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TITLE

THE USE OF TINYTAP TO ENHANCE VOCABULARY LEARNING IN PRE-A1 LEARNERS

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DEDICATORY

I dedicate this work and my effort to my parents, Gladys and Edus, who, with their effort, love, and perseverance, inspire in me a feeling of becoming better every day. They also supported me during this program in all ways. Thank you so much for your eternal love and help during this time, in the good and hard moments. To my nephew Marjorie, who was my best company during this process. To God, for making this moment possible and blessing me.

Sandy Tigse

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RESUMEN

El aprendizaje del vocabulario es un aspecto fundamental en el inglés. El bajo nivel de vocabulario y las dificultades para memorizar, retener, y la baja motivación, representan un desafío significante para los estudiantes, obstaculizando el progreso del aprendizaje y la comunicación. El presente estudio fue realizado con el objetivo de analizar el impacto del TinyTap en el desarrollo del aprendizaje del vocabulario en estudiantes Pre-A1 en la Unidad Educativa Ecuatoriano Holandés. La metodología adoptada para esta investigación fue cuantitativa y cualitativa: Se recopilaron datos cuantitativos a través de una encuesta para evaluar el conocimiento inicial del vocabulario y percepciones sobre los métodos actualmente empleados, también en la aplicación de un pretest y postest para evaluar la mejora del vocabulario. Por otro lado, los datos cualitativos se obtuvieron a través de una entrevista para explorar las actitudes y percepciones sobre el uso del TinyTap. El diseño de esta investigación fue experimental con 26 niños de segundo grado divididos en grupos de control y experimentales, seleccionados mediante muestreo por conveniencia. Los resultados iniciales evidenciaron que ambos grupos, experimental y control, tenían bajo nivel del conocimiento del vocabulario. Posteriormente, tras la implementación de TinyTap y el análisis de pretest y postest, se observó que, mientras el grupo de control mostró un ligero aumento, el grupo experimental tuvo una mejora significante en el vocabulario. Además, la entrevista demostró satisfacción en los estudiantes al usar TinyTap: indicaron que esta app les ayuda a aprender, retener, recordar palabras gracias al sistema de retroalimentación y participación frecuente basado en la gamificación. Además, incrementó la motivación convirtiendo las clases en experiencias lúdicas, interactivas, agradables y memorables. Así, este estudio destacó la importancia de implementar recursos tecnológicos en el aula para estar al día con las nuevas demandas del mundo moderno influenciado por el uso de las TIC.

Palabras clave: TinyTap, aprendizaje del vocabulario, motivación, gamificación, recursos tecnológicos, conocimiento del vocabulario.

ABSTRACT

Vocabulary is a fundamental aspect of the English language. Low vocabulary level and difficulties in memorizing and retaining, aligned with low motivation, represent a significant challenge for students, hindering progress in learning and communication. The present study was carried out to analyze the impact of TinyTap on the development of vocabulary learning in Pre-A1 learners at Ecuatoriano Holandés School. The methodology adopted for this research was quantitative and qualitative: quantitative data was gathered through a survey to evaluate initial vocabulary knowledge and perceptions about the current methods used and also in the application of a pre-test and post-test to assess improvement of vocabulary. On the other hand, qualitative data were obtained through the use of an interview to explore attitudes and perceptions on using TinyTap. The design of this study was experimental, with 26 students from second grade divided into experimental and control groups selected through convenience sampling. The initial results evidenced that both the experimental and control groups had a low level of vocabulary knowledge. Then, after the implementation of TinyTap and analysis of the pre-test and post-test, it showed that whereas the control group had a slight increase, the experimental group had a significant improvement in vocabulary learning. Moreover, the interview demonstrated that students feel satisfaction when they use TinyTap: they indicated that the app supports them to learn, retain, and remember words thanks to the frequent feedback and engagement system based on gamification; it also increases their motivation, turning lessons into ludic, interactive, enjoyable, and memorable experiences. Therefore, this study highlighted the importance of implementing technological resources in the classroom to be up-to-date with the new demands of the modern world, influenced by the use of ICTs.

Key words: TinyTap, vocabulary learning, motivation, gamification, technological resources, vocabulary knowledge.

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INTRODUCTION

Presentation and Contextualization

In the digital era, technology has inquired into different fields, and education is no exception. European and Asian countries have evidenced the improvements in education and English language teaching and learning. This is because both teachers and students are equipped with modern methodologies and resources that enhance learning experiences and foster English learning (Ammade et al., 2018). Technology can facilitate vocabulary by providing an infinite number of resources that teachers can adapt, customize, and create according to their needs. Putri et al. (2024) emphasized the opportunities technology offers in vocabulary instruction, making this process engaged, innovative, interactive, and meaningful through the wide range of tools tailored to all needs and ages.

In Latin American countries, the use of technology in the classrooms remains restricted as schools continue using traditional methods, missing the opportunity to take advantage of emerging education trends. In Ecuador, the adoption of technology is still facing challenges due to a lack of ICT knowledge, poor organization, and insecurity (Alvarado et al., 2020). Nevertheless, Ecuadorian schools are gradually starting to integrate digital tools into their teaching methods to supplement traditional approaches. However, the impact of these tools on English learning stays unexplored, evidencing the necessity of technological innovation in classrooms.

The present research aimed to explore the use of TinyTap as a tool to enhance vocabulary learning, a key element in second language acquisition. Vocabulary is undeniable and fundamentally the most crucial component of communication, as nothing can be conveyed without it, and no language is possible (Fatima & Khan, 2017). In a second language, vocabulary plays a fundamental role, as extensive vocabulary is necessary to employ structures and functions to achieve comprehensive communication (Alqahtani, 1015).

TinyTap employs a gamified approach that addresses the cognitive and motivational needs of students. The integration of gamified resources looks like a help for the L2 learning process, especially for young learners who are considered digital natives. This research intended not only to improve vocabulary learning but also to promote active participation, contributing to the development of capable and creative individuals in a technological environment. Therefore, the study planned to determine the impact of the app in supporting vocabulary contextualization, retention, and fostering motivation in young learners.

Identification of the problem

Through empirical observations and analysis, it has been perceived that Pre-A1 learners at Ecuatoriano Holandés School demonstrated a low level of vocabulary knowledge. Lack of motivation is one of the primary factors affecting students' learning. Motivation plays a significant role in the learning process, as it is directly aligned to persistence and engagement. Students appear disinterested and bored, leading to decreased attention during class. This lack of engagement prevents them from putting enough effort into learning new words. The reliance on monotonous and traditional teaching methods, strategies, and materials could be a cause; they often produce anxiety, frustration, and lack of interest.

Furthermore, students face difficulties in word retention. Gordon and Lowry (2024) suggested that during childhood students tend to have consolidation challenges to encode new words in long-term memory. They forget words because they do not review learned vocabulary regularly, making it challenging for them to build a solid vocabulary. This issue is aligned with the reinforcement cycle necessary for transferring words from the short-term to the long-term memory. This aligns with a low word recall capacity affecting vocabulary learning. In addition, the lack of vocabulary contextualization. Students often learn words in isolation, rather than in context, which hinders their ability to make connections, internalize, and remember vocabulary.

Problem Justification

This research took place at Ecuatoriano Holandés, a private school located in Ambato, Tungurahua province. It is clear that students are require to develop a strong vocabulary repertoire to master English proficiency, as vocabulary learning is considered fundamental to acquiring any language.

Despite the teachers' efforts to develop vocabulary skills, students at Ecuatoriano Holandés demonstrate a low level of vocabulary knowledge. Issues such as lack of motivation; difficulty in memorizing, contextualizing and retaining vocabulary; and subsequent academic setbacks hinder their progress in learning and communication. Vocabulary learning is fundamental in children when they have the capacity to absorb new information. This period provides an opportunity to establish a solid base for bilingualism and future English instruction. Chomsky (1991, cited in Schütze, 2016) suggested that children are equipped with a mental system called "universal grammar" which allows them to acquire language and develop linguistic skills more effectively in their early years.

Traditional, monotonous teaching methods have led to disengaging and forgettable lessons for young learners, contributing to students' demotivation and reduced enthusiasm for learning. In the modern era, traditional methods have been replaced, as the landscape of English learning evolves the ways in which students absorb information. As a result, it is necessary for teachers to adopt up-to-date technological strategies that capture students' attention and create engaging, enjoyable learning experiences.

According to Tlhoaele et al. (2016), technology like TinyTap improves performances, motivation, cooperative work, and comprehension while facilitating problem solving. Therefore, this research aims to overcome vocabulary challenges among learners by applying an engaging and interactive technological tool.

Problem Statement

For Pre-A1 learners at Ecuatoriano Holandés, addressing vocabulary challenges is necessary for their language development. Issues such as lack of motivation, which dismisses their desire to learn and creates an atmosphere of stress and anxiety in the classroom; poor word retention because they do not have enough reinforcement; poor word recall to retain previous vocabulary; and learning words without context, which makes them difficult to use vocabulary in real situations, can hinder engagement and progress. Together, these challenges impede overall language acquisition and affect both expression and comprehension. Early intervention in these areas is essential to support language skills and cognitive development.

Precision of the Research Project

Research Topic: The use of TinyTap to enhance vocabulary learning in Pre-A1 learners.

General research line: Innovation and Applied Technologies.

Specific research line: Implementation of ICT to improve the learning process.

The Research Object

The research object of this study is to explore an effective online resource called TinyTap to facilitate vocabulary learning in Pre-A1 learners at Ecuatoriano Holandés School. The research aims to identify innovative methods, strategies, and materials to enhance vocabulary acquisition through ICT. By analyzing the impact of this app on vocabulary, the study seeks to provide valuable insights and practical recommendations for educators interested in promoting vocabulary language proficiency through modern educational tools.

General Objective

To analyze the impact of TinyTap on the development of vocabulary learning in Pre-A1 learners at Ecuatoriano Holandés School.

Specific Objectives

- To evaluate second-grade students' initial knowledge and perceptions of vocabulary and learning methods at Ecuatoriano Holandés School.
- To assess the improvement in vocabulary learning after using TinyTap.
- To explore students' attitudes and perceptions of using TinyTap for vocabulary learning.

Research Question

How does the use of TinyTap influence the development of vocabulary learning in Pre-A1 learners at Ecuatoriano Holandés School?

Description of the Conceptual Categories

Independent Variable: TinyTap It is a multitasking website and app where users have access to a wide range of educational games for different pedagogic necessities, like second language learning. This app is designed especially for children.

Dependent Variable: Vocabulary Learning that refers to the process where learners learn new words and their meanings, which is fundamental for second language learning; it usually occurs by intentional and formal instruction.

Description of the research approaches, methods and data collection.

This research employed a mixed-method approach, combining both qualitative and quantitative research instruments and techniques to facilitate data collection, analysis, and interpretation of results (Cresswell & Clark, 2017). This permitted quantifying and measuring the influence of TinyTap on vocabulary learning through qualitative instruments and statistical methods. Additionally, qualitative data allow the researcher to explore students' perceptions of the app. The analysis used deductive and inductive reasoning as well as synthetic methods to draw comprehensive conclusions.

Type of research

The study followed an experimental research design, in which two groups, a control and an experimental group, were compared. The experimental group received specific intervention using theTinyTap for vocabulary learning, while the control group did not. The aim of this is to determine whether the independent variable has a positive effect on the dependent variable

by comparing the results between the two groups.

Data collection

Survey to gather qualitative information about the students' initial knowledge of vocabulary and perception of learning methods.

Pre-test to assess the students' baseline performance and serve as a point of comparison for evaluating the effectiveness of the TinyTap intervention. *Post-test* to measure progress after the students have completed the intervention with TinyTap, helping to assess the changes in vocabulary learning and the tool's impact.

An *Interview* to explore students' perceptions, experiences and insights regarding the use of TinyTap, providing qualitative data to complement the quantitative results.

Participants

Unidad Educativa Ecuatoriano Holandes School has 314 students who attend the morning schedule. For the selection of the participants, convenience sampling was employed. It means that the sample is readily available and the researcher has access to the participants prioritizing convenience (Golzad et al., 2022). Thus, the participants of this proposal are 26 students from 2nd grade. The ages of these students fluctuate between 6 and 7 years old. They are Pre-A1 level, according to CEFR standards. Additionally, students share a similar cultural background, religious beliefs, and economic status.

Importance, Social Need, Novelty, and Scientific News

This study is **important** because it equips educators with modern technological resources to improve vocabulary learning in preschoolers. Moreover, it awakens curiosity in the educational community to explore and develop effective, technology-driven strategies that foster personalized, memorable and dynamic learning environments. The **social need** of this research lies in its potential to improve communication skills, literacy, and cognitive development. By addressing vocabulary learning, the study contributes to strengthening language abilities that foster significant comprehension and expression in diverse social contexts to create meaningful social interactions.

Furthermore, this study is **innovative** as it introduces TinyTap, a novel educational tool that has proven effective through validated data. Moreover, TinyTap is an interactive app based on word games, and it stands out as one of the most innovative tools in the online gamification field. It not only improves vocabulary learning but also stimulates the development of cognitive

and linguistic skills, making this app remarkable to be studied and applied. Finally, the **scientific** and **technological** fields will benefit from this proposal because it offers theoretical and verified information that supports theories in education. The study of TinyTap motivates and promotes the incorporation of technology in the classroom as part of a globalized and technological society.

Main contributions

This project contributes to the research on technological resources in education by highlighting TinyTap, an app that has gained popularity in recent years. Thus, this app does not have enough research, especially in Latin America and Ecuador, where this app is still unknown and only a few studies have been focused on it. Therefore, this research intends to give concise information about the app and how it contributes to English language learning in ESL learners. Furthermore, this study shows how the app is designed to address children during their first educational level, providing parents and educators the opportunity to take advantage of it. Moreover, the study contributes directly to the improvement of the Ecuatoriano Holandés school as it proposes the implementation of resources that support English. Therefore, the applications of this app look like an opportunity for the institution to enhance students' capability of managing the language and using it in future and diverse professional contexts.

Description of the content of each chapter

The present research is composed of the following structure:

The introduction provides a brief summary of the study, offering a wide panorama about the contextualization of the study and the detected problem. Additionally, it shows the main purpose of this proposal as well as the supporting objectives. Besides, it presents a quick overview of the methodological design.

Chapter 1 presents a detailed and critical analysis from different bibliographic papers related to the present investigation. Moreover, it represents a comprehensive overview of the main elements of TinyTap and vocabulary learning.

Chapter 2 outlines the methodological framework, detailing the conceptualization of the variables, instruments, methods, population, setting, stages, strategies, research design, and procedures. It also includes the initial results obtained through the research instruments.

Chapter 3 focuses on the analysis of the findings obtained through the survey, tests and interviews. It includes a thorough examination of the validation process of the proposal by the application of qualitative and quantitative methods and techniques.

Chapter 4 serves as a concise summary of the research evidencing the findings after the applications of the research instruments and treatment. The most relevant conclusions obtained from the analysis and recommendations are described in this final chapter.

CHAPTER 1

LITERATURE REVIEW

1.1 Research Background

As every scientific research needs to be properly supported, this research was developed through a deep investigation. A wide range of database resources were collected to ensure the reliability, efficacy, and credibility of this research. These resources include scientific journals, master's theses, academic writings, books, etc. They were analyzed to identify essential information for the construction of the two variables. professionals in the educational field.

Hazar (2020) investigated the use of digital word activities, including TinyTap, and its effect on vocabulary learning. The research intended to demonstrate the efficacy of word activities to enhance vocabulary and compare the role of online activities with paper-based activities. Moreover, 37 young learners from the 3rd grade were part of this study. The design was experimental and deductive. The data were collected through the application of a pre-test and post-test with 30 questions aligned to the Turkish Ministry of Education curriculum. The study established a significant comparison, showing that online activities like TinyTap were more effective at developing vocabulary compared to paper-based activities. Regarding the research question, the findings indicated that technological tools support students to increase vocabulary knowledge while playing and learn vocabulary in different contexts.

Likewise, Vintimilla (2018) conducted a study to explore the benefits of TinyTap for improving attention, cognitive skills, and language learning in a private school in Quito. This study aimed to analyze and demonstrate how the incorporation of TinyTap strengthens the learning process. The research adopted a conceptual inductive-deductive and qualitative approach. The instruments used to collect information were semi-structured interviews and direct observation, allowing the author to identify the main trends. The findings revealed a notable improvement in students' learning and cognitive development. TinyTap motivated students, held their attention for longer periods, and provided feedback without teachers' intervention to develop autonomy and confidence. These results highlighted the need to implement TinyTap to generate experimental experiences that engage a more reflexive and analytic learning process.

Gatti (2019) worked with second-grade children and allowed them to state that online resources like TinyTap enrich the learning environment. The study demonstrated how TinyTap empowers the kinesthetic approach, providing an enjoyable language learning environment that promotes social interaction. The researcher accentuated the significance of Chomsky's theory and universal grammar. This author remarked on the importance of developing the

English language in ESL students during childhood. The research design was experimental, where the control group evidenced, they acquired the language successfully by learning skills and concepts rather than relying on simple memorization. To finish, the researcher mentioned one limitation of this research: it was working with children; because of their ages, it is fundamental to count on a well-organized lesson. Moreover, the study emphasized the requirement of equipping teachers with different methods to develop English as a second language.

Along with it, Leung (2023) underscored the need to equip teachers with up-to-date pedagogic strategies and enrich the national education curricula by the implementation of technological resources in the classroom. This change from teacher-centered to student-centered has a positive impact on learners. Additionally, teachers can develop innovative strategies that contribute to increasing critical thinking skills and problem-solving skills. The limitation found in this research is the difficulty of changing traditional teachers into learning facilitators. Therefore, it is important for schools to provide programs that support and prepare teachers for the digital era.

Clark (2013) confirmed an improvement in vocabulary knowledge through the use of TinyTap because the visual and audio stimuli increased engagement, literacy skills, and motivation to acquire a second language. Furthermore, the use of it created a student-centered environment that allowed students to develop autonomy. Furthermore, Arequipa (2022) argued the necessity of using digital games like TinyTap to enhance vocabulary learning. Motivation was the major element to highlight from the gamified technique in digital games improving vocabulary retention as it captured students' attention. Besides, these types of online resources not only improve vocabulary but also listening and writing skills due to the audio-visual design, which includes activities in writing form.

Based on meticulous analysis during the pandemic of Covid-19 by Katemba (2022), it was possible to conclude that there is a direct correlation between the online games and vocabulary knowledge supporting English learning, students evidenced difficulties learning vocabulary. The research was designed as an experimental study with the application of a pre-test and post-test applied to both experimental and control groups. Besides, a questionnaire was applied. A Moreover, the experimental group showed significantly higher vocabulary performances than the control group based on statistical analysis, highlighting the importance of multimedia learning in education.

In the same way, Dore et al. (2019) stated the effectiveness of mobile online activities like TinyTap in enhancing receptive and expressive vocabulary. According to the perception of the

authors, there is not enough evidence to determine the efficacy of online word games. This research aimed to expose the benefits of these digital resources. In this experimental research study, there were 31 students, four years old. These preschoolers were divided into experimental and control groups. Students in the online games intervention group could answer questions more easily than those in the control group after receiving a list of words. The results indicated that mobile online games can promote educational goals when they are built on science-based learning principles and supported by rigorous research.

Similar to the research that highlighted the efficacy of online activities, Castro (2024) studied online word games like TinyTap and their support in vocabulary learning. The author tried to answer some research questions about what strategies and types of games could contribute to vocabulary development. This research adopted a qualitative and quantitative approach, and the data collection was obtained through a survey of 73 students from the third BGU. The problem was the difficulties students faced in learning vocabulary, such as lack of motivation and struggling with the meaning of words. The findings indicate that these word games enhance vocabulary learning by improving retention, memorization, and critical thinking skills. Additionally, word games stimulated students to expand their vocabulary independently, fostering their knowledge.

1.2 Independent Variable: TinyTap

ICT in Education vs. Traditional Methods

Technological tools for English language learning: Velmurugan (2022) defined Information and Communication Technology (ICT) as the set of computers, platforms, websites, mobiles, and other technologies interconnected with the purpose of communicating, manipulating, managing, processing, storing, controlling, and transmitting information. In education, ICT has had an impact; the integration of ICT has enriched the learning and teaching processes, and it has improved the quality of education through digital tools that facilitate learning (Hernandez, 2017). Moreover, Raja and Nagasubramani (2018) claimed that ICT increased interaction, making the transmission of information and knowledge easier; it also turned monotonous classes into memorable experiences by the use of novel and appealing digital tools. ICT allows individuals to access an unlimited amount of information: this information is almost immediately through digital media, and people are informed and communicated with just a click (Warschauer & Mathuchniak, 2011).

Traditional methods: they refer to a set of activities and techniques to teach English based on teacher-centered instead of student-centered. Somani and Rizvi (2018) indicated that the philosophy of traditional methods is to transfer information to the head of individuals to

memorize and process it, limiting participation of students and self-constructed knowledge. These methods were characterized by the emphasis on grammar and vocabulary accuracy. Otherwise, it is not fair to describe them as negative approaches, as they continue to being a source of teachers and build a solid base for the new teaching practices. Some of the common traditional methods are still presented including audiolingual, grammar- translation or total physical responds and direct methods, which have continued as primary in the classroom through the years, strengthening second language learning (Richards & Rodgers, 2014).

