo application.

Category	Frequency	Percentage	Percentage valid	Percentage accumulated
Very Satisfied	25	80,6	80,6	80,6
Extremely Satisfied	6	19,4	19,4	100,0
Total	31	100,0	100,0	

Note: Data obtained with the SPSS program. (By: Jonathan Alejandro Pazmiño Carrera).

Figure 7

Assessment of the degree of satisfaction with the use of the Duolingo app for learning English.



Note: The percentages of indicated in the evaluation of the degree of satisfaction with the use of Duolingo application for English learning. (**By:** Jonathan Alejandro Pazmiño Carrera).

80.6% of the population mentioned that they are very satisfied with the use of the Duolingo application for learning English, while 19.4% mentioned that they are extremely satisfied. The results show that most people are satisfied with the Duolingo application for learning English grammar, reading, listening and pronunciation skills.

4.3 Observation Sheets

4.3.1 Results of the Entry Observation Sheet

At the time of collecting information through the observation sheet, which was done in person with the fifth-grade students of elementary education of Martiniano Guerrero Freire of the city of Riobamba in province of Chimborazo within the school year 2022-2023, before the use of the Duolingo application.

1. Does the student perceive himself enthusiastic and motivated to participate in Speaking activities?

In carrying out the speaking activities, the students showed disinterest and discouragement in the participation of these tasks.; they showed little knowledge and limited practice in this complex skill which could be interpreted as insecurity when performing in the English language. Observing in most of the study group insecurity when functioning in the English language.

2. Does the student express himself and transmit ideas in a clear and concrete way about addressed topics?

By not having a defined lexical ability that was found in the activities of oral expression participation, it can be deduced that students cannot fully express their ideas based on the topic addressed in the target and test language.

3. Can the student respond correctly to the interactions produced to begin a conversation?

As it has been evidenced, students have a reduced vocabulary and restricted practice of speaking as a skill. In turn, this limits their comprehension in the emerging interactions to hold an adequate dialogue, but there were students who possessed a certain vocabulary which gave them access to a basic conversation with little understanding and without sentence structure.

4. Can the student read and correctly pronounce their statements and writings?

Referring to this statement, it is known through observation that students do not maintain good reading habits or frequent practice speaking skills. For this reason, this results in an incorrect pronunciation when reading or conveying spoken ideas, including those students who pronounced words with or without native accent alternately.

5. Does the learner receive timely feedback and take appropriate advantage in the performance of their oral ability?

There are conflicts regarding the methodology used by the classroom teacher and the lack of interest of the students. This was reflected in the lack of use of tools, didactic materials, and timely feedback to encourage students' interest in learning English and, consequently, in their oral ability.

4.3.2 Results of the Exit Observation Sheet

At the time of obtaining information through this observation sheet, which was done in person with fifth grade students of Martiniano Guerrero Freire Elementary of the city of Riobamba in province of Chimborazo within the school year 2022-2023, after the use of the Duolingo application.

1. Does the student perceive himself enthusiastic and motivated to participate in speaking activities?

As the main problem was presented by the deficiency of an adequate and constant practice of oral skills, the Duolingo application and all remediation lessons were implemented. This was done during the development of the research the same one that lasted two months, thus obtaining a greater progress of linguistic skills in the English language. Students were motivated both in the classroom and at home and participated in speaking activities with greater performance.

2. Does the student express himself and transmit ideas in a clear and concrete way about addressed topics?

By managing various sections of the Duolingo application, students were able to practice in various topics without the need for extra explanation. This language support positively encouraged student participation in the classroom.

3. Can the student respond correctly to the interactions produced to begin a conversation?

Gradually, students' vocabulary increased significantly, allowing them to recognize high frequency words and sentences. When having a conversation with students, the researcher noticed how they responded intuitively and correctly, and in a timely manner. This was particularly true, especially in the flow and speed at which students spoke due to the relevant and constant input the Duolingo app provided.

4. Can the student read and correctly pronounce their statements and writings?

There was a positive increase in the proper pronunciation in students' responses. This was achieved by using language techniques in the application of Duolingo. Some students could not answer spoken questions correctly few times; this was because they could not pronounce properly certain sentences that have a different pronunciation when those words were separated. Those students understood why they are not able to pronounce those sentences since they needed to practice more.

5. Does the learner receive timely feedback and take appropriate advantage in the performance of their oral ability?

With the implementation of the Duolingo application in the shared methodology in the classroom, the knowledge acquired by students would be permanent. Thanks to the direct feedback of Duolingo tool, the mistakes were rectified and corrected, demonstrating this app is excellent training for oral competence.

4.4 Hypothesis Validation

(Hi) The use of the Duolingo application, as mobile learning, improves the English language speaking skills from Martiniano Guerrero Freire fifth grade students.

(Ho) The use of the Duolingo application, as mobile learning, does not improve the English language speaking skills from Martiniano Guerrero Freire fifth grade students.

$\alpha \leq 0.5$ (talks about Cronbach's alpha) A viable investigation needs > 0.7 .

(Hi) media 1 is $<$ to media 2

(Ho) media 1 is $=$ to media 2

4.4.1 Hypothesis Testing

Table 31

Hypothesis Testing

Test Statistics	
	With Strategy – Without Strategy
Z	-3,873b
Asymptotic significance (bilateral)	,000

a. Wilcoxon signed-rank test
b. It is based on negative ranges.

