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Preschool

**Impact of using the Starfall ABCs app in improving the identification of  
alphabet students between 4 to 5 years old of the interactive II A of the  
Saint Josephine Bilingual School in Grecia, Alajuela during the second  
semester 2025.**

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## **Dedication**

I dedicate this thesis to my parents and my brother, for their constant support, unconditional love, and for being fundamental pillars throughout this process.

To my uncles and my grandmother, who have always believed in my potential and encouraged me to keep moving forward.

To my friends, for their trust and daily motivation.

I also dedicate it to my seventeen students and their parents, for allowing them to be part of this meaningful process.

Finally, I give thanks to God and the Virgin Mary, whose mercy and guidance have accompanied me in reaching this achievement.

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Finally, I thank all the people who have offered me their support and words of encouragement, which have been fundamental to achieving this goal.

## **Abbreviations**

UDL: Universal Design for Learning.

MEP: Ministerio de Educación Pública

ICT: Information and Communication Technology

EFL: English as a Foreign Language

AAP: American Academy of Pediatrics

## **Abstract**

The present study aimed to analyze the impact of using Starfall ABC app on the development of phonological and phonics awareness in 4 to 5 years old children learning English as a foreign language. Phonological awareness, understood as the ability to recognize and manipulate the sounds of language, is a fundamental skill for the acquisition of early reading and writing, especially among English language learners.

The study was grounded in theoretical approaches related to phonological and phonemic awareness, phonics instruction, and student-centered learning, highlighting the role of the teacher as a facilitator in the teaching-learning process and the use of educational technology as pedagogical support. Likewise, the importance of educational applications as tools that promote autonomous, interactive, and motivating learning in preschool education was considered.

The research followed a quantitative approach and employed instruments such as initial sound recognition tests, home progress reports, and observations of student's use of the application. The results showed significant improvements in the identification of alphabet sounds, phoneme-grapheme correspondence, and pronunciation among the participating students. These findings demonstrate that the systematic and guided use of the Starfall ABC application positively contributes to the development of early literacy skills.

In conclusion, the integration of phonics instruction in preschool children supported by technological resources, such as the Starfall ABC application, represents an effective strategy for strengthening English language learning in young learners, fostering a dynamic and meaningful learning environment.

## Resumen

La presente investigación tuvo como objetivo analizar el impacto del uso de la aplicación Starfall ABC en el desarrollo de la conciencia fonológica y fonética en niños de 4 a 5 años que aprenden inglés como lengua extranjera. La conciencia fonológica, entendida como la capacidad de reconocer y manipular los sonidos del lenguaje, constituye una habilidad fundamental para la adquisición de la lectura y la escritura en edades tempranas, especialmente en estudiantes de inglés como segunda lengua.

El estudio se fundamentó en enfoques teóricos relacionados con la conciencia fonológica fonémica, la instrucción fonética y el aprendizaje centrado en el estudiante, destacando el papel del docente como facilitador del proceso de enseñanza-aprendizaje y el uso de la tecnología educativa como apoyo pedagógico. Asimismo, se consideró la importancia de las aplicaciones educativas como herramientas que favorecen el aprendizaje autónomo, interactivo y motivador en el nivel preescolar.

La investigación se desarrolló mediante un enfoque cuantitativo, utilizando instrumentos como pruebas de reconocimiento de sonidos iniciales, reportes de progreso en casa y observaciones del uso de la aplicación. Los resultados evidenciaron mejoras significativas en la identificación de sonidos del alfabeto, la correspondencia fonema-grafema y la pronunciación en los estudiantes participantes, lo que demuestra que el uso sistemático y guiado de la aplicación Starfall ABC contribuye positivamente al desarrollo de habilidades de alfabetización inicial.

En conclusión, la integración de la enseñanza de la fonética en niños de preescolar apoyada por recursos tecnológicos, como la aplicación Starfall ABC, representa una estrategia efectiva para fortalecer el aprendizaje del inglés en niños de edad preescolar, favoreciendo un entorno de aprendizaje dinámico, significativo.

## **CHAPTER I: RESEARCH PROBLEM**

## **1.1 PROBLEM STATEMENT**

According to numerous observations and interactions with children in the Interactive II A group at Saint Josephine Bilingual School, difficulties have been identified in the reproduction and recognition of English alphabet sounds among children aged 4 to 5 years. These difficulties represent a significant barrier to the early stages of English language acquisition, which is essential for the development of foundational literacy skills.

Early literacy development involves multiple interconnected skills, including letter recognition and phonemic awareness, which are critical for children's later success in reading and communication. According to National Early Literacy Panel (2008), "phonemic awareness and alphabet knowledge are the best predictors of later reading success in children" (p. 2). These skills allow children to connect sounds to written symbols, facilitating the decoding process necessary for fluent reading.

Educational technology tools have become increasingly important in supporting language learning during early childhood. Interactive applications, such as the Starfall ABCs app, provide a multisensory learning experience by combining visual, auditory, and kinesthetic elements that can motivate and engage young learners.

Despite the availability of such technological resources, many children in the Interactive II A group continue to show challenges in alphabet identification and sound reproduction, which suggests that the current instructional methods or technology integration may not be fully effective.

Therefore, it is crucial to examine the impact of using the Starfall ABCs app on improving the identification of the English alphabet and corresponding sounds in children between 4 to 5 years old. This research aims to determine whether the integration of this app in the classroom environment can help overcome existing difficulties and enhance early English literacy skills during the second semester of 2025.

### **1.1.1 Background of the problem**

Early literacy skills such as letter recognition and phonemic awareness are fundamental for learning to read and write. According to Lonigan et al. (2008), “alphabet knowledge and phonological awareness are the strongest predictors of later reading success in young children” (p. 280). This means that children who develop these skills early tend to achieve better reading outcomes in the future. Therefore, focusing on these skills during preschool is crucial to prevent future difficulties in learning English as a second language.

Nursery rhymes not only assist with memorizing and recognizing sounds but also create a motivating and enjoyable environment that encourages active participation. Arevalo (2023) emphasized that “to propose the use of nursery rhymes in order to develop listening and speaking skills in children who are in Kindergarten” (p. 16). This is especially important for young learners, for whom engagement and enjoyment are key factors in language acquisition, since through activities such as rhyme they will also be able to acquire vocabulary.

Furthermore, the playful and melodic nature of nursery rhymes fosters an enjoyable learning atmosphere. This is essential for young learners, as emotional engagement significantly influences their motivation to participate and persist in language tasks. When children recite or sing nursery rhymes, they not only practice articulation and fluency but also strengthen their memory through repetition and rhythm. This combination of cognitive and affective benefits makes nursery rhymes a powerful pedagogical tool for developing foundational listening and speaking abilities in early childhood education.

By modifying lesson plans, incorporating multisensory activities, and using formative assessments to track progress, teachers create a more inclusive learning environment. Hall (2023) By the end of the kindergarten year, kindergarteners should be able to decode words using grade-level phonics and word analysis abilities. They should be able to produce the principal or many of the most common sounds for each consonant, demonstrating a rudimentary understanding of one-to-one letter sound correspondences (p.8). The adaptability described by Hall reflects an understanding that young learners acquire language skills at different rates and may encounter unique challenges in developing phonemic awareness, decoding skills, and vocabulary.

This commitment to refining instructional practices reinforces the role of early educators as key agents in supporting English language acquisition, particularly in bilingual or second-language learning contexts where targeted phonics instruction can significantly accelerate literacy development.

The use of technology in the classroom is a pedagogical resource that enhances creativity and innovation in lesson plans and helps capture students' attention. Within Costa Rica, Vega (2024) observed that “Technology is an essential factor in the development of lessons within the classroom, if it is used appropriately. It will provide strong support for the teacher to deliver more creative and innovative lessons that capture students’ attention” (p.13). Applications such as Starfall ABCs thus make language learning more dynamic, accessible, and tailored to individual students.

Music helps children connect sounds to meaning, facilitating phoneme recognition and vocabulary acquisition, which are particularly effective in early language education. According to Garcia (2023) “investigated the impact of music therapy on reading and phonics skills during the COVID-19 pandemic. She concluded that music in learning a new language leads to obtaining good results with a more significant process” (p. 66). The integration of music into early language education also increases motivation and enjoyment, two factors crucial for maintaining attention and participation among young learners.

Furthermore, musical activities create strong associative links between sounds and meaning, which enhance memory consolidation and long-term recall. In the context of phonics, songs and rhythmic chants can reinforce letter-sound correspondences in a way that is both interactive and memorable. García’s findings highlight that, particularly in challenging learning environments such as those experienced during the pandemic, music therapy can serve as an effective strategy to maintain engagement and achieve measurable progress in reading and phonics skills.

### **1.1.2 Problematization**

Through observations carried out at Saint Josephine Bilingual School, located in Grecia, Alajuela, the Interactive II group was studied during the second quarter of 2025. This group consists of 14 children aged 4 to 5 years. It was noted that during both written and oral production activities, students frequently show concentration difficulties. However, when dynamic teaching resources such as songs with dance, educational games via applications, or outdoor activities are used, children display increased motivation, attention, and engagement in class.

Furthermore, some students exhibit low frustration tolerance during activities. Even with teacher support, they often struggle to self-regulate their emotions and seek solutions independently. Developing emotional regulation and resilience is necessary for these learners. Additionally, oral production in English is a major challenge. Students face difficulties pronouncing phonemes correctly, leading to frustration that hinders their language development. Therefore, it is crucial to integrate engaging resources such as games and songs that encourage practice and support oral fluency.

The learning-by-doing approach is applied to enhance the learning process. Lukas (2023) “the human brain can maintain optimal attention for up to ten minutes while listening. Even if the topic is fascinating, interest diminishes after that. On the other hand, we can remember up to 75% of our actions” (para. 2) This emphasizes the effectiveness of hands-on learning methods in improving retention and engagement, especially for children who face concentration difficulties. Using innovative activities alongside technological platforms can significantly benefit preschool students’ learning.

In addition, applying the UDL framework helps tailor instruction to diverse learners’ needs by recognizing that everyone processes information differently. Incorporating role-playing activities in English classes fosters speaking skills and builds children’s confidence in completing daily tasks. This can reduce frustration and increase persistence.

Students learn new abilities and complete educational objectives using new tools when technology is included in the classroom. This fact will guarantee that pupils receive engaging instruction, which will raise their level of interest and focus during the teaching process. Additionally, it is feasible to maximize student participation in the regular

development of classes using technology. Saint Josephine Bilingual School is well-equipped with technological resources, such as large screens in every classroom, which provides an excellent opportunity to utilize ICT effectively in teaching letters and sounds.

### **1.1.3 Justification of the problem**

Learning letters and their sounds is essential for the development of literacy in preschool children, who constitute a population in the language acquisition stage. Kaye and Lose (2019) explain that for young students, acquiring letters is more difficult than one might imagine. It is extremely complicated, and students find it much more difficult. Although letter knowledge varies considerably from student to student and changes over time (not in alphabetical order or by letter per week), it is crucial for the development of an early literacy processing system (p. 609). Improving letter identification and association with their sounds directly contributes to strengthening English reading and writing skills, which positively impacts their academic development and overall development.

Research will allow for the implementation of different teaching strategies, including multisensory activities such as practice exercises, songs, and the use of technology through the Starfall ABCs app. These tools facilitate the understanding of letters and their sounds, promoting meaningful and motivating learning for students. According to Mejía (2024), “Learning styles can be kinesthetic, visual, and auditory, and they represent the diverse ways in which people process and comprehend information. Each of us tends to prefer one or a combination of these styles, although we can also adapt to others depending on the context” (p. 3). Therefore, the integration of multisensory activities, such as practical exercises, songs, and interactive applications, helps engage all students and fosters meaningful learning experiences.

This study contributes to knowledge about the early acquisition of letters and sounds in English, contributing to a better understanding of the difficulties children experience when learning and the importance of linking visual symbols with sounds in developing literacy skills. Contractor (2023) highlights several benefits of letter recognition for the progression of children's learning: it promotes reading readiness, spelling, vocabulary development, writing readiness, and general literacy skills (p. 6). The research

allows for the development and application of innovative educational strategies that can be replicated in other preschool contexts, in addition to establishing clear relationships between the use of technological applications and progress in the identification of letters and sounds. It addresses a real need in preschool education, generating input for teachers and students, contributing to knowledge about literacy and methodological tools applicable in the teaching of English at the preschool level.

## **1.2 FORMULATION OF THE PROBLEM**

What is the impact of using the Starfall ABCs app to improve the identification of alphabet sounds on students between 4 to 5 years old of the Interactive II A of the Saint Josephine Bilingual School in Grecia, Alajuela during the second semester 2025?

## **1.3 OBJECTIVES OF THE INVESTIGATION**

### **1.3.1. General Objective**

To determine the impact of using the Starfall ABCs app to improve the identification of alphabet sounds on students between 4 to 5 years old of the Interactive II A of the Saint Josephine Bilingual School during the second semester 2025.

### **1.3.2. Specific Objectives**

1. To determine the improvement in alphabet sound identification among 4- to 5-year-old students after using the Starfall ABCs app during the second semester of 2025.
2. To analyze the relationship between the time spent using the Starfall ABCs app and the accuracy in identifying alphabet sounds among 4- to 5-year-old students during the second semester of 2025.
3. To design an educational action plan that incorporates the use of the Starfall ABCs app to promote phonetic learning in 4- to 5-year-old preschool students.

## **1.4 SCOPE AND LIMITATIONS**

### **1.4.1. Scope**

In this research, it has been observed that the students of the interactive group II of the Santa Josefina bilingual educational center, made up of a total of 14 students aged

between 4 and 5 years, experienced significant benefits. The main scope of this study lies in facilitating the learning process of children using the Starfall ABCs application, which focuses specifically on the sounds associated with the letters of the alphabet. Therefore, in this way, we seek to promote the development of linguistic skills in English, deeper in oral expression. The implementation of this technological tool represents an important step towards improving academic performance and the acquisition of communicative skills in a bilingual environment.

#### **1.4.2. Limitations**

A notable limitation in this context is that children confuse the sounds of the letters in Spanish, which shows the need to establish the difference between both languages and their respective phonetics. They must be taught to understand that each language has its own distinctive rules and sounds. Furthermore, the limitation derived from the inability of children to participate in spelling activities due to their young age and level of development is identified. This is why tools such as the Starfall ABC's application is implemented at this level to provide meaningful learning that encourages the development of linguistic skills and prepares you for reading activities, thus improving your general skills

**CHAPTER II:**  
**THEORETICAL FRAMEWORK**

## **2.1 HISTORICAL CONTEXT**

Saint Josephine Bilingual School is a renowned institution that believes in the holistic development of its students, enabling them to acquire academic and technological knowledge and develop their full potential in any area of interest (Saint Josephine Bilingual School, 2025).

Saint Josephine Bilingual School is in Grecia, Alajuela Province, Costa Rica. Grecia is the third canton in the province of Alajuela, Costa Rica. It is in the center of the country, 20 km northwest of the city of Alajuela. It has an area of 395.72 km<sup>2</sup> and is divided into 7 districts. It borders the cantons of Poás and Alajuela to the east, Valverde Vega and Poás to the north, Alajuela and Atenas to the south, and Sarchí, Naranjo, and Atenas to the west. Grecia was founded on October 17, 1865. Its capital is the city of Grecia (Municipalidad de Grecia 2025).

Saint Josephine Bilingual School is an institution offering academic excellence, with a linguistic and technological focus, and an environmental awareness that fosters the development of critical, humanistic leaders capable of facing the challenges of global society. Furthermore, it develops critical, responsible, self-aware individuals who are committed to their environment, capable of communicating effectively, with a solid academic background without technological or linguistic barriers, and with environmental awareness, capable of leading from a humanistic perspective in a global society (Saint Josephine Bilingual School, 2025).

## **2.2 THEORICAL – CONCEPTUAL CONTEXT**

### **2.2.1 Phonological Awareness**

Phonological awareness has a critical role in early literacy and language development. Phonological awareness, according to the International Literacy Association, is a multilevel oral language skill defined as sensitivity to the sound structure of spoken words, regardless of their meaning. Phonological (linguistic) units include syllabic units (words, syllables) and subsyllabic units (onsets, rhymes, and phonemes) (p. 2). Efficient and developmentally appropriate instruction in phonological awareness can support young children's literacy and language development.

Phonological awareness is crucial for literacy. Phonological awareness, defined as the ability to recognize and manipulate the individual sounds or phonemes that make up spoken words, is essential for the acquisition of reading and spelling. English language learners benefit from explicit teaching instruction in phonological awareness, as well as phonics instruction, vocabulary, reading comprehension, oral reading fluency, and writing interventions (Guillon, 2023). Developing this skill during childhood makes reading and writing easier.

Various literacy approaches can be effective during early childhood, and studies highlight the use of phonological awareness. Phonological awareness may offer greater long-term benefits for reading compared to other approaches (Suggate, 2016). Phonological awareness instruction provides benefits in spelling, expressive vocabulary, reading, and listening comprehension in English learners (Bdeir, Bahous, & Nabhani, 2020). Furthermore, understanding the phoneme-grapheme relationship and reading context is also an effective intervention strategy for children with reading difficulties in English (Guillon, 2023). This indicates that phonological awareness is critical for successful literacy learning.

An important skill in the development of reading and writing is phonological awareness. Phonological awareness appears in the literature as one of the greatest predictors of learning and as one of the fundamental mechanisms for achieving reading proficiency (Muñoz, Monzalve, Almonacid, & Merellano, 2020). Furthermore, it aids in learning the alphabetic code by promoting the perception of phoneme-grapheme connections and enabling the discovery of sounds in words (Quilca, 2017). Learning to read and write is essential for communication, and phonological awareness helps children during this process.

Phonological awareness is a literacy teaching strategy that has been shown to be successful in children. In this context, phonological awareness has been described as helping students with language acquisition problems, as it allows them to read correctly, considering the phoneme-grapheme relationship (Pardo, 2017). Furthermore, reading requires the skill of obtaining phonological, semantic, and syntactic information about words to understand written information (Luna, Luviano-Vargas & Villalva-Sánchez,

2021). Studies on learning based on this approach demonstrate how important it is for developing reading and writing skills during literacy development.

### **2.2.2 Phonemic Awareness**

Linguistic literacy requires prior development of specific skills and knowledge that are acquired through highly complex processes. Metalinguistic, morphological, and print awareness have been recognized as cognitive components leading to literacy, but phonemic awareness has the greatest predictive value of all these factors, as children learn to read by focusing on the letter-sound relationship, rather than solely on digraphs and diphthongs (Mohd, Hua, Mohd, & Mat, 2023). This approach highlights the importance of understanding phonemes for mastering the English alphabet system.

Phonemic awareness is an essential skill used to read a sentence, write a letter, or compose a text message. It is defined as “the ability to detect, segment, and manipulate the sounds of language, at the large (word/syllable) or small (phoneme) unit level” (Kuppen & Bourke, 2017, p. 181). That is, it refers to the ability to recognize that speech is composed of sentences that can be broken down into words, syllables, intrasyllabic units, and phonemes, as well as the ability to speak, reflect on, and manipulate these components.

### **2.2.3 Phonics**

Another important approach to consider during English literacy training is phonics. Phonetics refers “to the set of relationships between sounds and how they can be represented by the letters of the printed alphabet; that is, sound-symbol relationships or graphophony” (Huanhuan & Chi, 2017, p. 674). This suggests that the core content of phonics is the relationship between word form and sound, that is, between letters and speech sounds.

As a result, this approach focuses on how readers understand letters and how to pronounce them correctly while reading. Phonetics is composed of two key concepts: grapheme and phoneme. In this context, Huanhuan and Chi (2017) define a grapheme as a written symbol that represents speech, while a phoneme is part of a small set of speech sounds in a specific language. In simpler terms, the core content of phonetics is the connection between letter and sound.

Phonics approach gives some advantages to the learners, especially for children learning to read at an early age. According to Salman (2018), this approach allows beginners to decode new written words by pronunciation, or in phonetic terms, by combining the sound spelling patterns (p. 53). This allows students to learn the regular pattern of words, including the rules for pronouncing letters, making reading easier.

#### **2.2.4 Teaching phonics**

Phonetic training is one of the most common reading treatments used especially for children. When children first learn to read, all written words are new to them. To read these words correctly, children need to learn to identify each letter in a word; transpose each letter or group of letters into its correct speech sound using letter-sound rules; and combine these speech sounds into a word that can be spoken aloud (McArthur et al., 2018). These skills are detailed in a variety of theoretical and practical reading models.

The educational community is paying attention to the approach to phonics during the teaching and learning of the English alphabet for children. For this reason, several methods for teaching phonetics have emerged, including synthetic phonics, which uses a part-to-whole approach to teach letter-sound relationships in a clearly defined, incremental sequence (Huanhuan & Chi, 2017). This method is the most productive in terms of reading and spelling.

As already described, phonetics is an important part of language learning, but it can be difficult, especially in English. Because of this, Huanhuan & Chi (2017) recommend beginning this teaching in kindergarten, with short, regular, and fast-paced sessions lasting approximately 20 minutes, with time allocated at the teacher's discretion. This is because the first years of life are crucial for learning phonetics if stimulated appropriately.

An important aspect of language development is reading. In this context, language development in preschoolers involves reading letters, syllables, and sentences presented in writing and applied orally (Khotimah, Ratno, & Suweleh, 2023). Considering this, Huanhuan and Chi (2017) comment that phonics is an important part of language learning in preschoolers, since the correspondence between letters and sounds is difficult to

understand without explicit instruction (p. 676). If this methodology is not followed, students may acquire knowledge slowly or not at all.

The importance of phonemic awareness for early reading is understandable; however, there are differences in approaches to teaching phonics. These approaches can be explained as published by Scull and Lyons (2024), considering constrained and unconstrained skills. In this context, Stahl (2011) defines: “Constrained skills consist of a limited number of elements and can therefore be mastered in a relatively short period, whereas unconstrained skills are learned throughout life, have a wide range, vary between individuals, and can influence many cognitive and academic skills” (pp. 52-53). Therefore, these skills are crucial for developing literacy, confidence in reading and speaking, and the ability to understand the rhythm and intonation of the English language.

Teachers need to pay attention to the visible features of print and the relationship between form and sound, as children need to quickly access this information while processing print. Textual spelling and phonetic awareness have been identified as limited skills, as discussed by Scull and Lyons (2024). Therefore, teaching needs to be clear, systematic, and assessment-based, considering what students know and what they need to learn. Teaching children’s letters and letter groups that can be heard as distinct sound patterns, along with spelling patterns, is ideal for developing a broad understanding of text meaning.

At the same time, teachers must frame their practices to meet students' learning needs. Considering this, Duke and Cartwright (2021) argue that this practice must integrate the various processes and elements of the text for successful reading. Furthermore, as indicated by Scull and Lyons, 2024, the correspondence between speech and print can develop as teachers guide children through the experience and learning of reading. This reveals the importance of teacher training in children's English language literacy development.

Phonics is ideal for language learners because, through practice, they can master English pronunciation accurately and effortlessly. In this context, Huanhuan and Chi (2017) report that phonics provides children with a method for relating letters to sounds, allowing them to pronounce words by learning the sounds of letters, letter groups, and syllables.

They also consider it one of the most effective tools for improving pronunciation, as it addresses all the sounds of a single letter along with their names, and spelling. All these benefits are part of the appeal of phonics instruction for preschool students.

Preschool students also face language difficulties memorizing many new words in traditional teaching models. Given this situation, Huanhuan and Chi (2017) highlight the importance of phonemic awareness, word mastery through analogies between familiar and new words, and other decoding skills. Therefore, during phonics instruction, it is important for students to read extensively to develop fluent reading skills that are more focused on understanding the text.

Despite evidence that synthetic phonics teaching has increased reading attainments, a sizable minority of children struggle to acquire phonics skills and teachers lack clear principles for deciding what types of additional support are most beneficial. In this regard, studies published in different countries have shown that teachers who teach English during early childhood have poor phonological awareness and lack understanding of sounds, words, sentences, and the principles of reading in English (Kuche, Demissie, & Wanna, 2024). This is a result of inadequate training.