In past decades, educators have already used radios, TV, and films as innovative resources in education. Notwithstanding, it was not until the 1960s that education had a notorious revolution in the emergence of computers and the use of them. It was during the 1960s and 1970s when personal computers emerged and were adopted by schools, creating digital environments with computer-based instruction (Eng, 2005). Since that beginning, the use of technology has revolutionized the teaching and learning process with the apparition of the Internet, mobile digital tools, and AI.

Technological tools for English language learning

Technological tools also promote English learning, increasing language skills. According to Ahmadi (2018), these novel tools give teachers and students insights that contribute to an effective teaching and learning process due to technology increasing motivation, self-understanding, autonomy, and thinking skills. The adoption of these sophisticated tools provides students with several resources for English language, virtual reality, translation tools, and the recent incorporation of AI to equip learning with the necessary funds (Kessler, 2017). Apart from this, Alkamel and Chouthaiwale (2018) stated that the use of technology allows for receiving individualized instruction, creative and knowledgeable language teachers.

Dash (2022) established some of the elements of technology that enhance English learning: audio and visual effects, collaboration, constructions, media, and mobile devices are elements that allow and encourage learners to optimize the way they learn. In addition to this, educators can create variable online resources, such as materials or platforms, that students can use outside the classroom, promoting distance language learning (Rogerson-Revell, 2007). Nevertheless, it is fundamental to keep a balance, considering ethical values, responsibility, and traditional methods that must be enriched with them rather than replaced (Viteri & Páez-Quinde, 2024).

TinyTap definition

TinyTap is a learning platform that integrates an engaging operational system that involves gamification, promoting collaboration and motivation through personalized activities while

offering immediate feedback. It fits perfectly into the teaching and learning of English grammar and vocabulary through specific activities (Hemminki, 2019). This free multitasking tool was designed to create interactive and fun activities directed at a young audience. Educators can create or customize activities such as puzzles, questions, matchings, and tutorials in the same template allowing them to integrate different activities in one. One of the core objectives of this app is language support by enhancing vocabulary learning through vocabulary building, contextual learning, and interactive practice. In the app, educators can find games aligned to vocabulary, words, games, readings, and all the main educational fields.

Furthermore, Schaen et al. (2016) defined TinyTap as a tool with an extensive library of pre-made activities on the web; this app has hundreds of games that involve multimedia elements such as visuals, audio, text, etc. This aligns with students with a variety of learning styles and students and educators' preferences. Moreover, the accessibility and easy management of the platform allow parents to use the app to reinforce children´s knowledge from home. Thus, TinyTap supports active learning inside and outside the classroom, making more and more educators and parents adopt this to enhance learning by playing and interacting (Li, 2020).

Personalization and Customization

Friendly user: TinyTap was designed to be friendly to young learners because it incorporates presentations and activities integrating a simple interface with colorful visual and interactive elements (Vrabec & Zubková, 2023). Special features such as voice guidance, specific sounds, and touch-friendly controls make the app suitable for kids. Furthermore, TinyTap supports educators, especially those who are not skilled in design and even those who have difficulties managing technological resources. These types of apps permit finding available activities on the web that can contribute to the teacher's development due to the advantages of being anytime, on-demand, and self-generating, giving educators control of the nature and timing of activities as in the case of TinyTap (Prestidge & Tondeur, 2015). Moreover, educators fulfill learning outcomes because they can access numerous activities or use pre-made templates for specific needs like vocabulary (Alamri et al., 2021).

Personalized content delivered: TinyTap encourages learning through activities tailored to learners' specific preferences. Farmer (2013) conducted a study that demonstrated that TinyTap assists multiple languages, allowing bilingual education, and also counts with multimedia components like colorful elements, images, audio, video, and animations that are easy to change and personalize that turn it into an attractive option to teach children. Furthermore, online technological resources encourage autonomy, allowing users to manage the difficulty level, which gives them the power to manage their learning speed, promoting

learning (Reid-Martinez & Grooms, 2021). The creation of tailored activities can be adapted to the level of students, ensuring learners can learn in their own space and also the needed vocabulary or number of words (Tomlinson, 2001).

Pedagogical theories behind TinyTap

According to Filsecker and Bündgers-Kosten (2012), online apps, including TinyTap, are aligned with constructivism and behaviorism learning theories, as the app combines both theories to offer a learning environment that fosters active knowledge through practice and feedback. TinyTap embodies constructivism principles by promoting active learning, contextualized and collaborative learning, where learners build their own learning with prior knowledge and the implementation of strategies that promote comprehension and retention (Lantolf & Thorne, 2006). Moreover, Cloete (2017) highlighted the significance of active engagement, which is exactly what educational online resources provide through a wide range of tasks and games that could be customized to the needs and learning styles of students.

Likewise, behaviorism is present, which balances constructivism. It focuses on the observable behavior of the learner and how it interacts with the environment; it is primarily about operant and classical conditioning and influences directly in the second language acquisition (Skinner, 1974). Behaviorism emphasizes the modification of behavior through reinforcement and positive feedback. TinyTap shows activities with immediate feedback that influence students to continue practicing (Kurum, 2013). At the moment, to interact with the content of TinyTap, learners are rewarded with points or visual celebrations. This fosters appositive behaviorism and the achievement of learning outcomes. When learners receive positive reinforcement, they feel motivated to practice, and teachers can support students by providing active encouragement (Mohamad, 2023).

Gamification

Game elements: the principle of TinyTap is gamification, which Kiryakova et al. (2014) defined as a game-inspired, designed approach that integrates game thinking and elements based on games in performances that are not games. In the present years, technology has been adopted by this approach, and the immersion of technology in gamification is the result of the requirements of modern students. The use of technology in gamification is a major trend in the educational field that potentiates the efficacy of learning and turns it into an accessible, active, interactive, and stimulating process for the young generation (Pal'ová & Vejačka, 2022). These elements play a remarkable role in young learners who start building knowledge from games.

Game-like task design: Squire (2003) said that TinyTap integrates game-like task design by the incorporation of content into interactive activities. It turns the learning process into an

attractive experience, giving the opportunity to collaborate and promote social interaction by expanding curiosity. Egbert (2010 as cited in Franciosi 2011) highlighted the role of game-like task design as a key aspect in foreign language learning, developing intrinsic motivation and engaging students for long periods of time.

Technological tool for young learners

TinyTap is designed for children because it provides a variety of activities based on an interactive and funny learning strategy that promotes curiosity and cognitive demand through topics that are adaptable to the student's fondness (Butler et al., 2014). The implementation of technology in the learning process of early childhood has demonstrated potential benefits. Taghizadeh and Hasani Yourdshahi (2019) conducted a study that demonstrated that there is a positive tendency in the integration of technological resources into young learners because it keeps them motivated and supports them to acquire knowledge easily.

Moreover, Almakky (2023) analyzed the behavior of Saudi students who used TinyTap; the results evidenced students feel comfortable and intuitive with this platform because its activities are predictable and stable, and also the platform offers security, which allows students to navigate seamlessly. Farit et al. (2024) confirmed the security learners have when they use TinyTap; students have the opportunity to interact with others and be safe from digital dangers.

Assessment and feedback in TinyTap

Informal and corrective feedback: feedback supports learners and helps them to understand their performance; it also makes learners identify the areas they have to improve, making them use this information to get the desired knowledge (Hattie & Timperley, 2007). Perukanda and Dahanayake (2022) conducted a study that demonstrated that the use of TinyTap had an effect in informal assessment because the app permits the researcher to analyze the skills and identify the changes before and after the intervention. TinyTap produces automatic personalized assessment and feedback without the intervention of educators; they do not have the need to indicate mistakes to students (Caruso et al., 2019). According to Taylor et al. (2022), these children´s apps give informal and corrective feedback with appropriate language based on their age to support learning and language development, which makes it specific and meaningful to construct their knowledge.

Frequent assessment: Assessment provides information that is essential to identifying the needs of students and the knowledge; it also allows educators to adopt methodologies and strategies to improve the teaching and learning process (Black & Wiliam, 1998). TinyTap stimulates frequent assessment, and thanks to the evaluation tools, educators can follow the progress of students and discover strengths and weaknesses (Sauerborn, 2015). Additionally,

technological tools such as TinyTap provide real-time feedback that helps to identify students' progress and difficulties. Technological tools assist with effective and time-saving feedback, providing remarkable insights for educators.

Consequently, both must be combined to potentiate the development of the learning process. They create a dynamic sequence that enriches learning, fosters improvement, and encourages autonomy and critical thinking (Zhang & Zheng, 2018).

Motivation

Engagement: TinyTap impacts students' motivation by aligning with their choice of learning something specific during classes. The use of these apps looks more appealing than traditional methods of language learning. Meisani (2021) conducted a study that provided evidence that this app catches and stimulates learning engagement because lessons are presented in an interesting and interactive manner, improving knowledge progressively. This aspect gives insights for children who, because of their ages, need more extrinsic motivation than intrinsic.

Challenges and rewards: The app helps with learning retention through challenges and rewards. These emergent apps support students with attention and hyperactivity deficits; they assist and consolidate learning thanks to the interaction with the content, which improves the retention of certain knowledge (Najmuldeen, 2017). Moreover, TinyTap influences students' motivation through reinforcement; it offers friendly feedback and rewards that impact positively, causing students to feel less stressed when receiving feedback and more confident (Vu & Gaskill, 2016).

Achievement and progress: TinyTap uses stars, punctuation, and visual rewards that indicate the progress of learners. Moreover, the app permits the teacher to incorporate voice in each correct answer to motivate students or use friendly language when students make mistakes. If it is true that learners only want to see their successes, most of the time TinyTap does not allow students to continue with the next activity until they find the error and correct it, allowing them to be cognizant of which parts they have to reinforce. In these interactive environments, errors are the core of learning progress as they promote recognition and retention (Colvart et al., 2028).

Collaborative learning

Peer learning to knowledge exchange: TinyTap boosts collaboration that enriches the learning process. Ramírez-Donoso et al. (2017) argued digital tools promote asynchronous coordination, cooperation, and good communication. Moreover, they stated that the use of gamification elements develops learning progress and conscious participation, which fosters peer and teamwork by sharing information and giving significant contributions. The use of

digital tools that utilized gamification elements like TinyTap usually used a design aligned with the collaborative approach. Wang et al. (2022) demonstrated that digital tools impacted peer learning positively through the communication function that promotes knowledge supporting collaborative learning.

Collaborative problem-solving tasks: Problem-solving requires creativity and overanalytical skills that can be supported by ICT because learners have the opportunity to share information among students and facilitators, promoting their cognitive and metacognitive skills (Karyotaki & Drigas, 2016). This app contributes to problem-solving because it generates an engaging learning environment that equips students with team tools, problem-solving, decision-making, and critical thinking skills to find possible solutions and solve tasks in the classroom (Lu & Xie, 2024). These online resources not only embedded cognitive skills but also innovation that helps students create new theories and thoughts in specific contexts in a practical manner.

Dependent Variable: Vocabulary Learning

Vocabulary learning definition

Nation (2011) defined vocabulary learning as the explicit process of acquiring, retaining, applying and contextualizing understanding of words through learning strategies This process involves the frequency of words, definitions in context, and other grammatical connotations. Moreover, Nation (2017) states that vocabulary learning is based on two basic conditions: repetition and good-quality mental processing that make possible the effectiveness of this process. This process demands effort and predisposition by the individual involving comprehensive skills to communicate. Teachers are the core of this process who are in charge of applying a variety of techniques to make learners learn new words.

Nation (1990, as cited in Gu, 2003) concluded that a word in a second language needs to be exposed to 5-16 times to be learned. Additionally, the author established the person, context, task, and learning strategies as basic components to consider during the vocabulary learning process. Vocabulary learning has a direct relationship with comprehension; the more comprehension, the more words and meaning will be able to be utilized. The type of intervention is fundamental to getting success (Wright & Cervetti, 2016).

Importance

Vocabulary plays an essential role in language acquisition; without vocabulary, people are not able to convey their intentions and thoughts. Le and Ly (2024) emphasized the importance of vocabulary with the necessity of people to communicate, especially in educational and professional contexts, where learners require managing specialized vocabulary. According to

Susanto's studies (2017), vocabulary learning is fundamental to mastering spoken and written communication; an adequate vocabulary repertoire facilitates reading comprehension and the use of structures and functions necessary for clear and flexible communication. Vocabulary is the channel of comprehension for any language, showing it as a requirement for speaking, writing, reading, and listening understanding, allowing learners to face the modern academic challenges (Brooks et al., 2021).

Through time, educators and investigators have perceived the gap in second language acquisition. Although the importance of vocabulary was known, it was not until the 1970s that researchers were conscious of the necessity to focus and develop more research and establish clear theories based on vocabulary learning (Alharbi, 2019). It was not until the 1980s and 1990s, during the Age of Reason, that investigators perceived the need to institute theories for vocabulary learning. Grammar translation was the first theory focused on analyzing language rather than how to use it (Schmitt & Schmitt, 2020). Asyiah (2017) suggested that individuals simply need words together to convey meaning without the requirement of grammatical structures. In this sense, it is evident to consider vocabulary as a significant aspect of language, which makes communication possible among individuals.

Attitudes and perceptions: Attitudes are described as a positive or negative view a learner has about learning vocabulary. Tseng and Schmitt (2008) studied how attitudes take part in the vocabulary learning process; they established motivation and strategic behavior as fundamental aspects. The authors divided the strategy behavior into the metacognitive skills and domain of vocabulary strategies; both work together, making the learner feel confident in an adequate learning process. At the same time, perceptions refer to the viewpoint of the vocabulary learning process. Vocabulary perception is a crucial element due to its allowing the incorporation of adequate strategies to master vocabulary in learners (Asyiah, 2017). Meissa and Fadia (2004) emphasized the relevance of these two concepts, especially in young learners, considering the challenges teachers face in developing autonomy during the early educational years.

Motivation

The importance of motivation in vocabulary learning is indisputable. Ryan and Deci (2000) considered that intrinsic motivation supports students in moving words to long-term memory, whereas extrinsic memory stimulates immediate reinforcement. Moreover, motivation permits students to fulfill specific language goals, which can guide the sequence and progress of vocabulary learning; these goals provide students with a clear direction on the purpose students

should address during the language instruction, enhancing the learning experience (Locke & Latham, 2002).

There have been different studies that support the role of motivation in vocabulary learning. Lee et al. (2022) provided evidence that motivation directly influences positive vocabulary knowledge; the information gathered by the test demonstrated that at the beginning, students used one vocabulary strategy, but later they were able to use meaningful strategies to solve tests satisfactorily. Sadeghi (2013) conducted a study with EFL students, and the results revealed that highly motivated students achieved learning outcomes based on vocabulary knowledge, showing a big difference with lowly motivated students who presented difficulties managing vocabulary. To emphasize the significance of motivation in vocabulary, Tanaka (2017) worked in a demotivated environment with 155 students who showed regression and frustration during the process.

Vocabulary learning in children.

For children, the English language learning process may be easier than for adults through a combination of innate abilities such as exposure, imitation, social interaction, and reinforcement. Moreover, McLaughlin (1977) points out that interference is an essential and inevitable consequence of bilingualism in children because it serves as a medium to transfer language elements into another language that support the language acquisition. Numerous studies have shown that children have the facility to learn the English vocabulary due to the critical period that occurs at an early age. Hurford (1991) established the critical period as a specific time when the brain is more sensitive to language acquisition and children learn words naturally and effortlessly because the brain has more predisposition and adaptation to learn, ending around puberty. Furthermore, DeKeyser (2000) considered that the critical period finishes with a decline in vocabulary learning ability, especially in the mastery of pronunciation and grammar learning by adulthood, when adults start to lose the innate mechanisms for implicit vocabulary learning and retention.

English language learning takes dedication and time. Even children with natural abilities need more than just exposure to vocabulary in an educational environment; they need to have access to all spheres of life, including political, economic, and social contexts (Plessis & Louw, 2008). Biemiller (2003, as cited in Cardullo et al., 2017) suggested the significance of teaching vocabulary to children before third grade because the vocabulary gap between skillful and low-performance students is more notorious, making it necessary to have a foundation of word knowledge to manage more complex tasks and find success in their professional or academic future.

The role of context

Context is fundamental for vocabulary comprehension. For Nagy (1995), context is evidently important for two common-sense reasons: individuals learn and acquire most of their vocabulary knowledge from contextualized tasks, and most of the time it allows inferring the meaning of a word.

Context clues to infer word meaning: Beck (2002) suggested how context supports inferring words' meaning, learning new words, facilitating inference, cultural implication, and emotional connotation. De la Garza and Harris (2017) argued that words have different meanings, and it is through context that the correct meaning in a specific situation is determined; most of these words are deduced from reading. Li (1988) guided a study that evidenced that the words' meaning deduction not only allowed learners to guess meaning but also contributed to the retention of meaning. After seeing words in different scenarios, students have the opportunity to recognize their meaning and function, allowing them to manage the words in a better manner.

Contextualized tasks: The main features of this task are to set the learner in a realistic setting and, through real words and events, to generate a meaningful learning process (Hosseini & Salehi, 2016). Franco and Galvis (2013) pointed out the significance of contextualized tasks, demonstrating how these tasks enable students to have new vocabulary exposure to enhance better understanding. Protopapas et al. (2013) conducted a study that demonstrated how tasks facilitate inference where students were able to infer meaning through reading prediction tasks. If words are inquired in meaningful contexts such as stories or conversations, it is easier to create associations that make possible a strong memory recall (Elgort, 2013). Nassaji (2002) accentuated that understanding and using vocabulary in real-life situations in tasks engaged students and made it more relevant and indelible for students because students used it as active vocabulary.

Active and Passive Vocabulary

Williamson (2014) defined active vocabulary as the set of words that are used expressively; these words are produced in signing, writing, and speaking. The active vocabulary is actively employed in speech and writing, and its range is more limited than passive vocabulary (Weigel, 1919). According to Nurutdinova et al. (2020), to become part of active vocabulary, a word requires passing some stages that involve strengthening passive vocabulary and methods of vocabulary activation such as contextualization, repetition, and engagement in active usage.

The components of active vocabulary include word frequency in communication, contextual usage that refers to words used in different contexts, and familiarity and comfort that ensure its daily use, all aligned to strategies to activate its usage (Tosuncuoglu, 2007). In order to develop

all these components, it is a requirement to find a manner to develop active vocabulary. The exposure and practice are meaningful to increase active vocabulary, whereas educational strategies through explicit teaching that include context-based learning play an essential role in enhancing the use of words actively (Noroozi et al., 2019). The use of a word list is an effective way to work with active vocabulary because it fosters understanding of vocabulary. The list of words as a tool to improve active vocabulary is always conducted by interactive activities that permit students to use these words as part of learners' personalities and cultures (Coxhead, 2000).

On the other hand, Mokhtar et al. (2013) described passive vocabulary as the set of words that are understood but are not yet in usage. These words are used to recognize definitions in context and analyze most of them in texts or listening to comprehend the message they convey. Kitao and Kitao (1996) divided passive vocabulary into two types: passive listening vocabulary, which refers to words that students can recognize but do not really use, and passive reading vocabulary, which refers to words that learners can recognize in text but are not able to produce. Miyazaki (2019) highlighted passive vocabulary as parts of receptive knowledge, which permits students to find the core of different meanings from words with the purpose of understanding information rather than generating it. For Webster (2020), passive vocabulary is remarkable for language acquisition due to the fact that it often exceeds active vocabulary, which indicates a broader comprehension of the second language.

Explicit or Intentional Vocabulary learning

Direct instruction: it means a deliberated and focused process in which learners involve direct instruction from the teacher, including engagement, awareness, and predisposition to learn (Webb et al. 2020). In other words, it involves explicit instruction directly teaching specific words and meanings through clear and intentional instruction. This process of embedded teacher–centered instruction focuses on the delivery of information. Moreover, this instruction is characterized by a structured process. Hung and Feng (2016) conducted a study based on reading aloud instruction where students follow specific readings, repeating words in different contexts. The findings demonstrate that students learned strategies to use for different contexts and purposes and also improve reading skills.

Explicit instruction: this process incorporates numerous strategies and methods to manage difficult words and engage the use of them in a correct manner (Tahir et al., 2021). Explicit instruction in vocabulary is necessary in language learning because this process ensures learners understand and use words accurately. Along with it, explicit instruction enhances comprehension and builds a richer language foundation to encourage communicative skills.

This is because students focus not only on acquiring the meaning of words but also on specific lexis use, context, and functions that assist learners to better grasp texts and express themselves effectively. Patrona et al. (2022) conducted a study with preschoolers who, after explicit vocabulary interventions with PoGO and technological tool application, demonstrated mastery in vocabulary learning and also minimized difficulties in language acquisition.

Practice with multiple types of vocabulary input: Young-Davy (2014) emphasized the power of explicit vocabulary over incidental vocabulary; it is not only necessary to be exposed to the real context, but also students need to practice with multiple types of vocabulary input for a successful process. Longhurst (2013) highlighted the benefits of practice vocabulary input, including a deep understanding of meaning in words beyond a simple meaning, better retention for longer periods by repeating exposure, and allowing students to be aware of vocabulary importance and its use. According to Gallagher et al. (2019), the findings of their study evidenced that monolinguals take more advantage of practicing vocabulary input than bilinguals because bilinguals need word-learning strategies to practice.