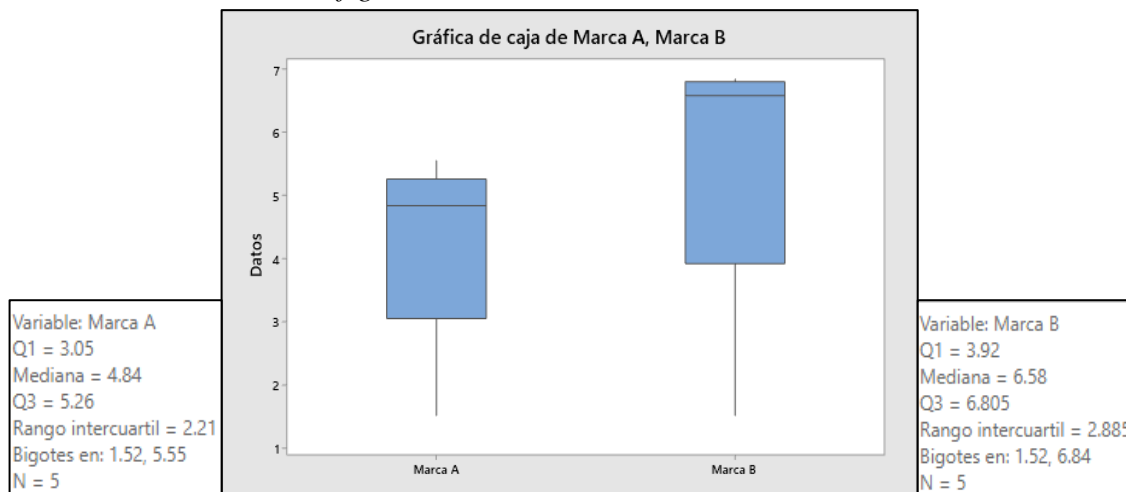
Note: Test to validate which of the hypotheses is the optimal. (**By:** Jonathan Alejandro Pazmiño Carrera).

The Wilcoxon test (non-parametric) was applied for related samples, with a confidence level of 0.05 (95%), and since there is a p-value of 0.001, the null hypothesis is

rejected and the alternative hypothesis is accepted. Therefore, it can be inferred that if the Duolingo application is used as mobile learning, it improves the English language speaking skills from Martiniano Guerrero Freire School fifth grade students.

Figure 8

Mark A, Mark B Box figure



Note: Drawer diagram demonstrating the results. (By: Jonathan Alejandro Pazmiño Carrera.)

Looking at the box plots in Figure 1, a horizontal line inside the box marks the exact value of the median, obtaining the following results: the values of the first and third quartile/percentile are 3.05 and 5.26 respectively for mark or called statistical analysis of database 1, and the values of the first and third quartile are 3.92 and 5.805 respectively for mark b of the statistical analysis of the post-test database 2. With the presentation of this study, it is established that the variables Language Competence, Pronunciation, Fluency and Oral Communication have an asymmetric distribution. We observe that the statistical process details some medians which of the brand A gives a total median of 4.84 and the brand B gives a total median of 6.58 which means that there is difference between each median.

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

Based on the above results, it is unquestionable that Duolingo helped the fifth grade students of the Martiniano Guerrero Freire Educational Unit to achieve adequate speech skills, both in good pronunciation and fluency of the language. In addition, the learning curve of EFL was shortened, which is reflected in the pre-test, post-test, survey and applied observation guide, where the students' vision of learning English changed considerably.

From the pre-test data and in conjunction with the class observation sheets, it is indicated that the English level of our study population was not optimal and student participation was limited. You dare to implement Duolingo and its ASR function that provides EFL students with immediate and helpful feedback that allowed students to be more confident, enthusiastic and motivated to continue the learning process. In addition, that the application provides understandable, rich and engaging information in interaction. As demonstrated in the post-test, after the students worked with Duolingo, this group understood better, corrected the pronunciation and practiced enough to make their oral responses in the post-test more automatic and fluid in an appropriate environment. This was also confirmed by student responses to the survey.

The findings of the current study confirm that EFL instructors must make good use of mobile devices that help learners acquire English and tailor to students' learning styles and academic needs (Sun et al., 2017). By using mobile learning apps, especially Duolingo as an educational tool, students developed correct pronunciation and fluency skills, due to the fact this app supplied student-centered, understandable, and continuous knowledge in its spoken activities (Abunowara, 2016; Haerazi et al., 2020). By making smartphones powerful and user-friendly devices to easy access target and authentic language and at the same time, vehicles for students' spoken production, teachers considerably enhance EFL students' speaking skills (Alzatma, 2020).

In this action plan research, because students' easy interaction with Duolingo app made them acquire the English language through constant repetition in various tasks, students went from learning vocabulary by listening, then did some active listening activities, such as pointing, tapping, and dragging. Finally, students practiced speaking topics by repeating and answering questions at their own pace and time in the app. That is to say, the comprehensible input and meaningful interaction from the app and later with the teacher during remediation lessons, helped learners memorize words easily, comfortably speak complete sentences without generating negative feelings such as anxiety.