#### **2.2.4.1 Phonetic assessment in preschoolers**

The evaluation of the phonetic method in children focuses on their phonological awareness. Phonological awareness is conceived as a higher-order, structured cognitive process, mediated by various skills that must simultaneously mature and acquire so that the child can use and manipulate the basic elements of oral language in its phonological structure (Muñoz y Melenge, 2017). Phonological awareness is one of the most important skills to master for proper reading learning.

One of the greatest challenges children face when beginning to learn written language is understanding the association between graphemes and phonemes. This requires the development of phonological skills, since these are what facilitate reflection and the ability to manipulate the subunits of words in spoken language: syllables, intrasyllabic

units, and phonemes (Gutiérrez & Díez, 2018). These skills allow children to understand the relationships between spoken and written language.

Phonological awareness is important for grapheme-phoneme correspondence, and this skill bridges the gap between literacy and a child's early cognitive development. The development of phonological awareness has been described in three levels: lexical awareness, syllabic awareness, and phonemic awareness (Araya, 2019). The development of these levels allows for mastery of the rules of grapheme-phoneme correspondence, which has serious repercussions for the development of another skill in the literacy process: decoding.

Decoding corresponds to reading fluency. Decoding is the process of accessing the symbolic system of written language. Written words correspond to spoken words, decoding is, therefore, the acquisition of messages through the written code (Araya, 2019). Therefore, if a child decodes correctly, he or she will automatically be able to read.

Rhyme and alliteration are key to a child's acquisition of phonological awareness. Rhyme and alliteration are introduced to children at a very early age, primarily through children's books. Most children can complete these tasks by age four. Understanding the structure of language, as represented in these tasks, develops primarily in the first five years of a child's life, and most acquire this abstract representation of linguistic structure through observations of their communicative environment (López, 2012). A child's ability to understand the structure behind rhyme and alliteration is one of the first steps in literacy.

Phonological awareness is essential for learning to read in English. Phonological instruction, which focuses on explicit teaching of the phonological analysis of words and letter-sound correspondence, has been shown to be effective in improving literacy outcomes in the early stages (Huo & Wang, 2017). However, researchers argue that there is a lack of research demonstrating whether this approach is effective with children learning English as a foreign language.

Assessment is a topic of interest in the study of phonological awareness. The Comprehensive Test of Phonological Processing has been standardized for use with young children starting at age 5. For 5- and 6-year-olds, subtests including elision, word blending,

and sound matching are recommended. The Phonological Awareness Literacy Assessment: Pre-K is available for use with preschoolers, but it is not specific to phonological awareness. Subtests such as Nursery Rhyme Knowledge require prior knowledge that is limited to a specific population of preschoolers (López, 2012). This information reveals that little information is available for children younger than 5 years.

Several other tests have been mentioned to determine the degree of mastery of both phonological awareness and decoding processes in preschool children. These include the Linguistic Segmentation Test, the Test for the Assessment of Lexical Knowledge, the Test for the Assessment of Phonological Awareness, and the Beginning Reading Battery (Gutiérrez-Fresneda, Vicente-Yagüe, & Alarcón Postigo, 2020). The results of these tests show that the development of phonological awareness increases when the learning process of reading begins.

#### **2.2.4.2 Recognition of initial sounds of words**

A four-year-old child can recognize words as linguistic units. From this age on, children develop phonemic perception; that is, they can identify the contrasts between phonemes. Around the age of five, or even earlier, children develop the ability to segment syllables and recognize syllable beginnings and ends, among other tasks (Loria-Rocha, 2020). However, most children require encouragement to develop these skills.

For the development of oral and later written language, it must be implemented in an orderly manner, respecting the development of children. Intrasyllabic knowledge (onset - rhyme) is related to the ability to recognize the head of a syllable (onset), referring to the initial consonant or the set of consonants preceding the vowel. Thus, the rhyme is constituted by the vowel and subsequent consonants, always within the syllabic structure. For example: in "sol," /s/ is the head and /ol/ the rhyme (Loria-Rocha, 2020). To access the phonemic level, an intermediate level is recommended, which is expected from age six onward, with better results beginning at the beginning of first grade.

It is important to consider important aspects regarding how to measure the recognition of the initial sounds of words in preschool children, since these must follow an order that helps to improve learning.

Understanding and following the correct order for phoneme acquisition will positively impact students' learning process, as this order is also related to age, allowing for meaningful learning. According to Loria- Rocha (2020) the order of phoneme acquisition details that children between the ages of 3 and 5 begin with the following phonemes: /m/, /n/, /p/, /t/, /d/, /c/, /g/, /f/, /j/. Around age 6, they continue with /s/, /l/, and consonant clusters, including /r/, and rising diphthongs (p. 173). Following the order in which children acquire phonemes helps to better guide the teaching process and make it more meaningful for them. By taking more stages into account, we can adjust activities to what preschool students are truly ready to learn, facilitating their progress and preventing frustration.

#### **2.2.4.3 Letter-Sound Association**

Phonological awareness is the most widely used approach in early childhood education classrooms to establish correspondences between graphemes and phonemes. According to Escobar (2023), teachers who use this approach guide classroom activities with oral games that include: acoustic comparison, syllable counting with clapping or tapping, rhyming, identifying initial and final sounds, establishing differences and similarities, among others (p. 18). This approach has been promoted in preschool education in Latin American countries through public policy programs and textbooks. Phonological awareness is characterized by the conception of writing as a code that transcribes speech; therefore, when introduced in preschool classrooms, teachers focus on guiding the skills that allow children to establish correspondences between graphemes and phonemes.

Monitoring the development of phonological awareness requires reliable and easy-to-use instruments, especially in the later years of kindergarten. Kiss and Csapó (2025) note that assessment tools include tasks designed for preschool children that offer a wide range of activities. These tools are suitable for use from preschool age through adulthood (p. 32). Phonological awareness has been considered a reformulation of the synthetic method called phonetic or phonic, which teaches the sounds of letters, as opposed to other analytical methods.

Assessment tools can be categorized into two groups. According to what was published by Kiss and Csapó (2025), the first examines the components of early reading skills, along with the study of specific subdomains such as letter-sound correspondence, pseudoword reading, oral reading, auditory comprehension, spelling, word recognition, orthographic, semantic, and syntactic processing, as well as reading fluency. The second focuses on reading components, including tasks related to rapid automatic naming, decoding, handwriting, and spelling (p. 32). However, the standardization of these tests and the differences in the administrator's evaluation criteria are still under study.

#### **2.2.4.4 Auditory phoneme discrimination.**

A good auditory analysis helps develop phonological awareness and relates this process to the beginning of reading in children's early years of formal schooling. Auditory discrimination, according to Navarro, Arenas, León, & Araque (2025), "is the ability to differentiate and recognize the different elements and characteristics of sound, such as pitch, rhythm, duration, timbre, and intensity" (p. 14). This skill is considered key to learning.

#### **2.2.4.5 Ability to Identify Letters by Sound**

The ability to identify letters by their sounds is called phonological awareness. According to Araya (2019), phonological awareness is a skill that involves the analysis and synthesis of sound segments until phoneme recognition is achieved. He argues that it is a process that begins to develop from the moment a child encounters sounds, which translates into concrete phonemes as they explore their environment and compare them with their own language knowledge (p. 168). This highlights the importance of developing phonological awareness from a child's earliest years.

#### **2.2.4.6 Accuracy in the pronunciation of alphabet sounds**

Pronunciation plays an essential role in listening comprehension, oral expression, and interaction with others. Therefore, teachers must implement strategies to provide children with the opportunity to express their desires, emotions, and feelings. As mentioned by Rivadeneira, Reyes, & León (2024), activities that can effectively foster this stimulation

include: storytelling, daily conversations, word play, sensory exploration, visits to places of interest, music and songs, board games and puzzles, artistic activities, role-playing and dramatizations, and educational technology (p. 145). To achieve success in this process, it is necessary to integrate these activities into the child's daily routine

Among the activities mentioned, it is also important to consider those that help measure student learning and the accuracy with which they can differentiate similar sounds in two words; this is applied through minimal pairs. Sirona CIC (2023) defines “Minimal pairs are words that sound similar but differ by just one sound” (p.8). Implementing this vocabulary in students' classes will help reinforce their listening skills, differentiating the sound that distinguishes the two words, and will also help them acquire new vocabulary.

Learning by playing in preschool classes significantly reinforces children's learning, thus awakening their curiosity to learn and to learn the language in a more natural way. Sirona CIC (2023) mentions “by playing with these word pairs, the child will become more aware of the difference between the sounds” (p.8). That is why it is important that, in order for children to accurately recognize phonemes, work plans include games where they use minimal pairs; this would contribute to better pronunciation and accuracy of phonemes.

Taking into consideration the recommended sequence for teaching phonemes to preschool children and applying an activity that supports sound precision as well as minimal pairs practice, the appropriate minimal pairs were selected based on the phonemes that will be taught to preschool children.

The selected minimal pairs correspond to the phonemes that children can acquire more easily in the early stages of phonological learning, "pat" /pæt/ vs. "bat" /bæt/, "pin" /pɪn/ vs. "bin" /bɪn/, "pan" /pæn/ vs. "ban" /bæn/, "top" /tɒp/ vs. "cop" /kɒp/, "mat" /mæt/ vs. "bat" /bæt/, "cat" /kæt/ vs. "bat" /bæt/, these are minimal pairs whose difference lies in the initial sound of the consonant; the change in the initial sound generates a change in the meaning of the words. Afifah, N., & Lubis, Y. (2023). This selection favors the development of early phonological awareness, as it helps children to accurately recognize the initial sound, reinforcing the importance of auditory discrimination.

### **2.2.5 Teaching English phonetics**

Teaching English as a Second Language is part of educational programs around the world. According to Fuentealba, Philominraj, Ramirez-Muñoz & Quinteros (2019), studies show different approaches and methodologies that indicate the most appropriate techniques for teaching English as a second language. However, they explain that the best pedagogical decision is to select approaches and methods that have been successful and applied according to the specifics of each context or setting (p. 250). The authors' observations highlight the importance of evaluating the methodologies used during this educational process.

In Latin America, English has gained ground due to economic interests related to globalization. Therefore, English has become mandatory from primary school onward, including preschool (Fuentealba et al., 2019). This has led Latin American countries to design strategies to create English learning programs for children.

Preschool education is beneficial, and children who participate in it develop better skills. For this reason, preschool education has become increasingly important for government systems, highlighting the need to invest in it to achieve long-term educational benefits (Fuentealba et al., 2019). However, national and institutional institutions lack curricular documents that support this practice.

Published studies on English language teaching and teacher training have always held a prominent position. As discussed by Gándara & Rendón-Romero (2023), studies have typically focused on the development of teaching skills, methodologies and techniques, planning, design, and evaluation (p. 1). However, in recent years, interest has become more evident in areas such as language teacher identity.

In this sense, a poststructuralist perspective is useful for revealing the complexities that arise between conflicting experiences, beliefs, and perceptions in the process of constructing teacher identity. In this context, Gándara & Rendón-Romero (2023) reveal a significant need to address the interrelationship between language, power, and identity in teacher training programs in English. Adopt critical perspective on this issue can help resolve the tensions inherent in the development process of preservice teachers as they learn to teach English.

Teaching methodology must be updated according to the interests of second language learners. According to Anil (2017), classroom methodologies should be innovative, such as games, reading the newspaper, watching television, and consulting the dictionary (p. 2). Developing skills- and knowledge-based learning is essential for student growth and development.

Learning English is always a difficult process for most second language learners. In this context, Anil (2017) explains that innovative ideas, interesting teaching materials, and practice and training for second language learning should be offered through infotainment methods. Innovative teaching would especially help students from public and rural schools.

### **2.2.6 Teacher role in English**

The teacher's role in English language literacy is multifaceted. According to Richards (2015), the teacher's role is linked to several aspects: the functions they are expected to perform, their degree of control over the learning process, and their level of responsibility for the content. Likewise, Hennebry-Leung and Xiao (2023) mention that the teacher's role in English teaching is complex and constantly evolving, as they impact not only the acquisition of linguistic competence but also the fostering of a conducive and stimulating learning environment. All of this is aimed at developing students' communication skills for a globalized world.

In the field of English language teaching, teachers are not mere transmitters of information, they are facilitators who guide students in the language learning process. English language teaching, defined as "the teaching activity of an English language teacher" (Ishak & Nahdhiyah, 2020, p. 83), involves not only teaching classes (Sistyawan et al., 2022) but also using an interactive and student-centered teaching methodology (Emiliasari, Prasetyo, & Syarifah, 2019). These researchers' findings highlight the importance of using methodologies, resources, and approaches to help students acquire English language communication skills.

The teaching of English to speakers of other languages is a field that has undergone numerous changes and developments in recent years. In this context, Sadeghi & Richards (2021) argue that professional development is considered a priority, which can take various

forms, depending on the teacher's position and roles in different cultures (p. 2). This suggests that, given the new changes in the teaching of English to speakers of other languages, the knowledge and skills that teachers need to be effective must be considered.

The evolution of educational technology has also redefined the role of the teacher. Regarding this, Ly (2024) argues that digital tools and online platforms have become essential for teaching English as a second language, transforming the traditional teaching paradigm. Teachers assume the role of digital facilitators, integrating technology to enhance language learning experiences. As a result, the role of the teacher in English teaching is complex, as it includes aspects of cultural mediation, technology integration, assessment design, and a systematic understanding of the teacher's role for continuous improvement in language teaching.

Researchers have highlighted the impact of technology on the English language teaching and learning process. In this context, Ly (2024) comments that technology has profoundly transformed the role of English language teachers and promoted student-centered language learning. Therefore, as reported by Mhlongo, Mbatha, Ramatsetse, and Dlamini (2023), the integration of technology has allowed students to assume greater control over language learning, fostering autonomy and personalized trajectories. The publications of these authors reveal that teachers currently act as facilitators, guiding students through interactive and personalized digital resources.

Digital tools as support materials for English language teaching facilitate communication, increase student motivation, and create a dynamic and participatory learning environment. Regarding these tools, Ibrahimi, Yunus, and Sulaiman (2023) comment that online platforms, mobile applications, and virtual reality tools offer opportunities for immersive and contextual enriching language learning experiences. Zainuddin (2023) also argues that student-centered, technology-enhanced language learning can have a positive impact on students' linguistic and cultural competencies. All this published information highlights the use of technology in the teaching and learning process of English as a second language.

Teachers play an important role in EFL classrooms by providing materials to students, monitoring their progress, organizing interaction between students, providing

feedback, and evaluating their success. However, teachers' place in the language learning process goes beyond this. They are responsible for managing the emotional context of the classroom, building a constructive environment in language learning classes, fostering social relationships among classmates, and teaching with pleasure and confidence (Huang, 2021). Therefore, teachers' emotions can influence teaching effectiveness.

Emotions can influence teachers' decisions when developing classroom activities, which can have significant effects on students' enthusiasm. Language teaching incorporates both destructive and constructive emotions; the former hinders effective education and the latter nurtures it (Benesch, 2017). Furthermore, due to the interactive nature of the relationship between educators and students, the incorporation of individually meaningful content and distinctions is facilitated by the relationship between teachers and students' emotional considerations (Xie & Derakhshan, 2021). This highlights emotions as an influential factor in the success and academic achievement of language learning in the classroom.

### **2.2.7 Role of the student in English**

The role of the student is considered the most important component of the teaching-learning process. In relation to this, Beltrán (2017) argues that the main reason is that "it is the students who will be able to verify the learning results, that is, the level of communicative competence that they have reached at the end of the course" (p. 2). However, good strategies also impact this educational process.

This is why it is so important to create a strong connection between student and teacher. In this regard, Beltrán (2017) comments that this relationship must be "completely harmonious, accompanied by respect and a high level of responsibility for the results to be significant in the development of communicative competence in English" (p. 3). As a result, this allows for the development of skills, critical thinking, and initiative to achieve the proposed objective.

Student-centered English language teaching is considered an effective method. In this regard, Jaiswal (2019) highlights its importance, while Boyadzhieva (2016) describes it as exceptional, as it encourages dynamic student participation and autonomy throughout the

process. Furthermore, this paradigm shift fosters a more personalized language learning experience (Banavath & Reddy, 2023), which contributes to improving students' motivation, self-efficacy, and overall language proficiency (Nguyen, 2022). It is evident, as these researchers' comment, that this approach seeks to develop skills for future success in English.

Student-centered teaching is essential, but it also involves integrating other elements into the educational process. In this regard, Ly (2024) argues that the integration of student autonomy with technology and collaborative learning underpins contemporary language education. Furthermore, she believes that continued research and practical applications are essential for refining and implementing student-centered language learning approaches that meet diverse needs. Considering this, the teacher ceases to be the sole transmitter of knowledge and becomes a guide and facilitator.

Student engagement in academic settings where English is taught is an important element of learning. In this context, it is argued that a higher level of student engagement in a language class is significant, as it can predict student progress, facilitate education, and play an important role in developing students' critical thinking, problem-solving, and other intellectual skills, as well as improving their awareness in different domains (Jia, 2022). Student engagement plays an important role in educational psychology when it comes to academic performance.

### **2.2.8 Teaching English phonics in preschool education**

There is controversy regarding the age at which children should be taught a new language. Researchers argue that it is important to know the child's age when they learned their first language and the setting in which the second language will be taught. Regarding this, Sousa (2018) argues that: "Young children can learn one, two, or even three languages simultaneously, as the language areas of children's brains can differentiate and consolidate each language through its prosody" (p. 41). This means that children should learn other languages in the same way they learn their first language.

Similarly, another study supports the idea that a new language can be learned by imitation up to the age of four, as this is the age at which the vocal cords and neural connections that control language are most mature and can learn sounds and intonations in other languages (Moreno, 2020). As a result, the child integrates new words from another language into his or her own language, even if he or she does not fully understand their meaning.

During this early childhood stage, it is important to prioritize activities during the teaching and learning process. Since the standard order for learning a first and second language is listening, speaking, reading, and writing, studies recommend auditory, visual, and kinesthetic activities, such as songs by native English speakers and games in a context meaningful to the child (Moreno, 2020). A language is best taught if it is used to convey messages.

The role of preschool education is to promote the development and strengthening of each child's competencies, so teaching practice is significant during English language instruction. Researchers who have focused on studying the importance of preschool teachers' conceptions of English language teaching and how these can influence their respective teaching practices have found a lack of training courses focused on teaching English at early ages and, in turn, emphasizing pronunciation instruction beyond understanding English messages for these children (Jaramillo, & Quintero, 2020). This highlights the continuing lack of interest in teacher training for preschool second language instruction.

English is a fundamental language that everyone must master in today's world. One way to do this is to introduce it as early as possible, teaching it in preschool. However, according to Fikroni (2022), in some cases, it has been shown that some preschool teachers lack the necessary skills to teach at this level (p. 9). This situation reveals that there are several aspects that must be considered when teaching English at such an early age.

Various approaches to teaching English to young children are currently being explored. In this context, Nikolov and Laughlin (2020) reported that diverse approaches and methods are commonly used, such as content-based approaches, integrated content and language learning, and immersion programs. They also argue that teaching and learning

contexts, as well as objectives, vary across curricula and teaching practices (p. 2). Therefore, choosing, implementing, and evaluating child-friendly methods, tools, and materials is not straightforward, making teachers' skills and autonomy important for productive early second language teaching.

Studies have demonstrated the use of various methods in early second language education. Teaching methods vary and are chosen based on objectives and tasks (Hiver, Al-Hoorie, Vitta, & Wu, 2021). Audiolingual methods are used to teach vocabulary and pronunciation, while task-based learning offers children the opportunity to use the language authentically, where teachers teach vocabulary through physical movement (Koyuncu, Kumpulainen, & Kuusisto, 2023). Choosing the best methodology for teaching English is crucial for preschool-aged children.

The history of education in Costa Rica shows that English language teaching has been official for many years, evolving according to its importance to society. In this regard, López-Montero (2020) refers to several historical events that indicate that the teaching of English in Costa Rica is associated with economic interests, which is why this language has been taught as a basic subject in primary school since 1997 and the pilot plan for preschool began in 1998 (p. 3). However, not all preschool education institutions currently teach this subject.

Teaching English from an early age is part of Costa Rican educational policies. According to López-Montero (2020), English is part of the preschool curriculum in Costa Rica, focusing on communication through the following principles: stimulation in practice, development of tasks in English, use of the target language in the classroom, according to the skills and learning styles of each student (p. 3). This highlights the importance of teaching English from preschool onwards for the Costa Rican State.

English language teaching in Costa Rica has received immense support from the relevant governmental and non-governmental entities, and a large portion of the population has access to learning this second language. In this context, Costa Rican researchers argue that the main governing body of public education has ensured that most populations, both urban and rural, have the privilege of learning this language. However, English teaching in preschool presents a significant gap in the public sector regarding its relevance, teacher

training, research, and evaluation processes (Fernández Rojas, 2021). This highlights the importance of research in this area to achieve effectiveness in this teaching process.

Teaching a language at this early stage provides multiple benefits to preschool-aged children. In this context, López-Montero (2020) argues that empathy for other languages will develop more easily if the environment is pleasant for younger children. Furthermore, she mentions that during this stage, processes of socialization with peers occur, which contribute to fostering the development of positive attitudes (p. 5). This suggests that there are important elements that facilitate language acquisition.

Educational games have been shown to be relevant for cognitive and oral development in preschool children. An exploratory and descriptive research carried out by Muñoz, Lóor, León, & Zambrano (2019) shows that educational learning games help improve memorization and oral expression of the English language and facilitate easy and fun communication in preschool children (pp 25-26). The use of these tools can be used by teachers as support at this educational stage.

Preschool represents a foundational stage for language acquisition due to children's cognitive flexibility and heightened receptivity to new stimuli. Simultaneously, the role of emotional and psychological development in education has been underscored by various pedagogical frameworks. In this context, art therapy supports language acquisition, fosters emotional well-being, and promotes cultural inclusion. While challenges exist, these can be addressed through training, flexible curricula, and institutional support (Khayitova, 2025). Combining English as a foreign language teaching with art therapy stands out as an innovative and effective method.

Emotional Intelligence is part of the experience of all human beings during their life, for that reason children as well as adults suffer various emotions in their daily lives every day, such as fear, shame, cheerfulness, sadness, empathy, anger, among others. In this context, the relationship between emotional intelligence and English language learning in preschool-aged children has been studied, finding that fear and shame affect English communication in these children (Quishpe; Rojas, Wilson, 2021). This means that emotions are the driving force and essence of the human being that can block the learning of the English language.

### **2.2.9 The influence of technology on the role of English teachers**

Historically, traditional language learning relied on textbooks and classroom instruction. Today, students have access to technology. Therefore, as published by Amalia (2023) modern technology is essential to effectively teach English (p. 83). As a result, technology has created new challenges for teachers, but it has also provided new opportunities for English language teaching to be more innovative and productive.

The use of technology in the teaching and learning process has become increasingly important, both inside and outside the classroom. The term "technology" refers to the use of technological procedures, methods, or knowledge to achieve a learning objective. Technologies have evolved rapidly in the 21st century, fostering student engagement using computers and other modern technologies that provide a greater sense of purpose than traditional textbooks (Iberahim et al., 2023). For English learning, technology has also opened a range of opportunities in a more accessible manner.

The use of technology for education, practice, assessment and learning of a foreign language has many benefits. As published by Zhang (2022), the use of technology in language learning classes can be helpful for educators and students as it enhances collaborative language learning and enables competent language application in communication. It also provides educators with appropriate educational resources and helps students quickly access valid data and content (p. 3). However, in this innovative situation, the success of language teaching will depend on the teacher's training and skill in the use of technology.

Technology has always been a crucial part of teaching and learning language environment. Online platforms, mobile apps, and virtual reality tools offer opportunities for immersive and contextually rich language learning experiences (Iberahim et al., 2023). Research suggests that student-centered, technology-enhanced language learning can have a positive impact on students' linguistic and cultural competencies (Zainuddin, 2023). All of this reaffirms the importance of integrating various educational elements into the English teaching process to ensure the desired success.

Technology has strong potential to positively boost motivation among English language learners. Interactive tools, such as apps, virtual reality simulations, and language learning platforms with interactivity, can make language learning more engaging and enjoyable, as well as help promote learner autonomy. In addition, interactive whiteboards, multimedia materials, and online language reading communities can also facilitate more effective student participation (Mahmoud, 2025). Given the above, it can be inferred that technology has transformed the way English is taught and learned, making classes more engaging with all these tools.