Word retention

Axelsson et al. (2016) defined word retention as the process of storing words into long-term memory and remembering them later (again and again) with the capacity of incorporating new information into the existing memory. According to the authors, for the effectiveness of this process, it is necessary to manage the strategies of word recognition, word association and word mapping.

Word recognition: it is a cognitive understanding process for identifying words by reading or listening, which is a fundamental language skill for language learning, especially in young learners (Neshatian & Khaghaninejad, 2024). The application of word recognition strategies supports vocabulary development. It allows a wide understanding of meaning, which provides a better identification of a word and its functions: reading in context, inferring words in reading, and decoding words are the best strategies (Benner et al., 2022).

Word mapping: it is a generative strategy that permits exploring and figuring out the meaning of words by connecting phonemes and graphemes with meaning; this meaning could be associated with letters or visual stimuli. It contributes to retention by incorporating new vocabulary (Harries et al., 2008). This is an effective and creative technique that encourages learners to discover the relationship of each word and become conscious of its meaning (Marianca et al., 2022). In addition to this, the authors defined this technique as a creative and gamified technique that engaged learners to explore and determine relationships among new and learned words, permitting a deeper analysis.

Word association: this strategy involves the capacity to make connections of words with specific words, concepts, and images. This strategy allows learners to build vocabulary and store it in their memory under co-occurrence conditions (Ates & Ari, 2022). In the case of children, the most used is word-image association, which emphasizes the use of words with images in which students perform different activities such as writing words, copying, and matching. This enhances vocabulary by creating mental connections.

Other Vocabulary Strategies

Memory strategy: It focuses on retaining words through connections of the new knowledge with images and familiar words. These pictures allow students to develop cognitive skills and develop mental imagery that facilitates the integration of new vocabulary knowledge into the existing (Atay & Ozbulgan, 2007). Memory strategy, also called mnemonic strategy, emphasized the decontextualized vocabulary memorization, which involves a deep semantic process to memorize better than oral repetition (Nemati, 2009). According to Ibarra and Martínez (2018), working memory strategies permit learners to overcome limitations, improving the ability to retain and recover words in English. Moreover, students have the opportunity to transfer the learned skills and strategies into a new task.

Word recall: this strategy is defined as the capacity to recover words from memory involving encoding storage aligned with cognition needed for comprehension and communication (Baddeley, 2000). Visual support is the primary resource to stimulate the brain to retrieve words. It makes it suitable to measure sight vocabulary, assessing the ability of learners to manage memory as soon as possible (Laufer & Aviad-Levitzky, 2017). Furthermore, recall addresses the enhancement of reading fluency and communication. The use of specific materials like reading tasks and flashcards makes it possible to assess learning and, at the same time, identify which words are more difficult for them (Ehri, 2005).

Learning vocabulary in context: Contextual learning strategies consist of learning new words in context that support students' understanding of meaning or inferential meaning; situational examples engage students' experimentation with vocabulary and make connotations that involve deeper word comprehension (Nation, 2001). The implementation of a real situation explores prior knowledge to build students' knowledge and turn learners into self-regulated individuals, fostering independent learning. (Manangkari, 2018).

Space repetition techniques: This technique that maximize memory retention, polishes pronunciation and builds automaticity. Instead of being an old technique, it continues to be the most suitable manner to develop vocabulary, where learners repeat the learner information through intervals of time (Alamelu & Ilankumaran, 2024). Repetition is and will be the primary

technique to learn vocabulary, adopting different improvements over time to guarantee their undeniable efficacy. Repetition strategies are aligned with word recall: the ability to recover and remember words when memory needs arise. The use of gestures is a form of enriching this technique. Igualada et al. (2017) conducted a study with 106 children that demonstrated how beat gestures facilitate cognition, making children have a better word recall as they work as multimodal maskers of prominence.

Vocabulary Learning Through Technology

Modern students require teachers who integrate technology in the classroom by adapting, transforming, enriching, or changing traditional strategies and methodologies to develop technological skills that prepare them for the current educational environment. Urrea et al. (2024) emphasized the benefits in children, including the personalization of content, acknowledgment of previous knowledge, and cognizance of context. Hao et al. (2021) suggested the use of mobile devices to strengthen the efficacy of technology in vocabulary learning because they are not restricted only to classroom environments. Likewise, technology enhances young learners' vocabulary repertoire and improves retention, making it easier for them to remember words even with limited or no visual support (Yilmaz et al., 2022). Although the curriculum in numerous schools still applies traditional approaches, technology comes to facilitate not only learners but also instructions. These offer teachers a wide range of resources, saving time and developing technology skills at the same time (Stoner et al., 2011). Moreover, the application of these technologies allows young learners to develop abilities of recognition and cognition because they involve visual, auditory, and kinesthetic making the vocabulary learning process meaningful (Mohammad et al., 2024).

The Role of TinyTap in Vocabulary Learning

TinyTap allows educators to design games centered on specific vocabulary needs for specific situations by using multimedia content to support learners in acquiring words in a contextualized manner, transforming lessons into meaningful learning (Camacho et al., 2023). The use of this technology enhances the contextualization of vocabulary because it is designed with activities that encourage students to deduce meaning and consolidate understanding, making students capable of activating productive skills by using words in a correct function (Stockwell, 2013). Moreover, it incorporates multimodal learning that consists of online activities that integrate images, audio, and text that help students to make connections between words with images and sounds; this reinforces vocabulary through sensory channels according to different learning styles (Mayer, 2014).

Apart from this, online games like TinyTap support the reinforcement of words by repeating specific exercises that reinforce vocabulary learning over time, which is an indispensable principle for effective vocabulary instruction (Simmons et al., 2018). Likewise, TinyTap emphasizes web-based games that guarantee a satisfactory opportunity to improve skills and vocabulary and cover the necessity to increase vocabulary learning (Velasco, 2022). On the other hand, technologies including TinyTap offer students and teachers a unique opportunity to practice digital literacy and create children and teachers' librarians who can explore, generate, and configure specific content that addresses students' needs (Nichols, 2013).

1.4 Normative and legal bases

With globalization growth and the use of English as a lingua franca, evidently, schools are cognizant of the importance of the implementation of correct methodologies and methodologies that engage learners to learn English as a second language. The Council of Europe (2020) emphasizes that Pre-A1 and A1 levels of CEFR are defined for beginners, who usually will be young learners. The new CEFR version highlighted the importance of learning English for children and adapting new descriptors that are relevant for young students. These were adapted with Cambridge Assessment English to guarantee good guidelines and accurate evaluation according to age. UNESCO (2003) stated the importance of the incorporation of teaching languages in the educative environment to strengthen communication in different contexts. This organization takes into account the impact of majority languages, such as Chinese and English, which facilitates interaction with other dominant groups or societies around the world. In the same manner, the Ministerio de Educación (2016) establishes the English language as a compulsory subject since the preparatory level (first grade) develops throughout the scholar-level knowledge and skills as a requirement to advance to the next level. Moreover, it considers English as part of the core of the subject that is aligned to the interests and needs of students, allowing for real diversity in the classroom.

1.5 Conclusion

After a meticulous analysis of different points of view of authors and their findings, the use of technology in education has a positive impact on the educational field. Regarding the independent variable, the characteristics and advantages demonstrate the effectiveness of TinyTap: the frequent feedback, the multimedia, and the security system, along with personalization and customization, turn this app into a suitable and appealing tool for young learners, motivating them thanks to the embedding of gamification and game elements. Furthermore, the theories of constructivism, behaviorism, and cooperative learning guarantee

active participation, providing students the opportunity to improve their vocabulary knowledge and teaching practices for teachers.

On the other hand, vocabulary learning, the dependent variable, is undeniably the most remarkable aspect of the English language. The importance of vocabulary instructions is fundamental for children, as they are gifted with universal grammar, which makes this age the perfect stage to teach words. Motivation plays an important role in fostering their learning process because children have the opportunity to acquire better communication and understanding skills. Hence, the need to improve this element by providing learners with tools to maximize the learning process by supporting them to acquire and manage vocabulary skills that promote memorization, contextualization, and retention. The connection of both variables underscores the significance of incorporating technological tools to foster, encourage and support vocabulary learning.

CHAPTER II

METHODOLOGY FOR THE DEVELOPMENT OF RESEARCH AND DIAGNOSTIC STUDY

2.1 Overview

The development of vocabulary is a requirement for effective English language learning. Ghalebi et al. (2020) highlight the importance of vocabulary in EFL learners, as this produces interaction and directly affects the development of speaking and reading skills in English language comprehension and production. Fogarti (2020) discussed the necessity of technology integration in children's learning environments because it facilitates teaching and maximizes opportunities to increase vocabulary learning. In addition, the findings evidenced how technology enhances students' vocabulary knowledge, and both teachers and students felt vocabulary instruction was useful, memorable, and feasible. TinyTap appears as an app to support the vocabulary learning process by integrating game elements and multimedia design that increase students' motivation and concentration (Kouo & Visco, 2021). This chapter describes the research methodology applied for this research; it includes the approaches, designs, sampling, methods, procedures, data gathering and process, and validation processes that the researcher adopted for the effectiveness of this study.

2.2 Conceptualization and Operationalization of the Variables

The following section explores, identifies, and explains the main categories stated in the research “The use of TinyTap to enhance vocabulary learning in Pre-A1 learners.” These categories are the basis for examining the efficacy of technological tools like TinyTap in developing vocabulary in students from second grade at Ecuatoriano Holandés School in Ambato City, a private school with technological resources that emphasizes the importance of English. Moreover. These categories are fundamental to organizing and analyzing the gathered data during this study.

The main categories identified in this research include TinyTap, which is a multitasking tool where users can access a wide range of educational games for different pedagogic necessities, like second language learning. Vocabulary learning refers to the process where individuals learn new words and their meanings, which is fundamental for second language learning; it usually occurs through intentional and formal instruction.

2.2.1 Independent variable: TinyTap

TinyTap is an online resource that is part of the ICT in education; this tool is considered a support tool for English language learning over the traditional methods used in the classroom.

This app incorporates gamification as a primary approach with game elements and game-like task design that promotes social interaction. This multimedia design increases students' motivation by engaging them through activities that present challenges and rewards while allowing them to be cognizant of their achievements and progress. Moreover, personalization and customization are perceived as significant features due to the app's friendly user system and personalized content delivery that fits as a technological tool for young learners.

These characteristics facilitate the use of TinyTap as a tool to create interactive activities that facilitate meaningful bilingual education (Merino, 2020). Furthermore, the app implements informal and corrective feedback aligned with frequent assessment, which occurs in real time. It offers a wide range of resources based on personal webpages, video recorders, and audiovisual screencasting that permit students to assess and give feedback in an appealing form (Deeley, 2018). Likewise, TinyTap fosters students to work collaboratively, promoting peer learning, problem-solving, group progress, achievement tracking, and the opportunity to exchange and share knowledge (Nitzan et al., 2015).

2.2.2 Dependent variable: Vocabulary learning

Although many years before vocabulary did not have importance in English language learning, and even today it continues as a negligent aspect of language learning in some learning environments, evidently it is crucial to learn and acquire a new language. Vocabulary is significant because it embodies the manifestation of human thoughts, ideas, and culture and is a factor in human interaction. As children have the gifted capacity to learn vocabulary effectively, this is the age where bilinguals have to emphasize vocabulary teaching (Kontaş, 2023). Understanding the attitudes and perceptions of vocabulary is important, as well as motivation, which plays a fundamental role due to students demonstrating a predisposition to learn. Contrary to vocabulary acquisition, vocabulary learning occurs by explicit learning, where students receive direct instruction addressed with practices with multiple types of vocabulary input. The role of context is meaningful due to it offering clues to infer word meaning. Contextualized tasks contribute to context development by making students use active or passive vocabulary according to the situation.

As vocabulary learning is looked at as a requirement for an effective English language domain, different vocabulary strategies have been implemented. Memory strategies, word mapping, and learning vocabulary in context are the main strategies used in the classroom to promote vocabulary explanation. Moreover, they intend to make students not only learn words in isolated form but also manage the meaning and function to be used in different contexts. In the same way, word retention represents a challenge for students, especially for young learners

who have short-term memory. As a result, it is important to work on word recognition and word recall that guarantee students can use and remember words when they need them; spaced repetition techniques are an effective manner to word these aspects.

2.3 Research approach

The present research is conducted under a mixed approach.

The qualitative approach provided valuable information to support this study. It emphasizes understanding participants' points of view, beliefs, experiences, and perceptions to understand a phenomenon with precision (Flick, 2004). Jackson and Drummond (2007) defined qualitative research as an approach that facilitates credibility, objectivity, reliability, and confirmability because it examines what participants say by using standards of trustworthiness. Thus, this approach was present in this study through the application of an interview guide to students to gather qualitative results based on perceptions and experiences of TinyTap.

On the other hand, the quantitative research allowed to obtain a solid statistical foundation for the effect of TinyTap. This focused on a systematic investigation that used numerical data to measure, verify, and calculate a phenomenon to identify trends and relationships (Watson, 2015). This permitted a step-by-step process to make numerical representations and manipulations of observations by the application of empirical evaluations (Sukamolson, 2007). Quantitative methods were used in this study through the application of pre-tests and post-tests to measure the impact of TinyTap on vocabulary learning and its effectiveness.

Considering the advantages of both approaches, the researcher decided to adopt the mixed method for this research. This combination provides a better understanding of the stated problem and research question. Additionally, the researcher selected this approach because it offers a better comprehensive picture of how TinyTap impacted vocabulary learning. Moreover, the quantitative data measured objective results regarding vocabulary learning, whereas the qualitative data fitted nuances related to learning preferences, personal experiences, and motivations with the app. This approach is aligned with triangulation due to the use of different qualitative and quantitative instruments. This method enhances the validity of this study because it uses the collected data from different methods to extract the required information to achieve the objective of the research (Bans-Akutey & Tiimub,2021).

2.4 Research scope and design

Descriptive is the predominant scope of the present research. This seemed to be an appropriate choice because it supported the researcher's ability to identify the main characteristics of a particular phenomenon through a dataset. Additionally, this scope gave a detailed and monolithic panorama to observe how the implementation was carried out. Thus, the descriptive

scope is intended to make an in-depth analysis and draw a clear description of the effectiveness of TinyTap activities in improving vocabulary. Furthermore, the descriptive element was aligned with the evaluation and analysis of initial vocabulary knowledge, progress after the intervention, and the description of attitudes and perceptions of using TinyTap.

Likewise, this is an experimental research study that enabled the researcher to precisely control and measure the variables of this research. This design applied a controlled intervention and observed the effect of TinyTap on vocabulary learning while setting the conditions and minimizing external factors that could hinder the results. For this, the sampling was divided into experimental and control groups. Second B was the experimental group that received the implementation of TinyTap through games and different activities as an innovative method to learn words, whereas Second A continued with the traditional methodology. The obtained data from both groups permitted the researcher to make comparisons and draw conclusions.

2.5 Type of research

It is field research, as the study took place at Ecuatoriano Holandes School, the context where the phenomenon of this research occurred. Field research permitted the researcher to obtain data from the primary resources. Moreover, this research allowed for obtaining data in real-time and from real situations, and the researcher had the opportunity to examine the real-life educational environment and so was able to describe the main characteristics of the implementation of TinyTap in the sampling. Along with it, the bibliographic aspect is presented in the literature review, which permitted the investigator to use the information to have a clear panorama and the existing gaps, as well as to use the information for the operationalization of variables for the creation of the instruments.

2.6 Research methods

Comparative analysis is the main research method of the present study because it has the main characteristic of comparing two or more things, situations, or groups. It suits the nature of this study perfectly, as it analyzed and identified similarities, differences, patterns, gaps, and relationships between the experimental and control groups.

The deductive method was used to elaborate the problem statement and conclusions.

The inductive method was helpful to build the problem statement, the objectives of this study, the instruments, and the conclusions.

The analytic method analyzed all the components of the variables. It was used for the delimitation of the topic, justification, elaboration of instruments to collect data, and overall theoretical framework.

The synthetic method which is a reasoning process that reconstructs a whole from different elements, creating a systematic and concise summary, was used to present the introduction, theoretical framework, results, and conclusions.

2.7 Description of the methodological proposal

The proposal for enhancing vocabulary learning of second-grade students at Ecuatoriano Holandés School was mainly centered on using ICT to improve vocabulary. Thus, it is a technological proposal because it applies innovation and technologies to improve learning. This proposal involves integrating technological tools, systems, software, apps, or platforms to develop a study and achieve objectives while highlighting the potential impact of technology on the study outcomes (Skarlatidou et al., 2019). Additionally, it integrates online gamification, which is perfectly suited for young learners through the integration of game elements through activities in TinyTap to develop vocabulary learning. Moreover, this proposal was carefully tailored to address the specific needs and characteristics students share at this age to guarantee the effectiveness and success of the intervention.

2.8 Description of the research instruments

Survey: The survey was the first instrument applied to diagnose the initial vocabulary knowledge and perception of learning methods. This included questions related to initial vocabulary knowledge, such as whether they can understand vocabulary when they hear it, vocabulary in context, and retention. Furthermore, some questions were about the current methodology used in class and their perspectives on using technology to teach vocabulary. The scales used in the interview were Easy, So-so, Difficult, and Very difficult for the questions connected to initial vocabulary knowledge, and I didn't like, A little, I like it, and I love it for the questions about methodology. The survey used emojis for a better understanding of the participants. In this form, it was easy for them to associate the questions with the answers for the participants who were children. The survey was addressed to the experimental and control groups.

Pre-test: This test was the second instrument applied during the study. It was focused exclusively on vocabulary to evaluate the vocabulary knowledge aligned with the second specific objective of the research. The pre-test consisted of 5 questions with 4 items each, 20 items in total. Students performed different tasks in each question, which included color, circle, number, and an oral part taken individually with a rubric. They evaluated the level of word recognition, word recall, word mapping, word association, and contextualized vocabulary. The used lexicon was colors, numbers, commands, school items, and toys, which, according to the CEFR, are words that students should develop, especially for children (Ministerio de

Educación, 2016). Students had 45 minutes to complete the evaluation, and they needed the guidance of a teacher because they had not yet fully developed their reading skills, even in their mother tongue.

Post-test: This was the third instrument applied after the implementation of TinyTap to the experimental and control groups to measure the progress of each group. This test replicates the same structure as the pre-test, but it has some distinctions. Students had to answer some vocabulary from the pre-test, but it had fresh words that students developed during the implementation. Additionally, the complexity of the word was higher, and some tasks had more contextualized words. Students had the same 45 minutes to complete the test.

Interview: The interview was the fourth and final instrument applied only to the experimental group after the implementation to discover the students' experiences, attitudes, and perceptions toward the use of TinyTap. This instrument contained open-ended questions related to their feelings about the app, what characteristics they liked the most or maybe not, and how the app contributed to their vocabulary knowledge. It provided a deep understanding of their engagement and motivation to learn vocabulary through innovative technological resources.

2.9 Delimitation of population, sample and sampling

The population at Ecuatoriano Holanddes School, located in Ambato, consists of 347 students. Nevertheless, this research focused on 26 students from second-grade classes A and B; they are 6 to 7 years old, 16 females (61.54%) and 10 males (38.46%), and pre-A1 level, according to the CEFR. They were selected through convenience sampling. This refers to a non-probability sampling selection where the sample is chosen based on the availability, simplicity, low-cost and quickness aspects (Stratton, 2021). This technique is suitable because the researcher had easy and direct access to students and interventions. Additionally, the participants were divided into an experimental and a control group. They were already divided into two classes, which facilitated the assignment of groups: Second A as the control group and Second B as the experimental group.

The following criteria were taken into account for this non-probability sampling: 1) They share similar ages of 6 to 7. 2) They study English as a compulsory subject. 3) Students have the same hours of English per week. 4) Students attend the same school. 5) Students share the same economic status. 6) Students have the technology to use inside and outside school. 7) The parents of the participants agreed to have their children be part of this study and signed the authorization.

Table 1

Population

Participants	Control	Experimental	Percentage
Women	8	8	61.54%
Men	5	5	38.46%
Total	13	13	100%

Elaborated by: Tigse (2024)

2.10 Research Context

The study was conducted at the Ecuatoriano Holandés school in Ambato, located in the province of Tungurahua, Dirección Distrital 18D02. It has been in operation for 19 years and works on the morning schedule from 7:00 am to 13:00 pm. This institution has all the educational levels: initial, preparatory, elementary, middle, superior school, and BGU. English is considered a compulsory subject, emphasizing it at the superior levels. In this school, there are 6 English teachers with B2 level, as proved by their first B2 certificate in Cambridge. The English schedule this school manages is 8 hours for middle, superior, and baccalaureate and 7 for the lower levels. Furthermore, this school counts technological resources such as internet access, a laptop, projectors, and a table that facilitate the conduction of this research, which is focused on the use of technological tools to enhance vocabulary learning.