5.2 Recommendations

Since this study only focuses on speaking skills, the author recommends a future study of other skills such as reading and writing and the use of other MobApps that can help students increase language growth in those skills. In addition, the researcher advocates the use of Duolingo for the EFL elementary school program and in general education, it helps students to learn the skills spoken in English with international standards of linguistic competence aligned with the Common European Framework of Reference for Languages.

Owing to the fact that students enjoy learning English with MobApps, and smartphones are ubiquitous and easy to buy, and since EFL elementary students find them

attractive and practical to learn more confidently at their own pace, future researchers must explore how EFL teachers from all levels and ages are being trained in learning MobApps during teacher training programs. This, in turn, will create an impact if mobile learning will be incorporated formally in all EFL education and national curriculum.

Finally, the researcher recommends other teachers and instructors to keep exploring and studying other MobApps with ASR technologies. since this feature is still in progress and needs to be tested in other conditions and in different learners' ages to extend its use to other EFL skills that require integrated responses besides speaking skills.

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APPENDIXES

Appendix A

Budget

Details/Inputs	Worth
Supplies (bond paper, pens)	30.00
Bound and hardcover	100.00
Transportation	150.00
Accommodation	600.00
Extra Expenses (Internet, Copies, Printing)	100.00
Total	980.00

Appendix A. Note: Detail of the general expenses that will be made in the development of the research work. The budget presented in this table of values may vary, depending on the progress that is achieved during this research work. (By: Jonathan Alejandro Pazmiño Carrera).

Appendix B

Data Coding of the Pretest in Cronbach's alpha

	BEYO	LANGUAGE COMPETENCE	PRONUNCIATION	FLUENCY	ORAL COMMUNICATION	TOTAL	Valoración_1
1	1	6	6	6	6	6.0	2.00
2	2	4	4	4	4	4.0	2.00
3	1	4	2	4	4	3.5	1.00
4	1	6	6	4	6	5.5	2.00
5	1	6	4	4	4	4.5	2.00
6	2	6	6	6	6	6.0	2.00
7	2	6	6	4	4	5.0	2.00
8	2	4	2	2	4	3.0	1.00
9	1	8	8	8	8	7.5	3.00
10	2	8	8	8	8	8.0	3.00
11	2	4	4	2	2	3.0	1.00
12	1	6	4	6	6	5.5	2.00
13	2	6	6	6	6	6.0	2.00
14	1	8	6	6	6	6.5	2.00
15	1	6	6	6	6	6.0	2.00
16	1	6	4	4	4	4.5	2.00
17	2	4	4	4	4	4.0	2.00
18	2	6	4	4	4	4.5	2.00
19	1	2	2	2	2	2.0	1.00
20	1	6	6	6	4	5.5	2.00
21	2	6	6	6	4	5.5	2.00
22	2	6	6	6	4	5.5	2.00
23	2	6	4	4	2	4.0	2.00
24	2	8	8	8	8	7.5	3.00
25	2	4	2	2	2	2.5	1.00
26	2	8	8	8	6	7.5	3.00
27	1	6	6	6	6	6.0	2.00
28	2	6	6	6	4	5.5	2.00
29	1	4	4	6	4	4.5	2.00
30	1	2	2	2	2	2.0	1.00
31	1	4	4	4	2	3.5	1.00
32							
33							
34							
35							
36							

Appendix B. Note: Data coding obtained from the application of the pretest to the study population. (By: Jonathan Alejandro Pazmiño Carrera).

Appendix C

Data Coding of the Posttest in Cronbach's Alpha

IBM SPSS Statistics Editor de datos

Archivo Editar Ver Datos Transformar Analizar Gráficos Utilidades Ampliaciones Ventana Ayuda

20: TOTAL 8,5 Visible: 8 de 8 variables

	DONDEESTUDIODELAUNDADEEDUCATIVA MARTINAVOGUERREROFREIRE	SEXO	LANGU AGECC MPETE	PRON UNCIA TION	FLUENC Y	ORALCOMMU NICACION	TOTAL	Valoracion_2	var	var	var	var	var	var	var	var	var	var	var
1	RODRIGUES CRISTOFER THOMAS	1	8	8	8	8	8,0	3,00											
2	UI CELA EDWIN ROMERO	1	6	4	6	6	5,5	2,00											
3	ILLA NICOLAS JEREMIAS	1	8	8	6	8	7,5	3,00											
4	GUEVARA NICOLAS	1	6	6	6	6	6,0	2,00											
5	JAGALLO VICTOR JOSEPH	1	8	8	8	10	8,5	3,00											
6	A SANAGUANO DAVID SEBASTIAN	1	6	6	6	8	6,5	2,00											
7	RICES IANN FABRICO	1	8	8	8	8	8,0	3,00											
8	JAGALLO EDISON ALEJANDRO	1	8	8	6	8	7,5	3,00											
9	ARRILLO DYLAN ALEVIS	1	6	6	6	6	6,0	2,00											
10	PAN JOSE JULIAN	1	4	6	4	6	5,0	2,00											
11	ARATE DESELIS JAVIER	1	8	8	6	6	7,0	3,00											
12	RICES AIDAN ALEZANDER	1	8	6	8	8	7,5	3,00											
13	WAGUAYA EMILIO SEBASTIAN	1	6	6	8	6	6,5	2,00											
14	UAY VILEMA MARCELO ALEJANDRO	1	4	4	4	6	4,5	2,00											
15	CHA ANDRES FERNANDO	1	6	6	6	4	5,5	2,00											
16	TIVI SARAHÍ ARACELY	2	6	6	4	6	5,5	2,00											
17	LA DARIAN VALENTINA	2	6	8	6	8	7,0	3,00											
18	ALES INES ALEJANDRA	2	8	8	6	8	7,5	3,00											
19	N MOROTO THAYS VALENTINA	2	6	4	4	6	5,0	2,00											
20	VE MORA DANINA SARAI	2	8	8	8	10	8,5	3,00											
21	CHICAIZA PAULLETE SCARLET	2	6	6	4	6	5,5	2,00											
22	ILPEMELLY AIDE	2	8	8	6	8	7,5	3,00											
23	LOO GENESIS MONSERRATH	2	6	6	6	6	6,0	2,00											
24	EPEDA NOEMI ALEJANDRA	2	8	6	6	6	6,5	2,00											
25	RICHUMBI JASLEDY MAYTE	2	8	6	8	6	7,0	3,00											
26	AGUAGALLO SIOMY CECILIA	2	6	8	8	6	7,0	3,00											
27	MARTINEZ ODETTIE ABIGAIL	2	6	6	6	4	5,5	2,00											
28	MAS YULEYSI ALEJANDRA	2	8	8	8	8	8,0	3,00											
29	BI KATHERINE VANESSA	2	6	4	4	6	5,0	2,00											
30	STANZA ROMINA JULIETH	2	8	8	8	8	8,0	3,00											
31	DAYSÍ CAMILA	2	6	6	8	6	6,5	2,00											
32																			
33																			
34																			
35																			