Several studies corroborate the positive effects of digital technologies on language learning. Digital technologies help language teachers provide timely and relevant feedback, while supporting the development of language skills (Ghanizadeh, Razavi & Jahedizadeh, 2015). Furthermore, they can lead to increased student motivation and interest in learning, as well as improved self-regulation and collaboration (Warni, Aziz & Febriawan, 2018). The findings of these researchers suggest the many benefits of technology in English language teaching.

The use of technology in the teaching and learning of English as a foreign language has grown significantly in recent years, providing an opportunity to improve classroom practices and autonomous learning. In this context, Jiménez (2018) highlights the constant connection between teachers and students through technological tools, which is not limited to class time. González (2023) argues that the use of these tools directly influences student motivation and favors the development of communication skills. These studies demonstrate that technology is a key tool in the development of communication skills in English, providing a continuous connection between teachers and students.

Additionally, the professional development of second language educators is a vital factor in this educational process. In this context, Zhang (2022) comments that preservice educators can integrate technology effectively if they have technological information and skills; that is, it is essential to consider educators' previous experiences with technology. Consequently, teachers must be trained and educated to be up to date in the use of technology and thus guarantee the expected success.

Theoretical aspects related to speaking and listening skills have been studied, aimed at teachers from a Virtual Learning Environment. In this context, Dávila & Del Campo (2024) published that English teaching in preschool should focus on developing basic communication skills such as listening and speaking through interactive activities, the use of visual and auditory resources, such as games, since it provides a playful environment that facilitates meaningful and natural learning. The role of the teacher is fundamental in this area, since their knowledge and creativity in the face of technological advances directly impacts the effectiveness of this learning.

The incorporation of emerging digital technologies, such as virtual reality, augmented reality, and adaptive learning technologies, into the teaching of English as a second language offers a promising avenue for innovation. Virtual reality and augmented reality allow educators to identify specific areas of difficulty in vocabulary learning and adapt learning materials (Hung & Yeh, 2023). Furthermore, by offering targeted activities and personalized support, they effectively address the diverse educational needs of each student. These technologies address the crucial need for pedagogical approaches that improve the quality of English language learning, enrich the educational experience, and provide personalized solutions.

### **2.2.10 Educational Apps**

Studies demonstrate the effectiveness of using mobile applications in educational processes. According to Pitafi and Ali (2023), millions of applications have been downloaded from Google Play and the App Store and are used, among other purposes, for education, facilitating faster learning (p. 1). For his part, Cando (2020) comments that applications are programs designed primarily for smartphones and tablets, being useful, dynamic, easy to install and use, some depend on the internet to function, can be downloaded from virtual stores, are available online and on some mobile devices, and most are free (p. 6). However, their effectiveness may vary depending on the individual characteristics of the students.

Advances in communication technologies have given rise to various apps for accessible and affordable education. Regarding this, Menon (2022) comments that apps based on digital technologies have transformed the teaching and learning experience

because they reduce students' cognitive load by effectively communicating concepts and content with a faster flow of information, regardless of time and space. (p. 1). Therefore, the integration of technological resources into language teaching not only responds to the demands of a digital society but also offers innovative solutions to overcome the limitations of traditional methods.

Mobile apps have proven to be effective tools for increasing student motivation and engagement in learning English vocabulary. However, the actual effectiveness of these apps in language learning remains an emerging field of research with conflicting findings. In this context, Mounkoro (2024) argues that while some studies highlight their potential to improve motivation and language skills, others suggest the need for a more robust pedagogical design to achieve meaningful results (p. 23). This seems to indicate that there are still challenges that need to be addressed.

New mobile technologies have propelled apps and software supporting m-learning. Currently, there are more than 470 million educational apps in the Apple App Store and 466 million in the Android Market. During the first quarter of 2020, the COVID-19 pandemic caused a surge in educational app downloads (Vaiopoulou et al., 2023). With the advancement of interactive technology and more intuitive touch interfaces, these devices in early childhood classrooms adequately prepare young children for the 21st century.

New digital mobile technologies offer several advantages for incorporating them into education. In this context, it has been mentioned that they are portable, with touch screens, easy to use, require a small workspace, and allow for multi-person viewing (Lawrence, 2017). Furthermore, the apps' engaging multimodal features stimulate children's visual, auditory, kinesthetic, and tactile senses and provide immediate feedback. Regarding the use of tablets, their interactive nature gives children autonomy and the ability to select activities, which increases the likelihood of capturing their interest (Neumann, 2020). Therefore, the use of these apps as a strategy is called edutainment, as it merges education with entertainment.

With the right apps, educators can assess which one meets children's gaming interests. Appropriate apps should include prosocial content, non-violent stories and characters, promote cultural diversity, and have low levels of advertising (Papadakis,

Vaiopoulou, Kalogiannakis, & Stamovlasis, 2020). Developing and exploring an evaluation tool for educational apps (ETEA) targeting kindergarten children (Papadakis, 2021). Furthermore, they should create new opportunities for children to combine modes of communication in digital formats such as video, audio, images, and text, which is vital to fostering digital play within the app (Troseth, Russo & Strouse, 2016). This new way of educating requires new practices and evaluation of the quality of available apps.

Mobile games as teaching and learning support continue to pose a challenge for teachers. Preservice teachers require knowledge to design meaningful learning experiences with mobile games and implement them pedagogically in their teaching (Pondee, Panjaburee, & Srisawasdi, 2021). Furthermore, it is essential to have guidelines that allow teachers to evaluate apps, considering that they are age-appropriate, have clear instructions, contain well-designed multimedia and interactive features, and are suitable for young children. They should also warn against violent actions, negative social values, and gender stereotypes (Gromik & Litz, 2021). Educators must also strive to promote the responsible and appropriate use and application of technology.

### **2.2.11 Educational apps for preschool children**

In the last decade, more than half of the educational apps available have been aimed at preschool-aged children. According to Vaiopoulou, Papadakis, Sifaki, Kalogiannakis & Stamovlasis (2023), this trend has historically been driven by the need for excellence in teaching, the promotion of digital technologies aimed at young children, and a new educational orientation (2548). Early childhood education does not ignore the use of technology, and studies have also been devoted to investigating how this tool can improve the learning process during this stage of a child's life.

Touchscreen apps are increasingly being used in preschools, and literature recognizes their potential as a valuable educational tool. Digital game-based learning can help children develop creative and critical thinking skills (Behnamnia, Ismail, & Hayati, 2020). However, researchers indicate that parents of children aged 0–3 years from different cultures express a need for more guidance on the use of this technology (Dardanou et al., 2020). Another cross-cultural study investigating educators' experiences with technology use with children aged 0–3 years showed a lack of confidence in using this technology for

very young children (Fotakopoulou et al., 2020). The use of touchscreen apps appears to be controversial.

Educational app development is a constant challenge and debate in literature. Numerous app rating systems have been proposed to evaluate the educational characteristics of touchscreen apps for young children (Kolak, Monaghan, & Taylor, 2021). However, these app rating systems have limitations, making them unsuitable for early childhood educators (Papadakis & Kalogiannakis, 2020). Therefore, ongoing review and evaluation of touchscreen apps for preschoolers is recommended.

Faced with this dilemma, two tools have been proposed to assess educational potential: the four-pillar framework (Meyer et al., 2021) and the questionnaire to assess the educational potential of apps for preschool children (Kolak et al., 2021). The four-pillar framework requires apps to have active learning, encourage engagement in the learning process and social interaction (Hirsh-Pasek et al., 2015). While the questionnaire is a brief and easy-to-use tool along with coding criteria to quantify the characteristics of these apps (Kolak et al., 2021). Currently, these tools have been used in the educational field.

Among the goals of preschool education is the development of children's early literacy skills. These skills, which are predictors of academic achievement, can be achieved using appropriate applications (Hoareau, Thomas, Tazouti, Dinet, Luxembourger & Jarlégan, 2021). In this regard, it is important to select software with highly visual interfaces, avoiding text as much as possible to reduce cognitive load (Sari, Anjani, Farida & Ramdhani, 2019). The selection of inappropriate software can negatively affect children's creative abilities.

In recent years, digital media has become more accessible and increasingly used among preschool-aged children. Therefore, children are surrounded by educational technology and are natural users of smartphones, tablets, and computers. Currently, there are many child language development apps in app stores (Vaala, Ly and Levine 2015). However, few of them meet the standards to be effectively educational (Callaghan y Reich, 2018). Given this situation, educational quality must prevail above all for teaching children at such a young age.

Increased exposure to touchscreens means that educational apps can offer complementary opportunities to support language development. Touchscreens, compared to other types of media such as television, can benefit language learning because they give children autonomy and the ability to select their activities (Kervin, 2016). Furthermore, the multimodal attributes of touchscreen apps provide immediate feedback on children's actions and have the potential to stimulate children's auditory, visual, and tactile senses (Neumann, 2020). These findings clearly demonstrate the advantages of these apps for children's language learning.

New technologies can provide new opportunities for children to acquire language and literacy skills. Research conducted on touchscreen mobile devices such as tablets and smartphones with children suggests that these now-ubiquitous tools can also support language and literacy skills, both in their first and other languages (Booton, Hodgkiss, & Murphy, 2021). These findings therefore support their use with preschool-aged children when teaching a second language such as English.

#### **2.2.12 Use, screen time, and language development outcomes**

Technology used by young children can negatively affect their language development. Panjeti-Madany & Ranganathan (2023). indicates that technology use in children decreases play time, increases screen time, and increases the amount of time they spend alone. According to the American Academy of Pediatrics (AAP) recommendations, school-aged children should have at most one hour a day of high-quality programming (p. 15). However, it has been shown that most children between these ages do not meet the AAP's recommended guidelines.

Apps can enhance education and learning; however, excessive multitasking has been linked to poor academic performance. Screen time can affect language development. Researchers have indicated that, when comparing children who view screens for  $\leq 1$  hour per day with those who spend two or more hours per day, or three or more hours per day, they are more likely to experience behavioral problems and have poorer vocabulary acquisition (Muppalla, Vuppalapati, Reddy, & Sreenivasulu, 2023). These findings suggest the importance of monitoring and regulating young children's screen time to mitigate potential adverse effects on their development and behavior.

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In the context of phonological awareness, a key skill for literacy development, some digital platforms have emerged as effective teaching resources for fostering phonological development. Along these lines, Orellana-Munzón, Pesantes-Astudillo, Beltrán-Mesa, and García-Cobas (2025) report that these tools integrate visual and auditory stimuli that facilitate children's attention, motivation, and active participation, which promotes meaningful learning (p. 229). However, for this to be effective, coherent and adaptive teaching is required, supported by the teacher.

By proposing and evaluating pedagogical strategies based on the use of the digital platforms Educaplay and YouTube, aimed at strengthening phonological awareness and developing oral language skills in high school children, Orellana-Munzón et al. (2025) demonstrates that these tools, and the systematic and planned incorporation of digital resources such as Educaplay and YouTube, represent an effective strategy for strengthening phonological awareness in children with oral expression difficulties (p. 239). This highlights that these applications can be used as a pedagogical alternative to improve educational quality from the earliest levels of school.

The process of teaching phonemes in early childhood education faces challenges due to the limited effectiveness of traditional methods. In response to this problem, Bayas,

Bayas, Guiscasho, Navarrete, & Collantes (2024) have demonstrated that the use of interactive tools such as mobile applications, digital whiteboards, and instant feedback platforms fosters active, collaborative, and motivated participation that not only strengthens pronunciation and phoneme retention but also addresses the challenges of diverse abilities in the classroom, ensuring more inclusive and effective learning (p. 18). This study highlights the effectiveness of educational applications in phoneme recognition.

### **2.2.13 Starfall app**

The Starfall app and website offer interactive activities, games, and content designed by educators to develop literacy skills and other areas of learning. According to Cando (2020), is a free and fun English learning app, aimed at children from preschool to third grade, focusing on exploration, play and positive reinforcement, and encouraging children to feel safe and motivated to learn (p. 7). It is also used as entertainment for children in special needs and at home.

Currently, there are nine educational apps on the Starfall platform. Thiessen (2024) notes that it was created by Dr. Stephen Schutz, designed due to his difficulties with dyslexia, and launched as a free public service in 2002. Each app has different educational objectives and costs.

### **2.2.14 Interactive elements in Starfall ABCs app**

Starfall app is a fun and efficient app that offers various educational activities for the reading process by exploring the designed activities. As published by Robayo (2021), educational applications make students more interactive, allow readers to participate independently in different activities, create collaborative and student-centered learning environments, where their social, cognitive and metacognitive skills are practiced and improved. This partly reveals its undoubted benefits for the student of English as a second language.

The Starfall ABC app's organizational structure comprises three main play areas: alphabet blocks, language games, and other app games. The Alphabet Blocks Area constitutes the core of the app and plays a fundamental role in the early stages of literacy

development. According to Thiessen (2024), this area presents all the letters of the alphabet, allows users to interact with individual letters, provides information on upper and lowercase letters, precise letter sounds, keywords, and animations. This area enhances the learning experience, making the process of letter recognition and learning effective and enjoyable.

Another key area is found in the bottom row of the app. Thiessen (2024) argues that this area offers a variety of alphabet songs, American Sign Language, language games, and short vowel sounds in words. These components are important in early reading development. Also, Starfall ABC's educational literacy instruction offers additional content. In this context, Thiessen (2024) mentions letter-sound instruction, through consistent repetition of letter names, sounds, and associated keywords, letter association, word pronunciation, short vowels, American Sign Language, interactive activities that combine animated and real-life images, and other subject areas. This content is very valuable during children's second language learning.

However, all these components that the app offers to the educational community could be improved by updating the quality and fluidity of the animations. Thiessen (2024) points out that some games, such as the puzzle, could be improved by asking children to observe the shapes of the letters instead of arbitrary shapes around them. The high demand for passive game play suggests that more active participation in learning among users should be encouraged.

Incorporating Starfall into reading comprehension activities improves participants' abilities. According to a recently published study by Bataineh & Al-Ghareeb (2025), they reported that Starfall's interactive elements, such as colorful images, songs, and games, transform reading into an engaging and enjoyable experience, making learning feel like a game (p. 146). This information is consistent with what other researchers have reported.

The positive effect of Starfall on the experimental group's reading comprehension can be attributed to several key factors. According to Bataineh & Al-Ghareeb (2025) it may be due to the instructional program being meticulously designed to align with the learning objectives and developmental stage of the students, the careful integration of the

application into the curriculum, the support and clear instructions from the teacher to ensure the effective interaction of the students with the application (p. 146). This is due to the program's novelty, which offers more dynamic and rewarding learning experiences that enhance student engagement and interest in learning.

**CHAPTER III:**  
**METHODOLOGICAL FRAMEWORK**

### **3.1 TYPE OF RESEARCH:**

#### **3.1.1 Purpose**

For the purposes of this research, the applied purpose is used. Thus, applied research enables us to address actual issues. To do this, it also uses fundamental research. This offers the theoretical understanding required to resolve issues or enhance one's quality of life.

That is, when a problem is detected in a field and solutions are sought through research, having as its main objective that at the end of the research it is taken to the field to be put into practice and obtain the best results that respond to the problem.

This research is completely applied because it provides an answer to the problem that is detected in the population studied, its goal is to find solutions for real-world problems. As a result, its main goal is to examine and research these issues to identify answers. This is why with the applied instruments and the information collected, it is possible to change a problem to new applied educational instruments.

#### **3.1.2 Temporal Dimension**

In the context of this research, the application time is limited, so through the temporal dimension, which establishes the duration time in two different ways, the transversal and longitudinal dimensions, which are the two contexts, provide an approximation of the temporal dimension that can be used in an investigation.

A transversal design is used, Hernández Sampieri, Fernández Collado, & Baptista Lucio (2014) defines it as “The cross-sectional or transversal designs collect data at a single moment, in a single time” (p. 154) that is, this research will be carried out in a determined time.

The transversal dimension is the one that best adapts to the specifications of this work, since this research aims to observe the application of different techniques in response to a problem in a specific time.

### **3.1.3 Framework**

The research framework is related to the size of the research, the framework is divided into 3 mega, macro and micro, in this research work, a micro framework is used, “they focus on an aspect of culture or a specific social situation” (Hernández Sampieri et al., 2014, p. 45). This means that the research focuses on a small section of the population, characterizing it as a micro study. In this case, a limited number of students from a school are analyzed.

The size of the framework will depend on the population being analyzed in the different research works, and with respect to this, the quantity of results that are desired to be obtained. Therefore, it must be analyzed with certainty which is the framework that best adapts to the investigations.

### **3.1.4 Nature (Quantitative and/or Qualitative)**

The nature of research is divided into three: qualitative, quantitative and mixed. Hernández Sampieri et al. (2014) mention, “the quantitative, qualitative, and mixed approaches constitute possible choices for addressing research problems and are equally valuable. They are, thus far, the best methods developed by humanity to conduct research and generate knowledge” (p.35). This supports the importance of selecting the nature approach that best aligns with the objectives of this study.

In this case, the quantitative approach allows for measurable and verifiable results. Hernández Sampieri et al. (2014) “quantitative approach uses data collection to test hypotheses based on numerical measurement and statistical analysis, with the purpose of establishing behavioral patterns and testing theories” (p.37). The present study is framed within the quantitative approach, as it seeks evidence on the impact of using the Starfall ABCs app.

### **3.1.5 Character**

This study is descriptive, in this research innovative tools are applied that provide solutions to problems present in education and in learning a second language, which will help this and other generations in teaching-learning. Hernández Sampieri et al. (2014)

“Descriptive studies aim to specify important properties and characteristics of any phenomenon being analyzed. They describe trends of a group or population” (p. 92)

In this sense, the research is not limited to presenting data but rather to analyzing how the use of technological applications can influence specific learning processes, in this case, the recognition of alphabet sounds. Therefore, this study provides valuable information that can serve as a foundation for future interventions in early childhood education and second language acquisition.

## 3.2 SUBJECTS AND SOURCES OF INFORMATION

### 3.2.1 Subjects

The subjects of this study are preschool students from the Interactive II level of the Saint Josephine Bilingual School. The students come from both rural and urban communities located in the surroundings of Grecia. The students are already familiar with the language either because they have been attending preschool in English since the beginning of the year or because they were enrolled last year in the Interactive I level.

**Table 1**

*Distribution of students*

Section	Women	Men	Age range (years)
Interactive II	10	7	4-5
Transition	9	5	5-6
<b>Total</b>	<b>19</b>	<b>12</b>	

*Note:* Obregón, 2025.

### 3.2.2 First-hand

**Table 2**

*Primary Sources used in the research*

Author (s)	Title	Year
Cando	The Starfall app and the English pronunciation.	2020

Garcia	Impact of using music therapy to improve the reading skills in the identification of sounds...	2023
Pitafi & Ali	An empirical investigation on actual usage of educational app...	2023
Khotimah et al.	The Phonics Approach Improves Early Reading Skills in Preschoolers Aged 4-5 Years.	2023
Mohd et al.	Teachers' Beliefs and Teaching Practices in Teaching Phonic...	2023

*Note:* Obregón, 2025.

### 3.2.3 Second-hand

**Table 3**

*Secondary sources used in the research*

<b>Author (s)</b>	<b>Title</b>	<b>Year</b>
Banavath & Reddy	Learner-centered Teaching and Approaches for Second Language Learning.	2023
Boyadzhieva	Learner-centered Teaching and Learner Autonomy	2016
Gillon	Supporting Children Who Are English Language Learners...	2023
Hennebry-Leung & Xiao	Examining the role of the learner and the teacher...	2023
Suggate	A Meta-Analysis of the Long-Term Effects of Phonemic Awareness, Phonics, Fluency...	2016

*Note:* Obregón, 2025.

## 3.2 SAMPLING SELECTION

**Table 4**

*Sampling selection*

Section	Women	Men	Age range (years)
Interactive II	10	7	4-5
<b>Total</b>	<b>10</b>	<b>7</b>	

*Note:* Obregón, 2025.

### 3.3.1 Probabilistic or Non-Probabilistic

This is a non-probability study, in which the researcher deliberately excluded certain participants by selecting a specific school level rather than the entire population, since this decision considered the students' time and availability to achieve the objectives. Hernández Sampieri et al (2014) state, “non-probability or purposive sample is a subgroup of the population in which the selection of the elements does not depend on probability, but rather on the characteristics of the research” (p.176).

The universe of this study is composed of all interactive children at Saint Josephine. For this study, the total population is used as the sample, that is, the universe. As Hernández Sampieri et al (2014) define it a “population or universe is the set of all cases that meet certain specifications.” By including all members of this group, the sample represents the entire population under study, which allows for more complete and accurate results regarding the use of educational apps and their impact on language development.

## 3.4 TECHNIQUES AND INSTRUMENTS FOR DATA COLLECTION

Some instruments are developed for the collection of important data that will help to conclude this research. There is a variation of instruments, both for the teacher and for the students, since each of these instruments is intended to collect very valuable information for the research.

### 3.4.1 Pretest and post test of phonetic sound

The first instrument is related to the first objective which is: To determine the improvement in alphabet sound identification among 4- to 5-year-old students after using the Starfall ABCs app during the second semester of 2025. The pretest according to MEP (2023) “constitutes a first approximation to the real situation of the student, which allows to know the aspects that require changes to improve and those that should be stimulated and

motivated, through the pertinent strategies considered in the didactic planning” (p. 6). This instrument collects information to assess students' initial knowledge of the sounds of the letters of the alphabet.

Evaluation criteria help determine the level of learning that students have in relation to the indicators being measured. The evaluation criteria according to Hernández Conejo, Chacón Campos, & Pérez Ramírez, (2024) “It is the degree to which the indicator is specified, with the purpose of assigning a final assessment or condition regarding the level of performance shown by the student, corresponding to the key aspect, performance or conduct, production or knowledge expected” (p.3).

A numerical grading scale from 1 to is used, which is as follows 1: Not achieved, 2. In process, 3 Achieved. According to Hernández Conejo et al., (2024) “A scale is an instrument that allows recording the degree of achievement of a skill, ability, attitude by the student, according to a given scale (performance, descriptive, numerical)” (p.5).

### **3.4.2 Questionnaire for parents**

This instrument is designed to gather daily information about preschool students’ use of the Starfall ABC app at home and its relationship with their progress in identifying alphabet sounds. It records each child’s daily use from Monday to Friday, including frequency, duration, and the number of activities completed.

This definition supports the purpose of this instrument, as it aims to systematically quantifiable information related to student’s use of the app. According to Hernández Sampieri et al. (2014) A questionnaire is a “set of questions regarding one or more variables to be measured” (p.250)

### **3.4.4 Pretest and posttest and alphabet sound accuracy**

This instrument is designed to measure the accuracy with which a student produces the initial sounds alphabet through minimal pairs, assessing their performance in relation to the time spent using the Starfall ABCs app.

Student learning will be measured before and after working on the sounds of the alphabet with the Starfall ABCs app through a pretest and posttest. According to Hernández

Sampieri et al. (2014) “Measuring instrument is a resource that the researcher uses to record information or data on the variables they have in mind” (p.232), this assessment instrument seeks to analyze the results that students show with the use of the app and other activities implemented.

A performance record is used to evaluate the learning achieved through the implementation of the activities and the use of the Starfall ABC app. According to Hernández Conejo et al., (2024) the performance record “is used to evaluate how pedagogical mediation activities are developed and their results” (p. 7)

### **3.4.5 Quantitative observations of daily work**

This instrument aims to collect important data on preschool students’ daily work through systematic observation while using the Starfall ABCs app. It focuses on recording measurable aspects of students’ interactions.

By observing students in their natural learning context, this tool provides quantitative evidence on each student’s session usage time, also considering the frequency and the number of activities completed per class. Hernández Sampieri et al. (2014) defines a quantitative observation as “defines this data collection method as the systematic, valid, and reliable recording of observable behaviors and situations through a set of categories and subcategories” (p. 285).

## **3.5 OPERATIONALIZATION OF VARIABLES**

### **Conceptual, Operational, and Instrumental Definition.**

The variables table is shown on the following pages, which show how the variables of the research are analysed, the general objective of the research and the specific variable of each specific objective are identified, the conceptual definition, which is a concept of the variable, an instrumental definition that defines the instruments and techniques used to collect the information, and finally, an operational definition that defines the variables.