2.11 Research stages

The present study was carefully and meticulously divided into six periods: delimitation of the problem, literature review, elaboration of instruments, application of the instruments, data analysis, and the statement of the conclusions and recommendations. The first stage is considered the diagnostic stage where, through empirical observation, the researcher could identify and gather information about an existing problem. Based on this, it was possible to delimit the object of the study and select an educational technological resource to overcome the problem. In the second stage, the investigator analyzes critically different databases to collect the necessary information to support the current inquiry. In the third stage, qualitative and quantitative instruments were designed for the participants of this research in order to gather information. A pretest, posttest, and an interview were selected to carry out this study; they were checked and approved by UBE experts. In the four stages, the investigator applied

the tests and the interview to gather mixed data for the analysis process and results of the research. In the fifth stage, the collected data was examined to establish results that permit the realization of the improvement of the participants. Finally, in the sixth stage, conclusions and recommendations were settled based on the obtained results.

Table 2

Research stages

Stages of the research project	Description	Activities	Performers
Delimitation of the problem	Definition of the problem, group, gaps.	Observe deficiencies in the group.	Researchers
Literature review	Define and examine the theoretical framework.	Bibliographic research analyzing different data bases.	Researcher
Elaboration of the instruments	Establish the criteria for to instruments and validation.	Elaboration of a pretest, protest and an interview.	Researcher Experts to validate instruments
Application of instruments	Apply instruments to gather data and information.	Apply a pretest, posttest and an interview.	Researcher
Data analysis	Analyze and elaborate a report with the obtained data.	Application of techniques to statistical analysis.	Researcher
Conclusion and recommendations	Final report of data, conclusion and recommendations.	Elaborate a final report with the conclusions and recommendations.	Researcher

Elaborated by: Tigse (2025)

2.12 Research purpose and justification.

The purpose of this research is to analyze the impact of TinyTap on the enhancements of vocabulary learning in Pre-A1 learners at Ecuatoriano Holandés School. Despite knowing the importance of vocabulary in the process of learning a second language, students have low vocabulary knowledge. This study aims to implement the use of ICT through the use of TinyTap to motivate and encourage students to improve their vocabulary levels. Johnston (2019) argued that TinyTap promotes opportunities for collaborative work and dynamic learning that increase students' confidence and active participation, which enhances a better language learning process. The current situation of students in terms of vocabulary was determined by the use of a survey and pretest. This test, aligned with the post-test, allowed measuring improvement of vocabulary, whereas a survey permitted the research to explore attitudes and perceptions of students after the intervention.

2.13 Ethical considerations

As for the ethical considerations, it was compulsory to make participants aware of the purpose of the study and the procedure it will take, the benefits, and the consequences for their lives. As children, their parents were informed of this study and signed an authorization to permit the researchers to apply the research instruments and gather information as evidence. In the same manner, the authorities of the institution provided the authorization to conduct the study. The evidence and results were manipulated directly by the researcher and were used only for investigative purposes to ensure the rights and respect the privacy of participants.

In addition, students' names were replaced by numbers to guarantee anonymity. Nobody except the teacher used this information, who manages this with research integrity and quality. As it was possible, the faces of students did not appear in photos or videos; at least it was not so necessary. The obtained scores and documents were kept in the teacher's office, where nobody could access them. It is important to clarify that the intervention took place in the school during the English hours; there was no other place or schedule.

2.14 Results of the diagnostic stage

During the diagnostic test, a survey made of 10 questions was applied before the intervention. The results were interpreted thought statistical description and shown by tables and graphics to have a clear panorama and also to manage the results. On the other hand, the pre-test was applied in order to evaluate the initial level of vocabulary from second-grade students. Previously, before the application of the instruments, the researcher gave students a brief explanation about the study, its purpose and other characteristics.

2.14.1 Results and Interpretations of the survey

The following information represents the result obtained after the application of the survey to the experimental and control groups. Both groups received the survey to get a general view. Every question in the survey was guided by the teacher and explained in Spanish for better comprehension.

Table 3

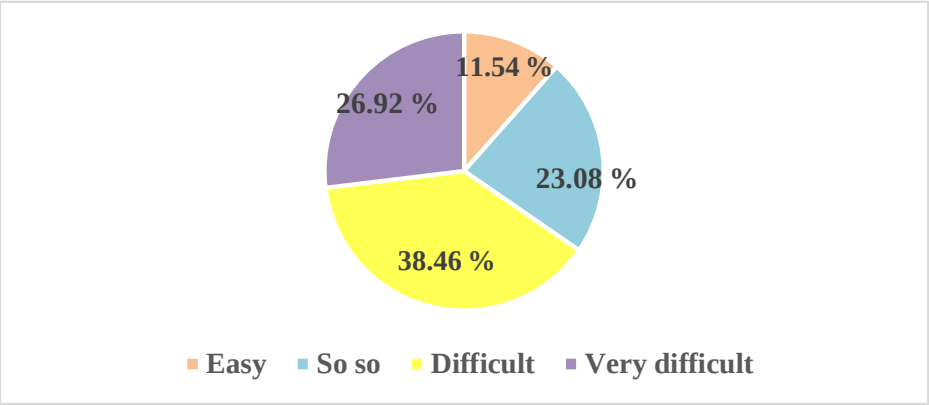
How easy or difficult is it for you to remember words you learn in school?

Scale	Frequency	Percentage
Easy	3	11.54%
So so	6	23.08%
Difficult	10	38.46 %
Very difficult	7	26.92%
Total	**26**	**100%**

Elaborated by: Tigse (2025)

Figure 1

How easy or difficult is it for you to remember words you learn in school?



Elaborated by: Tigse (2025)

Figure 1 displays how difficult students perceive remembering words in school. A notable portion of the participants (38.46%) stated that it is challenging for them to remember English words they learn in school. Another portion (26.92%) indicated that it is very difficult for them

to keep the learned words in mind. A smaller percentage (23.08%) feel relatively easy to remember words, and the rest of the participants (11.54 %) do not find it difficult to remember English words. The results evidence the low level of word retention among students affecting their capacity for memorization and suggest the need to implement better retention-focused activities to help students who struggle with remembering words.

Table 4

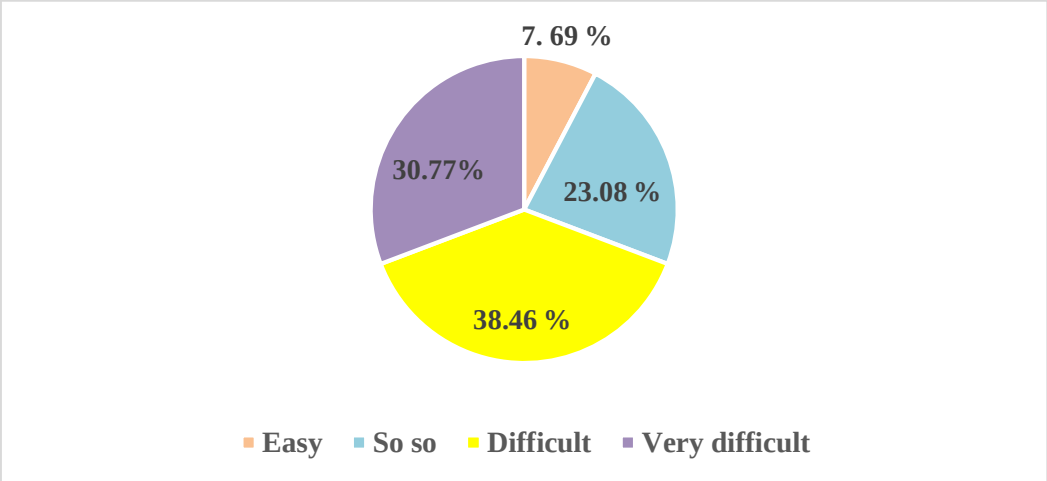
How easy or difficult is it for you to understand words when you hear them?

Scale	Frequency	Percentage
Easy	2	7.69 %
So so	6	23.08 %
Difficult	10	38.46 %
Very difficult	8	30.77 %
Total	**26**	**100%**

Elaborated by: Tigse (2025)

Figure 2

How easy or difficult is it for you to understand words when you hear them?



Elaborated by: Tigse (2025)

Figure 2 indicates how difficult it is for students to understand words when they hear them. Only a small percentage, 7.69% considered it easy to get English words when they listened to them. 23.08% of the participants feel that the difficulty is intermediate, neither easy nor

difficult. 30.77% reported to have an excessive level of difficulty when they hear English words. Finally, a significant 38.46% of evidence indicates they have difficulties in recognizing words. Overall, results remark on the difficulties students has when they hear vocabulary, where the majority affirmed to have problems catching words in listening.

Table 5

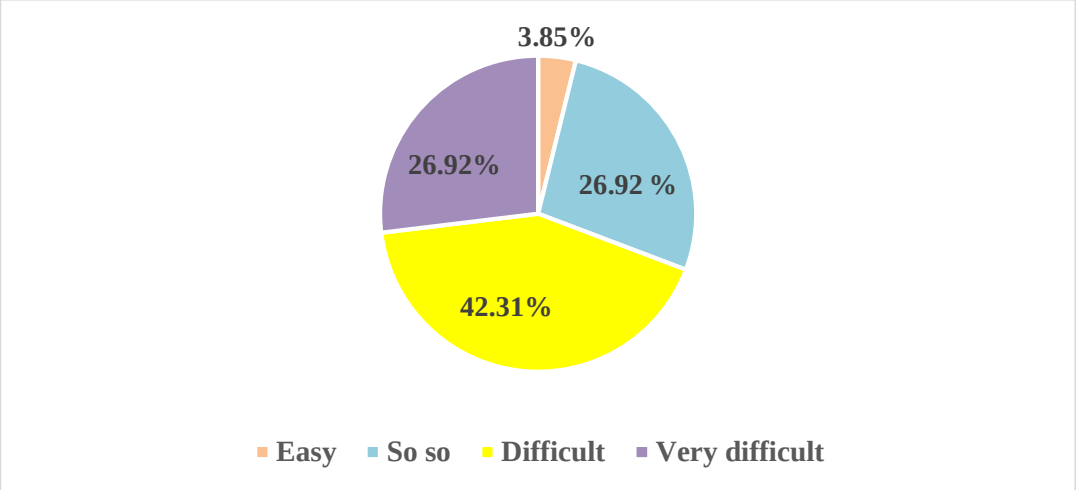
How easy or difficult if for you to understand meaning of words in simple sentences or short phrases?

Scale	Frequency	Percentage
Easy	1	3.85 %
So so	7	26.92 %
Difficult	11	42.31 %
Very difficult	7	26.92 %
Total	**26**	**100%**

Elaborated by: Tigse (2025)

Figure 3

How phrases easy or difficult if for you to understand meaning of words in simple sentences or short?



Elaborated by: Tigse (2025)

Figure 3 represents how difficult students feel to identify and understand words in context. Only a tiny percentage (3.85 %) indicated that contextualization of words is an easy process. 26.92% showed that this process is neither easy nor difficult. A notable portion of 42.31% demonstrated having difficulties contextualizing words in sentences and phrases, while 26.92% confirmed that contextualization is a complex and hard process, evidencing the high level of

difficulty using words in context. Thereby, students demonstrate a lack of contextualization which makes comprehension and internalization of words difficult.

Table 6

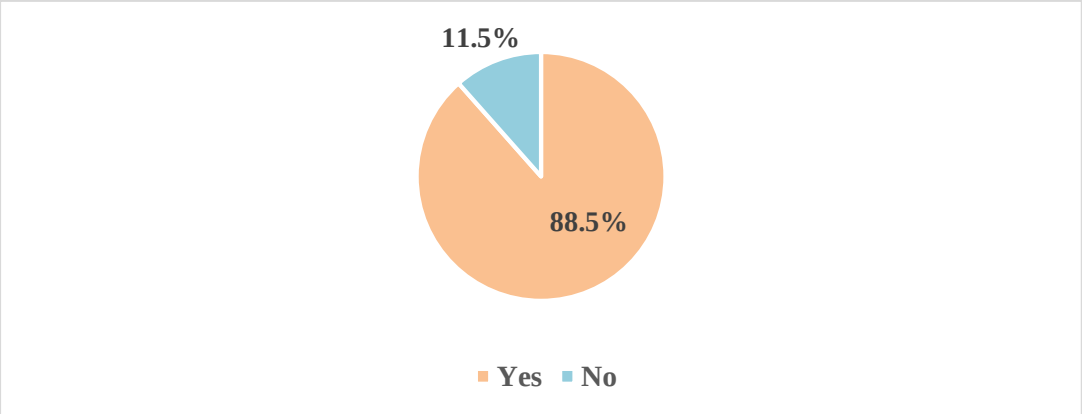
Do you consider it important to learn English vocabulary?

Scale	Frequency	Percentage
Yes	22	88.5 %
No	4	11.5 %
Total	**26**	**100%**

Elaborated by: Tigse (2025)

Figure 4

Do you consider important to learn English vocabulary?



Elaborated by: Tigse (2025)

Figure 4 explores the perception of students about the importance of English vocabulary to learn the L2 language. The interpretation of the results is quite straightforward; since 88.5% answered positively, it indicated a strong affirmation where students confirmed the importance of vocabulary. Moreover, the results evidence that students are cognizant of the significance of vocabulary in the language learning process. 11.5% suggested that vocabulary is not important in the language learning process. Since almost all the participants answered positively, it indicates that despite students having difficulties, being aware of the relevance of vocabulary.

Table 7

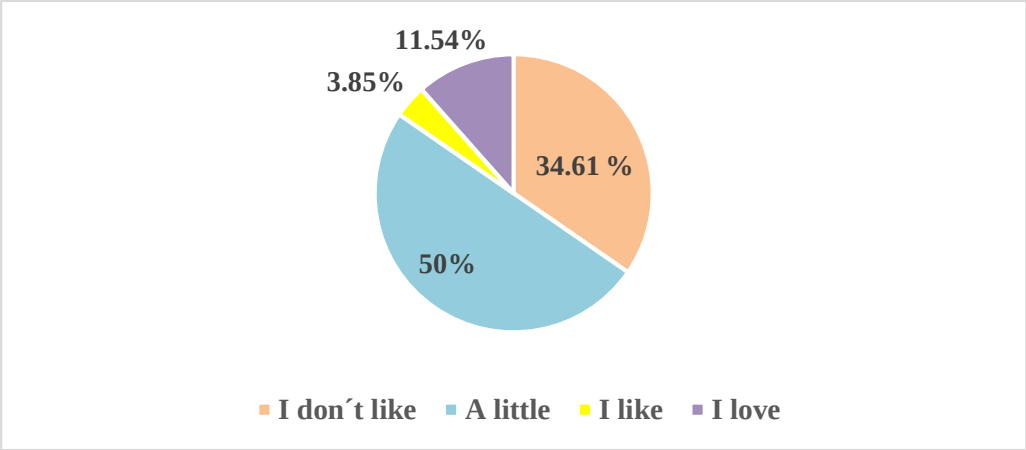
Do you like to learn vocabulary in class?

Scale	Frequency	Percentage
I don't like	9	34.61 %
A little	13	50 %
I like	1	3.85 %
I love	3	11.54 %
Total	**26**	**100%**

Elaborated by: Tigse (2025)

Figure 5

Do you like to learn vocabulary in class?



Elaborated by: Tigse (2025)

Figure 5 displays the perception of students about the vocabulary learning process in the class. The result is evidence that most of the participants have a negative perception about the topic. 50% of the participants choose “I little,” referring to a neutral perception. 34.61% said, “I don't like,” indicating that they are not happy learning words in class. Only a tiny portion of 3.85% selected “I like,” showing an acceptance, and 11.54% elicited “I love.” The results demonstrate that a significant portion may not be engaged in learning vocabulary, showing the lack of predisposition to learn words.

Table 8

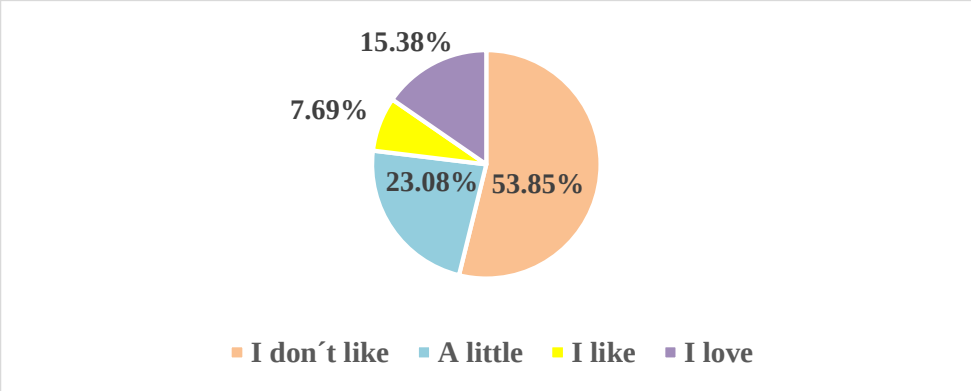
Do you like to learn words by traditional methods? For example, flashcards and pictures?

Scale	Frequency	Percentage
I don't like	14	53.85 %
A little	6	23.08 %
I like	2	7.69 %
I love	4	15.38 %
Total	**26**	**100%**

Elaborated by: Tigse (2025)

Figure 6

Do you like to learn words by traditional methods? For example, flashcards and pictures?



Elaborated by: Tigse (2025)

According to the information, more than half of students (53.85%) do not like to use this type of material to learn vocabulary. Another significant portion (23.08%) claimed that they like it but just a little. 15.38% of participants expressed that they love to learn words with these methodologies, whereas only a percentage of 7.69% answered they like when teachers apply traditional methodologies to learn new words. As a result, most of the students feel tired, bored or uninterested in learn using the traditional methodology which suggest to use and apply new methodologies and strategies to catch students ‘attention and engage them to learn words.

Table 9

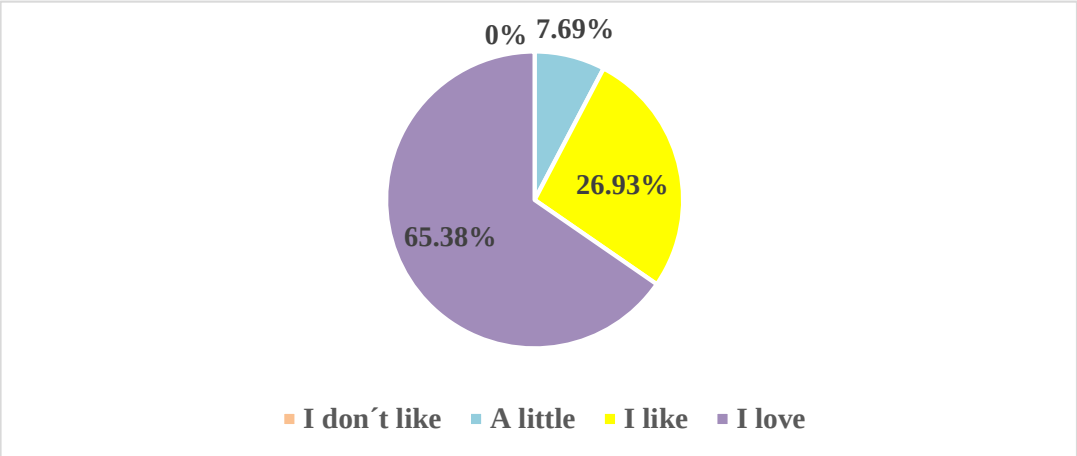
Would you like to learn vocabulary with online apps?

Scale	Frequency	Percentage
I don't like	0	0 %
A little	2	7.69 %
I like	7	26.93 %
I love	17	65.38 %
Total	**26**	**100%**

Elaborated by: Tigse (2025)

Figure 7

Would you like to learn vocabulary with online apps?



Elaborated by: Tigse (2025)

This question represents the feeling of students to experiment with a new methodology, including ICT in class. The result evidenced positive answers, where the biggest percentage, represented by 65.38%, confirmed that they would love to apply online apps to learn new words, while 26.93% affirmed that they would like to use these online resources in class. 7.69% of the participants answered "A little," and no students chose "I don't like." The results highlighted the desire of students to use technology in the classroom as a new option to learn and how this methodology looks attractive for them.

Table 10

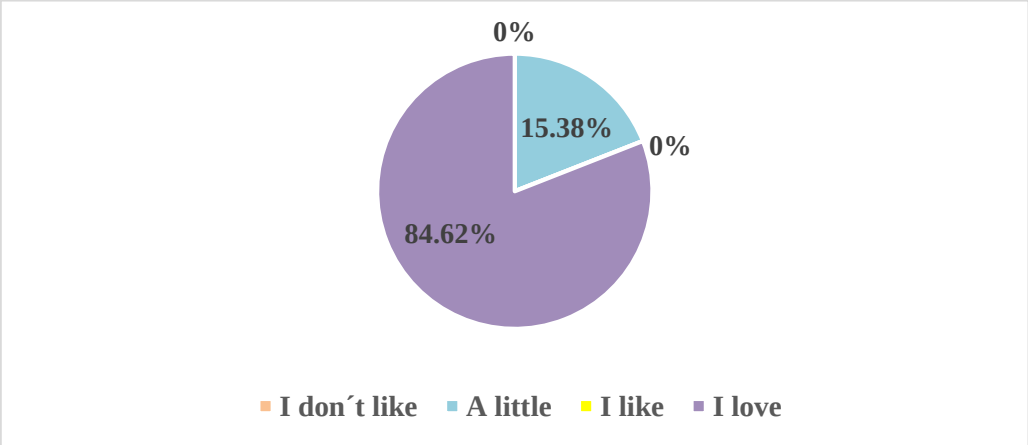
Would you like to learn through online games?