Vista de datos Vista de variables

IBM SPSS Statistics Processor está listo Unicode ON Dividir por SEXO

Appendix C. Note: Data coding obtained from the application of the posttest of the study population.
(By: Jonathan Alejandro Pazmiño Carrera).

Appendix D

Data Coding of the Survey in Cronbach's Alpha

	Nombre	Tipo	Anchura	Decimales	Etiqueta	Valores	Perdidos	Columnas	Alineación	Medida	Rol
1	Ítems_1	Númérico	40	0	1. ¿Encuentra f...	{1, Muy Dif...	Ninguno	7	Derecha	Escala	Entrada
2	Ítems_2	Númérico	40	0	2. ¿La metodol...	{1, Muy Dif...	Ninguno	7	Derecha	Escala	Entrada
3	Ítems_3	Númérico	40	0	3. ¿Usted cons...	{1, Muy Dif...	Ninguno	8	Derecha	Escala	Entrada
4	Ítems_4	Númérico	40	0	4. ¿Considera ...	{1, Muy Dif...	Ninguno	8	Derecha	Escala	Entrada
5	Ítems_5	Númérico	40	0	5. ¿Encontró a ...	{1, Muy Dif...	Ninguno	7	Derecha	Escala	Entrada
6	Ítems_6	Númérico	40	0	6. ¿Se encuent...	{1, No Satis...	Ninguno	7	Derecha	Escala	Entrada
7	Ítems_7	Númérico	40	0	7. ¿Estimula al...	{1, No Satis...	Ninguno	7	Derecha	Escala	Entrada
8	Ítems_8	Númérico	40	0	8. ¿Los conoci...	{1, No Satis...	Ninguno	6	Derecha	Escala	Entrada
9	Ítems_9	Númérico	40	0	9. ¿Con la utiliz...	{1, No Satis...	Ninguno	6	Derecha	Escala	Entrada
10	Ítems_10	Númérico	40	0	10. ¿Piensa us...	{1, No Satis...	Ninguno	7	Derecha	Escala	Entrada
11	Valoración_1	Númérico	8	2		Ninguno	Ninguno	9	Derecha	Escala	Entrada
12	Valoración_...	Númérico	8	2	Evaluación	{1,00, Muy ...	Ninguno	17	Derecha	Ordinal	Entrada
13	Valoración_2	Númérico	8	0	Valoración Dos	{1, No Satis...	Ninguno	15	Derecha	Ordinal	Entrada
14											
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Appendix D. Note: Data coding obtained through the application of the survey to the study population. (By: Jonathan Alejandro Pazmiño Carrera).