**Table 5***Conceptual, operational and instrumental definitions*

<b>Objectives</b>	<b>Variables</b>	<b>Conceptual Definition</b>	<b>Instrumental Definition</b>	<b>Operational Definition</b>
To determine the improvement in alphabet sound identification among 4- to 5-year-old students after using the Starfall ABCs app during the second semester of 2025.	Improvement in alphabet sound identification after using the Starfall ABCs app.	Alphabet sound knowledge for students. Students understand all the sounds of the letters of the alphabet. “Letter recognition refers to the ability to identify individual letters of the alphabet. It is an essential skill for children to develop as it is the foundation for learning to read and write” (Contractor, 2023, para. 4)	This assessment is aimed to the students to determine their learning of the sounds of the letters of the alphabet. This assessment contains a mediation scale from 1 to 5.	The variable is valid through this instrument if the highest percentage of student responses is the range (5) as this demonstrates greater learning by Saint Josephine Bilingual School students in the process of learning the sounds of the letters of the alphabet.
To analyze the relationship between the time spent using the Starfall ABCs app and the accuracy in identifying alphabet sounds.	Time spent using the Starfall ABCs application and accuracy in identifying alphabet sounds.	Starfall ABCs application and accuracy in identifying alphabet sounds.	Post test and alphabet sound recognition evaluates what students have learned and can	Through open-ended questions, detailed information is obtained regarding its usefulness, ease of use, motivation,

sounds among 4 to 5-year-old students during the second semester of 2025.

Zainuddin (2023) “The use of technology for the creation of realistic settings for language study” (Zainuddin, 2023, p.70). identify the alphabet and difficulties sounds after using the app. encountered during the process. The student interview allows collecting opinions and experiences about the use of the application. These reports make it possible to measure changes in academic performance and serve as a basis for analysing the effectiveness of the educational tool.

Progress reports are an instrument used to collect evidence of students’ progress after using the application, including records of achievements, difficulties overcome, and the level of mastery reached in the recognition of alphabet sounds.

Through an oral test in which an alphabet sound is produced and the student must point to the corresponding letter, the ability to recognize and associate the sound of the

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alphabet letters is  
evaluated.

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*Note:* Obregón, 2025.

**Table 6.***Variables*

<b>Objective 1</b>	<b>Variables</b>	<b>Chapter 2</b>	<b>Measuring instrument</b>
		<b>Theoretical Indicators</b>	
To determine the improvement in alphabet sound identification among 4- to 5-year-old students after using the Starfall ABCs app during the second semester of 2025.	Improvement in alphabet sound identification after using the Starfall ABCs app.	Phonological Awareness Phonemic Awareness Phonics Teaching Phonics Phonetic assessment in preschoolers Recognition of initial sounds of words Letter-sound association Auditory phoneme discrimination Ability to identify letters by sound Accuracy in the pronunciation of alphabet sounds Teaching English Teacher Role in English Role of the student in English	1. Pretest and posttest of phonetic sounds.

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<b>Objective 2</b>	Time spent using the Starfall ABCs application and accuracy in identifying alphabet sounds.	Teaching English in preschool Education The influence of technology on the role of English teachers Educational Apps Educational apps for preschool children Use, screen time, and language development outcomes Starfall app Interactive elements in Starfall ABCs app	1. Questionnaire for parents 2. Pretest and posttest of sound accuracy 3. Quantitative observations of daily work
To analyse the relationship between the time spent using the Starfall ABCs app and the accuracy in identifying alphabet sounds among 4 to 5-year-old students during the second semester of 2025.			

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*Note: Obregón, 2025.*

**CAPÍTULO IV:**  
**ANALYSIS OF DATA AND RESULTS**

This chapter presents and analyzes the results obtained through the application of various instruments, such as pretest and posttest of phonetic sounds, questionnaire for parents, pretest and posttest of sound accuracy and quantitative observations of daily work. The data are organized according to the specific objectives of the study and interpreted to demonstrate the impact of using the Starfall ABCs app to improve the identification of alphabet sounds on students between 4 to 5 years old of the Interactive II A of the Saint Josephine Bilingual School.

#### **4.1 DIAGNOSTIC OF THE SITUATION**

Based on verifiable facts and collected evidence, the researcher offers a detailed and consistent description of the instruments used throughout the research with 4- to 5-year-old preschool students, specifically those in the interactive grade at Saint Josephine School, located in Alajuela, Grecia. The measurement tools and instruments were developed based on specific objectives, one and two, outlined in Chapter I and validated by theories and authors in Chapter II. This was followed by a research sequence that aimed to analyze the findings.

In this chapter, the results obtained and analyzed from each applied instrument are described and interpreted, during the 4 sessions inside the classroom and in their homes, with the students selected for the purposes of the research, where it is evident how the use of the Starfall ABC application helps students to improve the identification of the sounds of the alphabet.

Through the application of instruments, which include didactic plans with creative and dynamic activities, pretest and posttest of phonetic sounds, questionnaire for parents, pretest and posttest of sound accuracy, and quantitative observations per session to evaluate the improvement of each student according to the use of the app, the researcher identifies and presents conclusions that reflect the impact on the improvement of identification of the sounds of the alphabet in the interactive students of Saint Josephine.

This research provides important information and results related to the learning process and acquisition of alphabet sounds, using technology as an educational ally through

the Starfall ABC application, and how it impacts preschool students in phonetics learning in the classroom, and how its correct use and reinforcement at home helps to achieve improvements in learning.

#### **4.1.1 DIAGNOSTIC OF THE SITUATION OF THE FIRST SPECIFIC OBJECTIVE**

This analysis and interpretation of data consider the following instruments:

The first instrument is related to the first specific objective: To determine the improvement in alphabet sound identification among 4- to 5-year-old students after using the Starfall ABCs app during the second semester of 2025. The first instrument applied in this investigation is a pretest and post-test of phonetic sounds, this instrument was designed to be administered before and after the four sessions to assess students' prior and final knowledge of the phonetic sounds to be investigated, both before and after using the Starfall ABC application and applying the techniques.

The pretest and post-test include 14 questions that are evaluated on a scale of: 1 - not achieved, 2 - in progress, 3 - achieved. This instrument is of utmost importance because it indicates students' learning in recognizing phonemes.

#### **4.1.2 DIAGNOSTIC OF THE SITUATION OF THE SECOND SPECIFIC OBJECTIVE**

The following instruments correspond to the second objective: To analyse the relationship between the time spent using the Starfall ABCs app and the accuracy in identifying alphabet sounds among 4 to 5-year-old students during the second semester of 2025. The second instrument is a questionnaire for parents; the questionnaire includes a series of five questions related to the use of the Starfall ABC app at home. It aims to gather information on how long the app was used, the frequency of use per day, and the number of activities completed by each student.

This information is crucial for the researcher, as it allows them to measure classroom learning outcomes by comparing students who received support from the app at home.

The third instrument applied is a pretest and post-test of sound accuracy, this instrument collects information before and after implementing the application and techniques

with the students, focusing on the accuracy of the sounds; the knowledge of each student to produce the sound of the phonemes studied is evaluated.

The fourth instrument implemented in this research is a quantitative observation of daily work, this instrument aims to collect data related to the time each student spends using the app per session, the number of activities performed, and the frequency.

## 4.2 DESCRIPTION OF DATA

### 4.2.1 DESCRIPTION OF DATA OF THE FIRST SPECIFIC OBJECTIVE

The first instrument applied in this research is pretest and posttest of phonetic sounds. The pretest is applied before the first session for comparison and analysis with the post test, which is applied at the end of the sessions. It is applied individually to determine improvements in alphabet sound recognition.

**Table 7**

*Instrument: Pretest of phonetic sounds*

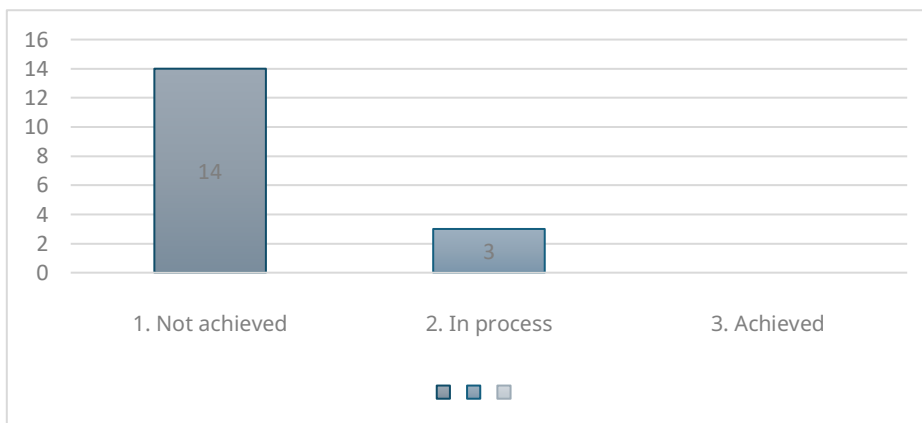
Question	Scale		
	1	2	3
	Not achieved	In process	Achieved
Listen and identify which word rhymes with <i>cat</i> : (a) dog, (b) bat, (c) sun.	14	3	0
Say the first sound in each of the following words: <i>moon, nest, pizza, ball, tiger, doll, cat, girl, fox, jet.</i>	16	1	0
Point to the letter that makes each sound: <i>/m/, /n/, /p/, /b/, /t/, /d/, /k/, /g/, /f/, /dʒ/</i>	14	3	0
Which picture starts with the same sound as: <i>motorcycle, ball, mask</i>	16	1	0
<i>nine, number, doll</i>	16	1	0
<i>pink, pig, cat</i>	16	1	0
<i>boy, mask, bear</i>	16	1	0
<i>Tiger, pig, ten</i>	16	1	0

<i>ducks, dinosaurs, ball</i>	16	1	0
<i>cow, ten, computer</i>	16	1	0
<i>gorilla, cat, go</i>	16	1	0
<i>fish, five, number</i>	16	1	0
<i>jump, boy, jump</i>	15	2	0
What sound does each letter make?			
(Show flashcards /m/, /n/, /p/, /b/, /t/, /d/, /k/, /g/, /f/, /ʒ/)	6	11	0

*Note:* Pretest of phonetic sounds, Instrument N°1. This tables represents the scale of the results obtained by the interactive II students after applying the phonetic sounds pretest. The purpose of this instrument was to identify the student's prior knowledge before implementing the use of the Starfall ABC application as a teaching resource. Obregón, (2025)

### FIGURE 1

*LISTEN AND IDENTIFY WHICH WORD RHYMES WITH CAT: (a) DOG, (b) BAT, (c) SUN*

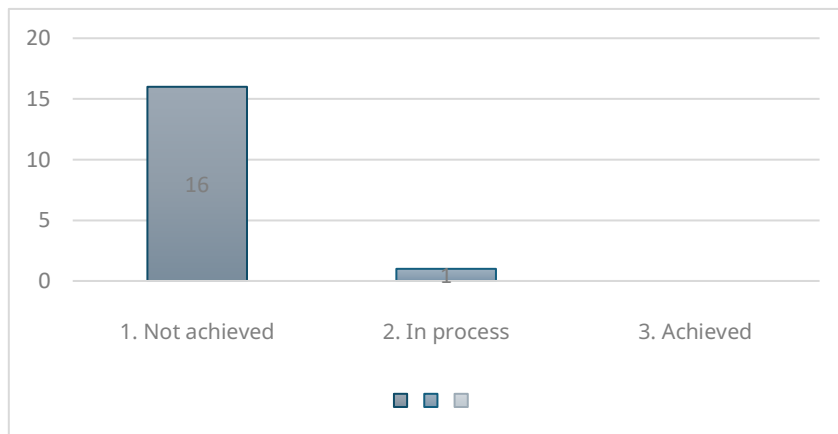


*Note:* Table 7. Pretest of phonetic sound, Instrument N°1. Obregón, (2025)

Regarding the results obtained in the pretest, the results for the first question are shown in the graph: only 3 out of 17 students showed signs of being in progress, and 14 out of 17 were unable to answer this question. These results reveal that the students have a limited foundation in this skill.

**FIGURE 2**

*SAY THE FIRST SOUND IN EACH OF THE FOLLOWING WORDS: MOON, NEST, PIZZA, BALL, TIGER, DOLL, GIRL, FOX, JET*

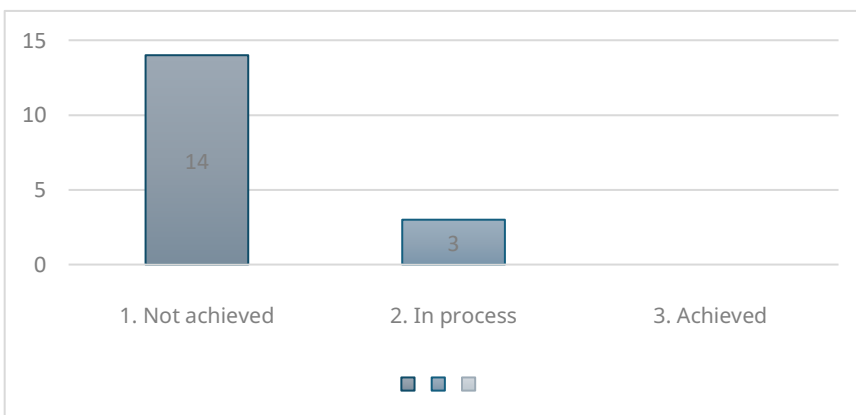


*Note:* Table 7. Pretest of phonetic sound, Instrument N°1. Obregón, (2025)

As shown in the graph, a very low percentage of students can pronounce the sounds of the words; only one student is in the process of doing so, while the remaining 16 students are unable to do so. The low level of knowledge identified among the students reinforces the need to implement this learning in the classroom.

**FIGURE 3**

*POINT TO THE LETTER THAT MAKES EACH SOUND /M/, /N/, /P/, /B/, /T/, /D/, /K/, /G/, /F/, /dʒ/*

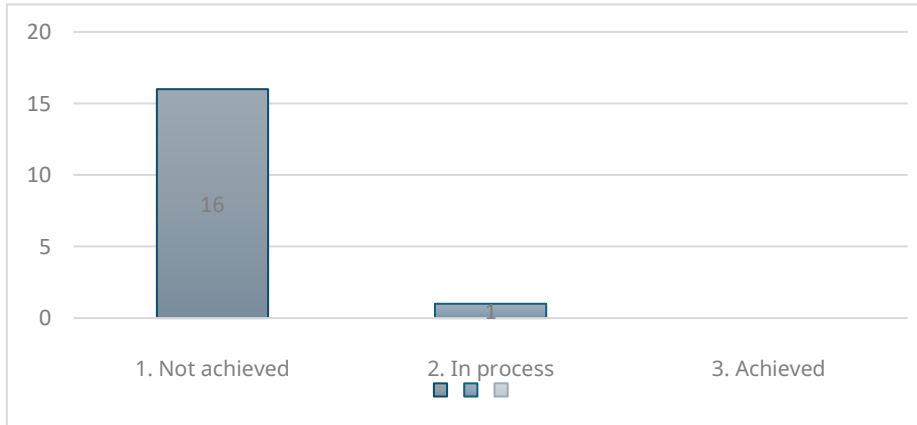


*Note:* Table 7. Pretest of phonetic sound, Instrument N°1. Obregón, (2025)

As the graph reveals, only three out of seventeen students demonstrate progress, fourteen could not achieve the expected outcome. These results indicate a limited familiarity with English phonemes.

**FIGURE 4**

*WHICH PICTURE STARST WITH THE SAME SOUND AS: MOTORCYCLE, BALL, MASK*

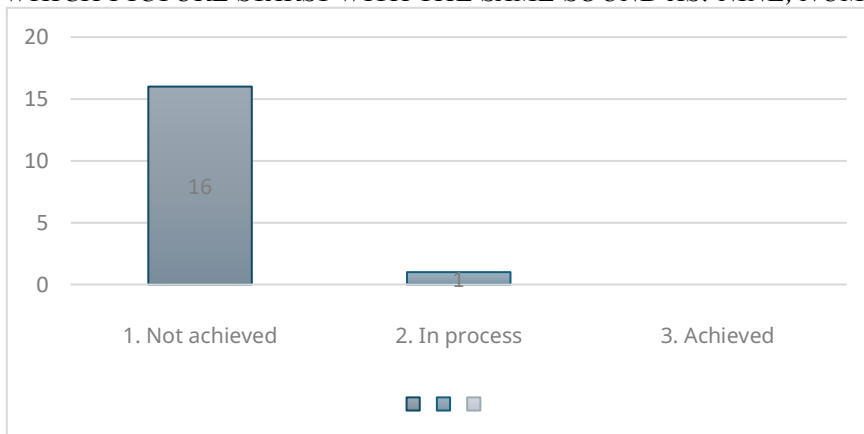


*Note:* Table 7. Pretest of phonetic sound, Instrument N°1. Obregón, (2025)

As shown in the graph, only one student is in the process of answering, while sixteen students not achieved to respond. The results reveal the students' limited ability to identify the same initial sound in words.

**FIGURE 5**

*WHICH PICTURE STARST WITH THE SAME SOUND AS: NINE, NUMBER, DOLL*

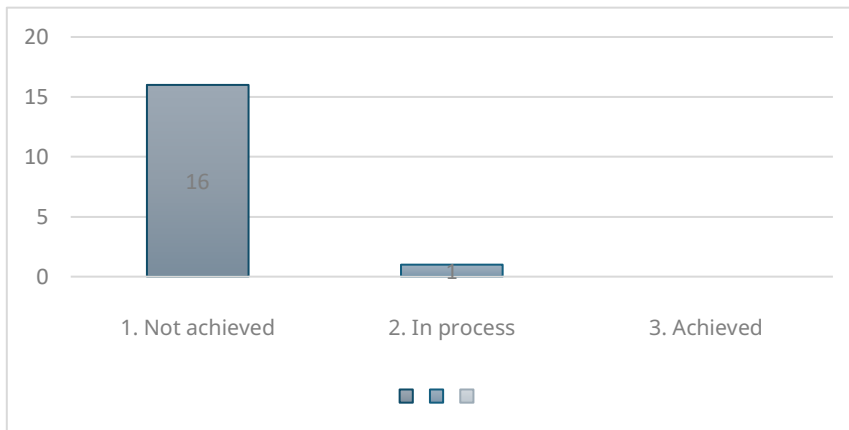


*Note:* Table 7. Pretest of phonetic sound, Instrument N°1. Obregón, (2025)

As shown in the graph, only one student is in the process of answering, while sixteen students were unable to respond. The results reveal the students' limited ability to identify the same initial sound in words.

**FIGURE 6**

*WHICH PICTURE STARST WITH THE SAME SOUND AS: PINK, PIG, CAT*

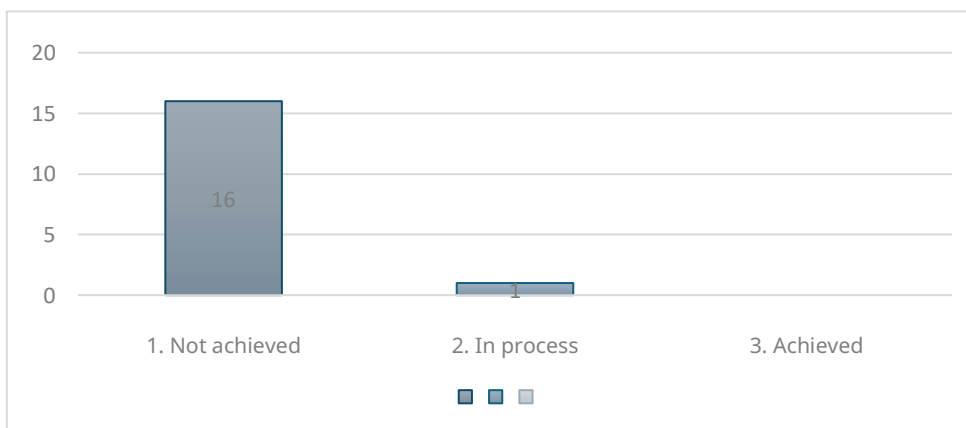


*Note:* Table 7. Pretest of phonetic sound, Instrument N°1. Obregón, (2025)

As shown in the graph, only one student is in the process of answering, while sixteen students were unable to respond. The results reveal the students' limited ability to identify the same initial sound in words.

**FIGURE 7**

*WHICH PICTURE STARST WITH THE SAME SOUND AS: BOY, MASK, BEAR*

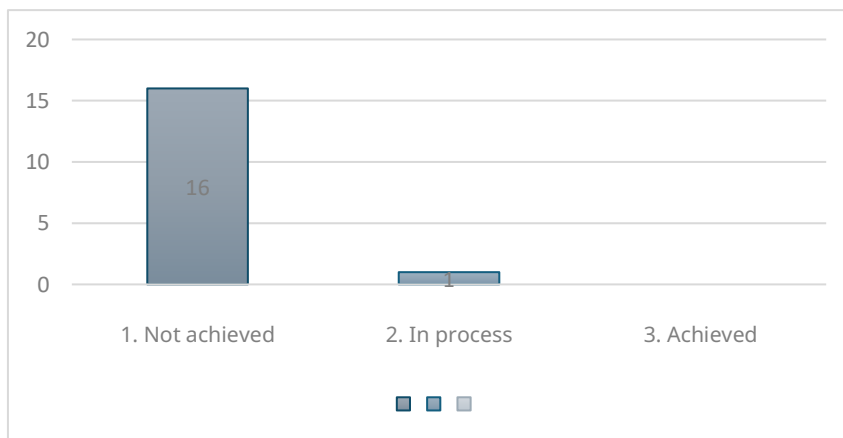


Note: Table 7. Pretest of phonetic sound, Instrument N°1. Obregón, (2025)

As shown in the graph, only one student is in the process of answering, while sixteen students were unable to respond. The results reveal the students' limited ability to identify the same initial sound in words.

**FIGURE 8**

*WHICH PICTURE STARST WITH THE SAME SOUND AS: TIGER, PIG, TEN*

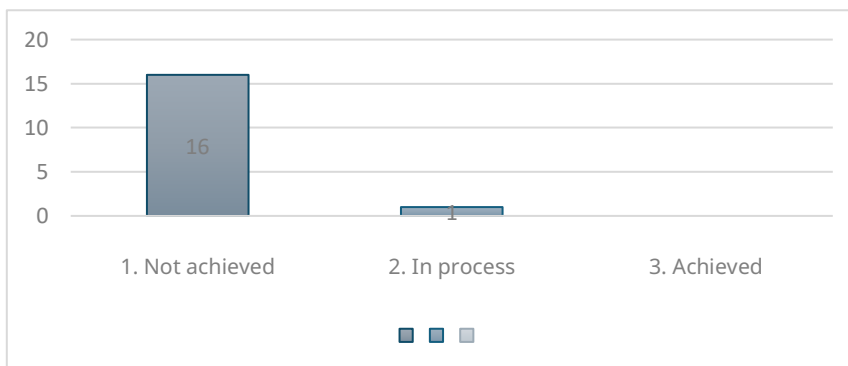


Note: Table 7. Pretest of phonetic sound, Instrument N°1. Obregón, (2025)

As shown in the graph, only one student is in the process of answering, while sixteen students were unable to respond. The results reveal the students' limited ability to identify the same initial sound in words.

**FIGURE 9**

*WHICH PICTURE STARST WITH THE SAME SOUND AS: DUCKS, DINOSAUR, BALL*

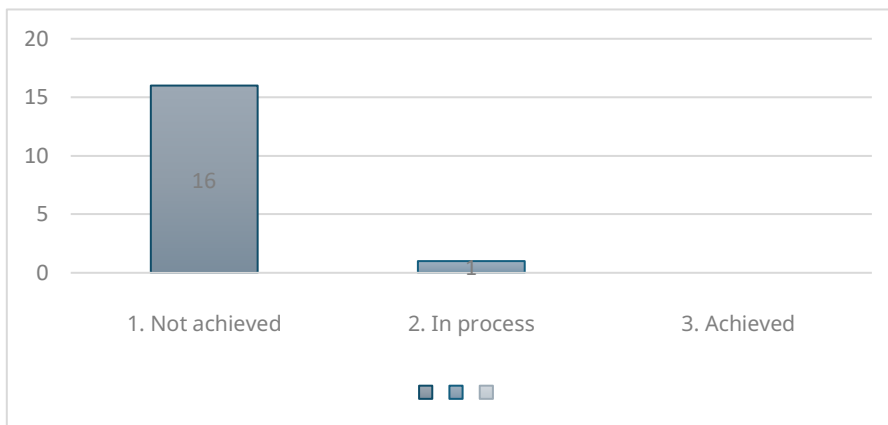


Note: Table 7. Pretest of phonetic sound, Instrument N°1. Obregón, (2025)

As shown in the graph, only one student is in the process of answering, while sixteen students were unable to respond. The results reveal the students' limited ability to identify the same initial sound in words.