Scale	Frequency	Percentage
I don't like	0	0 %
A little	4	15.38 %
I like	0	0 %
I love	22	84.62 %
Total	**26**	**100%**

Elaborated by: Tigse (2025)

Figure 8

Would you like to learn through online games?



Elaborated by: Tigse (2025)

Figure 8 illustrates positive answers about students and their desire to learn vocabulary through online gamification. The majority of participants (84.62%) evidenced a positive attitude to use games inside the class to learn new words. A smaller portion (15.38%) chose “A little,” indicating that they are neither against nor in favor of the use of these types of online resources. On the other hand, no students selected the options “I like” or “I don't like.” The results indicate that incorporating online games looks like as an enjoyable experience for children who evidence a positive feeling and curiosity.

Table 11

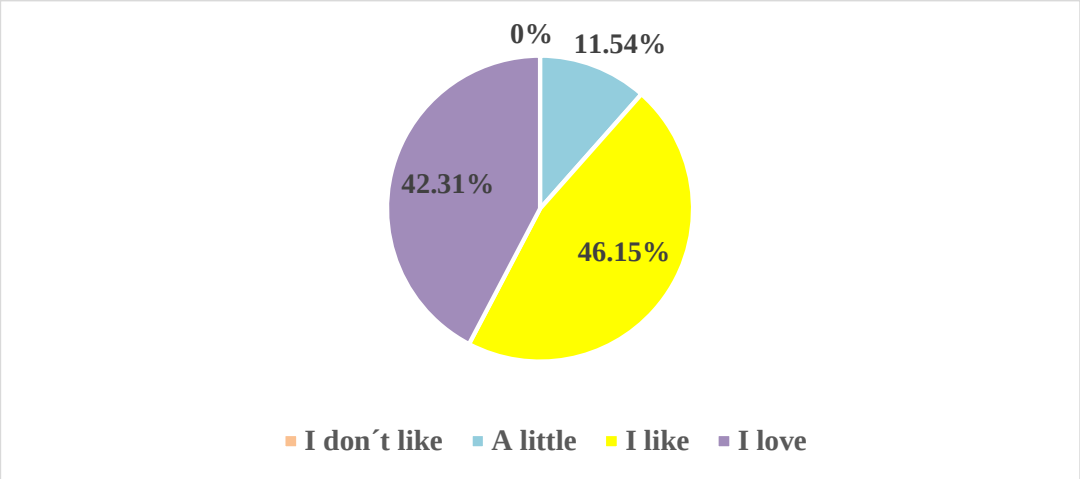
Would you like to incorporate online games in your daily tasks?

Scale	Frequency	Percentage
I don't like	0	0 %
A little	3	11.54 %
I like	12	46.15%
I love	11	42.31 %
Total	**26**	**100%**

Elaborated by: Tigse (2025)

Figure 9

Would you like to incorporate online games in your daily tasks?



Elaborated by: Tigse (2025)

Figure 9 evaluates the preference of students in incorporating gamification in their performances. The results indicated a positive perception. A significant 46.15% responded with "I like," whereas 42.31% indicated that they love this innovative option to carry on tasks. Only a tiny percentage of 11.54% chose "A little," indicating a little or null interest. No students selected "I don't like," resulting in a 0%. In conclusion, students shared their likes for using games as part of the teaching-learning process and showed enthusiasm to incorporate then as part of their learning.

Table 12

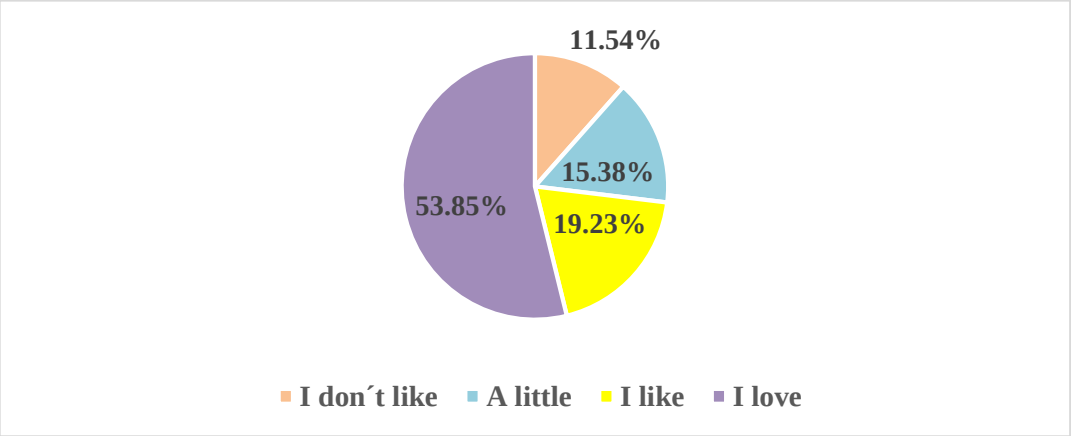
Would you like to learn vocabulary in online apps that offer you challenges and rewards?

Scale	Frequency	Percentage
I don't like	3	11.54 %
A little	4	15.38 %
I like	5	19.23%
I love	14	53.85 %
Total	**26**	**100%**

Elaborated by: Tigse (2025)

Figure 10

Would you like to learn vocabulary in online apps that offer you challenges and rewards?



Elaborated by: Tigse (2025)

The final questions of the survey intend to assess if students like to learn while facing obstacles and gaining rewards through online gamification. The biggest portion (53.85%) accepted that they love to be dared during online games. The significant portion (19.23%) evidenced that they like to be evaluated and assessed. A small portion selected “A little,” showing a kind of neutral position. Only 11.54% said that they do not like to be assessed or find challenges while they play. The majority of the students agree that the use of rewards and challenges could stimulate them to learn vocabulary in a better manner.,

2.15 Interpretation of the survey

According to the survey results, the participants had challenges managing their vocabulary. The results evidenced that more than half of the sample find it very difficult to understand

words when they hear them or when they are presented in sentences or phrases in a contextualized manner. Additionally, they declare that it is difficult to remember words they learn at school, showing a low level of word retention, and they tend to forget words easily, making it an obstacle to using them outside the school. Although most participants declare that they are aware of the importance of vocabulary, the majority of them are not motivated to learn it; they confirm that they like it a little or don't like to learn vocabulary in the current way through traditional methodologies. The results highlight the need to adopt new strategies to overcome vocabulary problems and motivate students to learn vocabulary, improving attention span and internalizing vocabulary in their long-term memory.

On the other hand, they declared their interest in learning vocabulary through online apps that include online games to learn words. The majority stated positively that they would love to use online gamification to include in their tasks to learn vocabulary and that if this methodology offers them challenges and rewards, it could be more attractive for them to make the vocabulary learning process memorable, improving concentration and making the learning process an enjoyable experience.

2.16 Pre-test stage

The pre-test was applied in a single session of 45 minutes. It consists of 5 questions with four items each. The total score of the pre-test was 10 points as a maximum, where every question was scored over 2 points, 0.50 for each item. The test included questions like color, circle, number, and mention. Every question has a different set of vocabulary based on the Common European Framework of Reference for Languages (CEFR), which suggests numbers, classrooms, colors, and commands as starter topics for the pre-A1 level. Questions 1 pretends to measure word recognition, which is the capacity to identify and understand a word when learners hear or see it. For this, question 1 asks students to associate different written words with pictures and color the correct option; in both questions, they received the teacher's guidance because they did not have a total ability to read. Question 2 intends to measure word mapping, which alludes to the ability to connect orthography, signs, and meaning. Students make a visual socialization between words and the sign of the number. Then, students have three options, and they have to circle the correct one.

Question 3 refers to word association where students identify words and write the correct number in specific pictures association, words, meaning and pictures. Question 4: look for contextualization where students have to identify color in objects. The question asks students to color objects with specific colors. Finally, question 5 measures word recall, the ability to bring learned words to mind to speak or use in a different manner. This ability was measured

through a list of words related to toys that students mentioned in an oral manner. A short, simple rubric was applied for this question.

2.17 Pre-test results

Table 13

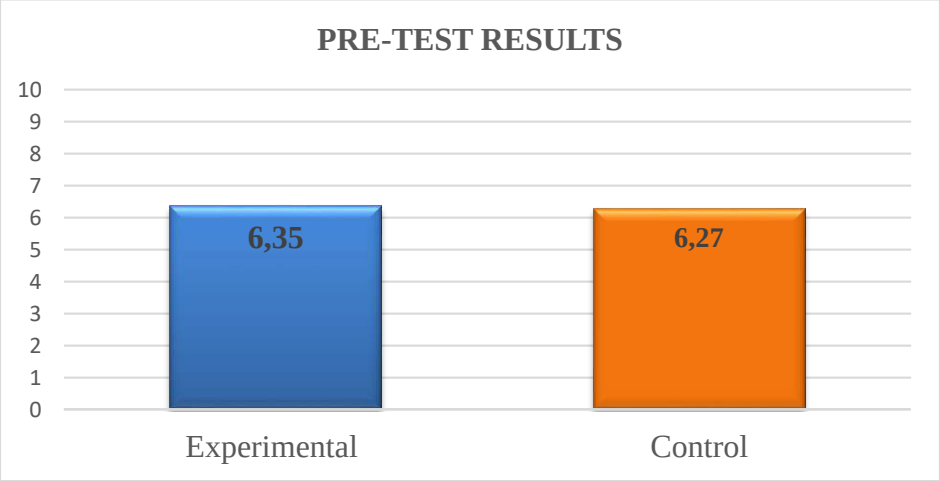
Outcomes from the pre-test based on vocabulary

Participants	Outcomes
Pre-test experimental group	**6,35**
Pre-test control group	**6,27**

Elaborated by: Tigse (2025).

Figure 11

Pre-test results obtained from the experimental and control group



Elaborated by: Tigse (2025).

Table 14

Results obtained from the Pre-test experimental group

PRE-TEST / EXPERIMENTAL GROUP						
Students	Word recognition	Word mapping	Word association	Word in context	Word recall	TOTAL
E 1	1	0	1,5	1	1,5	5
E 2	1,5	1,5	2	1,5	1,5	8
E 3	1,5	1,5	0,5	1,5	2	7
E 4	0,5	1,5	1	1	2	6

E 5	0	2	1,5	0,5	1	5
E 6	2	1,5	2	2	1,5	9
E 7	1	1	0,5	1,5	1	5
E 8	1,5	1	1,5	1	1,5	6,5
E 9	0	2	2	0,5	1,5	6
E 10	1	0	1,5	1,5	1	5
E 11	1,5	0,5	2	1	1	6
E 12	1	1,5	2	1	2	7,5
E 13	0,5	1	1,5	1,5	2	6,5
AVERAGE						**6,35**

Elaborated by: Tigse (2025)

Table 15

Results obtained from the Pre-test control group

PRE-TEST /CONTROL GROUP						
Students	Word recognition	Word mapping	Word association	Word in context	Word recall	TOTAL
C 1	2	0	1,5	0	1,5	5
C 2	1,5	1	1,5	1,5	0	5,5
C 3	1,5	0,5	1	1,5	1,5	6
C 4	1	1	1,5	1,5	1,5	6,5
C 5	2	1,5	2	2	1	8,5
C 6	2	1	0,5	1	0,5	5
C 7	1,5	0,5	1,5	1,5	1	6
C 8	1	2	1,5	1	2	7,5
C 9	1	1,5	1	1,5	1	6
C 10	1,5	1,5	0,5	1	0,5	5
C 11	1,5	2	1,5	1	2	8
C 12	0,5	2	1,5	0,5	2	6,5
C 13	0,5	1,5	2	0,5	1,5	6
AVERAGE						**6,27**

Elaborated by: Tigse (2025).

2.18 Interpretation

Figure 11, Table 14, and Table 15 demonstrate the population outcomes before the treatment. For a better understanding, Figure 11 was divided into two columns with the experimental and control groups to have a better overview of the results. Tables 11 and 15 show the results of the pre-test divided into four sections regarding vocabulary aspects: Question 1: "Word recognition," Question 2: "Word mapping," Question 3: "Word association," Question 4: "Words in context." Question 5: "Word recall." The names of the students were hidden and changed to codes: C for control students and E for experimental students, each one with a number according to their list order.

The obtained data revealed that students have faced challenges with English vocabulary. In fact, the results demonstrate that the experimental group has the highest score with 6.35, which, according to the LOEI students from second with a score under 7, requires reinforcement to reach the needed level of knowledge to continue to the next level (Ministerio de Educación del Ecuador, 2017).

Thereby, the figure and tables display that both groups have low vocabulary knowledge in the criterion aligned with vocabulary. Moreover, the data indicated that there was not a substantial difference between the control and the experimental groups due to both groups obtaining almost the same results. As a result, the pre-test evidenced that students have some knowledge about vocabulary, but it is not enough to have a high score to demonstrate that they can reach an effective English language proficiency.

2.19 Interpretation of the diagnostic stage

The findings obtained in the diagnostic stage provided nuances that show the complications students have with vocabulary. The low grades in the pre-test demonstrated a significant problem in the second language learning process. The students demonstrated difficulties in recognizing vocabulary, retaining it, and applying it in simple contexts. Along with it, students supported this gap with the results obtained through the survey, where they confirmed that even being cognizant of the importance of vocabulary, it represents a challenge for them. At the same time, students indicated the necessity of the implementation of new methodologies to refresh the vocabulary process due to their preference to learn through technological tools based on gamification, which offer games as part of their daily tasks and performances.

Likewise, the findings remarked that the traditionally used methods could not be efficient, and they are not motivated because learners stated that they do not like the current manner in which they are learning. Thereby, TinyTap appears as a proposal to support students in two aspects: as a didactic methodology that replaces traditional and obsolete methodology, allowing

students to explore new ways to learn and, at the same time, equipping them with accessible digital tools that they can use inside and outside the classroom. In addition, digital tools like TinyTap support students to reinforce vocabulary and allow teachers to adapt activities according to the students' needs (Faxriddinovna, 2024). The second aspect refers to the gamification which is present in TinyTap, with game elements employing a learning structure as a suitable methodology for young learners, fostering active participation and fostering cooperation among students. In addition, this methodology and digital tools increase motivation among students, enhancing memory and retentio and reducing anxiety (Vnucko & Klimova, 2023).

The findings justify the change from the traditional methodology to innovative methodologies, which are connected with the reality of modern students who are part of the technological world as digital natives. This proposal intends to overcome detected obstacles in vocabulary learning, such as in word recognition, word retention, and word recall, which are fundamental abilities for a rich vocabulary repertoire, and in this manner use the learned words for more complex language structures. As well as motivation, which plays a fundamental role in the predisposition to learn. This gives support to overcome difficulties and turn the learning process into a dynamic, appealing, and effective process.

2.20 Validation of the research proposal

The validation of this research was a meticulous process based on structured stages that guarantee the assessment of enhancing vocabulary learning in Pre-A1 learners through technological resources. Moreover, formative evaluation techniques were applied by implementing a planning schedule. Furthermore, to validate this study, the research takes into account two aspects. The first is the correct elaboration instruments that allow the gathering of the specific information needed, as in the case of the survey and interview, to describe and examine to find trends and patterns of the present phenomena, and the pre-test and post-test aligned with summative evaluation, which was fundamental to demonstrating the progress of students.

2.20.1 Validation of Instruments

This was conducted through a rigorous process. The tutor of this project, Mgtr. Diana Carolina Egas Herrera, who is a qualified language educator and linguist specialist, was in charge of validating this project and instruments. Her expert opinion and suggestions were fundamental to improving and validating this proposal. She guided the elaboration, revision, and approval of the instruments, giving feedback and suggestions to ensure that the survey, pre-test, post-test, and interview were according to the research objectives and research question, ensuring

their validation and that the instruments measure what they pretend to measure. Likewise, the instruments were validated taking into account the following criteria: pertinence, relevance, and accuracy.

Furthermore, every instrument was designed to cover every objective of the research and validate the proposal. The survey allowed the researcher to identify the students' level of vocabulary and their perceptions of the use of the current method in class to teach words. The percentages of the pre-test and post-test were analyzed and compared to measure the percentage of grade improvement, which gave solid evidence about the effectiveness of TinyTap in vocabulary learning. Finally, the interview provided insights from students about the impact TinyTap had on them and their attitudes and perceptions after the intervention. All these instruments gave a clear idea about how the use of TinyTap influences the development of vocabulary learning.

2.20.2 The intervention plan's schedule

The intervention plan was carefully designed to enhance vocabulary learning through different activities in TinyTap. The treatment phase lasted one month and one week, from January 6th to February 7th. Each week, students had a different topic and received 3 sessions with a duration of one hour to learn vocabulary through a set of activities presented on TinyTap, which includes videos, presentations, games, questionnaires, and puzzles. The structure of the planning follows the presentation-practice-production design. Nopiyadi et al. (2023) suggested that PPP fosters vocabulary in children because it promotes structured learning that enhances retention through repetition; it could be more effective if games are incorporated because they ensure active participation and attention. Teachers can control and guide activities to reduce mistakes and, at the same time, allow students to work independently (Harris & Leeming, 2022).

During this time, students performed different activities that involved spelling, memorization, and vocabulary in context through TinyTap, allowing students to practice words in different manners considering the low attention span of children. According to the planning in Table 16, every topic explores vocabulary related to "school supplies, numbers, colors, commands, and toys."

Table 16

Intervention Plan schedule

Class	Date	Vocabulary	Task type	Instrument
#1	January 6 to 10	School supplies	Pronunciation - Match Choose- Questions	TinyTap
#2	January 1 to 17	Numbers	Choose- Complete Questions	TinyTap
#3	January 20 to 24	Colours	Pronunciation - Matching Choose	TinyTap
#4	January 27 to 31	Command	Pronunciation- Questions Follow instructions	TinyTap
#5	February 3 to 7	Toys	Pronunciation- Match Choose – Elicit- Questions	TinyTap

Elaborated by: Tigse (2024)

CHAPTER III

PRESENTATION AND VALIDATION OF THE PROPOSAL

3.1 Presentation

The present proposal consists of implementing an online resource called TinyTap and examining how this app can significantly enhance vocabulary learning in second-grade students. The app utilizes appealing, didactic, and interactive characteristics aligned with game elements such as challenges and rewards through puzzles, tutorials, questions, matching, and other activities tailored to young learners. The implemented methodology mixes the use of ICT and gamification, which suits the interests and needs of young learners. This methodology not only contributes to an effective vocabulary learning process but also increases motivation in students, creating an enjoyable environment. Thus, promote active participation and collaborative learning.

3.2 General and specific objectives of the proposal

3.2.1 General objective

- To improve vocabulary learning by applying TinyTap activities.

3.2.2 Specific objectives

- To evaluate the effectiveness of TinyTap interventions in vocabulary learning.
- To promote motivation among students through the use of TinyTap.
- To compare vocabulary learning levels before and after the implementation between experimental and control groups.

3.3 Theoretical foundations of the proposal

The theoretical foundation of this proposal focuses on five theories and principles: Chomsky's language acquisition theory, constructivism, behaviorism, gamification and game-based learning.

For Chomsky (2006, as cited in Al-Harbi, 2020), children are born with an innate capacity for language comprehension and use. During early childhood, children use universal grammar to acquire vocabulary and language structures easily thanks to their exposure to a specific language, their language faculty, and early intervention. This assumption justifies the emphasis on second-grade students, as they are in the crucial age to learn English as a second language using all the characteristics they share. Furthermore, Piaget (1977 as cited in Amineh & Asl, 2015) stated that constructivism is present through the use of dynamic activities that promote active and contextualized learning, allowing students to build their own learning and construction of meaning rather than passive learning. This suggests that students create their

own learning based on their own experiences through TinyTap by using different activities that promote critical thinking.

Likewise, behaviorism is based on human behavior through stimulus-response supported by reinforcement and rewards (Demirezen, 1988). Thus, it appears in frequent and positive feedback students receive and rewards in the form of points or visuals encouraging motivation. Another principle that impacts the motivation of students is gamification, which embeds game elements and techniques; it contributes positively to L2 through the presentation of information funnily and engagingly, especially for children (Flores, 2015). Additionally, the author argued the need to incorporate online gamification to create a digital environment for digital natives. Thereby, it plays a fundamental role due to TinyTap using this principle as the main characteristic of their activities to impact positively on young learners. Finally, some activities from the app embody game-based learning with challenges and games tailored to students' needs to facilitate the learning process.

3.4 Characteristics of the proposal

The present educational proposal reflects characteristics aimed at the improvement of vocabulary repertoire of second-grade students, focusing on the improvement of words recall, word retention, word recognition and contextualization through the use of TinuyTap. The main activities include the presentation of vocabulary by slides with sound to repeat, puzzles, spelling, questions, listen and tag and questionnaires, which allowed students to practice and learn in an interactive and attractive way. Some of these activities were designed by the teacher according to student’s needs, and others were taken from the app due to being aligned with the topic and the context and allowing students to expand vocabulary. As the activities were presented in an online app, it permitted students to practice and reinforce their vocabulary both inside and outside the classroom. This characteristic helps students to learn in other contexts in a more flexible and personalized manner, promoting autonomy.