Appendix E

Pretest Data Excel Files

SEXO	LANGUAGE COMPETENCE	PRONUNCIATION	FLUENCY	ORAL COMMUNICATION	TOTAL
M	Abile to use expressions, with structural flaws	The pronunciation already has an effect on the learned language, but with a native tendency	Abile to have stable communication, but with memorized topics	Requires little help from the interviewer, but is able to communicate	Regular
F	Depend on memorized phrases, which limits dialogue	Its pronunciation is based on the native language and lacks understanding	Basic meanings in the expressions	Requires instructions and help from the interviewer so that communication is not interrupted	Regular
M	Depend on memorized phrases, which limits dialogue	Poor pronunciation	Basic meanings in the expressions	Requires instructions and help from the interviewer so that communication is not interrupted	Wrong
M	Abile to use expressions, with structural flaws	The pronunciation already has an effect on the learned language, but with a native tendency	Basic meanings in the expressions	Requires little help from the interviewer, but is able to communicate	Regular
M	Abile to use expressions, with structural flaws	Its pronunciation is based on the native language and lacks understanding	Basic meanings in the expressions	Requires instructions and help from the interviewer so that communication is not interrupted	Regular
F	Abile to use expressions, with structural flaws	The pronunciation already has an effect on the learned language, but with a native tendency	Abile to have stable communication, but with memorized topics	Requires little help from the interviewer, but is able to communicate	Regular
F	Abile to use expressions, with structural flaws	The pronunciation already has an effect on the learned language, but with a native tendency	Basic meanings in the expressions	Requires instructions and help from the interviewer so that communication is not interrupted	Regular
F	Depend on memorized phrases, which limits dialogue	Poor pronunciation	Express very basic meanings in his dialogues	Requires instructions and help from the interviewer so that communication is not interrupted	Wrong
M	Abile to form longer expressions, but without using more complex language	The pronunciation already has an effect on the learned language, but with a native tendency	Abile to have adequate communication depending on the topics	Has an ability for compensating for communication errors, but requires little help from the interviewer	Good
F	Abile to form longer expressions, but without using more complex language	The pronunciation is understandable, but has characteristics of the native language	Abile to have adequate communication depending on the topics	Has an ability for compensating for communication errors, but requires little help from the interviewer	Good
F	Depend on memorized phrases, which limits dialogue	Its pronunciation is based on the native language and lacks understanding	Express very basic meanings in his dialogues	Requires a guide from the interviewer	Wrong
M	Abile to use expressions, with structural flaws	The pronunciation already has an effect on the learned language, but with a native tendency	Abile to have stable communication, but with memorized topics	Requires little help from the interviewer, but is able to communicate	Regular
M	Abile to form longer expressions, but without using more complex language	The pronunciation already has an effect on the learned language, but with a native tendency	Abile to have stable communication, but with memorized topics	Requires little help from the interviewer, but is able to communicate	Regular
M	Abile to use expressions, with structural flaws	Its pronunciation is based on the native language and lacks understanding	Basic meanings in the expressions	Requires instructions and help from the interviewer so that communication is not interrupted	Regular
F	Depend on memorized phrases, which limits dialogue	Its pronunciation is based on the native language and lacks understanding	Basic meanings in the expressions	Requires instructions and help from the interviewer so that communication is not interrupted	Regular
F	Abile to use expressions, with structural flaws	Its pronunciation is based on the native language and lacks understanding	Basic meanings in the expressions	Requires instructions and help from the interviewer so that communication is not interrupted	Regular
M	It is capable of producing very short dialogues without	Poor pronunciation	Express very basic meanings in his dialogues	Requires a guide from the interviewer	Wrong

Appendix E. Note: Excel worked with the applied rubric. (By: Jonathan Alejandro Pazmiño Carrera).

SEXO	LANGUAGE COMPETENCE	PRONUNCIATION	FLUENCY	ORAL COMMUNICATION	TOTAL
1	1	6	6	6	6
2	2	4	4	4	4
3	1	4	2	4	3,5
4	1	6	6	4	5,5
5	1	6	4	4	4,5
6	2	6	6	6	6
7	2	6	6	4	5
8	2	4	2	4	3
9	1	8	6	8	7,5
10	2	8	8	8	8
11	2	4	4	2	3
12	1	6	4	6	5,5
13	2	6	6	6	6
14	1	8	6	6	6,5
15	1	6	6	6	6
16	1	6	4	4	4,5
17	2	4	4	4	4
18	2	6	4	4	4,5
19	2	6	4	4	4,5
20	1	2	2	2	2
21	1	6	6	6	4
22	2	6	6	6	4
23	2	6	6	6	4
24	2	6	4	4	4
25	2	8	6	8	7,5
26	2	4	2	2	2,5
27	2	8	8	8	6
28	1	6	6	6	6
29	2	6	6	6	4
30	1	4	4	6	4,5
31	1	2	2	2	2
32	1	4	4	4	3,5

Appendix E. Note: Results obtained in the pretest based on the evaluation rubric. (By: Jonathan Alejandro Pazmiño Carrera).

Appendix F

Posttest Data Excel Files

SEXO	LANGUAGE COMPETENCE	PRONUNCIATION	FLEUENCY	ORAL COMMUNICATION	TOTAL	
2	Able to form longer expressions, but without using more complex language	The pronunciation is understandable, but has characteristics of the native language	Able to have adequate communication depending on the topics	Has an ability for compensating for communication errors, but requires little help from the interviewer	Good	
2	M	Able to use expressions, with structural fluency	The pronunciation already has an effect on the learned language, but with a native tendency	Basic meanings in the expressions	Requires little help from the interviewer, but is able to communicate	Regular
3	F	Able to use expressions, with structural fluency	Its pronunciation is based on the native language and lacks understanding	Able to have stable communication, but with memorized topics	Requires little help from the interviewer, but is able to communicate	Regular
4	M	Able to form longer expressions, but without using more complex language	The pronunciation is understandable, but has characteristics of the native language	Able to have stable communication, but with memorized topics	Has an ability for compensating for communication errors, but requires little help from the interviewer	Good
5	M	Able to use expressions, with structural fluency	The pronunciation already has an effect on the learned language, but with a native tendency	Able to have stable communication, but with memorized topics	Requires little help from the interviewer, but is able to communicate	Regular
6	M	Able to use expressions, with structural fluency	The pronunciation is understandable, but has characteristics of the native language	Able to have stable communication, but with memorized topics	Has an ability for compensating for communication errors, but requires little help from the interviewer	Good
7	F	Able to form longer expressions, but without using more complex language	The pronunciation is understandable, but has characteristics of the native language	Able to have stable communication, but with memorized topics	Has an ability for compensating for communication errors, but requires little help from the interviewer	Good
8	F	Able to use expressions, with structural fluency	Its pronunciation is based on the native language and lacks understanding	Basic meanings in the expressions	Requires little help from the interviewer, but is able to communicate	Regular
9	F	Able to form longer expressions, but without using more complex language	The pronunciation is understandable, but has characteristics of the native language	Able to have adequate communication depending on the topics	Able to speak easily without assistance	Good
10	M	Able to form longer expressions, but without using more complex language	The pronunciation is understandable, but has characteristics of the native language	Able to have adequate communication depending on the topics	Able to speak easily without assistance	Good