**FIGURE 10**

*WHICH PICTURE STARST WITH THE SAME SOUND AS: COW, TEN, COMPUTER*

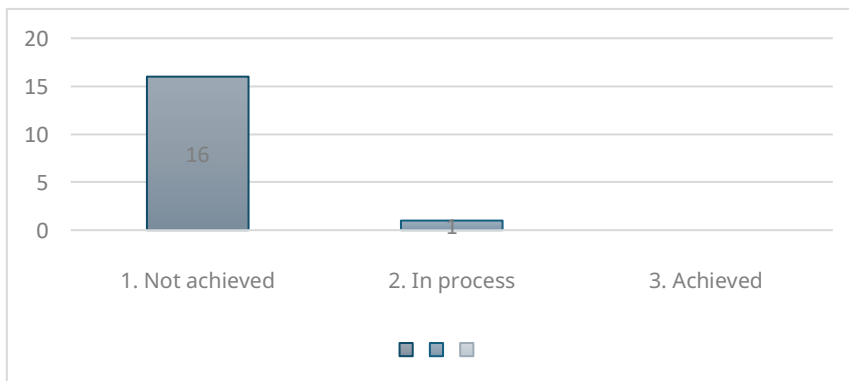


Note: Table 7. Pretest of phonetic sound, Instrument N°1. Obregón, (2025)

As shown in the graph, only one student is in the process of answering, while sixteen students were unable to respond. The results reveal the students' limited ability to identify the same initial sound in words.

**FIGURE 11**

*WHICH PICTURE STARST WITH THE SAME SOUND AS: GORILLA, CAT, GO*

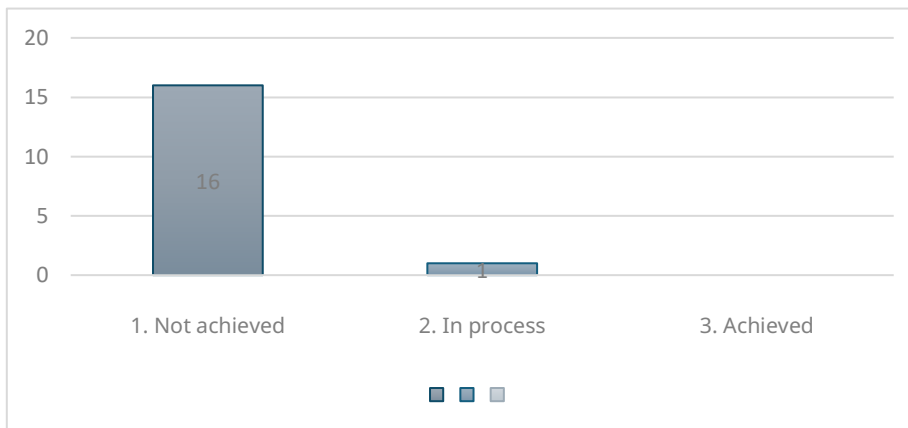


Note: Table 7. Pretest of phonetic sound, Instrument N°1. Obregón, (2025)

As shown in the graph, only one student is in the process of answering, while sixteen students were unable to respond. The results reveal the students' limited ability to identify the same initial sound in words.

**FIGURE 12**

*WHICH PICTURE STARST WITH THE SAME SOUND AS: FISH, FIVE, NUMBER*

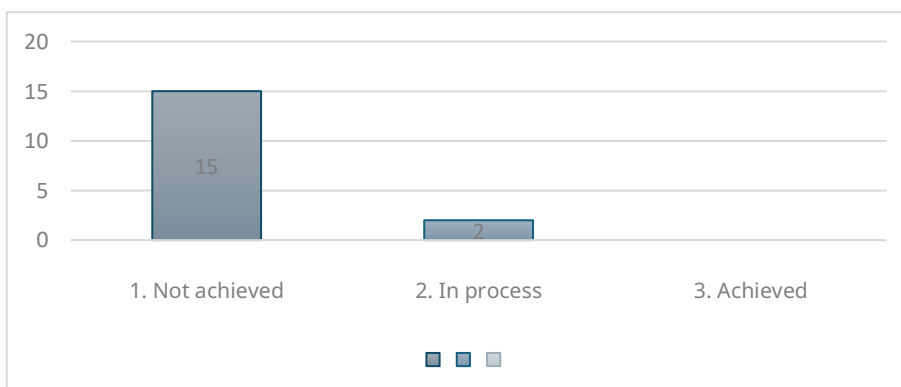


Note: Table 7. Pretest of phonetic sound, Instrument N°1. Obregón, (2025)

As shown in the graph, only one student is in the process of answering, while sixteen students were unable to respond. The results reveal the students' limited ability to identify the same initial sound in words.

**FIGURE 13**

*WHICH PICTURE STARST WITH THE SAME SOUND AS: JUMP, BOY, JUMP*

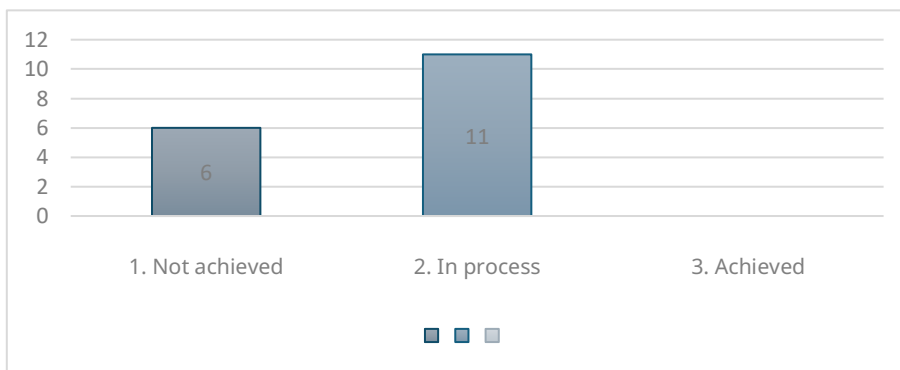


Note: Table 7. Pretest of phonetic sound, Instrument N°1. Obregón, (2025)

As illustrated in the graph, only two students are in the process of responding, while fifteen are not achieved. Given the limited level of prior knowledge, incorporating activities and using the Starfall ABC app will support more meaningful learning.

**FIGURE 14**

*WHAT SOUND DOES EACH LETTER MAKE? (SHOW FLASHCARDS /M/, /N/, /P/, /B/, /T/, /D/, /K/, /G/, /F/, /dʒ/)*



Note: Table 7. Pretest of phonetic sound, Instrument N°1. Obregón, (2025)

Regarding the graph, the results show that six students did not achieve the expected outcome, while eleven are still in the process of developing the skill. This indicates that ongoing support and specific reinforcement are needed.

**Table 8**

*Instrument: Posttest of phonetic sounds*

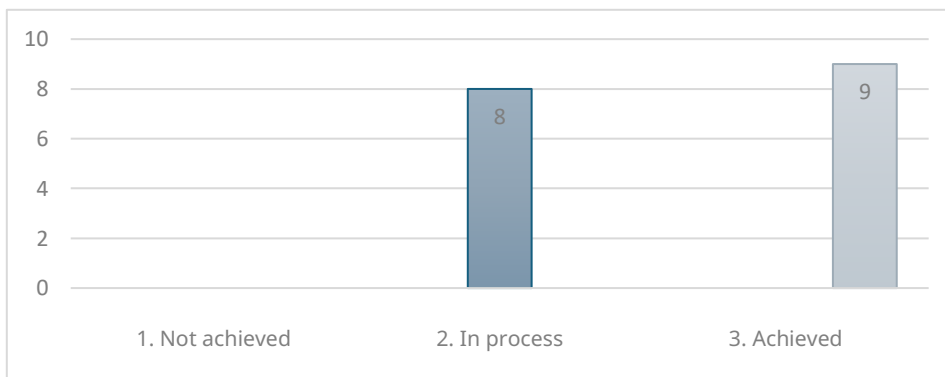
Question	Scale		
	1 Not achieved	2 In process	3 Achieved
Listen and identify which word rhymes with <i>cat</i> : (a) dog, (b) bat, (c) sun.	0	8	9
Say the first sound in each of the following words: <i>moon, nest, pizza, ball, tiger, doll, cat, girl, fox, jet.</i>	0	7	10

Point to the letter that makes each sound:			
<i>/m/, /n/, /p/, /b/, /t/, /d/, /k/, /g/, /f/, /dʒ/</i>	0	5	12
Which picture starts with the same sound as:			
<i>motorcycle, ball, mask</i>	0	5	12
<i>nine, number, doll</i>	0	4	13
<i>pink, pig, cat</i>	0	3	14
<i>boy, mask, bear</i>	0	6	11
<i>tiger, pig, ten</i>	0	3	14
<i>ducks, dinosaur, ball</i>	0	4	13
<i>cow, ten, computer</i>	0	5	12
<i>gorilla, cat, go</i>	0	6	11
<i>fish, five, number</i>	0	5	12
<i>jump, boy, jump</i>	0	4	13
What sound does each letter make?			
(Show flashcards <i>/m/, /n/, /p/, /b/, /t/, /d/, /k/, /g/, /f/, /dʒ/</i> )	0	4	13

*Note:* Post-test of phonetic sounds, Instrument N°1. This table represents the results obtained from the applied to the Interactive II students after implementing the techniques developed for learning letters using the Starfall ABC app. These results make it possible to demonstrate the progress achieved by the students after the pedagogical intervention. Obregón, (2025)

**Figure 15**

*LISTEN AND IDENTIFY WHICH WORD RHYMES WITH CAT: (a) DOG, (b) BAT, (c) SUN*

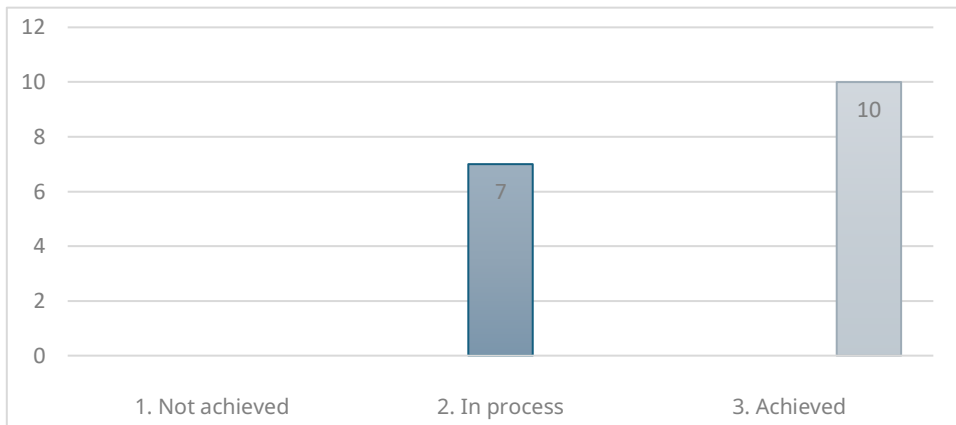


*Note:* Table 8. Posttest of phonetic sound, Instrument N°1. Obregón, (2025)

The data presented in the graph shows that eight students remain in the “in progress” scale, while nine have achieved the expected performance level. This distribution indicates that more than half of the group has met the established criteria, however the presence of students still developing the skill suggests the need for continued with the use of the app.

**Figure 16**

*SAY THE FIRST SOUND IN EACH OF THE FOLLOWING WORDS: MOON, NEST, PIZZA, BALL, TIGER, DOLL, CAT, GIRL, FOX, JET*

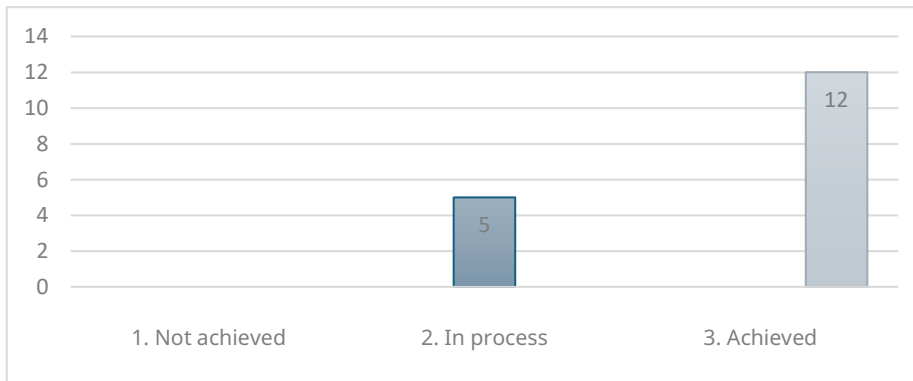


*Note:* Table 8. Posttest of phonetic sound, Instrument N°1. Obregón, (2025)

The post test results reveal that students remain in the “in process” scale, while then have achieved the expected performance level. Compared to previous assessments, this reflects a notable improvement, suggesting that the use of the Starfall ABC app positively contributed to strengthening of the targeted skills.

**Figure 17**

*POINT TO THE LETTER THAT MAKES EACH SOUND: /M/, /N/, /P/, /B/, /T/, /D/, /K/, /G/, /F/, /dʒ/*

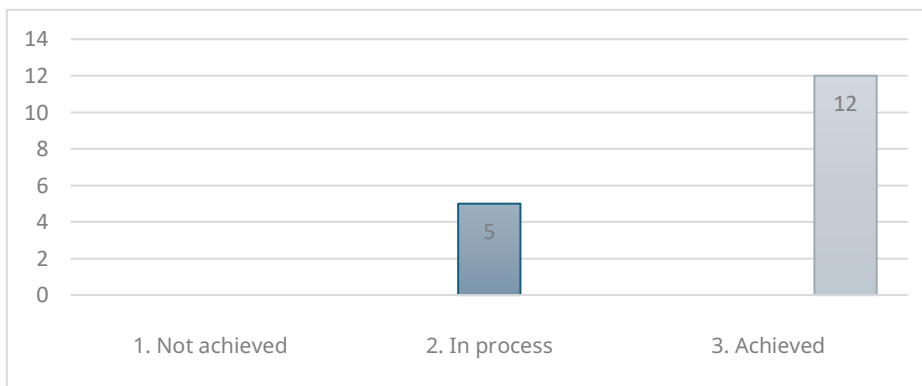


*Note:* Table 8. Posttest of phonetic sound, Instrument N°1. Obregón, (2025)

As the graph shows in relation to pointing to the letter that corresponds to each of the assessed sounds, five students remain in process, while twelve successfully identified the graphemes associated with the phoneme's /m/, /n/, /p/, /b/, /t/, /d/, /k/, /g/, /f/, /dʒ/. These results demonstrate the groups learning of phoneme-grapheme correspondence, demonstrating significant progress in fundamental phonological awareness skills.

### Figure 18

*WHICH PICTURE STARTS WITH THE SAME SOUND AS: MOTORCYCLE, BALL, MASK*

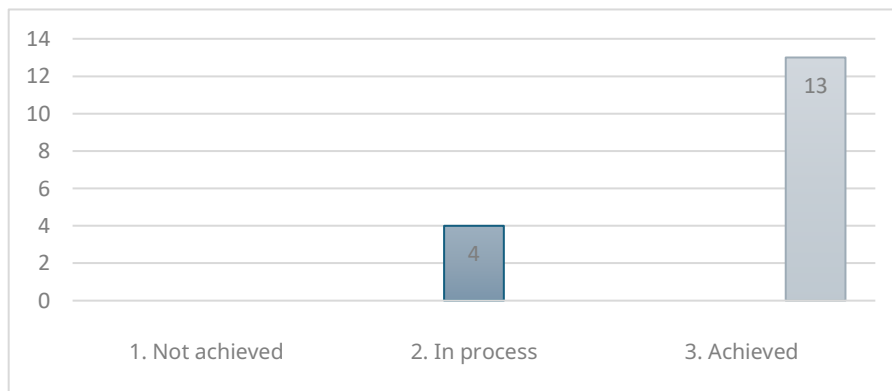


*Note:* Table 8. Posttest of phonetic sound, Instrument N°1. Obregón, (2025)

The graphs show the results of the question, which picture starts with the same sounds as: motorcycle, ball, mask, and indicate that 12 students successfully identified the initial sound, indicating an adequate development of phonological awareness. However, 5 students are still in progress, highlighting the need to reinforce this skill through targeted activities that support initial sound discrimination.

### Figure 19

*WHICH PICTURE STARTS WITH THE SAME SOUND AS: NINE, NUMBER DOLL*

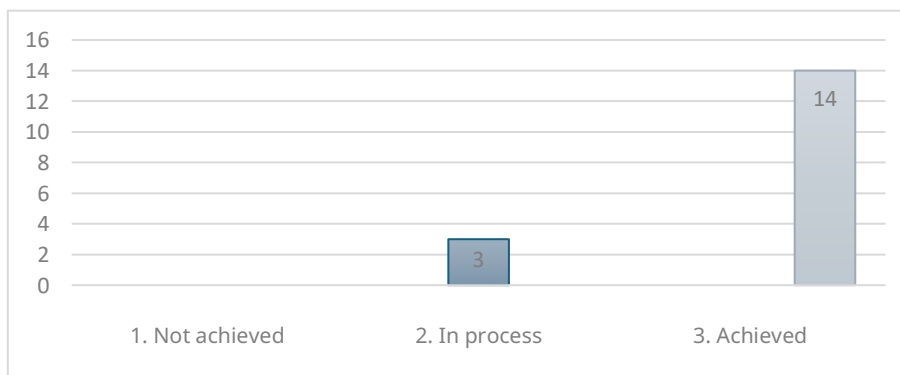


*Note:* Table 8. Posttest of phonetic sound, Instrument N°1. Obregón, (2025)

The graphs present the results of the question, which picture starts with the same sound as: nine, number, doll. The findings indicate that 13 students successfully identified the initial sound, reflecting an adequate development of phonological awareness. However, 4 students remain in progress, highlighting the need to reinforce this skill through targeted activities that support initial sound discrimination.

**Figure 20**

*WHICH PICTURE STARTS WITH THE SAME SOUND AS: PINK, PIG, CAT*



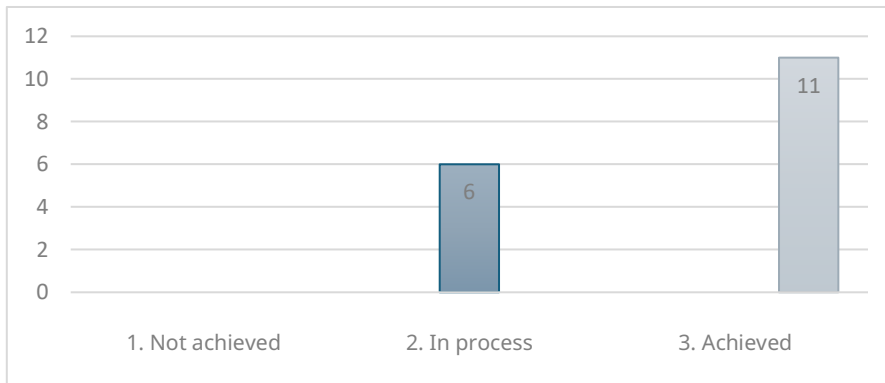
*Note:* Table 8. Posttest of phonetic sound, Instrument N°1. Obregón, (2025)

The figure illustrates students' performance on the task, wvvhich picture starts with the same sound as: pink, pig, cat. The results show that 14 students correctly identified the initial sound,

demonstrating strong phonological awareness skills. 3 students are still developing this ability, indicating the need for continued practice to strengthen initial sound recognition.

**Figure 21**

*WHICH PICTURE STARTS WITH THE SAME SOUND AS: BOY, MASK, BEAR*

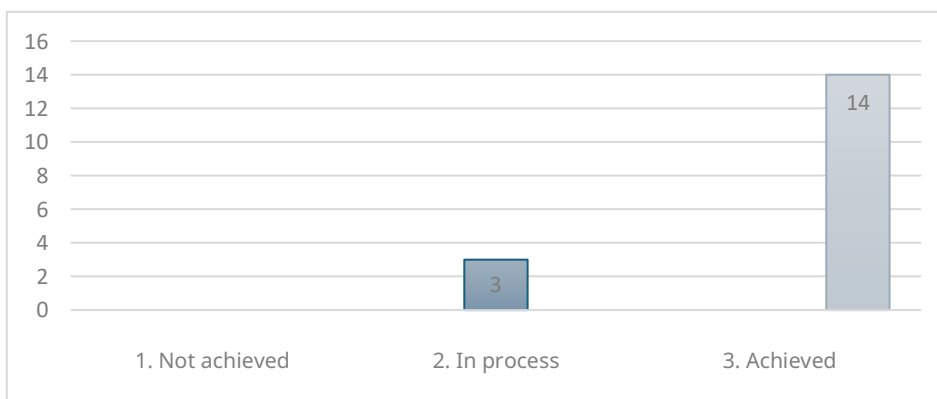


*Note:* Table 8. Posttest of phonetic sound, Instrument N°1. Obregón, (2025)

The following table presents the results obtained by students when identifying the picture that starts with the same sound as the words boy, mask and bear. The results show a difference compared to the previous tables, as 6 students did not achieve the expected learning outcome, indicating the need to reinforce and review these phonemes. However, 11 students successfully identified the initial sound, demonstrating progress in the development of phonological awareness.

**Figure 22**

*WHICH PICTURE STARTS WITH THE SAME SOUND AS: TIGER, PIG, TEN*

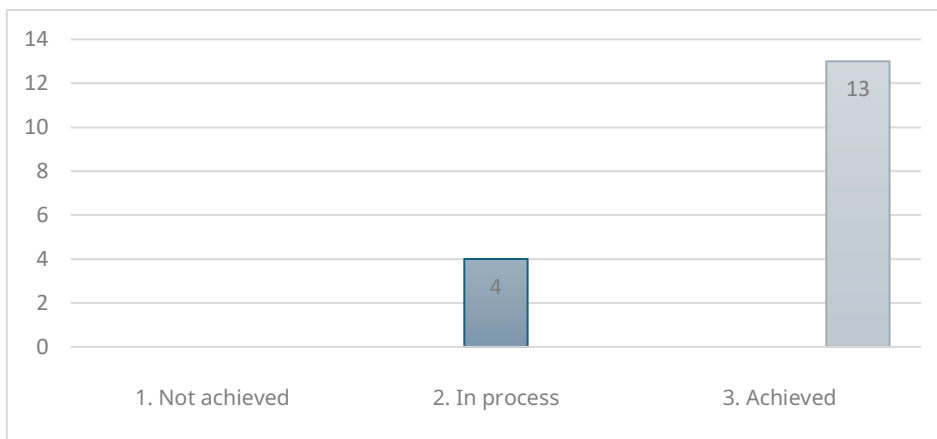


*Note:* Table 8. Posttest of phonetic sound, Instrument N°1. Obregón, (2025)

This graph shows that most students were able to correctly the same initial sound in the words tiger, pig, and ten. 14 students demonstrated accurate production of the initial sound, while 3 students are still in progress, as they experienced difficulty recognizing identical initial phonemes in the words.