The justification of these activities corresponds to the theories of Chomsky due to the implementation of methodologies to improve language learning in children, constructivism because it permits a student-centered approach as they have the opportunity to manage their own knowledge actively, and behaviorism due to engaged activities with game elements (gamification) that motivate students as they are young learners who learn better through the games and game techniques. Moreover, the positive and frequent feedback students receive from the teacher and the app makes students correct their mistakes and be cognizant of their own progress. In this manner, the proposal ensures an effective intervention and clear result that validates this study.

3.5 Structure and dynamics of the components of the proposal

The methodological strategy stated in this proposal is the use of ICT through online tools that have been adopted from different educational settings around the world, with a positive impact. TinyTap offers a dynamic and innovative manner to teach vocabulary and give students a refresh from traditional methodologies such as textbooks, worksheets, and paper-based strategies. It encompasses an activity with multimedia visuals and sound that engages young learners. Thus, this strategy not only contributes to the development of vocabulary but also promotes other fundamental competencies in the language learning process.

Selection and creation of presentations and activities

One of the principal dynamics of this proposal is the creation of presentations, puzzles, drag-and-drop, and questionnaires carefully designed according to the objectives of each session. Students had the opportunity to practice different vocabulary spontaneously and enjoyably. The creation of presentations with sounds allowed students to practice pronunciation interactively. Puzzles and questionnaires also have sound due to young learners starting to read and, at the moment of the intervention, only having the ability to recognize some isolated words.

TinyTap is considered one of the biggest catalogues of activities, showing thousands of games that fit easily with students' preferences and needs. As a result, some of the implemented activities were carefully selected due to their match with the topic and the learned words. The use of these pre-made activities allows the teacher to save time without leaving the objective of the class or the proposal.

Collaborative learning

Online tools like TinyTap embody collaborative learning, as students have the opportunity to work in groups and exchange knowledge and ideas. Furthermore, promote teamwork and facilitate communication among students to facilitate comprehension. Due to the opportunity for interaction, students have the chance to manage their learning, fostering autonomy, whereas the teacher acts as a moderator and guide.

Active participation

The utilization of this methodology allows the incorporation of a student-centered approach where students can interact with the activities and classmates instead of only receiving information passively. Moreover, the use of gamification and game-based learning permits students to keep attention and interest, stimulating curiosity. Besides, this app gives students instant reinforcement and feedback, giving students clues or showing possible answers, which prevents students from being afraid of participating or making mistakes. Finally, the intuitive

and friendly user interface of TinyTap makes it possible for students to use the app without complications.

Motivation

The use of online tools in class improves motivation in students due to presenting tasks in an engaged, innovative, and appealing manner, which increases interest in students. The present proposal includes challenges and rewards through games and specific tasks, which turn classes into a dynamic and fun learning process. The positive feedback students receive allows them to be cognizant of their mistakes and correct them without producing frustration or anxiety. In the same manner, students can see their learning progress, and when they complete a task or activity successfully, it generates in students a feeling of satisfaction and reinforces their confidence.

3.6 Description of the type of the proposal

The type of proposal this study focuses on is the use of modern methodologies aligned with technology in education to foster vocabulary in second-grade students. This includes the use of TinyTap with activities such as presentations, puzzles, drag-and-drop, and questionnaires, which allow teachers to present vocabulary in an engaged manner, and students have the opportunity to practice and reinforce their vocabulary. To ensure the effectiveness of this proposal, it integrates a lesson plan that includes specific activities to develop vocabulary and divide the class into different topics with specific vocabulary. The activities in TinyTap include individual student participation and other activities that are tailored to work in groups to promote collaborative learning and teamwork.

Furthermore, this research was field research due to the researcher having the opportunity to gather information in real time and context. To address the research objectives of this research, a mixed approach was applied to gather, analyze, examine, and compare qualitative data for statistical description and quantitative data to analyze and determine specific trends, patterns, and insights. Regarding the design of this study, it is experimental research due to the study comparing a control and experimental group to compare and determine the impact and effectiveness of the group that receives treatment and the comparison with the other group that does not receive it.

Demands, requirements, conditions, or criteria that must be met according to the nature and scope of the proposal This proposal was carefully designed for students with low vocabulary knowledge of the second-grade at Ecuatoriano Holandés school. For the application and validation of this proposal, specific conditions and requirements were taken into account to achieve the objectives of the study.

Examples and exercises: students perform different activities which include presentations, videos, drag-and-drop and puzzles. Depending on the topic, students use extra materials, such as papers, to show what they learn though drawing and simple words and rubrics to assess orally.

3.7 Implementation of the proposal

The following section sums up the first two weeks as examples of the activities performed by students during the intervention.

Week 1

Title: School supplies

Objectives: To identify names and use basic vocabulary related to school objects.

During these sessions, the researcher presented activities by using TinyTap. In Figure 12, the teacher presents vocabulary where students look, listen, and practice pronunciation. Then, Figure 13 shows another activity: students had to listen for vocabulary and select the correct picture individually. Figure 14 evidences a group activity; here, students listen to a description and choose the correct image. Figure 15 shows how students have to move words to the correct picture. At the end of these sessions, students take a questionnaire individually on a tablet, listen to the question, and choose the correct name. At the end, students received a score.

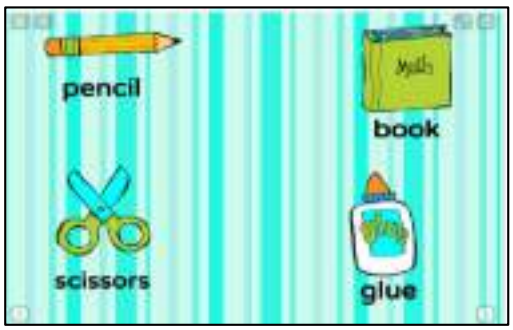


Figure 12: TinyTap presentation – School materials
Elaborated by: Tigse (2025)

Figure 13: TinyTap – School materials activity for presentation
Elaborated by: Tigse (2025)

Figure 14: TinyTap – School materials group activity
Elaborated by: Tigse (2025)

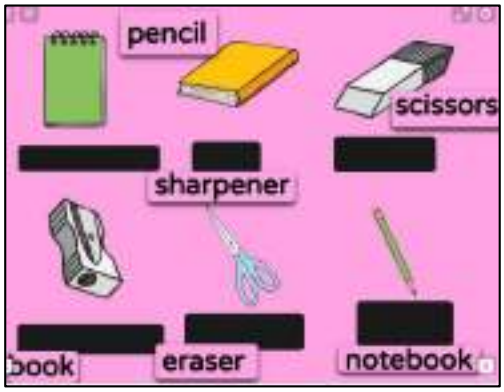


Figure 15: TinyTap – School materials puzzle games
Elaborated by: Tigse (2025)

Figure 16: TinyTap – School materials quiz
Elaborated by: Tigse (2025)

Figure 17: TinyTap – School materials score sample
Elaborated by: Tigse (2025)

Week 2

Title: Numbers

Objectives: To learn numbers to count objects and recognize numbers names.

During these sessions, students learn about numbers and associate numbers with their names. In Figure 18, the researcher presents numbers with their names; students listen, repeat, practice, and complete puzzles. Figure 19 shows how students observed and recognized number names; they observed, listened, and chose the correct options. In Figure 20, students listen and spell names. Figures 21 and 22 show evidence of how students took a quiz and received a score.

Figure 18: TinyTap– Numbers presentation
Elaborated by: Tigse (2025)

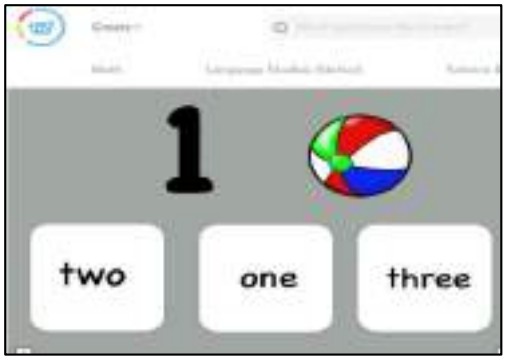


Figure 19: TinyTap – Numbers individual activity
Elaborated by: Tigse (2025)

Figure 20: TinyTap – Numbers
Elaborated by: Tigse (2025)

Figure 21: TinyTap – Numbers
Elaborated by: Tigse (2025)

Figure 22: TinyTap – Numbers
Elaborated by: Tigse (2025)

Forms of applications, implementation, and evaluation: over the intervention period, students receive lessons based on presentation, practice, and production; the vocabulary was presented and reinforced with interactive presentations designed by the researcher to permit learners to listen and associate images with words to facilitate word recognition and repetition. Regarding the implementation in the practice stage, some activities were performed individually, making students take turns; in the same type of activities, students work in teams to complete a task in a shorter time. In other activities, the researcher chose some game elements, such as the presentation of images or videos, to create competition among groups. The valuation was applied through formative assessment and the use of a rubric to assess students' progress orally. Additionally, questionnaires including pictures and oral questions were applied; students chose the correct answer and received a score.

Resources

Human resources: students and researcher

Materials: For the intervention, it was necessary to have the TinyTap platform, a free app that allows teachers to create an unlimited number of activities. Additionally, Internet connection, a laptop, a tablet, a cellphone, a projector and school supplies. These technological resources were provided by the institution. For the data collection, printed sheets were required for the application of the survey, pre-test, post-test, and interviews.

Beneficiaries: The present study, which aims to enhance vocabulary at the Pre-A1 level, directly benefits students, teachers, and the institution. By the implementation of this proposal, students from the experimental group have the opportunity to practice, expand, and learn vocabulary to enrich their vocabulary repertoire. With a high level of vocabulary, students can learn grammar and other more advanced language structures efficiently, improving their language learning process. In the same way, teachers are beneficiaries of this study because the obtained findings of TinyTap enable educators to know more about this app and motivate them

to use online tools to enhance and facilitate the teaching process, equipping teachers with novel technologies to apply in the classroom and, in this way, applying this innovative methodology with more students in the institutions and other educational contexts. Through the positive results, the Ecuatoriano Holandés school raises its reputation as it provides a high-quality language education by the application of innovative technologies that cover the current demands of the educational field.

3.8 Validation of the proposal

The validation of the present proposal emphasized the application of a technological methodology to improve vocabulary learning in the experimental group. Moreover, it seeks to demonstrate the effectiveness of this proposal by comparing the results from the control and experimental groups and demonstrating the difference in improvement the experimental group showed. The process involved the application of research instruments aligned with the objectives of the research.

The comparison of the obtained results from the pre-test and the post-test was crucial to evidencing the efficacy of using TinyTap as a didactic technological learning tool. Additionally, the interview allowed to determine the level of acceptance and satisfaction among students with this particular technology. Furthermore, through the comparison of the achieved scores from the experimental and the control groups, it was possible to identify the differences and measure the real impact of the proposal. This comparative analysis allowed validating the proposal, offering specific data that supports the efficacy of TinyTap and providing valuable information for future pedagogic practices.

3.9 Research Question

How does the use of TinyTap influence the development of vocabulary learning in Pre-A1 learners at Ecuatoriano Holandés School?

3.9.1 Results of the pre-test and post-test

The following results were obtained from the application of the pre-tests and post-tests to the experimental and control groups in order to assess the effectiveness of TinyTap and determine in which manner this app influences vocabulary learning.

Table 17

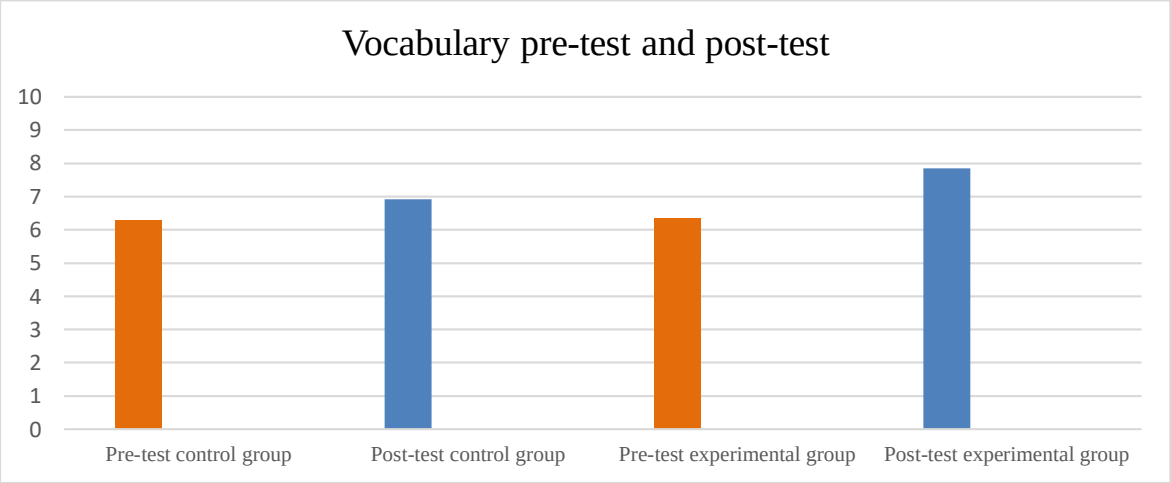
Outcomes from the pre-test and post-test.

Participants	Outcomes
Pre-test control group	6,27
Post-test experimental group	6,35
Pre-test control group	6,92
Post-test experimental group	7,85

Elaborated by: Tigse (2025).

Figure 23

Outcomes from the pre-test and post-test.



Elaborated by: Tigse (2025)

Analysis and Interpretation

The analysis of the application of the pre-test and post-test to an experimental and control groups offered significant information to compare the group and their improvement based on a test with a score over 10, which facilitates the analysis. Table 17 and Figure 23 indicate the progress the experimental and control groups evidenced before and after the application of the treatment. The table and the figure show the poor and weaknesses students have in terms of vocabulary. Both show low grades, with the control group at 6.27 and the experimental group at 6.35; it allowed to observe that there is not a significant difference between the control and experimental group.

After the application of the intervention to the experimental group, the post-test was applied to both groups to measure the effectiveness of the TinyTap. Once the pretest and post-test results were compared, they displayed significant changes in the scores. The control group, who continued with the use of traditional methods, manifest a slight rise from 6.7 to 6.92, an increase of 0.63. On the contrary, the experimental group evidence of an improvement in their outcomes according to the post-test after the application of TinyTat. The results exhibit a meaningful progress from 6.35 to 7.85, showing an increase of 1.5 points.

Therefore, the results evidenced students from the control group have a slight improvement, but it is not enough due to their scores continued being low. In the contras, the obtained results from the experimental group manifest a significant improvement, showing that the majority of the children have a greater domain over vocabulary. Consequently, it can be concluded that TinyTap offers a positive impact over the use of traditional methods to learn vocabulary, allowing students to improve their English proficiency.

3.9.2 General results from the pre-test and post-test

The following obtained results come from the pre-test and post-test from the experimental and control groups, they were shown and compared in the following table.

Table 18

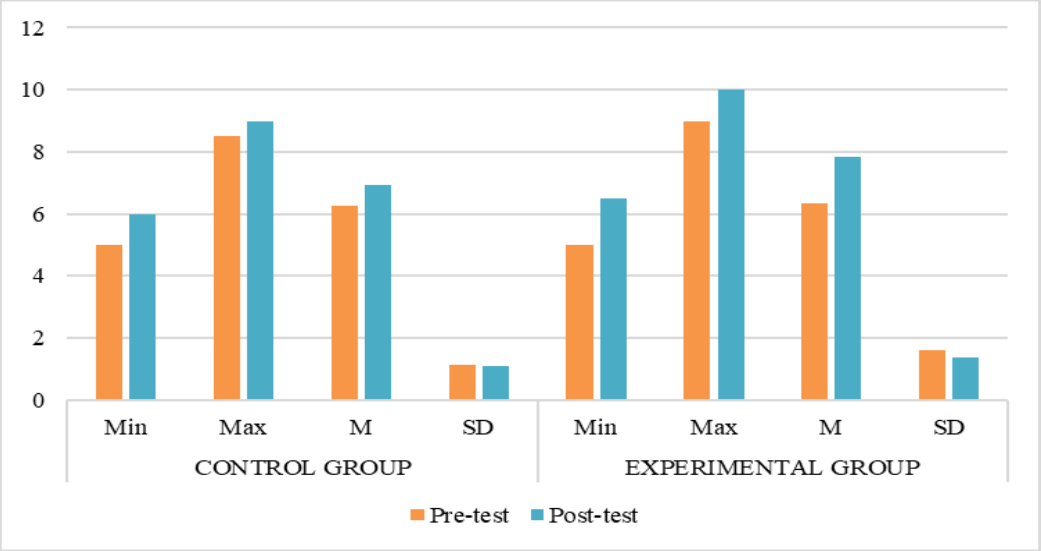
General results from the pre-test and post-test

	CONTROL GROUP				EXPERIMENTAL GROUP			
	Min	**Max**	**M**	**SD**	**Min**	**Max**	**M**	**SD**
Pre-test	5	8,5	6,27	1,13	5	9	6,35	1,6
Post-test	6	9	6,92	1,08	6,5	10	7,85	1,35

Elaborated by: Tigse (2025).

Figure 24

General results from the pre-test and post-test



Elaborated by: Tigse (2025).

Analysis and interpretation

On the one hand, Table 18 refers to the control group and indicates that the minimum increased from 5 in the pre-test to 6 in the post-test, and the maximum also has a slight rise from 8.5 to 9. The standard deviation slightly decreased from 1.13 to 1.08, indicating only a reduction of 0.5, representing a minor reduction. The mean had a low increase from 6.27 to 6.92. Consequently, the results showed a slight improvement in the vocabulary learning of students who did not receive the treatment. However, the modest decline of the standard deviation indicated that there was no uniformity among students, with a greater dispersion in the scores. On the other hand, the experimental group evidenced a greater increase in the scores compared to the pre-test and the post-test. The minimum had an increase from 5 to 6.5, whereas the maximum had a rise from 9 to 10. The standard deviation displayed a decline from 1.60 to 1.35, showing a reduction of 0.25. The mean increased significantly from 6.35 to 7.85. These results determined that there was a notable improvement in the vocabulary knowledge of students who received the treatment. This, accompanied by a smaller standard deviation, indicated that there was not only a general improvement but also a major homogeneity among students. The standard deviation evidenced that the results were more consistent, showing that the majority of students get results close to the average. Moreover, the minimum exhibits that students with low scores increase substantially.

Therefore, the results evidenced an improvement in both groups; however, it was more significant in the experimental group, which used TinyTap a tool to learn vocabulary. Whereas the control group evidence a gentle upward and downward trend, the experimental group indicates consistent result, as in the case of the mean. In the same manner, the standard deviation from the control group shows a marginal drop, showing not total uniformity, while the experimental group has a notorious increase. Thus, the intervention of TinyTap has a positive impact on vocabulary learning due to the experimental group not only improving the mean but also showing more homogeneous results, decreasing the gap among students with different levels. In contrast, the control group increase their scores slightly with more variability in the obtained results. The results showed students with TinyTap allowed the experimental group significant improvement, which permitted to fulfilling the second objective of this research, which was to assess the improvement in vocabulary learning after using TinyTap.

3.10 Results of the interview

In order to obtain valuable data to explore students' attitudes and perceptions of using TinyTap for vocabulary learning, a qualitative instrument, an interview, was applied to collect details. This allowed to gather data about experiences, opinions and perceptions in a natural context through direct communication, allowing confident and practical results (Chesebro & Borisoff, 2007).

Application

The interview was structured with nine questions applied to the experimental group. The questions were designed to share their experiences and perceptions about TinyTap in terms of this app as a tool to learn vocabulary, engagement, and motivation. Nine randomly selected students were interviewed face-to-face. Although the interview was written in English, the questions were administered in the mother language for students to answer in their native language. The teacher employed simple language in order to be clear with students and used a table as a visual stimulus to make students remember the games they did during the intervention. Most of the students feel comfortable and answer simple and direct questions.

Results

Below there is an analysis based on answers of students for each question showing the most relevant codes and themes.

1. Did you like to learn vocabulary by using TinyTap? Why? Or Why not?

All students answered positively, affirming they liked to use TinyTap. Students evidenced positive patterns in the use of the app. The most relevant were motivation, learning, and

enjoyment. The majority of interviewed students evidenced that they enjoy learning with TinyTap. Some themes found in their answers were “a mí me gusto,” “si es bonito,” and “si, si me gusto.” The second theme identified was related to learning, showing they have a better learning process, learn more words, and improve memorization. For example, some students commented, “por qué aprendí palabras,” “las palabras, me hacía recordar más fácilmente,” and “porque ahí aprendo, eeeh, muchas cosas.” Regarding engagement, the answers showed that the app allows students to share an enjoyable experience. Two students mentioned “me gusta, porque los juegos son divertidos” and “es muy divertido.” Thus, it demonstrated a positive impact of the app because it allows students to learn effectively and enjoyably.

Was TinyTap easy to use? Why? or Why not?

Two patterns were distinguished: digital autonomy and simplicity. Regarding digital autonomy, the answers suggested that students are digital natives who are part of the technological era. The following themes reinforce this perspective. “Se usar la computadora.” “El teléfono fue más fácil.” “Solo tengo que escoger las palabras y ya.” Moreover, students mentioned the simplicity the app offers to them, themes such as “solo era usar la computadora y con las manos y ya,” “los juegos no son complicados,” and “solo mover el dedo,” which evidence the friendly user system that TinyTap uses, especially for children, showing easy, intuitive, and accessible content to young learners.