Appendix F. Note: Excel worked with the applied rubric. (By: Jonathan Alejandro Pazmiño Carrera).

SEXO	LANGUAGE COMPETENCE	PRONUNCIATION	FLEUENCY	ORAL COMMUNICATION	TOTAL
1	8	8	8	8	8
2	6	6	4	6	5.5
4	6	4	6	6	5.5
5	8	8	6	8	7.5
6	6	6	6	6	6
7	6	8	6	6	7
8	8	8	6	8	7.5
9	6	4	4	6	5
10	8	8	8	10	8.5
11	8	8	8	10	8.5
12	6	6	6	6	5.5
13	6	6	6	8	6.5
14	8	8	6	8	7.5
15	8	8	8	8	8
16	8	8	6	8	7.5
17	6	6	6	6	6
18	6	6	6	6	6
19	8	6	6	6	6.5
20	4	4	4	6	5
21	8	8	6	6	7
22	8	6	8	6	7
23	6	8	8	6	7
24	6	6	6	4	5.5
25	8	8	8	8	8
26	6	4	4	6	5
27	8	8	8	8	8
28	8	6	8	8	7.5
29	6	6	8	8	6.5
30	6	6	8	6	6.5
31	4	4	4	6	4.5
32	6	6	6	4	5.5

Appendix F. Note: Results obtained in the posttest based on the assessment rubric. (By: Jonathan Alejandro Pazmiño Carrera).

Appendix G

Assessment Scale Based on Cambridge Level A2 Speaking Rubric

A2	Language Competence	Pronunciation	Fluency	Oral communication
10	Able to form longer dialogues with more complex language.	Understandable pronunciation and express ideas with ease.	Able to have optimal communication without problems.	Able to speak easily without assistance.
8	Able to form longer expressions, but without using more complex language.	The pronunciation is understandable but has characteristics of the native language.	Able to have adequate communication depending on the topics.	Has an ability for compensating for communication errors but requires little help from the interviewer.
6	Able to use expressions, with structural flaws.	The pronunciation already has an effect on the learned language, but with a native tendency.	Able to have stable communication, but with memorized topics.	Requires little help from the interviewer but is able to communicate.
4	Depend on memorized phrases, which limits dialogue.	Its pronunciation is based on the native language and lacks understanding.	Basic meanings in the expression	Requires instructions and help from the interviewer so that communication is not interrupted.
2	Can produce very short dialogues without coherence.	Poor pronunciation.	Express very basic meanings in his dialogues.	Requires a guide from the interviewer.

Appendix G. Note: Rubric designed by the student researcher based on Cambridge Speaking test level A2 to measure speaking skills in students. (By: Jonathan Alejandro Pazmiño Carrera.)

Appendix H

Observation Sheet

Objective: To demonstrate how the use of m-learning through Duolingo app helps Martiniano Guerrero Freire elementary 5th graders to achieve EFL proficiency growth in improving speaking skills and subskills in face to face and online classes.

Description: The purpose of this observation guide is to compile information about the different activities that students perform in the classroom before using the Duolingo application.

A=Always, U=Usually, S=Sometimes, R=Rarely

N°	Values to observe	Frecuency			
		A	U	S	R
1	Does the student perceive himself enthusiastic and motivated to participate in Speaking activities?				X
2	Does the student express himself and transmit ideas in a clear and concrete way of any topic addressed?				X
3	Can the student respond correctly to the interactions produced to arrange a conversation?			X	
4	Can the student read texts and correctly pronounce their statements and writings?			X	
5	Does the learner receive timely feedback and take appropriate advantage of it in the performance of their oral ability?				X

Appendix H. Note: Tool developed to measure student participation and performance in the classroom. (By: Jonathan Alejandro Pazmiño Carrera.)

Appendix I

Survey

Encuesta Dirigida A Estudiantes De Quinto Grado De Primario De La Unidad Educativa Martiniano Guerrero Freire

OBJETIVO: El propósito de la presente encuesta es determinar el grado de dificultad y satisfacción del uso de M-learning a través de la aplicación de Duolingo en el aumento de la competencia en inglés como lengua extranjera para mejorar las habilidades y sub-habilidades del habla en clases presenciales y en línea de los alumnos de quinto grado de primaria de la Unidad Educativa Martiniano Guerrero Freire en el año lectivo 2021 – 2022.