**Figure 23**

*WHICH PICTURE STARTS WITH THE SAME SOUND AS: DUCKS, DINOSAUR, BALL*

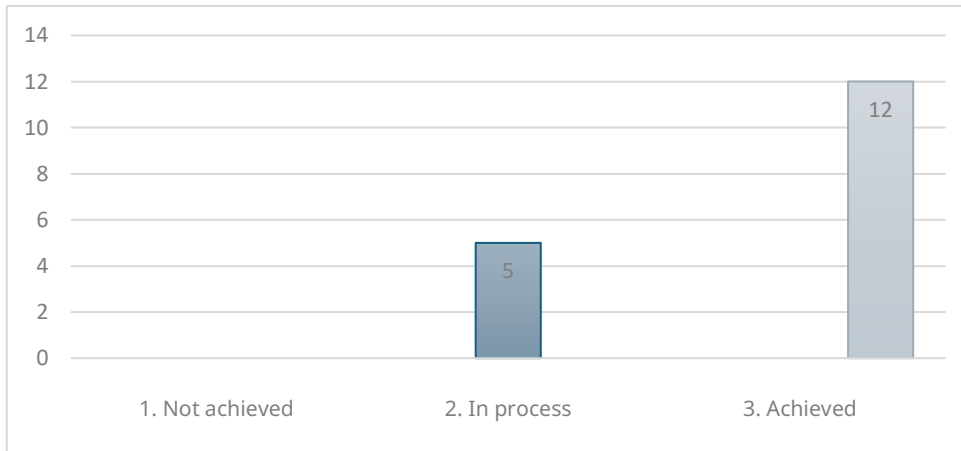


*Note:* Table 8. Posttest of phonetic sound, Instrument N°1. Obregón, (2025)

This figure presents the results of the activity in which students identified the picture that starts with the same sound as ducks, dinosaur, and ball. The results indicate that 13 students successfully identified the initial sound, while 4 students are still in progress, suggesting the need for continued reinforcement.

**Figure 24**

*WHICH PICTURE STARTS WITH THE SAME SOUND AS: COW, TEN, COMPUTER*

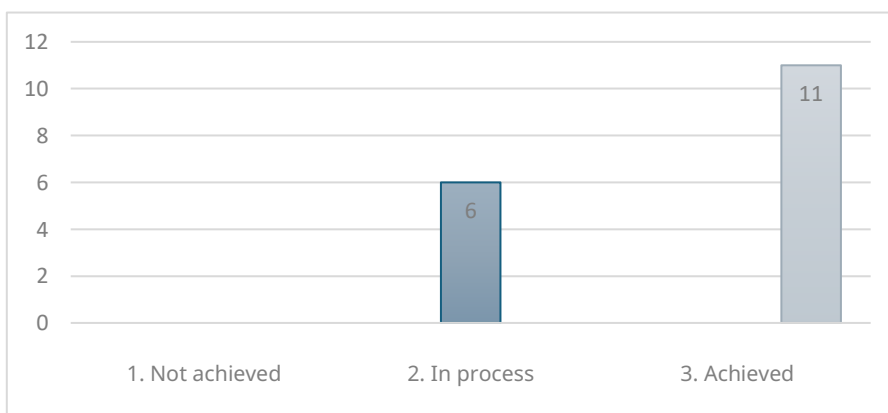


*Note:* Table 8. Posttest of phonetic sound, Instrument N°1. Obregón, (2025)

The results shown in this figure reflect students' performance in identifying the initial sound of the words cow, ten, and computer. 12 students achieved the expected learning outcome, while 5 students experienced difficulties, indicating the need for additional practice.

### Figure 25

*WHICH PICTURE STARTS WITH THE SAME SOUND AS: GORILLA, CAT, GO*

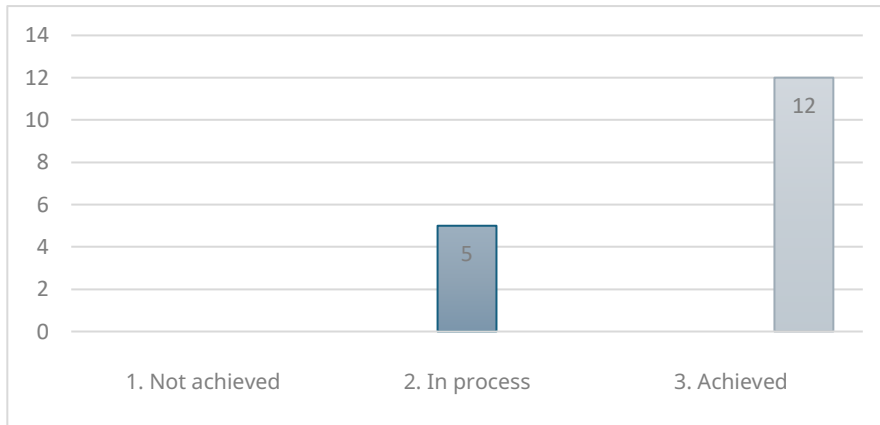


*Note:* Table 8. Posttest of phonetic sound, Instrument N°1. Obregón, (2025)

This figure reveals greater variability in the results, as 11 students successfully identified the initial sound in the words gorilla, cat, and go, while 6 students remain in progress, highlighting the need to strengthen these phonemes.

### Figure 26

*WHICH PICTURE STARTS WITH THE SAME SOUND AS: FISH, FIVE, NUMBER*

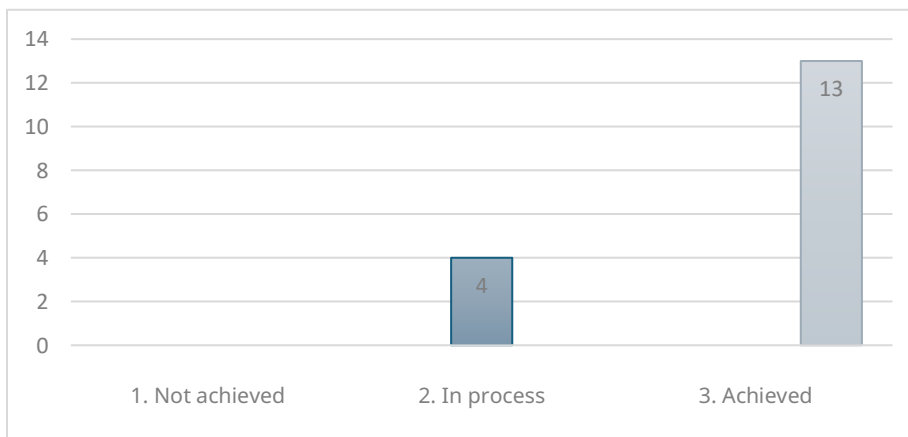


*Note:* Table 8. Posttest of phonetic sound, Instrument N°1. Obregón, (2025)

The figure shows that 12 students were able to recognize the initial sound in the words fish, five, and number, demonstrating appropriate progress in phonological awareness. However, 5 students are still in progress, indicating the need for reinforcement.

**Figure 27**

*WHICH PICTURE STARTS WITH THE SAME SOUND AS: JUMP, BOY, JUMP*

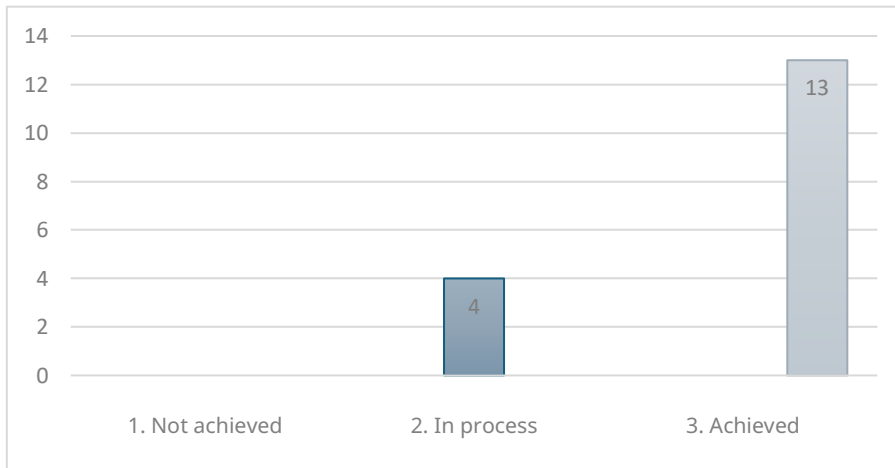


*Note:* Table 8. Posttest of phonetic sound, Instrument N°1. Obregón, (2025)

The results of this figure indicate that 13 students correctly identified the initial sound in the words jump, boy, and jump, while 4 students are still in progress, suggesting the need for continued practice.

**Figure 28**

*WHAT SOUND DOES EACH LETTER MAKE? (SHOW FLASHCARDS /M/, /N/, /P/, /B/, /T/, /D/, /K/, /G/, /F/, /dʒ/)*



*Note.* Table 8. Posttest of phonetic sound, Instrument N°1. Obregón, (2025)

This figure presents the results of the activity, what sound does each letter make, using flashcards with the phonemes /m/, /n/, /p/, /b/, /t/, /d/, /k/, /g/, /f/, /dʒ/. The results show that 13 students correctly produced the sounds, while 4 students are still in progress, indicating the need to reinforce letter-sound correspondence.

#### 4.2.2 DESCRIPTION OF DATA OF THE SECOND SPECIFIC OBJECTIVE

The second instrument applied in this research was a questionnaire for parents which consisted of parents taking a daily record from Monday to Friday about the frequency of use per day, the time used and the number of activities completed in the Starfall ABC app.

**Table 9**

*Questionnaire for parents*

**Name of your child:** \_\_\_\_\_

<b>Day of the week:</b>	<b>Frequency of use per day:</b>	<b>Time used per day:</b>	<b>Number of activities completed:</b>
Monday	0 times	5 minutes	0 activities

---

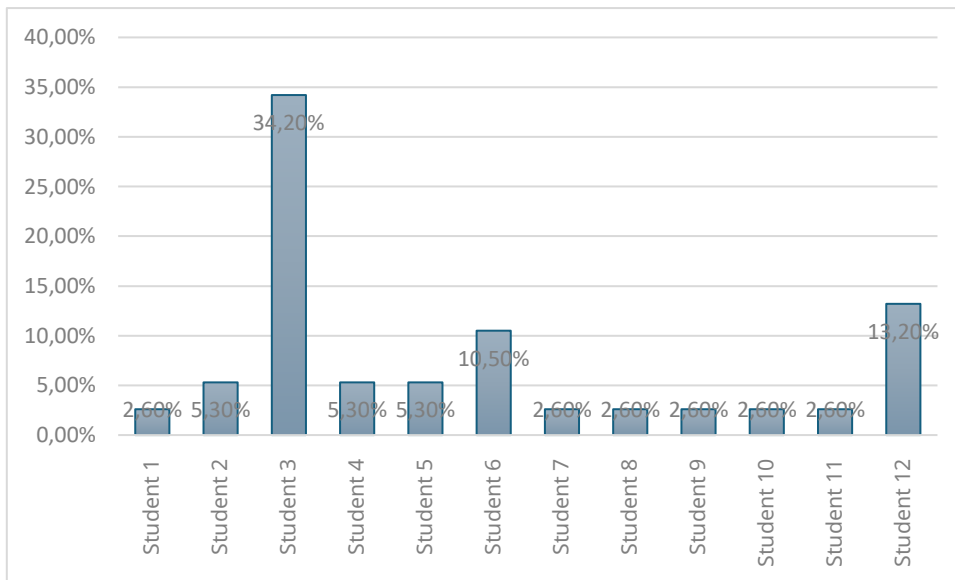
	1 time	10 minutes	1 activity
	2–3 times	15 minutes	2 activities
	3–4 times	20 minutes	3 activities
	5 or more times	30 minutes	4 or more activities
Tuesday	0 times	5 minutes	0 activities
	1 time	10 minutes	1 activity
	2–3 times	15 minutes	2 activities
	3–4 times	20 minutes	3 activities
	5 or more times	30 minutes	4 or more activities
Wednesday	0 times	5 minutes	0 activities
	1 time	10 minutes	1 activity
	2–3 times	15 minutes	2 activities
	3–4 times	20 minutes	3 activities
	5 or more times	30 minutes	4 or more activities
Thursday	0 times	5 minutes	0 activities
	1 time	10 minutes	1 activity
	2–3 times	15 minutes	2 activities
	3–4 times	20 minutes	3 activities
	5 or more times	30 minutes	4 or more activities
Friday	0 times	5 minutes	0 activities
	1 time	10 minutes	1 activity
	2–3 times	15 minutes	2 activities
	3–4 times	20 minutes	3 activities
	5 or more times	30 minutes	4 or more activities

---

*Note:* This table represents the questions that will be applied to parents to collect daily information about the use of the app at home. Obregón, (2025)

### **Figure 29**

*NAME OF YOUR CHILD*



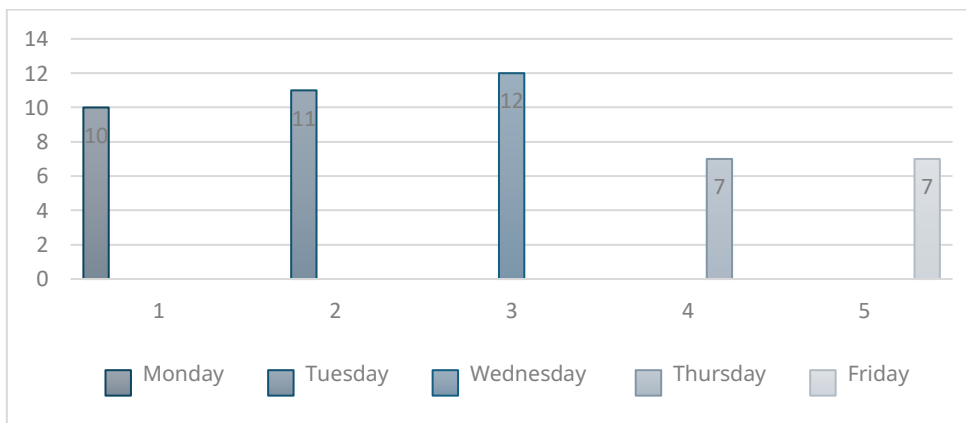
*Note:* Table 9. Questionnaire for parents, Instrument N°2. Obregón, (2025)

The following graph shows the percentage of students who, according to the questionnaire completed by parents, used the Starfall ABC app at home. Data were collected from 12 students, indicating that 5 students did not participate in the data collection process for the parent questionnaire.

The results reveal that one student reported the highest level of app usage at home, compared to the other students, who demonstrated lower levels of use.

**Figure 30**

*DAY OF THE WEEK*

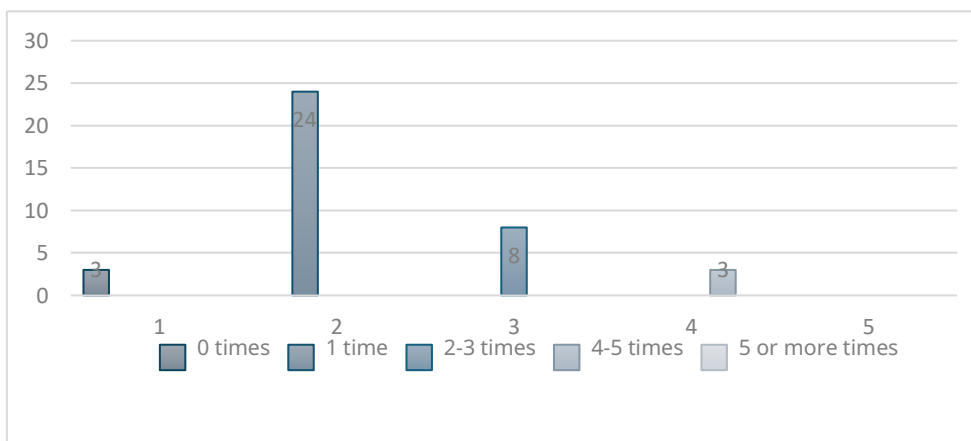


*Note:* Table 9. Questionnaire for parents, Instrument N°2. Obregón, (2025)

The following graph shows the five days of the week on which students used the app at home. The results indicate that Wednesday showed the highest level of app usage, which was influenced by the fact that phonics lessons in the classroom were conducted on Wednesdays. As a result, students demonstrated greater interest in reinforcing at home the content previously covered in class.

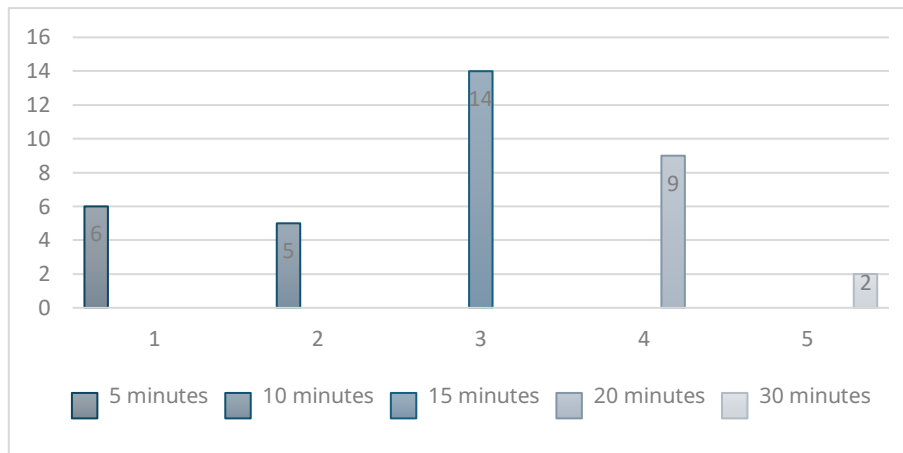
**Figure 31**

*FREQUENCY OF USE PER DAY*



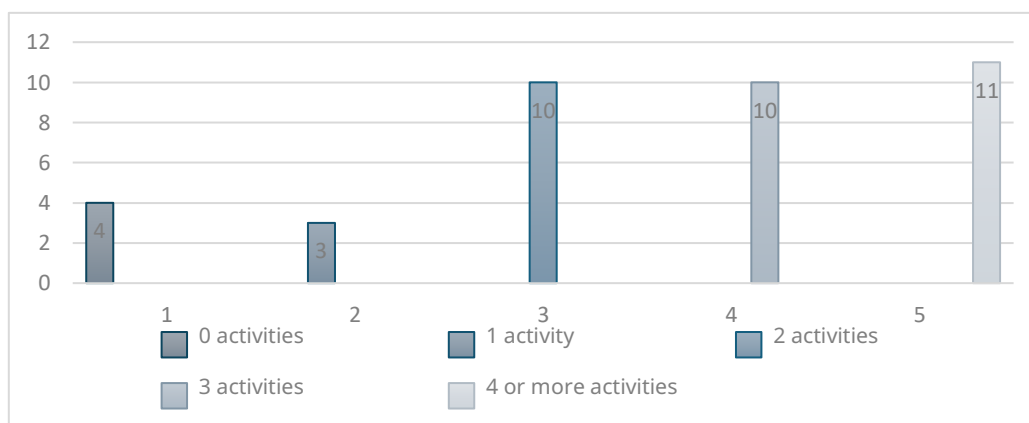
*Note:* Table 8. Questionnaire for parents, Instrument N°2. Obregón, (2025)

This graph shows the numbers of times students used the app at home. The results indicate that the highest percentage corresponds to 24 responses, reporting usage of once a day, followed by 8 responses indicating use two to three times a day. These findings demonstrate that the app was mostly used once per day at home.

**Figure 32***TIME USE PER DAY*

Note : Table 9. Questionnaire for parents, Instrument N°2. Obregón, (2025)

This graph shows the amount of time students spend using the app per day at home. The results indicate that the highest percentage corresponds to 15 minutes of daily use, suggesting that the app was mainly used as a short and consistent reinforcement tool for the learning activities covered in the classroom.

**Figure 33***NUMBER OF ACTIVITIES COMPLETED*





Note: Table 8. Questionnaire for parents, Instrument N°2. Obregón, (2025)

The following graph shows the number of activities students completed during their daily at home sessions. The results indicate that the highest number of responses corresponds to completing four or more activities, reflecting that most students completed a considerable number of activities in each session.

The third instrument applied in this research was a pretest and posttest focused on alphabet sound accuracy. This instrument consisted of six questions designed to measure students' accuracy in producing letter sounds. Students' responses were classified using a three point scale, where 1 indicated not achieved, 2 indicated in progress, and 3 indicated achieved.

**Table 10**

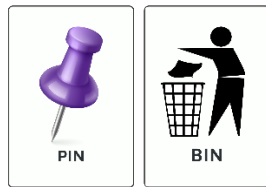
*Pretest alphabet sound accuracy*

#	Question	Scale		
		1 Not achieved	2 In progress	3 Achieved
1	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">             CAT         </div> <div style="text-align: center;">             BAT         </div> </div>	15	2	0
	Produces minimal pair words accurately.			
	Identify the initial sound of the words /k/ and /b/.	13		0
2	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">             PAT         </div> <div style="text-align: center;">             BAT         </div> </div>	14	3	0
	Produces minimal pair words accurately.			

---

Identify the initial sound of the words 13 4 0  
/p/ and /b/.

3



Produces minimal pair words 13 4 0  
accurately.

Identify the initial sound of the words 13 4 0  
/p/ and /b/.

4



Produces minimal pair words 13 4 0  
accurately.

Identify the initial sound of the words 13 4 0  
/p/ and /b/.

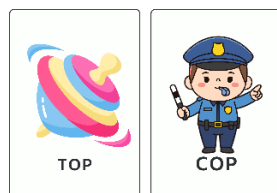
5



Produces minimal pair words 13 4 0  
accurately.

Identify the initial sound of the words 14 3 0  
/m/ and /b/.

6

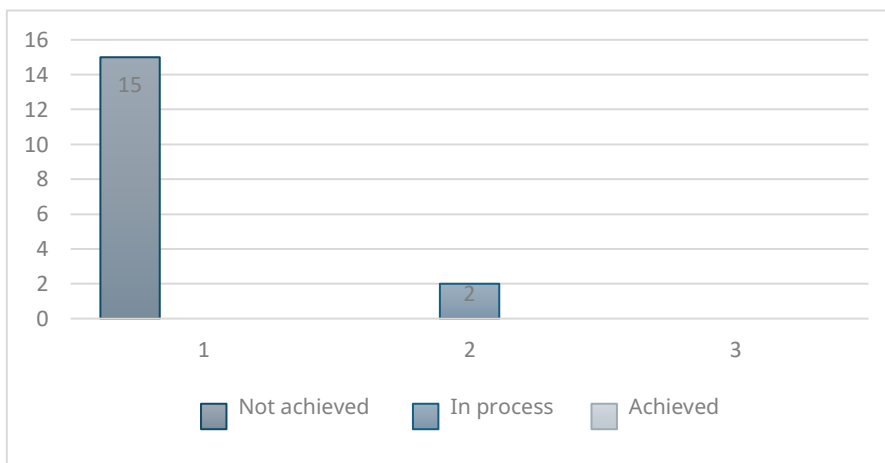


Produces minimal pair words accurately.	13	4	0
Identify the initial sound of the words /t/ and /k/.	13	4	0

*Note:* This table represents the results obtained from the alphabet sound accuracy pretest, which aimed to assess the student's level of accuracy in identifying and pronouncing alphabet sounds prior to the implementation of the designed instructional strategies and pedagogical techniques. The collected data provides insight into the student's initial performance levels and allows for comparison with the results obtained after the use the app.

**Figure 34**

*PRODUCES MINIMAL PAIR WORDS ACCURATELY*

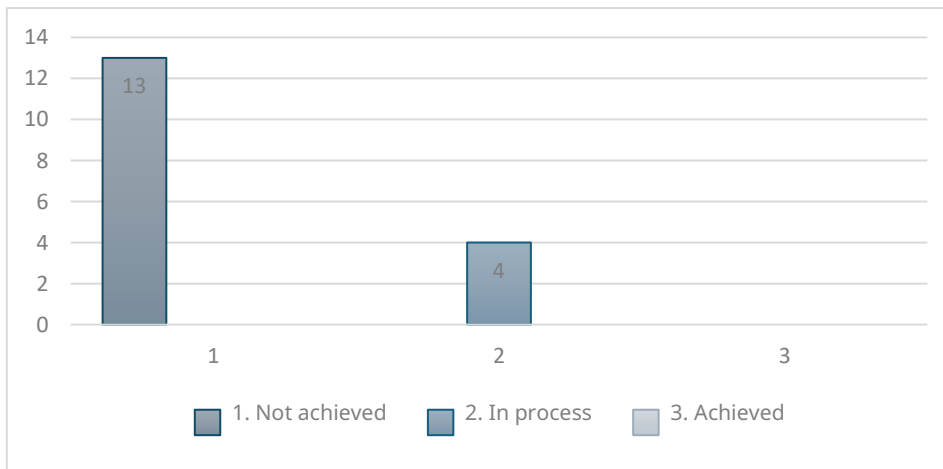


*Note:* Table 10. Pretest alphabet sound accuracy, Instrument N°2. Obregón, (2025)

This figure presents the results related to the accurate production of the minimal pair cat-bat, in which students were required to name each card according to the image shown. The results indicate that 15 students did not accurately produce the minimal pair words, while 2 students are still in progress.