Do you feel TinyTap helped you to improve and learn new words? Can you tell me some?

All students answer affirmatively, indicating that the use of TinyTap supported them in improving their vocabulary repertoire. Most of the students reported examples of words from different learned topics, which implies the help of TinyTap. For example, one student mentioned, “Si, porque aprendíamos como el sit down, el stand up, los colors y la family.”

When you play with TinyTap, do you feel it helps you to remember more words? Can give some examples?

In terms of memory, students agreed that the use of TinyTap allowed them to remember words easily without visual or other types of stills. In fact, to answer this question did not have any stimulus. However, they give concise examples to illustrate the efficacy of TinyTap. For example, one student said, “Si, si pienso porque es muy fácil y puedo recordarlas también.”

Did you like the teacher to change characters, colors, and words according to your preferences? How did you feel?

Regarding the customization and design of the app. The answers evidenced a general acceptance of students. Particularly, students agree that the images, color, and other multimedia

features create a relaxed and positive learning environment, engaging students to learn and at the same time influencing their motivation to learn English. For example, some students mentioned "si, feliz porque me gustaban los dibujitos" and "si, bien, alegre y divertido." Therefore, the findings highlighted the positive characteristics of TinyTap, which look suitable for children.

The feedback you received when you played in TinyTap, do it help you or not?

According to the findings, the feedback provided by TinyTap helps students in their learning process. Some remarkable patterns were support, error recognition, correction, and improvement. TinyTap contributes to the support of students due to its guiding students to complete the activities; one student mentioned, "Si, me ayuda a hacer y completar las tareas." Furthermore, the feedback students receive when they perform tasks permits them to recognize their mistakes and correct them; also, they recognize specific errors they have made. One student reported, "Si, por que me doy cuenta en que me confundí" a, which evidences the sense of awareness the app transmits. Aligned with it, correction is another aspect that the feedback allowed students to make improvements. Finally, the feedback increases knowledge of students to improve vocabulary through dynamic activities such as games. Two students mentioned "si me ayuda aprender muchos más y ser mejor en las clases de inglés" and "si para mejorar las notas y ser más bueno."

Did you and your friends help each other and learn vocabulary while playing TinyTap? How?

The interviews revealed how TinyTap can contribute to fostering collaborative learning. The first pattern indicates how, when students played activities, they helped each other, especially when they worked in teams. In the same way, communication is another pattern presented due to students communicating with each other by giving answers and maintaining conversations. Finally, these patterns suggest knowledge exchange as students transferred their knowledge, especially the skillful students. For example, one student stated, "Preguntaba a mi amiga que no sabía y yo decía que si yo le ayudaba." Another student said, "Si, porque tenemos la oportunidad de preguntar y de preguntarnos, y si uno no sabía, el otro ayudaba." These comments underscored how TinyTap promotes cooperation among students.

When I use TinyTap to learn words I feel…

In terms of satisfaction, the results confirmed an emotion of happiness among students. Most of the students answered positively with expressions like "Alegre," "Bien," "Felíz," and "Me sentía mejor." These themes permit us to confirm the information that presents TinyTap as an

enjoyable experience for students. Moreover, it suggests an increase in motivation and interest to learn vocabulary, demonstrating the benefits of this digital tool.

Do prefer to learn words with TinyTap or traditional methods (for example books or flashcards)? Why?

The obtained results established the advantage of TinyTap over traditional methods. The majority of students show their preference for the digital tool. One reason for this is because of the use of gamification and game-based learning. Furthermore, students said that traditional methodology appears boring and monotonous for them. Some relevant answers to justify this information are the following: "Si prefiero el Tinytap porque es mejor que los libros," "Los libros y las flashcards son aburridos," "TinyTap me llama más la atención," and "El Tinytap porque me divierto." These answers evidence how students prefer digital tools such as TinyTap to learn differently and innovatively.

As a summary, the findings obtained through the results enabled us to explore the perception and attitudes toward the use of TinyTap. On the one hand, the answer suggested students have a positive perception about TinyTap due to most students feeling that this technological tool supports them to learn and remember vocabulary by catching their attention, improving memorization, and giving corrections. On the other hand, students evidenced students present a positive attitude when they use TinyTap. They demonstrate positive emotions such as happiness, humor, collaboration, and relaxation during the intervention.

3.11 Triangulation

Table 19

Triangulation of qualitative and quantitative data

Categories	**Quantitative data**		**Qualitative data**	**Conclusion**
	Survey	**Pretest /Postest**	**Interview**	
Knowledge of vocabulary	Remember words: 10 difficult and 7 very difficult from a total of 26. Understand words: 10 difficult and 8	Pre-test: Control group 6,29 Experimental group 6,37		All students show low vocabulary knowledge

	very difficult from a total of 26.		
Perception of learning methods	14 students stated they don´t like traditional methods and 6 a little form a group of 26.		Students show lack of motivation and reject traditional methods.
Improvement of vocabulary	Posttest: control group 6, 92. Experimental: control group 7, 85.	"Porque ahí aprendo, muchas cosas." "Si, por que aprendíamos como el sit down, el stand up, los colors y la family"	Evidences a modest increase of knowledge Show a significant improvement They agree that TinyTap increate their vocabulary knowledge
Attitudes and perception of TinyTap	17 students from 26 affirmed they would like to learn vocabulary through online apps. 22 students from 26 would like to learn with online games.	"Si, porque aprendí palabras jugando" "si, era muy divertido" " Me gusta el Tinytap, lo otro es aburrido"	Positive attitudes and perception. Show preferences for TinyTap rather than traditional methodologies

Elaborated by: Tigse (2025).

To further analyze the findings from the data collected, methodological triangulation was applied. This strategy consists of the collection of different research instruments to gather. information to be compared simultaneously to obtain a more comprehensive and clear panorama of the research problem, which allows for the strengthening of the found nuances (Denzin, 2009). The results evidenced a notable improvement in the experimental group, not only in terms of vocabulary knowledge but also in terms of motivation and engagement. The

survey and the pretest stated that both groups have a low level of vocabulary. The pre-test supports this utterance and also indicated that both groups showed a similar level: experimental 6.35 and control 6.29.

After the intervention, the comparison of the pre-test and post-test evidenced an improvement. However, the control group evidenced a weak improvement of 6.92, whereas the experimental group showed a better improvement of 7.85, showing the significance of TinyTap. Regarding the exploration of attitudes and perceptions, in the survey, students expressed their desire to change the traditional methodologies for using online apps aligned with game elements to learn vocabulary. Along with it, the interview declarations verified an increase in motivation and a positive attitude to learn vocabulary by using TinyTap. Thus, the triangulation and examination of the research instrument enabled us to analyze the impact of TinyTap on the development of vocabulary learning, which was positive because it allowed students to learn vocabulary through a funny and appealing experience, improving memory, retention, and raising motivation.

CONCLUSIONS

The starting diagnosis allowed the evaluation of the second-grade students' initial knowledge and perceptions of vocabulary and learning methods. The findings evidenced a low vocabulary level among students. The survey results suggest students have difficulties remembering, understanding, and contextualizing words. Moreover, the pretest showed both groups obtained low scores. Regarding perceptions, the survey revealed that students did not feel motivated by the use of traditional methods; at the same time, they express the desire to embed technological tools aligned with game elements.

The results and comparison of the pre-test and post-test corroborated that the use of TinyTap contributes significantly to the improvement of vocabulary. The analysis of the control and experimental groups indicated that while the control group had a slight increase of 0.63 points, the experimental group had an increase of 1.5 points, evidencing the advantage of TinyTap over traditional methodologies. Furthermore, whereas the control group showed a standard deviation reduction from 1.13 to 1.08, the experimental group indicated a reduction from 1.60 to 1.35, which confirms more uniformity in the experimental group.

It was identified that the use of TinyTap for vocabulary learning is accepted by students from the experimental group who have the opportunity to use it. Based on the findings of the interview, positive patterns and nuances were discovered. According to students' perceptions, TinyTap represents a dynamic, appealing, friendly, and useful tool to learn vocabulary. The majority reported that the use of this tool helped them to improve vocabulary and remember words easily. The incorporation of games to learn motivated them to learn more words and turn the classes into an enjoyable experience. Students agreed they feel satisfied with the use of this app in the learning process, not only because it represents a funny and captivating manner to teach but also because it stimulates them to learn and makes students committed to their own learning.

As a result, TinyTap demonstrated its effectiveness in enhancing vocabulary learning. It has a positive impact on students because students like using this app to learn words, as it increases their motivation and intention to learn. Additionally, it supports students to remember, memorize, retain, and understand words in a significant manner. This effective influence on the development of vocabulary learning is observable thanks to the comparison of the initial stage and the final stage, discovering the improvement of the control and experimental groups. Along with it, the exploration of attitudes and perceptions of students shows the acceptance students have for TinyTap, motivating them to practice vocabulary through educational games to enhance vocabulary.

RECOMMENDATIONS

Based on the gathered information in this research, it is recommended to incorporate modern technological resources aligned with students' interests according to their ages. Considering children are digital natives, teachers need to open their minds to new teaching methodologies and strategies supported by technology like TinyTap that encompass the needs of students, making lessons interactive, pleasurable, accessible and visually stimulating instead of old, repetitive and boring classes. Evidently, students prefer this type of activity; therefore, this app will contribute to an effective learning process and transform the classroom into innovative spaces.

Due to the good results obtained, it is suggested to continue teaching by using TinyTap in both the experimental and control groups to expand their vocabulary knowledge and give them the opportunities and tools to contribute to their learning autonomy by creating and adapting activities according to their interests. Along with it, it is important to continue exploring this app and incorporate other types of activities such as storytelling, tutorials, video makers and other alternatives TinyTap offers to teach and learn vocabulary based on speaking and reading, fostering other skills at the same time to strengthen English proficiency.

Taking into account the benefits of TinyTap, this suggests the application of this online tool in a biggest-size sample, and even for a longer period to strengthen the findings, identify new patterns and generalize results.

It is fundamental for educators to consider the advantages of technological teaching tools like TinyTap to motivate them to create their own set of activities to equip themselves and be up-to-date with the current demand of the educational field, addressed to the new technological era. This allows educators to empower their teaching practices and also save time.

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Annex 2 Investigation pacification for the study proposal

UNIVERSIDAD BOLIVARIANA DEL ECUADOR
ANEXO II

"PLAN DE INVESTIGACIÓN PARA LA PROPUESTA, QUE DEBERÁ SER REVISADO Y APROBADO POR LA COMISIÓN DE TITULACIÓN DE CADA PROGRAMA AL CONCLUIR EL TALLER I"

TITLE OF THE PROPOSAL: "THE USE OF TINYTAP TO ENHANCE VOCABULARY LEARNING IN PRE-A1 LEARNERS."

AUTHOR 1: Sandy Gabriela Tigse Toapanta.

RESEARCH CONTEXT: Ecuatoriano Holandés School in the city of Ambato.

1. **Brief analysis and description of the situation that justifies the presentation of this proposal.**
   The present research study will take place in a private school called Ecuatoriano Holandés. This institution is located in Ambato City in Tungurahua province. Based on the researcher experience and empirical observations, it is clear the necessity of students having a high level of English vocabulary to master English proficiency as vocabulary learning is considered fundamental to learn a language. Unfortunately, although the attempts to get excellent results, students have a low level of vocabulary. Lack of motivation, difficulties in vocabulary retention and difficulties in setting vocabulary in context seem like obstacles to empower vocabulary effectively. Hence, the need to apply new innovate methodologies. TinyTap results in a useful technological alternative to enhance vocabulary learning due to provide interactive learning adhered to gamification which is perfect for young learners.
   The incorporation of technological educational resources in the classroom and the use of gamification are essential during the second language learning process, especially for preschoolers. The implementation of TinyTap, an app based on multimedia games and activities, to develop vocabulary learning in students in the second grade looks like a significant innovation to improve English learning and teaching. According to Kiryakova et al. (2014), in the new era, educators work with learners who are digital natives; they have new preferences and needs, and gamification tools match perfectly to cover several learning styles and requirements students have. This research aims not only to improve vocabulary learning but also to promote critical thinking and active participation, which contribute to the formation of capable and creative individuals in a technological environment.

2. **Statement of the problem to be investigated.**
   The problem to be examined in this research is how the use of TinyTap enhances vocabulary learning in Pre-A1 students at "Ecuatoriano Holandés" private school due to students show a low level of vocabulary knowledge.
   Furthermore, TinyTap an interactive educational tool will be analyzed in order to obtain satisfactory results in the retention, motivation, contextualization and retention of the English vocabulary. Finally, it will be investigated how the combination of interactive

and multimodal content in TinyTap could create an enjoyable and memorable learning experience to foster a better vocabulary repertoire.

3. Justification of the research

Bakhsh (2016) stated that vocabulary is a crucial and essential element to learning any language. Thereby is undeniable the importance of this research. Regarding the main context of this study, the present proposal is fundamental because this study addresses a critical gap English language learning process among students at Ecuatoriano Holandés School. This gap includes a low level of vocabulary knowledge that results in lack of motivation to learn, difficulty in vocabulary memorization, low motivation and retention. Therefore, this research tries to enhance the repertoire of vocabulary of Pre-A1 learners at Ecuatoriano Holandés School by applying an innovative methodology based on technology resources through dynamic and enjoyable activities in the TinyTap app. It is expected that the results of this research will contribute to the improvement of vocabulary learning, they could be replicated in the entire institution as a way to overcome English learning process difficulties related to vocabulary and why not as a guidance for educators in general.

4. Description of the relationship between the proposal and the research lines of the university.

The title of this research is "The Use of TinyTap to Enhance Vocabulary Learning in Pre-A1 Learners" and is aligned with the following research lines: "Innovation and applied technologies" as well as "Implementation of ICT to improve the learning process" due to this research framed as a pedagogical innovation in the educational field to improve educational instruction through the use of current Information and Communicative technologies. Therefore, the object of this research is to allow the researcher to explore the benefits of TinyTap activities and argue how they motivate students and enhance vocabulary retention and contextualization.

5. Object of the research

The object of this research is to explore the effectiveness of TinyTap as an online tool to facilitate vocabulary learning in Pre-A1 learners. In this sense, obtain important and valuable information to explore new methods, approaches and materials to develop vocabulary. Additionally, overcome vocabulary learning difficulties and be involved in the up-to-date educational resources which will contribute to the academic, professional and personal development.

6. General objective

To analyze the impact of TinyTap on the development of vocabulary learning in Pre-A1 learners at Ecuatoriano Holandés School.

7. Specific objectives

- To evaluate second-grade students' initial knowledge and perceptions of vocabulary and learning methods at Ecuatoriano Holandés School.
- To assess the improvement in vocabulary learning after using TinyTap.
- To explore student's attitudes and perceptions of using TinyTap for vocabulary learning.

8. Research question

How does the use of TinyTap influence the development of vocabulary learning in Pre-A1 learners at Ecuatoriano Holandés School?

9. Description of the variables of the study (independent & dependent)

Independent Variable: This variable refers to TinyTap which is an interactive platform with multimedia games which includes puzzles, quizzes, multiple choice, tutorials and others that was designed to make learning engaging and attractive, particularly for young learners. According to Graziano et al. (2021), TinyTap offers the audience a wide range of funny, colorful, and dynamic activities focused on children´s lives supplementing traditional teaching methods. This app includes not only a variety of enjoyable activities to develop vocabulary but also uses a method to develop cognitive skills.

Dependent variable: Hazar (2020) defined vocabulary as a set of words with meaning that an individual use in a specific language, it is an essential component of each language skill and enables language because communication would not be possible, without vocabulary. Therefore, Vocabulary learning comprises all the methods, strategies, and approaches involved in the process of vocabulary acquisition through educational instruction.

10. Description of the research approaches, methods, data collection

For this research, mixed approach (qualitative and quantitative) will be adopted. The quantitative data will be gathered by a survey and pre-test and post-test while an interview to students will allow to collect qualitative data. Moreover, the study is experimental, involving one control and an experimental group, with active participation from the researcher. It adopted a descriptive scope and a field research type because the researcher will identify the problem and a possible solution through the intervention of TinyTap. Deductive, inductive analytic and synthetic and bibliography method will be implemented.

11. Description of the beneficiaries and their main characteristics.

This study will be conducted with 26 students, they are from 5 to 6 years old and they belong to 2nd grade at the Ecuatoriano Holandés who will be divided in the control and experimental group, selected by convenience sampling. Furthermore, this group was chosen by observation showing that both group share the same problem, also share similarity in factors such as socioeconomic background learning styles and characteristics belong to their age.

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12. Description of the research context

This study will be conducted at the Unidad Educativa Ecuatoriano Holandés, a private school located in Cuidadela España in Ambato City, province of Tungurahua, Ecuador. This institution works in the morning with a wide number of students more than three hundred. The institution has a good infrastructure formed by different recreational and school areas to promote a relaxing environment. Furthermore, the institution has equipment with enough technological resources to conduct this research, such as computers, projectors, and internet access. The English workload frequently allows the researcher to identify the weaknesses that contribute to the lack of vocabulary in pre-A1 learners at Unidad Educativa Ecuatoriano Holandés

13. Description of the practical contributions of the proposal.

TinyTap is part of the gamification online tools that grew up in recent years and are directed at educational learning efficacy. This can be a helpful tool for enhancing vocabulary learning in pre-A1 learners. It offers numerous benefits, such as interactive

Annex 8 Independent and Dependent variable chart

OPERACIONALIZATION MATRIZ – THE USE OF TINYTAP				
INDEPENDENT VARIABLES	CONCEPTUAL DEFINITION	DIMENSIONS	INDICATORS	SCALES
TinyTap	TinyTap is a learning platform that integrates engaging operational system that involves gamification, promoting collaboration, motivation through personalized activities and offering immediate feedback, it fits perfectly in the teaching and learning of English grammar and vocabulary through specific activities (Hemminki, 2019).	Personalization and customization	Friendly user	Open ended questions I don't like A Little I like I love
			Technological tool for young learners	
			Personalize content delivery	
		Gamification	Game-like task design	
			Game elements	
			Social interaction	
		Assessment and feedback	Informal and corrective feedback	
			Frequency of assessment	
			Real-time feedback	
		Collaborative learning	Collaborative – problem solving	
			Peer learning to knowledge exchange	
			Group progress and achievement tracking	
		Motivation	Engagement	
			Challenges and rewards	
			Achievement and progress	
		ICT in education	Technological tools for English language learning	
			Traditional methods	

Elaborated by: Tigse (2024)

OPERACIONALIZATION MATRIZ – VOCABULARY LEARNING				
DEPENDENT VARIABLES	CONCEPTUAL DEFINITION	DIMENSIONS	INDICATORS	SCALES
Vocabulary learning	Vocabulary learning refers to the explicit process of acquiring, retention, application and contextual understanding words through learning strategies (Nation, 2011).	Importance	Attitudes and perceptions	Yes/ No Easy So so Difficult Very difficult I don't like A Little I like I love Pre-test and post-test 0 to 10
			Motivation	
			Vocabulary learning in children	
		The role of context	Context clue to infer words meaning	
			Contextualized tasks	
			Active and Passive vocabulary	
		Explicit vocabulary learning	Direct instruction	
			Explicit instruction	
			Practice with multiple type of vocabulary input	
		Word retention	Word recognition	
			Word association	
			Word mapping	
		Vocabulary strategies	Memory strategies	
			Word recall	
			Learning vocabulary in context	

Elaborated by: Tigse (2024)

Annex 9 Students' survey

Survey

Tittle: The use of Tinytap to enhance Vocabulary Learning in Pre-A1 Learners

Objective: To evaluate second-grade students' initial knowledge and perceptions of vocabulary and learning methods at Ecuatoriano Holandés School.

Name:_____ **Date:**_____

Instructions: Circle the face that best matches with your answer.

Vocabulary Learning

Word recall **How easy or difficult is it for you to remember words you learn in school?**	😊 Easy | 😐 So-so | 😟 Difficult | 😣 Very difficult
word recognition **How easy or difficult is it for you to understand words when you hear them?**	😊 Easy | 😐 So-so | 😟 Difficult | 😣 Very difficult
Context clue to infer words meaning **How easy or difficult is it for you to understand meaning of words in simple sentences or short phrases?**	😊 Easy | 😐 So-so | 😟 Difficult | 😣 Very difficult
Vocabulary learning in children **Do you consider important to learn English vocabulary?**	☑ 😊 Yes ✖ 😟 No
Motivation **Do you like to learn vocabulary in class?**	😟 I don't like | 😐 A little | 🙂 I like | ❤ I love

TinyTap

Traditional methods **Do you like to learn words by traditional methods? For examples, flashcards and pictures.**	🙂 I don't like | 😐 A little | 🙂 I like | ❤ I love
Technological tool for young learners **Would you like to learn vocabulary with online apps?**	😟 I don't like | 😐 A little | 🙂 I like | ❤ I love
Game elements **Would you like to learn vocabulary through online games?**	🙂 I don't like | 😐 A little | 🙂 I like | ❤ I love
Game-like task design **Would you like to incorporate online games in you daily task?**	😟 I don't like | 😐 A little | 🙂 I like | ❤ I love
Challenges and rewards **Would you like to learn vocabulary in online apps than offer you challenges and rewards?**	🙂 I don't like | 😐 A little | 🙂 I like | ❤ I love

Thanks for your collaboration! 😊

Annex 10 Pre-test

PRE-TEST

UNIDAD EDUCATIVA ECUATORIANO HOLANDÉS

Tittle: The use of Tinytap to enhance Vocabulary Learning in Pre-A1 Learners

Objective: To determine the improvement of vocabulary learning after using of TinyTap.