INSTRUCCIONES: Sírvase contestar las preguntas tipo Likert del cuestionario en la respuesta de mayor agrado, donde se presentan una escala de respuesta de 5 puntos, cuyas opciones de respuesta oscilan desde 1 (‘‘Muy difícil’’ o ‘‘No satisfecho’’) hasta 5 (‘‘Muy fácil’’ o ‘‘Extremadamente satisfecho’’), dependiendo el número de pregunta a responder. El presente cuestionario se divide en dos bloques, el bloque A esta integrado a conocer el grado de dificultad y el bloque B destinado a comprender el grado de satisfacción. Su

información será de mucho valor para este trabajo. Sugiero que la contestación a los ítems sea con objetividad y sinceridad, sus respuestas serán manejadas con confidencialidad y de uso exclusivo de esta investigación por lo cual le solicitamos veracidad absoluta al momento de contestar las interrogantes planteadas.

CONSENTIMIENTO INFORMADO: La presente encuesta busca determinar el grado de dificultad y satisfacción del uso de M-learning a través de la aplicación de Duolingo en el aumento de la competencia en inglés como lengua extranjera para mejorar las habilidades y sub-habilidades del habla en clases presenciales y en línea. La cooperación es voluntaria, la información que se recogerá será confidencial y no se usará para ningún otro propósito que no sea estrictamente de la investigación, puesto que, no requerirá el nombre del estudiante para proteger y mantener el anonimato de los alumnos participantes.

CUESTIONARIO SOBRE EL APRENDIZAJE DEL IDIOMA INGLES CON LA UTILIZACION DE LA APLICACIÓN DUOLINGO

INFORMACIÓN GENERAL. Por favor complete la información solicitada. Sus respuestas serán manejadas con confidencialidad por lo cual le solicitamos veracidad absoluta al momento de contestar las interrogantes planteadas.

Muy difícil= 1, Difícil= 2, Neutral= 3, Fácil= 4, Muy fácil= 5

No satisfecho= 1, Poco satisfecho= 2, Moderadamente satisfecho= 3, Muy satisfecho= 4, Extremadamente satisfecho= 5

A: GRADO DE DIFICULTAD

	Muy fácil	Fácil	Neutral	Difícil	Muy difícil
1. ¿Encuentra fácil el aprender inglés través de la aplicación Duolingo?					
2. ¿La metodología y actividades impartidas por Duolingo fueron sencillas de desarrollar?					
3. ¿Usted considera que mediante la aplicación de Duolingo se logre adquirir una competencia optima del idioma inglés?					
4. ¿Considera que el tiempo empleado en Duolingo dificulta la accesibilidad a otra actividad académica?					
5. ¿Encontró a la aplicación de Duolingo una herramienta cómoda de manejar?					

B: GRADO DE SATISFACCIÓN

	Extremadamen te satisfecho	Muy satisfecho	Moderadament e satisfecho	Poco satisfecho	No satisfecho
6. ¿Se encuentra satisfecho con la implementación de Duolingo como recurso didáctico y pedagógico para el aprendizaje del idioma inglés?					
7. ¿Estimula al estudiante en la participación e interacción de ideas con una mayor capacidad en el idioma inglés?					
8. ¿Los conocimientos, las destrezas y las aptitudes propuestas en la aplicación de Duolingo desarrollan adecuadamente la competencia del idioma inglés?					
9. ¿Con la utilización de Duolingo los inconvenientes surgidos durante el desarrollo de la enseñanza del inglés se resuelven con mayor eficiencia?					
10. ¿Piensa usted que Duolingo es una aplicación que cumple con los parámetros para el desarrollo de las destrezas principales del inglés?					

Appendix I. Note: Survey designed by the student researcher to measure the degree of difficulty and degree of satisfaction after using the Duolingo application. (By: Jonathan Alejandro Pazmiño Carrera.)

Appendix J

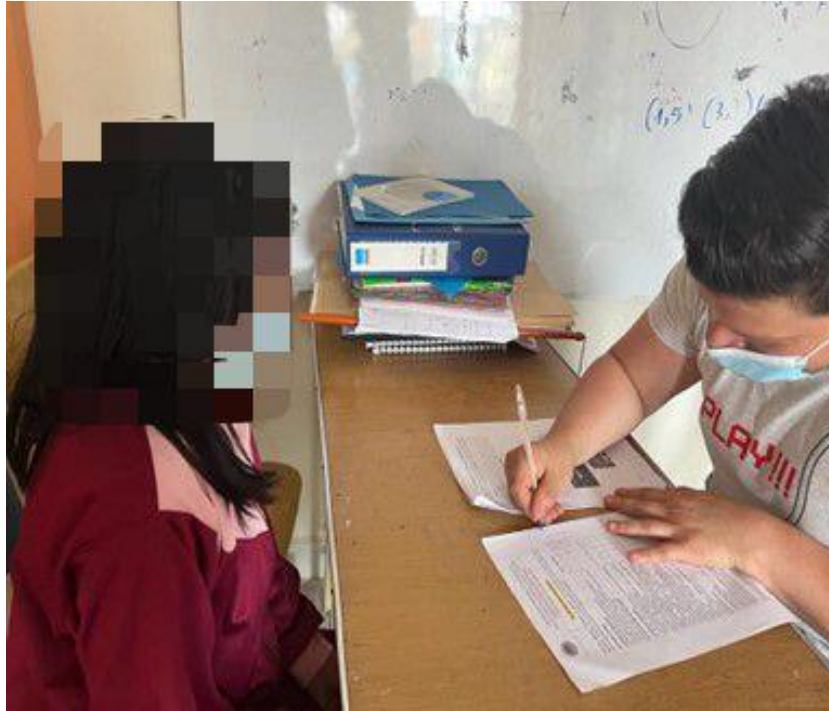
Pictures of Student Assessments in Progress



Appendix J. Note: Evidence of the application of the different data collection tools to students. (By: Jonathan Alejandro Pazmiño Carrera).