**Figure 35**

*IDENTIFY THE INITIAL SOUND OF THE WORDS /K/ AND /B/*

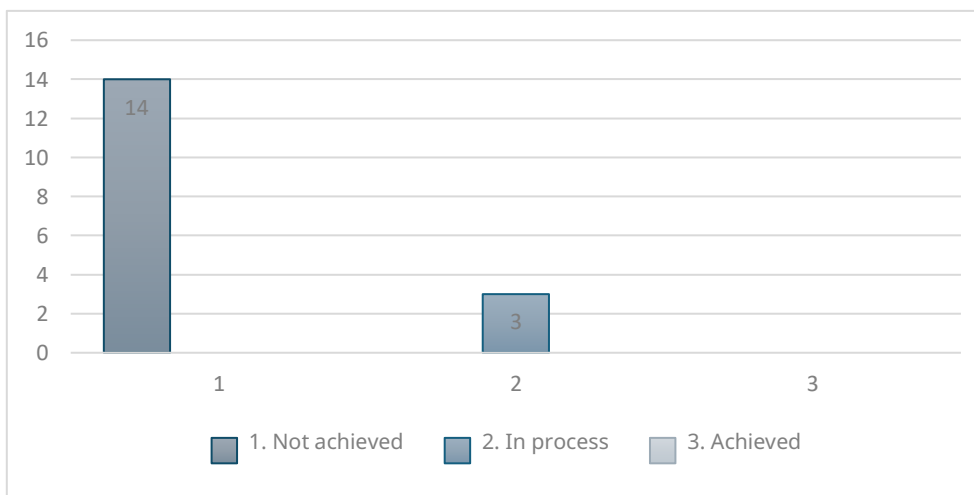


Note: Table 10. Pretest alphabet sound accuracy, Instrument N°2. Obregón, (2025)

This figure presents the pretest results for the minimal pair cat – bat, the data show that 13 students did not achieve correct sound differentiation, while 4 students are still in progress, indicating initial difficulties in discriminating these phonemes.

**Figure 36**

*PRODUCES MINIMAL PAIR WORDS ACCURATELY*



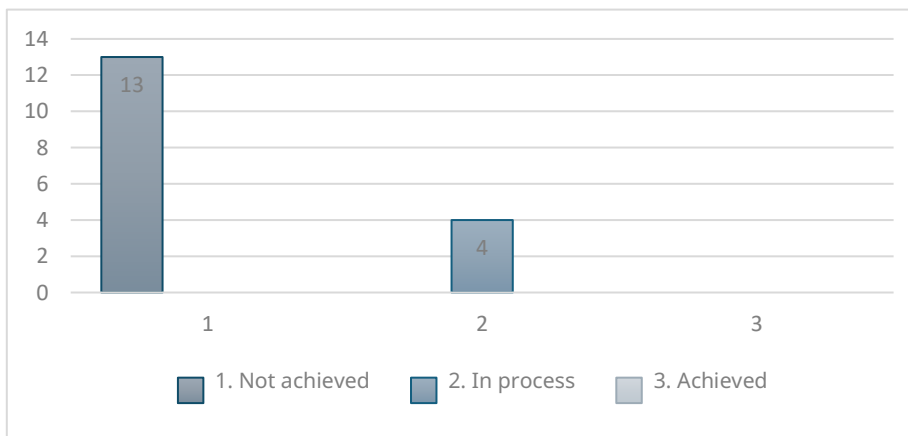
Note: Table 10. Pretest alphabet sound accuracy, Instrument N°2. Obregón, (2025)

The following graph shows the results obtained from applying the pretest on word production accuracy to the students, using minimal pair flashcards corresponding to pat and

bat. The results indicate that 3 students are still in progress, as they experienced difficulties accurately producing the words associated with the initial sounds /p/ an /b/.

**Figure 37**

*IDENTIFY THE INITIAL SOUND OF THE WORDS /P/ AND /B/*

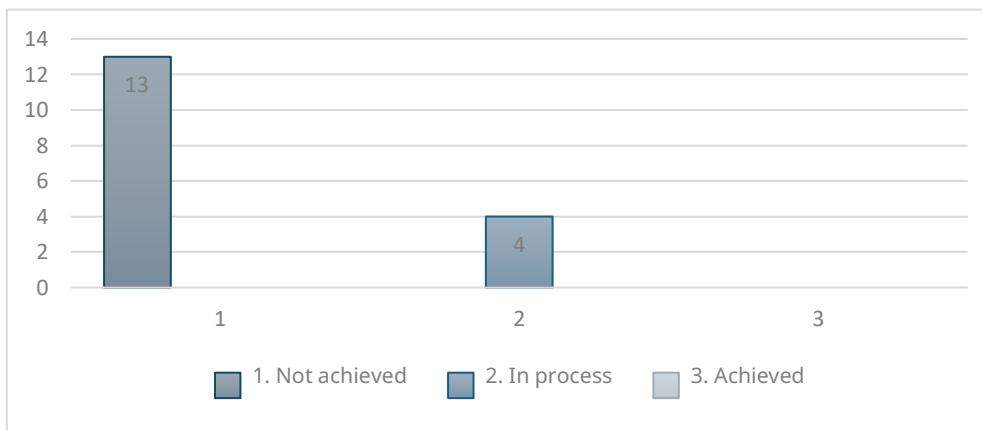


*Note:* Table 10. Pretest alphabet sound accuracy, Instrument N°2. Obregón, (2025)

The results shown in this figure correspond to the minimal pair pat-bat. The data indicates that 13 students did not achieve the expected performance, while 4 students remain in progress, reflecting the need to reinforce sound production and discrimination.

**Figure 38**

*PRODUCES MINIMAL PAIR WORDS ACCURATELY*

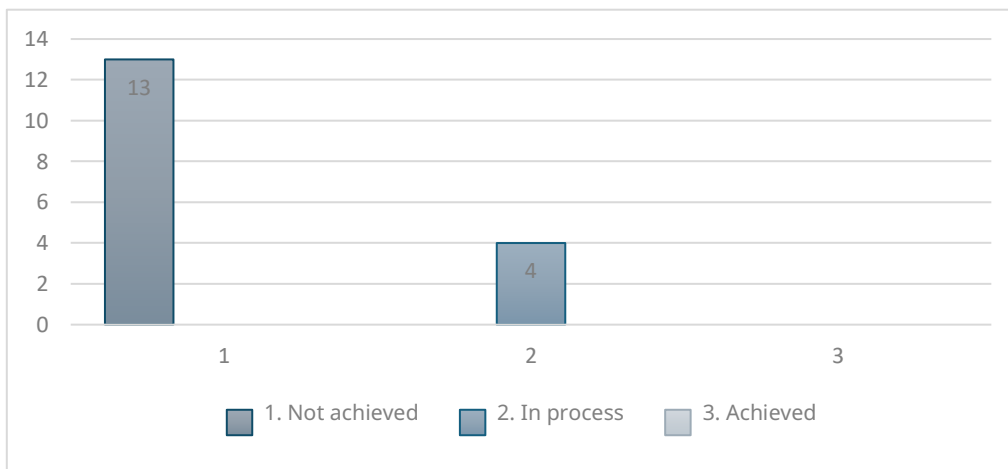


*Note:* Table 10. Pretest alphabet sound accuracy, Instrument N°2. Obregón, (2025)

The following graph shows the accuracy demonstrated by students in the question related to the minimal pairs pin and bin. According to the results, only 4 out of 17 students are in progress, while the remaining 13 students did not achieve the expected level of accuracy in word production.

**Figure 39**

*IDENTIFY THE INITIAL SOUND OF THE WORDS /P/ AND /B/*

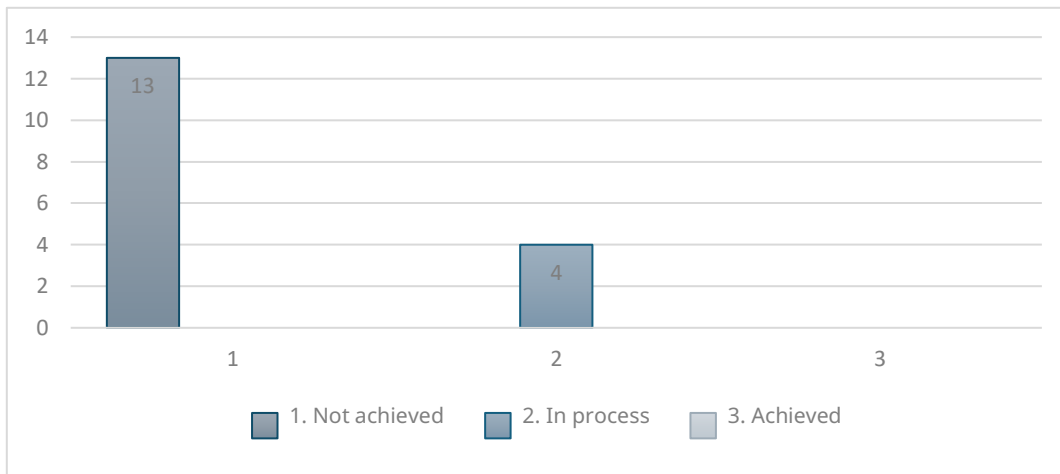


*Note:* Table 10. Pretest alphabet sound accuracy, Instrument N°2. Obregón, (2025)

This figure shows students' performance on the minimal pair pin-bin. The results reveal that 13 students did not correctly differentiate the sounds, while 4 students are still in progress, indicating difficulties in identifying these phonemes

**Figure 40**

*PRODUCES MINIMAL PAIR WORDS ACCURATELY*

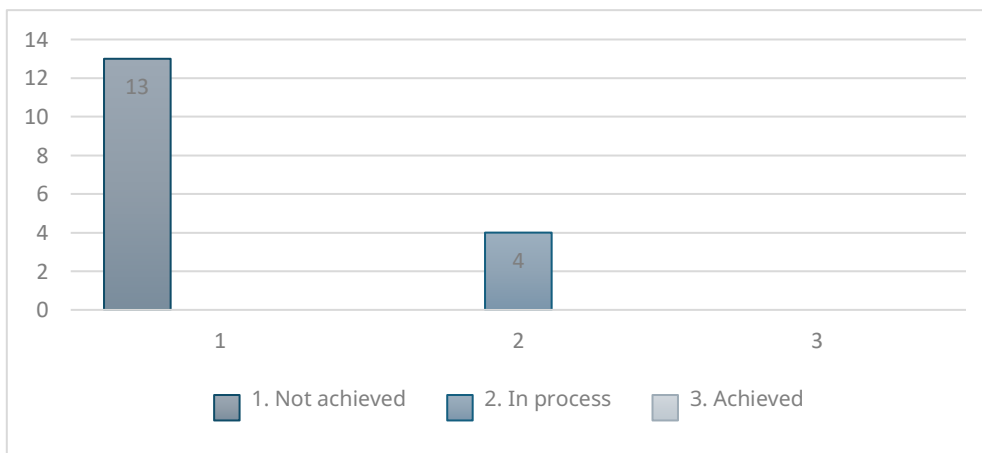


*Note:* Table 10. Pretest alphabet sound accuracy, Instrument N°2. Obregón, (2025)

This graph presents the results related to oral production accuracy of the minimal pairs pan and ban. The data show that 4 students are still in progress, while 13 students did not accurately produce the words, evidencing difficulties in differentiating the initial sounds /p/ and /b/.

**Figure 41**

*IDENTIFY THE INITIAL SOUND OF THE WORDS /P/ AND /B/*



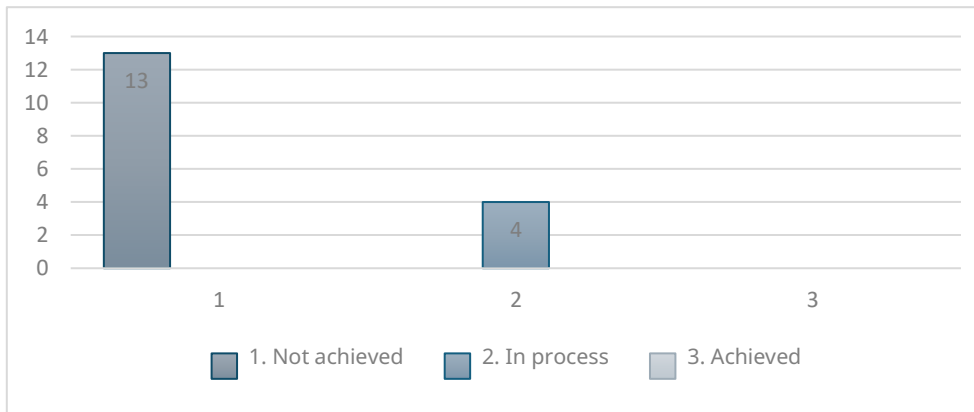
*Note:* Table 10. Pretest alphabet sound accuracy, Instrument N°2. Obregón, (2025)

This figure presents the pretest results for the minimal pair pan-ban. The data show that 13 students did not correctly differentiate the sounds, while 4 students are still in

progress, indicating initial difficulties in discriminating against these phonemes and the need for reinforcement.

**Figure 42**

*PRODUCES MINIMAL PAIR WORDS ACCURATELY*

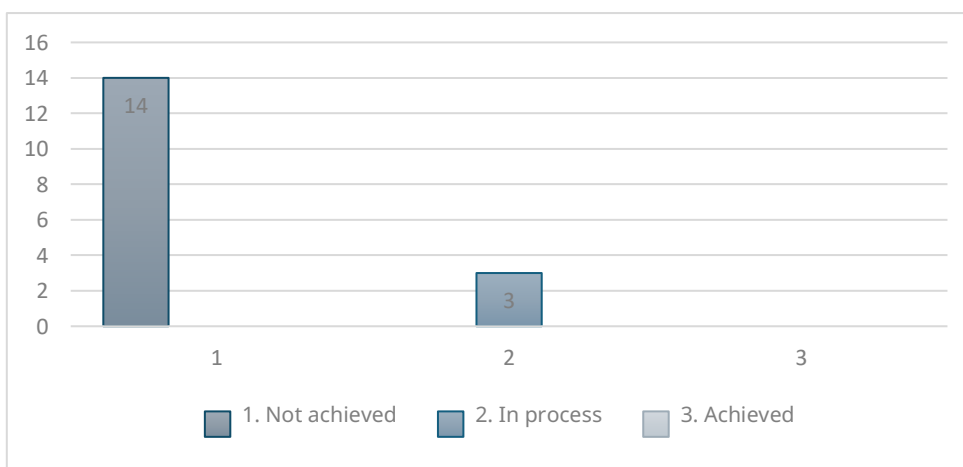


*Note:* Table 10. Pretest alphabet sound accuracy, Instrument N°2. Obregón, (2025)

This graph shows the results related to the accuracy in producing the minimal pairs mat and bat. The findings indicate that 4 students are still in progress, while 13 students did not accurately produce the words, reflecting difficulties in articulating and differentiating the initial sounds /m/ and /b/.

**Figure 43**

*IDENTIFY THE INITIAL SOUND OF THE WORDS /M/ AND /B/*

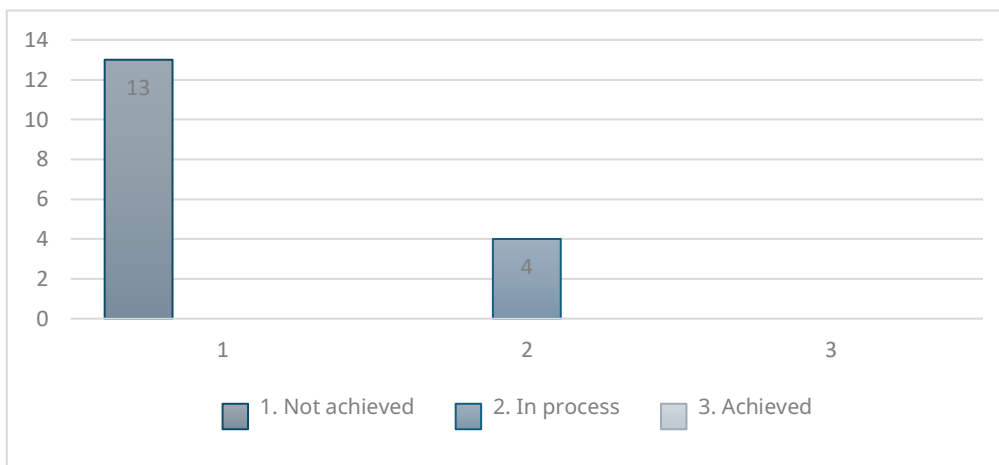


Note: Table 10. Pretest alphabet sound accuracy, Instrument N°2. Obregón, (2025)

The results of this figure correspond to the minimal pair mat-bat. The data indicate that 14 students did not correctly produce the distinction between the sounds, while 3 students are still in progress, highlighting the need for continued practice with these phonemes.

**Figure 44**

*PRODUCES MINIMAL PAIR WORDS ACCURATELY*

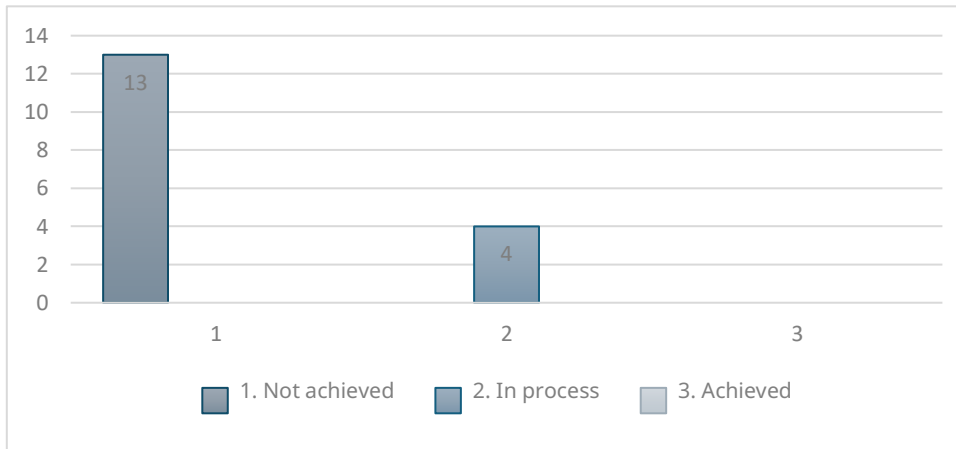


Note: Table 10. Pretest alphabet sound accuracy, Instrument N°2. Obregón, (2025)

The graph presents the result related to the accurate production of the minimal pairs top and cop. The data reveal that 4 students are still in progress, while 13 students did not achieve the expected level of accuracy, suggesting difficulties in the discrimination and production of the initial sounds /t/ and /k/.

**Figure 45**

*IDENTIFY THE INITIAL SOUND OF THE WORDS /T/ AND /K/*




*Note:* Table 10. Pretest alphabet sound accuracy, Instrument N°2. Obregón, (2025)

This figure shows the results for the minimal pair top-cop. The findings indicate that 13 students did not adequately differentiate the initial sounds, while 4 students remain in progress, reflecting difficulties in phoneme discrimination.

**Table 11**

*Posttest alphabet sound accuracy*

#	Question	Scale		
		1 Not achieved	2 In progress	3 Achieved
1				
	Produces minimal pair words accurately.	0	6	11
	Identify the initial sound of the words /k/ and /b/.	0	7	10

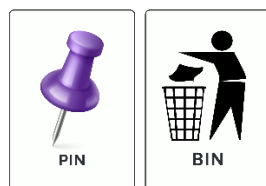
2



Produces minimal pair words 0 6 11  
accurately.

Identify the initial sound of the words 0 8 9  
*/p/ and /b/.*

3



Produces minimal pair words 0 6 11  
accurately.

Identify the initial sound of the words 0 5 12  
*/p/ and /b/.*

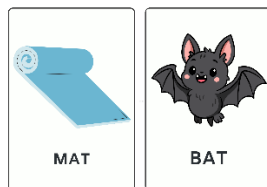
4



Produces minimal pair words 0 6 11  
accurately.

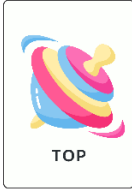

Identify the initial sound of the words 0 8 9  
*/k/ and /b/.*

5



Produces minimal pair words 0 7 10  
accurately.

---

Identify the initial sound of the words	0	8	9
<i>/m/ and /b/.</i>			
6			
Produces	minimal	pair	words
accurately.	0	7	10
Identify the initial sound of the words	0	7	10
<i>/t/ and /k/.</i>			

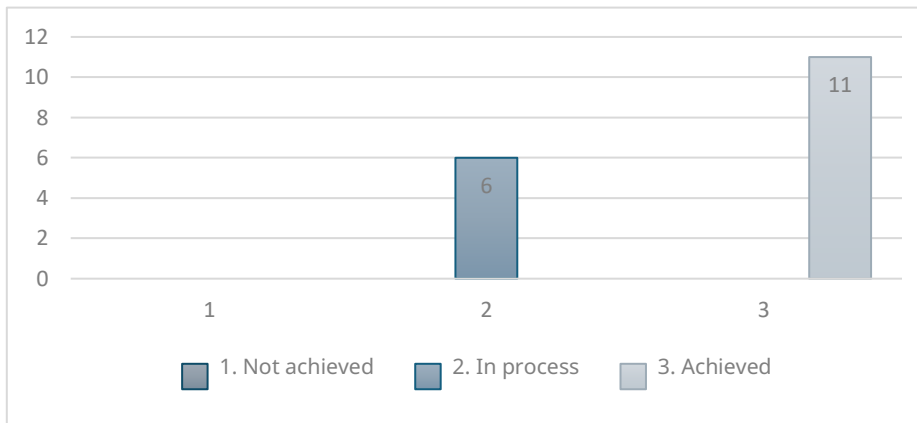
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*Note:* This table represents the results obtained from the instrument assessing accuracy in the identification of alphabet sounds, corresponding to the posttest applying after the implementation of the lesson plan. This included the use of the Starfall ABC app as a teaching resource to strengthen phonetic learning. The results show positive progress in students' performance, reflected in greater accuracy in identifying alphabet sounds when compared to the pretest results.

Likewise, when comparing the pretest and posttest results, a direct relationship can be defined between the time spent using the app and the level of accuracy achieved by the students. This progress suggests that increased exposure and practice through the application contributed significantly to the development of alphabet sound identification skills, thereby confirming the effectiveness of interactive digital tools in the teaching-learning process for 4 to 5 years old students.

**Figure 46**

*PRODUCES MINIMAL PAIR WORDS ACCURATELY*

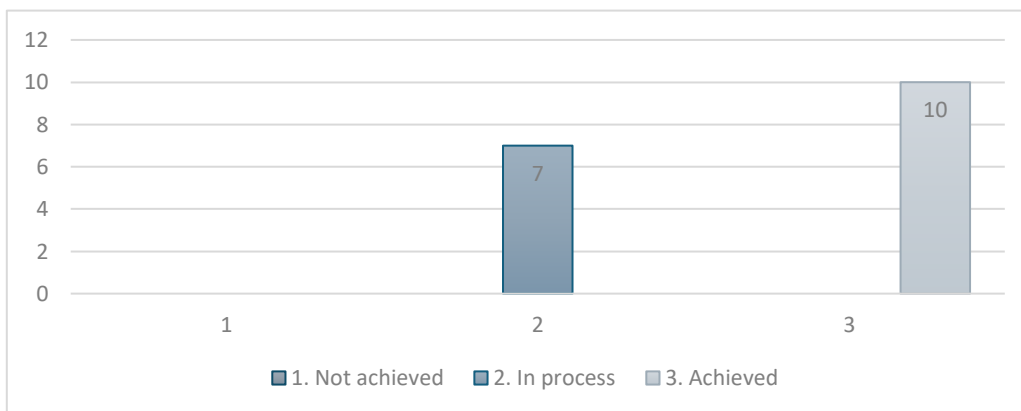


*Note:* Table 11. Posttest alphabet sound accuracy, Instrument N°2. Obregón, (2025)

This graph presents the posttest results related to the accurate production of the minimal pairs cat and bat. The findings indicate that 11 students successfully produced the words accurately, while 6 students remain in progress, demonstrating a significant improvement in sound production compared to the pretest results.