Time: 45 minutes **Class:** 2nd grade ____

Name: _____ **Date**_____

Instructions: Complete the test according the instructions given by the teacher in each item.

1. **Look at the pictures and color the correct name.** **(0,50 each item = 2pts)**

a)  It is my pencil / ruler

b)  It is my table / schoolbag

c)  It is my door / chair

d)  It is my ruler / eraser

2. **Circle the correct option.** **(0,50 each item = 2pts)**

a) nine	10	7	9
b) two	8	2	1
c) five	10	3	5
d) three	7	3	8

3. Look at the pictures and write the correct number. **(0,50 each item = 2pts)**




a) ☐ b) ☐ c) ☐ d) ☐

1. Cut
2. Sit down
3. Turn
4. Stand up

4. Color the book red, the eraser green, the glue yellow and the scissors blue. 0,50 each item = 2pts)




a) b) c) d)

5. Mention the names of the following pictures **(0,50 each item = 2pts)**

	Correct	Incorrect		Correct	Incorrect
a) 	☐	☐	b) 	☐	☐
c) 	☐	☐	d) 	☐	☐

Rubric to evaluate vocabulary in question 5

Criteria	Correct	Incorrect
Word Knowledge	Knows and uses the words correctly in context.	Does not know or use the words correctly.
Pronunciation	Pronounces the words clearly and correctly.	Does not pronounce the words clearly or correctly.
Confidence	Speaks with confidence and enthusiasm.	Does not speak with confidence; hesitates often.

Annex 11 Post-test

POST-TEST
UNIDAD EDUCATIVA ECUATORIANO HOLANDÉS

Tittle: The use of Tinytap to enhance Vocabulary Learning in Pre-A1 Learners

Objective: To assess the improvement in vocabulary learning after using TinyTap.
Time: 45 minutes **Class:** 2nd grade_____
Name: _____ **Date**_____
Instructions: Complete the test according the instructions given by the teacher in each item.

1. **Look at the pictures and color the correct name.** **(0,50 each item = 2pts)**

a)  It is my **sharpener** / **schoolbag**

b)  It is my **notebook** / **eraser**

c)  It is my **pencil** / **ruler**

d)  It is my **pencil case** / **shapener**

2. **Circle the correct option.** **(0,50 each item = 2pts)**

a) eight	10	7	8
b) three	7	3	5
c) nine	10	7	9
d) ten	8	10	4

3. Look at the pictures and write the correct number. **(0,50 each item = 2pts)**




a) ☐ b) ☐ c) ☐ d) ☐

1. Sit Down

2. Cut

3. Read

4. Draw

4. Color according to the information. **(0,50 each item = 2pts).**

a) This is your pink book. 

b) This is my brown eraser. 

c) This is a purple glue. 

d) These are my gray scissors. 

5. Mention the names of the following pictures **(0,50 each item = 2pts)**

a)  Correct ☐ Incorrect ☐

b)  ☐ ☐

d)  Correct ☐ Incorrect ☐

c)  ☐ ☐

Rubric to evaluate vocabulary in question 5

Criteria	Correct	Incorrect
Word Knowledge	Knows and uses the words correctly in context.	Does not know or use the words correctly.
Pronunciation	Pronounces the words clearly and correctly.	Does not pronounce the words clearly or correctly.
Confidence	Speaks with confidence and enthusiasm.	Does not speak with confidence; hesitates often.

Annex 12 Students' interview

INTERVIEW

Tittle: The use of Tinytap to enhance Vocabulary Learning in Pre-A1 Learners

Objective: To explore student's attitudes and perceptions of using TinyTap for vocabulary learning.

Name:_____. Age:_____.

Date:_____. Interviewer: _____.

Instructions:

- Listen carefully to the interviewer and answer every question in no less than 20 words.

Engagement: **Did you like to learn vocabulary by using TinyTap? Why? Or Why not?**

_____

Friendly user: **Was TinyTap easy to use? Why? or Why not?**

_____

Achievement and progress: **Do you feel TinyTap helped you to improve and learn new words? Can you tell me some?**

_____

Memory strategies: **When you play with TinyTap, do you feel it helps you to remember more words? Can give some examples?**

_____

Personalize content delivery: **Did you like the teacher to change characters, colors, and words according to your preferences? How did you feel?**

_____

Frequency of assessment /Informal and corrective feedback: **The feedback you received when you played in TinyTap (when it said if you are doing well or not, try again, it gave you clues), do it help you or not?**

_____

Collaborative – problem solving tasks / Peer learning to knowledge exchange **Did you and your friends help each other and learn vocabulary while playing TinyTap? How?**

_____

Motivation: **When I use TinyTap to learn words I feel…**

_____

Technological tools for English language learning: **Do prefer to learn words with TinyTap or traditional methods (for example books or flashcards)? Why?**

_____

Thanks for your collaboration! 😊

Annex 13 Lesson plan in the intervention stage

LESSON PLAN 1			
Teacher´s names: Sandy Tigse			
Time: 1 hour each session			
Class: Second A and B	**Topic:** School supplies	**Date:** January 06 to 10	
General objective: • Students will be able to identify, names and use basic vocabulary related to school objects. **Specific objective**: • To practice vocabulary related to school objects. • To practice pronunciation about school object. • To use vocabulary in simple sentences (Ex: It is my pencil/ It is a ..)			
Vocabulary: pencil, chair, table, ruler, sharpener, pencil case, notebook, book, glue.			
General materials: laptop, projectors, tablet, school supplies, rubric, stopwatch.			
Procedure			
Session 1			
Stages	**Activities**	**Materials**	**Assessment/ Evaluation**
Presentation	• Teacher introduces vocabulary related to school objects by using a TinyTap's presentation. • Teacher points school objects and pronounce them. Then, students repeat words. • Students identify materials in their pencil cases. The TinyTap presentation shows a school object and they have to find it in their pencil cases.	TinyTap presentation: https://www.tinytap.com/activities/g5sul/play/school-supplies-presentation Projector Laptop	Questions
Practice	• In a TinyTap activity students take turns, listen the instructions and tap the correct picture. • In pairs: students hold up a school object with the hands behind, the other students mention school objects and tries to guess the object.	TinyTap: https://www.tinytap.com/activities/g469p/play/school-supplies	Recognize vocabulary
Production	• Students show their pencil cases and mention all the material they have.	School supplies	Mention Vocabulary
Session 2			
Stages	**Activities**	**Materials**	**Assessment/ Evaluation**
Presentation	• Teacher reminds vocabulary by asking students to find object in their school bags. • Team activity: the class is divided in 2 teams. Teacher projects a TinyTap activity on the board. In the reflected screen the groups see two school bags with different materials. Students listen the description of the school objects. Then, the entire group run and touch the correct bag. The first group who touch the bag is the winner. • Teacher introduces phrases to indicate school object (Ex: This is my pencil/ It is a ...). Then, model phrases and ask students for examples.	Flashcards Tiny Tap https://www.tinytap.com/activities/g47q2/play/school-objects	Mention vocabulary Elicit vocabulary

Practice	• Students show school objects to classmates using the learned phrases.	School supplies	Students' participation
Production	• Students make an oral presentation. They choose some school objects and introduce them with the learned phrases. **Oral presentation model:** It is a pencil This is my pencil	Rubric	Oral presentation
Homework: Complete the following activity: https://www.tinytap.com/activities/g43mw/play/school-supplies			
Session 3			
Stages	**Activities**	**Materials**	**Assessment/ Evaluation**
Presentation	• Teacher shows a TinyTap activity where students have to listen the words in context and guess the correct school material. • Teacher shows students how to write and spell school objects vocabulary. Students pass and match the correct word.	TinyTap https://www.tinytap.com/activities/g44r2/play/school-objects Tinytap https://www.tinytap.com/activities/g5leg/play/school-supplies	Spell
Practice	• Students take turns and one by one pass to complete the activities in the tablet. These activities include drag names in the correct pictures, drag letter, complete puzzles.	TinyTap https://www.tinytap.com/activities/g1m9n/play/school-supplies	Students' participation
Production	• Students draw and write names of school materials in a paper or notebook. • Individually, students pass and complete a 5 questions quiz on TinyTap.	School supplies TinyTap https://www.tinytap.com/activities/g5leh/play/questions	Quiz

Elaborated by: Tigse (2024)

LESSON PLAN 2		
Teacher´s names: Sandy Tigse		
Time: 45 min each session		
Class: Second A and B	**Topic:** Numbers	**Date:** January 13 to 17
General objective: • Students will be able to recognize numbers and count objects. **Specific objective**: • To identify and count from 1 to 10. • To recognize numbers' names. • Students counts objects.		
Vocabulary: Numbers from 1 to 10.		
General materials: laptop, flashcards, rubric, projector, tablet, school supplies, stopwatch.		

Procedure			
Session 1			
Stages	**Activities**	**Materials**	**Assessment/ Evaluation**
Presentation	• Teacher introduces numbers from 1 to 10 by using TinyTap's presentation. • Teacher associates numbers and quantities by using objects around the classroom introducing Ho many…. • Students practice numbers' names .	TinyTap presentation: https://www.tinytap.com/activities/g4abb/play/numbers-1-10	Pronunciation and intonation
Practice	• Teachers presents an activity in TinyTap which consist of different games to drag numbers 'sequences, puzzles, listen and touch. For this activity students make groups of 4 and 5 students, they discuss and make all the activities. The winner group will be who finishes in the shortest time.	TinyTap presentation: https://www.tinytap.com/activities/g3d4t/play/numbers-1-10 Stopwatch	Students' participation: Choose correct option.
Production	• Teacher asks students to count objects from their pencil cases (e.g.,1 pencil, 12 colors…). • Students write their favorite number in a piece of cardboard with the name. In a circle they say it aloud.	Cardboard School supplies	Mention numbers
Session 2			
Stages	**Activities**	**Materials**	**Assessment/ Evaluation**
Presentation	• Teacher starts the class by singing a chant about numbers. Then, teacher reviews numbers from 1 to 10 by using flashcards. • Teacher writes the number´s names encourage students to repeat and recognize. • Teacher uses the previous TinyTap presentation to show the numbers names.	Flashcards TinyTap: https://www.tinytap.com/activities/g4abb/play/numbers-1-10	Recognize vocabulary
Practice	• In the same link, students take turn and complete puzzles matching numbers with names.	TinyTap https://www.tinytap.com/activities/g4abb/play/numbers-1-10	Students' participation
Production	• Students write a number´s names in a cardboard. In pairs students make a short role play. Teacher models a phrase to make then recognize number´s names. **Role-play model** **Student A**: What number is it?	Rubric	Mention vocabulary

	Student B: ten, two, etc.		
Session 3			
Stages	**Activities**	**Materials**	**Assessment/ Evaluation**
Presentation	• Students make a review from 1 to 10 with their names using a TinyTap presentation.	TinyTap: https://www.tinytap.com/activities/g2xdv/play/number-names-1-to-10 Projector/laptop	Recognize vocabulary
Practice	• Students make groups of 4 and 5 people, and in the same link they listen instructions. The groups stand up in a specific point of the class, teacher project the image on the board, students discuss answers and one participant of the group run and touch the correct word. • Second activity: students take turn and complete spelling numbers´names.	TinyTap Projector/laptop	Recognize vocabulary spelling
Production	• In counting and write. On the board teacher have a poster of numbers for visual stimulus. groups students complete a Quiz on TinyTap. It consists of observing, listen,	TinyTap https://www.tinytap.com/activities/g5tg2/play/number-quiz Computer.	Spell

Elaborated by: Tigse (2024)

LESSON PLAN 3			
Teacher´s names: Sandy Tigse			
Time: 45 min each session			
Class: Second A and B	**Topic:** Colours	**Date:** January 20 to 24	
General objective: • Students will be able to use vocabulary related to colors to describe objects. **Specific objective**: • To practice vocabulary related to colors. • To practice pronunciation about colors. • To learn how to ask about the color of something.			
Vocabulary: primary, secondary and tertiary colors, black and white.			
General materials: laptop, flashcards, rubric, projector, tablet, school supplies, stopwatch.			
Procedure			
Session 1			
Stages	**Activities**	**Materials**	**Assessment/ Evaluation**

Presentation	• Teacher introduces vocabulary by using TinyTap's presentation. Teacher show colors and tap each one to listen the pronunciation and repeat each color. • Teacher points different colors with the arrow and ask student to mention colors.	TinyTap presentation: https://www.tinytap.com/activities/g3as3/play/colors-4	Vocabulary recognition
Practice	• Teachers asks students to take out their colors and mention some colors whereas students up the correct one. • Student identify colors in the classroom objects. • With the same link, teacher show crayons and students take turns to move color to the correct place and touch colors.	TinyTap https://www.tinytap.com/activities/g3as3/play/colors-4	Students' participation
Production	• Teacher asks students for their favorite color.	Colors	Questions
Homework: Students complete the TinyTap activity "Touch and color pictures" https://www.tinytap.com/activities/g3bik/play/magic-colors-transportation-coloring-pages			

Session 2

Stages	**Activities**	**Materials**	**Assessment/ Evaluation**
Presentation	• Teacher starts the class by singing a chant about colors. • Teacher asks students to remember colors with a TinyTap activity. Then, shows classroom objects to identify and mention colors. • Teacher explain how to describe objects by using colors.	Flashcards Tiny Tap https://www.tinytap.com/activities/g49sp/play/colors	Mention vocabulary
Practice	• In the TinyTap app observe and listen the descriptions and mention the correct option. • Then, teacher repeats the activity and individually, students pass and choose the correct option.	TinyTap https://www.tinytap.com/activities/gmxr/play/colors-blue	Student´s participation
Production	• In pairs students make a short role play. Teacher show 3 different pictures in a PPP on the projector and students make the role-play. Teacher guide students to use colors and words **Role-play model:** **Student A**: What color is it ? **Student B**: It is a blue fish / It is... (Students change the roles)	Power Point presentation Rubric	Role-play

Session 3			
Stages	**Activities**	**Materials**	**Assessment/ Evaluation**
Presentation	• Teacher asks students for color and write the name of each color on the board. • Teacher reviews how to describe objects with colors by using a TinyTap presentation. Example. This is my blue pen; this is a gray elephant.	TinyTsp https://www.tinytap.com/activities/g3tht/play/what-is-my-color	Grammar and spell
Practice	• Teacher uses the same link and ask students to identify colors and use them in context. • Teacher plays Simons say and ask student to identify colors in school supplies and show them. Example. Simon says show a yellow pencil, a purple pencil case.	School supplies.	Active participation
Production	• Student draw pictures and describe them by using the vocabulary learned.	School supplies Rubric	Recognize vocabulary
Homework: Complete the following activity: https://www.tinytap.com/activities/g41ps/play/name-the-colours			

Elaborated by: Tigse (2024)

LESSON PLAN 4		
Teacher´s names: Sandy Tigse		
Time: 45 min each session		
Class: Second A and B	**Topic:** Commands (verbs for school)	**Date:** January 27 to 31
General objective: • Students will be able to understand and use verbs related to basic school actions. **Specific objective**: • To understand verbs in context. • To associate verbs with specific school materials. • To pronounce verbs in a correct manner.		
Vocabulary: stand up, sit down, write, read, cut, draw, turn.		
General materials: laptop, flashcards, rubric, projector, tablet, school supplies, stopwatch.		

Procedure			
Session 1			
Stages	**Activities**	**Materials**	**Assessment/ Evaluation**
Presentation	• Teacher introduces verbs in a TinyTap presentation where students observe them. Then, they practice pronunciation. • Teacher provides examples with mimics.	TinyTap presentation https://www.tinytap.com/activities/g5tha/play/commands-1	Pronunciation / Recognize vocabulary

Practice	• In groups of 4 and five: teacher show pictures of an action word in the same link of TinyTap. One student passes to the front whereas the rest of the group look at the picture and imitate the action. The students guess and say the correct word. Every group take turn to do this activity.	TinyTap presentation	Student´s participation: say the correct option.
Production	• Students mimic action they learn and mention them aloud with flashcards.	Flashcards	Questions
Session 2			
Stages	**Activities**	**Materials**	**Assessment/ Evaluation**
Presentation	• Teacher makes a review about action verbs by using the previous TinyTap presentation. • In the same TinyTap presentation students watch a video song , practice and dance the commands song.	Tiny Tap https://www.tinytap.com/activities/g5thb/play/commands-2	Mention vocabulary
Practice	• In the same TinyTap students take turns and complete a puzzle.	TinyTap	Students' participation
Production	• In group of 4 and 5 students observe images on TinyTap and they have to make the action by using school materials whereas say what action are they doing (e.g, cut the book)	TinyTap	Follow command and instructions
Session 3			
Stages	**Activities**	**Materials**	**Assessment/ Evaluation**
Presentation	• Teacher makes a review about verbs by showing pictures and verbs in a TinyTap presentation. Then, teacher encourages students to mentions the verbs. • In the same TinyTap students watch a video and follow instructions.	TinyTap https://www.tinytap.com/activities/g5thc/play/action-verbs-practice	Pronunciation
Practice	• Students complete sequences on TinyTap.	TinyTap	Matching
Production	• Individually, students take a quiz on the TinyTap.	TinyTap	Quiz

Elaborated by: Tigse (2024)

LESSON PLAN 5		
Teacher´s names: Sandy Tigse		
Time: 45 min		
Class: Second A and B	**Topic:** Toys	**Date:** February 03 to 07

General objective:

- Students will be able to identify, names and use basic vocabulary related to toys

Specific objective:

- To identify vocabulary related to toys.
- To introduce a toy or an object.

Vocabulary: teddy**,** car, ball, bike, robot, building blocks, kite**,** doll, balloons

General materials: laptop, projectors, tablet, school supplies. Stopwatch.

Procedure

Session 1

Stages	**Activities**	**Materials**	**Assessment/ Evaluation**
Presentation	• Teacher introduces vocabulary related to toys by using a TinyTap's presentation. Teacher models words to show the correct pronunciation. • Students practice pronunciation by repeating words. • Teacher asks students for their favorite toys.	TinyTap presentation: https://www.tinytap.com/activities/g331y/play/toys-vocabulary	Pronunciation Questions
Practice	• Students take turn and listen the word. Then, tap in the correct picture. • With realia students form groups of 4 or 5 and play "Toy hunt"	TinyTap https://www.tinytap.com/activities/gs5p/play/toys	Mention vocabulary
Production	• Students draw their favorite toys and in a circle time present them.	School supplies	Questions

Session 2

Stages	**Activities**	**Materials**	**Assessment/ Evaluation**
Presentation	• In pairs students identify differences in a picture on a TinyTap presentation. Students find similarities and differences. • Teacher explain how to introduce a toy. With modeling phrases such as: This is my…. It is… What color is the…?	TinyTap https://www.tinytap.com/activities/g33m7/play/find-the-differences-toys	Mention vocabulary
Practice	• Students practice the phrases and with the help of teacher create role play with the tinytap activity. • In the Tinytap activity students practice the role play with the modelling phrases given in the activity.	TinyTap https://www.tinytap.com/activities/g19zd/play/my-toys	Student´s participation

Production	• In pairs students make a short role play. Teacher show a picture on the projector and students make the role play. **Role-play model:** **Student A**: What is it ? **Student B**: This is my … **Students A**. What color is the.. **Student B**…My …. Is color…	Rubric	Role-play
Homework: Complete the following activity: https://www.tinytap.com/activities/g5mnd/play/toy-talk			
Session 3			
Stages	**Activities**	**Materials**	**Assessment/ Evaluation**
Presentation	• Teacher shows a TinyTap and students spell toys´ names.	TinyTap https://www.tinytap.com/activities/g28sg/play/toys-spelling	Grammar and spell
Practice	• Teacher presents a story on TinyTap. • Teacher give the quiz included in the story which ask some questions.	Story on TinyTap https://www.tinytap.com/activities/g3q3p/play/blue-book-toys-1-quiz-included	Quiz
Production	• Students have to remember and say at least 5 toys they learn.	Toys	Quiz

Elaborated by: Tigse (2024)

Rubric for oral vocabulary

Criteria	Correct	Incorrect
Word knowledge	Know the words correctly	Does not know the words
Pronunciation	Pronounces the words clearly and correctly	Does not pronounce the words clearly nor correctly
Confidence	Speaks with confidence and enthusiasm	Does not speaks with confidence and enthusiasm

Elaborated by: Tigse (2024)

Rubric for Role-play (Annex 2)

Criteria	Correct	Incorrect
Pronunciation	Pronounces the words clearly and correctly	Does not pronounce the words clearly nor correctly
Confidence	Speaks with confidence and enthusiasm	Does not speaks with confidence and enthusiasm
Comprehension	Respond appropriately following modelling phrases	Does not respond appropriately following modelling phrases
Participation	Participate actively with enthusiasm	Does not participate actively with enthusiasm

Elaborated by: Tigse (2024)