Appendix J. Note: Evidence of the application of the different data collection tools to students. (By: Jonathan Alejandro Pazmiño Carrera).



Appendix J. Note: Evidence of the application of the different data collection tools to students. (By: Jonathan Alejandro Pazmiño Carrera).

Appendix K

Professional Validation of Observation Sheet



UNIVERSIDAD NACIONAL DE CHIMBORAZO
 FACULTAD DE CIENCIAS DE LA EDUCACIÓN, HUMANAS Y TECNOLOGÍAS
 CARRERA DE PEDAGOGIA DE LOS IDIOMAS NACIONALES Y EXTRANJEROS

EXPERT VALIDATION RUBRIC - OBSERVATION GUIDE

Objective: Achieve validation of data collection instruments for the thematic research Project "Description of Mobile Learning through Duolingo to Improve Speaking Skills in English as a Foreign Language Learning"

Description: The purpose of validating this observation guide is to gather information about the different classroom activities that students perform before and after using Duolingo.

1= Very low, 2=Low, 3=High, 4=Very High

Nº	ITEMS	VALUES TO OBSERVE	ASSESSMENT				OBSERVATION
			1	2	3	4	
1	Student Motivation	Does the student perceive himself enthusiastic and motivated to participate in Speaking activities?				X	
2	Oral Expression	Does the student express himself and transmit ideas in a clear and concrete way of any topic addressed?				X	
3	Student Integration	Can the student respond correctly to the interactions produced to arrange a conversation?				X	

4	Collaborative Participation	Can the student read texts and correctly pronounce their statements and writings?				X	
5	Feedback reception	Does the learner receive timely feedback and take appropriate advantage of it in the performance of their oral ability?				X	



Firma del evaluador

Appendix K. Note: Professional validation of the observation sheet used for data collection. (By: Jonathan Alejandro Pazmiño Carrera).

Appendix L

Professional Validation of Survey



UNIVERSIDAD NACIONAL DE CHIMBORAZO
FACULTAD DE CIENCIAS DE LA EDUCACIÓN, HUMANAS Y TECNOLOGÍAS
CARRERA DE PEDAGOGIA DE LOS IDIOMAS NACIONALES Y EXTRANJEROS

EXPERT VALIDATION RUBRIC - SURVEY

Objective: Achieve validation of data collection instruments for the thematic research Project "Description of Mobile Learning through Duolingo to Improve Speaking Skills in English as a Foreign Language Learning"

Description: The purpose of validating this survey is to gather information on the degree of difficulty and satisfaction of students in using Duolingo in English language proficiency

1= Very low, 2=Low, 3=High, 4=Very High

N°	ITEMS	VALUES TO OBSERVE	ASSESSMENT				OBSERVATION
			1	2	3	4	
1	Disposición hacia el aprendizaje	NIVEL DE DIFICULTAD	¿Encuentra fácil el aprender inglés través de la aplicación Duolingo?				
2	Facilidad de uso percibido		¿La metodología y actividades impartidas por Duolingo fueron sencillas de desarrollar?				
3	Actitud hacia el uso		¿Usted considera que mediante la aplicación de Duolingo se logre adquirir una competencia optima del idioma inglés?				
4	Condición hacia el tiempo empleado	NIVEL DE SATISFACCIÓN	¿Considera que el tiempo empleado en Duolingo dificulta la accesibilidad a otra actividad académica?				X
5	Capacidad tecnológica		¿Encontró a la aplicación de Duolingo una herramienta cómoda de manejar?				X
6	Satisfacción hacia el recurso		¿Se encuentra satisfecho con la implementación de Duolingo como recurso didáctico y pedagógico para el aprendizaje del idioma inglés?				X
7	Competencia lingüística		¿Estimula al estudiante en la participación e interacción de ideas con una mayor capacidad en el idioma inglés?				X
8	Apreciación de la capacidad adquirida		¿Los conocimientos, las destrezas y las aptitudes propuestas en la aplicación de Duolingo desarrollan adecuadamente la competencia del idioma inglés?				X

9	Retroalimentación aplicada	¿Con la utilización de Duolingo los inconvenientes surgidos durante el desarrollo de la enseñanza del inglés se resuelven con mayor eficiencia?				X	
10	Percepción hacia el progreso formativo	¿Piensa usted que Duolingo es una aplicación que cumple con los parámetros para el desarrollo de las destrezas principales del inglés?				X	



MARIA MERCEDES
GALLEGOS NUÑEZ

Firma del evaluador

Appendix L. Note: Professional validation of the survey that was applied to measure the levels of difficulty and satisfaction of the Duolingo application. (By: Jonathan Alejandro Pazmiño Carrera).