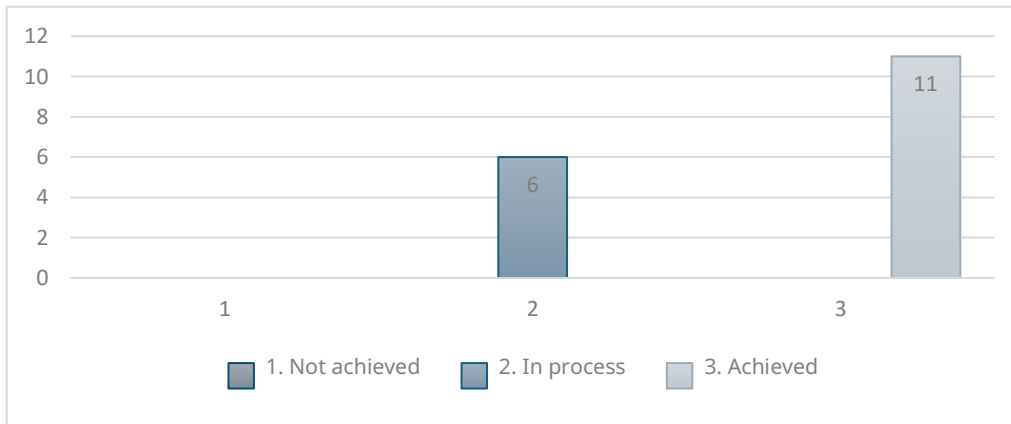
**Figure 47**

*IDENTIFY THE INITIAL SOUND OF THE WORDS /K/ and /B/*



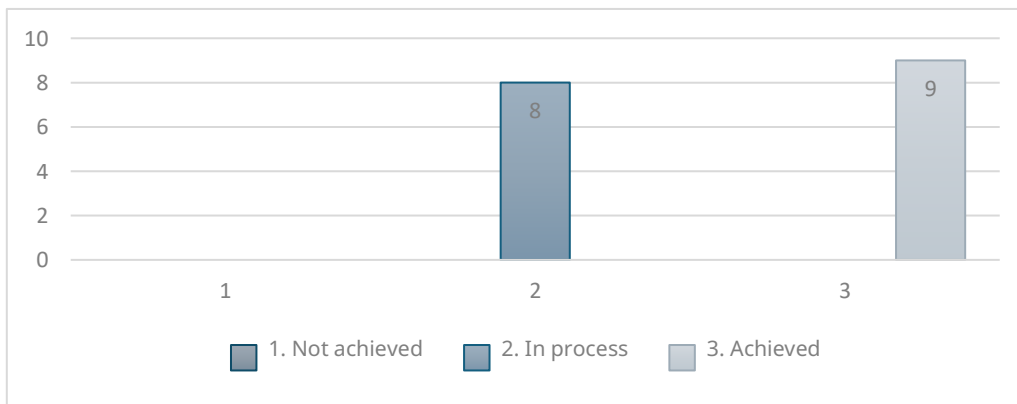
*Note:* Table 11. Posttest alphabet sound accuracy, Instrument N°2. Obregón, (2025)

This graph presents the posttest results related to the identification of the initial sounds /k/ and /b/ after the use of the Starfall ABC app. The findings show that 10 students successfully identified the initial sounds, while 7 students are still in progress, demonstrating progress in phonological recognition.

**Figure 48***PRODUCES MINIMAL PAIR WORDS ACCURATELY*

*Note:* Table 11. Posttest alphabet sound accuracy, Instrument N°2. Obregón, (2025)

This graph examines students' accuracy in the posttest on minimal pairs production, specifically pat and bat, following the use of the Starfall ABC app. The results show that 11 students achieved accurate word production, while 6 students are still in progress, suggesting improvement in the differentiation and articulation of the sounds /p/ and /b/.

**Figure 49***IDENTIFY THE INITIAL SOUND OF THE WORDS /P/ and /B/*

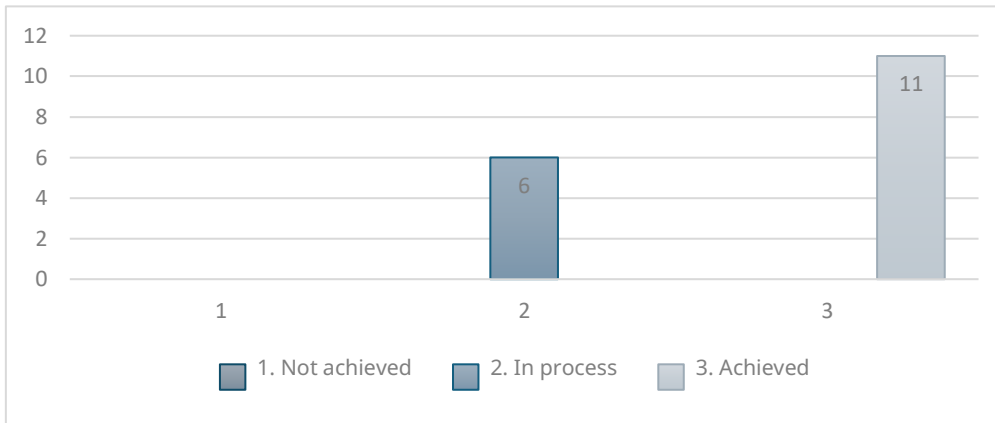
*Note:* Table 11. Posttest alphabet sound accuracy, Instrument N°2. Obregón, (2025)

The results present in this figure allow observation of students' initial sound recognition of /p/ and /b/ at the end of the use the Starfall ABC app. The findings indicate

that 9 students correctly identified both sounds, while 8 students still experience difficulties although improvement is observed compared to the pretest.

**Figure 50**

*PRODUCES MINIMAL PAIR WORDS ACCURATELY*

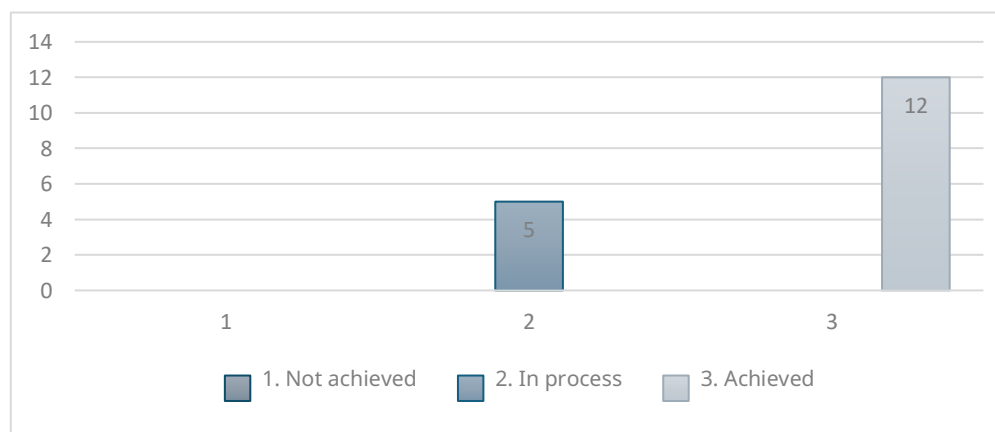


*Note:* Table 11. Posttest alphabet sound accuracy, Instrument N°2. Obregón, (2025)

An analysis of this figure highlights student's performance in the accurate production of the minimal pair pin and bin following the intervention. The results show that 11 students successfully produced the words, while 6 students remain in progress, reflecting improvement in the differentiation of the sounds /p/ and /b/, though further reinforcement is still needed.

**Figure 51**

*IDENTIFY THE INITIAL SOUND OF THE WORDS /P/ and /B/*

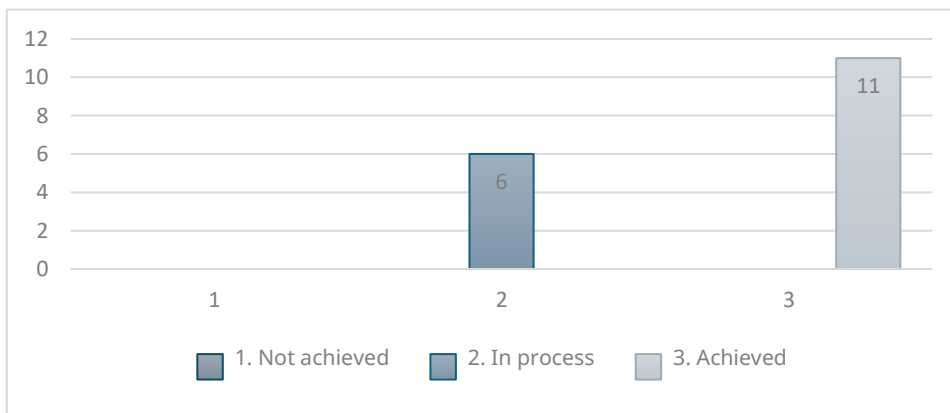


*Note:* Table 11. Posttest alphabet sound accuracy, Instrument N°2. Obregón, (2025)

The results related to the identification of the initial sounds /p/ and /b/ reveal a higher level of phonological recognition, as 12 students successfully identified both sounds, while 5 students remain in progress, suggesting a gradual consolidation of this skill.

**Figure 52**

*PRODUCES MINIMAL PAIR WORDS ACCURATELY*

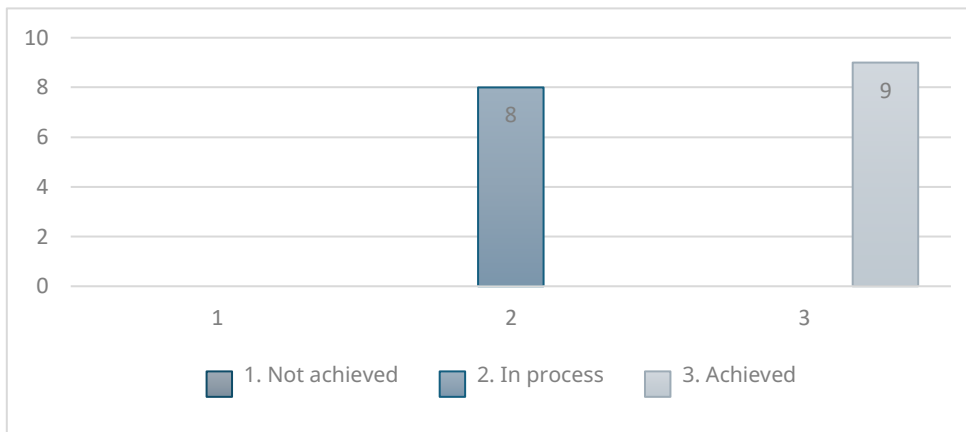


*Note:* Table 11. Posttest alphabet sound accuracy, Instrument N°2. Obregón, (2025)

This figure illustrates students' performance in the oral production of the minimal pair pan and ban after using the Starfall ABC app. The results indicate that 11 students achieved accurate production, while 6 students are still in progress, demonstrating improvement in the articulation of these initial sounds.

**Figure 53**

*IDENTIFY THE INITIAL SOUND OF THE WORDS /P/ and /B/*

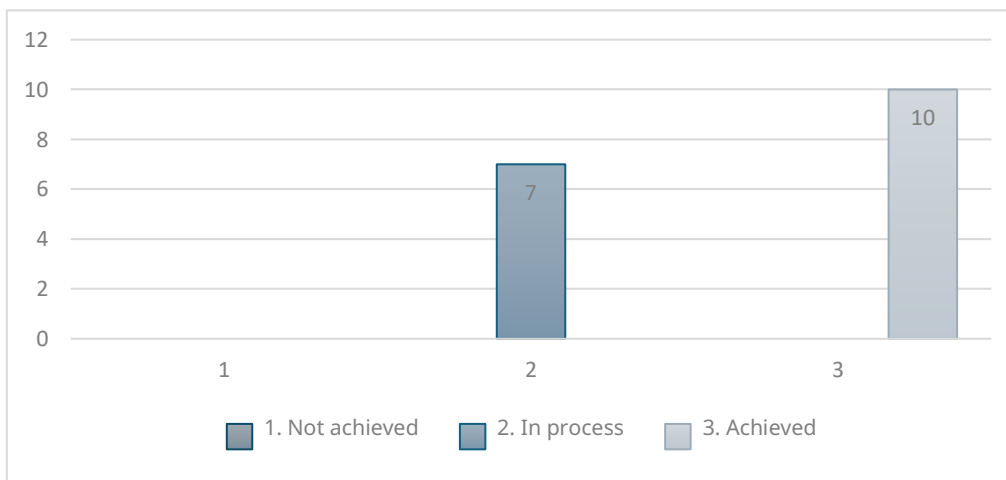


*Note:* Table 11. Posttest alphabet sound accuracy, Instrument N°2. Obregón, (2025)

When analyzing the identification of the initial sounds /p/ and /b/, the results show that 9 students successfully recognized the sounds, while 8 students continue to experience difficulties, suggesting the need for continued reinforcement in some cases.

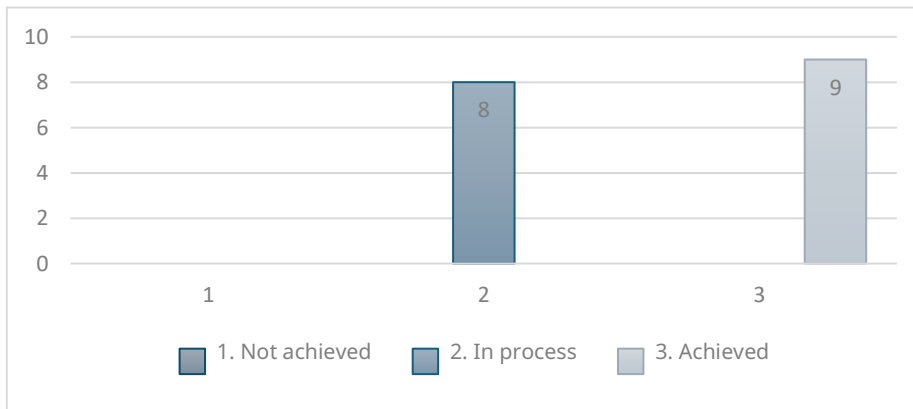
**Figure 54**

*PRODUCES MINIMAL PAIR WORDS ACCURATELY*



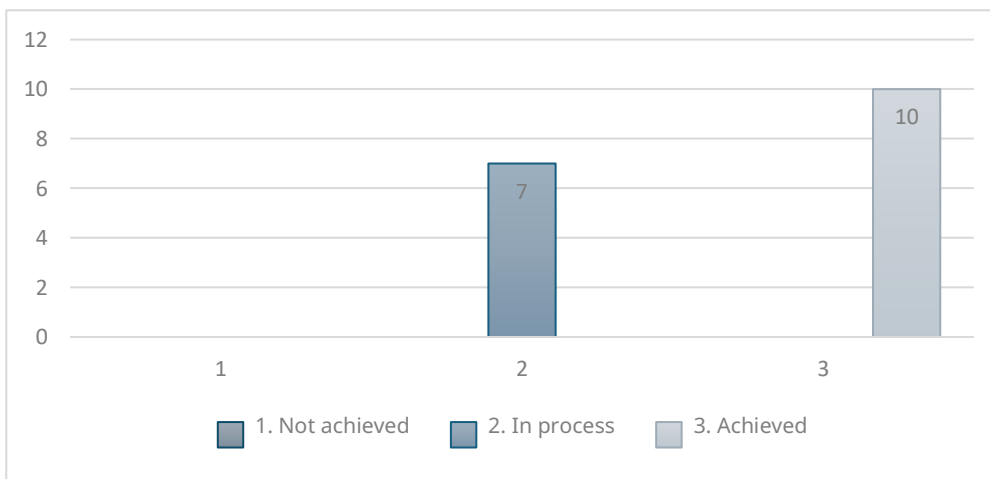
*Note:* Table 11. Posttest alphabet sound accuracy, Instrument N°2. Obregón, (2025)

The data presented in this figure reflect students' level of performance in the production of the minimal pair mat and bat. The results show that 10 students accurately produced the words, while 7 students remain in progress, indicating improvement in differentiating the sounds /m/ and /b/, though variability remains across the group.

**Figure 55***IDENTIFY THE INITIAL SOUND OF THE WORDS /M/ and /B/*

*Note:* Table 11. Posttest alphabet sound accuracy, Instrument N°2. Obregón, (2025)

Regarding the identification of the initial sounds /m/ and /b/, the results show that 9 students correctly recognized the sounds, while 8 students remain in progress, indicating moderate progress in phonological recognition of these phonemes.

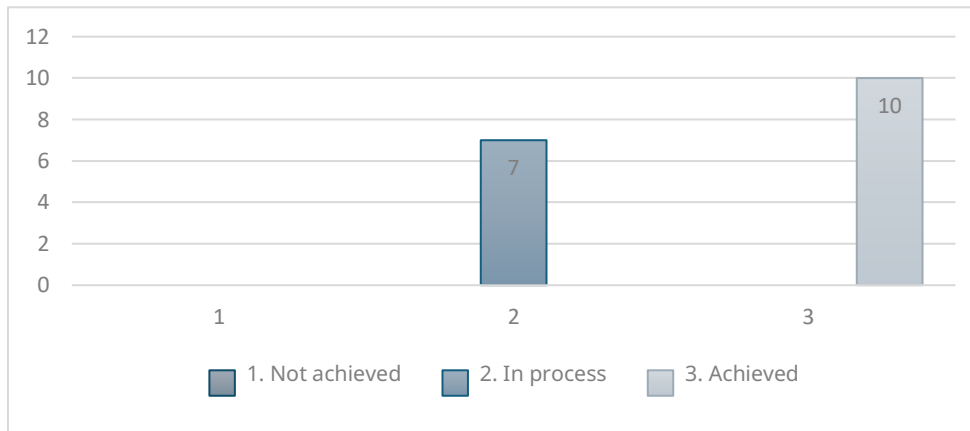
**Figure 56***PRODUCES MINIMAL PAIR WORDS ACCURATELY*

*Note:* Table 11. Posttest alphabet sound accuracy, Instrument N°2. Obregón, (2025)

This graph allows observation of the results obtained in the production of the minimal pair top and cop. The data indicates that 10 students accurately produced the words, while 7 students remain in progress, suggesting improvement in differentiating the sounds /t/ and /k/.

**Figure 57**

*IDENTIFY THE INITIAL SOUND OF THE WORDS /T/ and /K/*



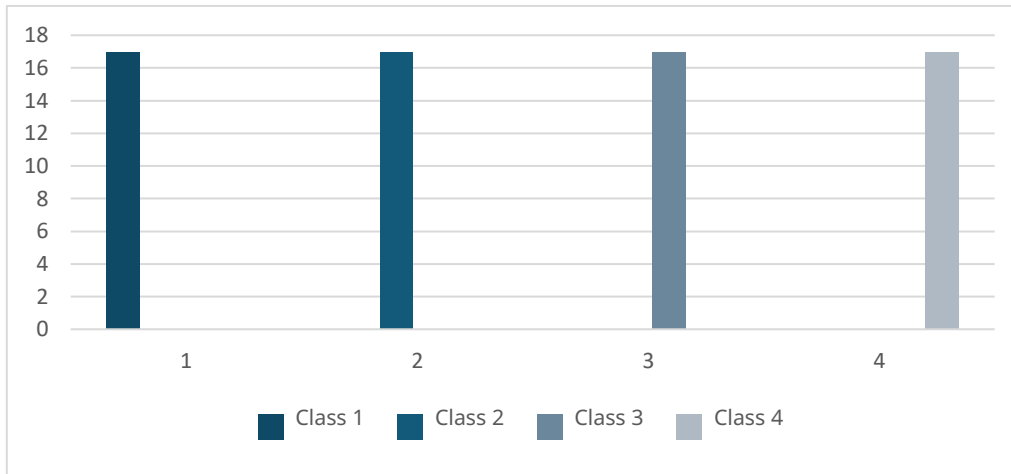
*Note:* Table 11. Posttest alphabet sound accuracy, Instrument N°2. Obregón, (2025)

Finally, the results related to the identification of the initial sounds /t/ and /k/ show that 10 students successfully recognized the sounds, while 7 students remain in progress, demonstrating sustained progress in phonological recognition after the intervention.

The third instrument applied in this research was a quantitative observation of daily work, which consists of a form of 4 questions, where the teacher per session notes the process of each student individually, marking the class session, the frequency of use per class, the time used per class and the number of activities completed by each student per class, in order to obtain a record of progress in the class time of each student.

**Figure 58**

*CLASS SESSION*

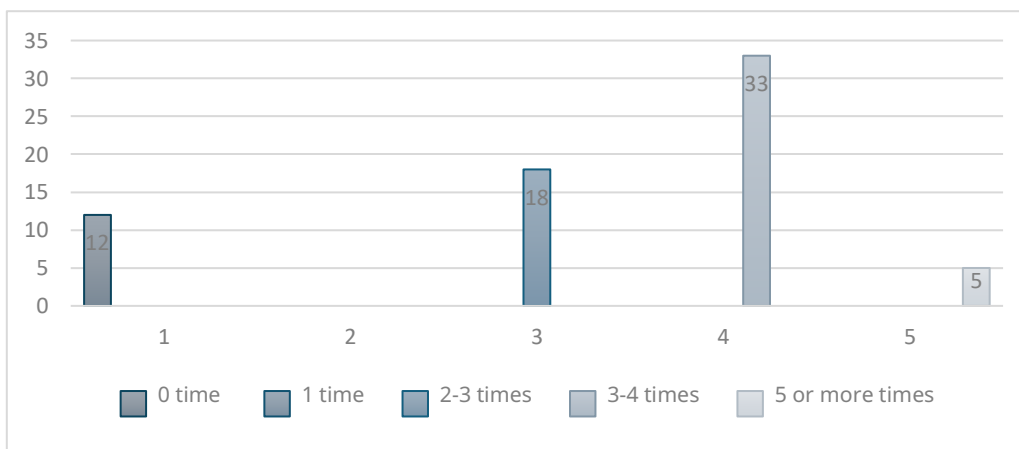


*Note:* Quantitative observations of daily work, Instrument N°3. Obregón, (2025)

This figure shows the sessions in which a quantitative observation was conducted in order to collect information about the teaching-learning process of the students during the acquisition of phonemes using the Starfall ABC app.

**Figure 59**

*FREQUENCY OF USE PER CLASS SESSION*



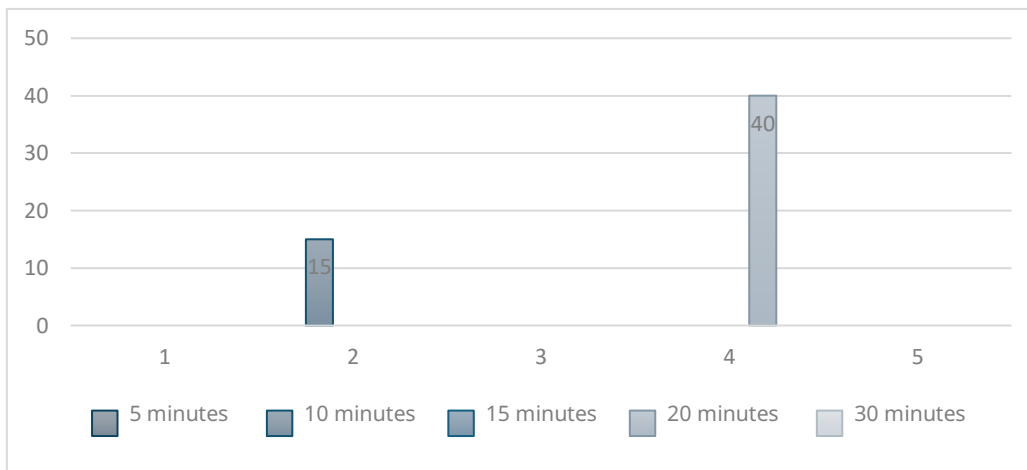
*Note:* Quantitative observations of daily work, Instrument N°3. Obregón, (2025)

The following table presents the frequency of use of the application per class, The results show that, throughout the four sessions, the highest level of use ranged from 3 to 4 times per class, which supports the information previously in the theoretical framework regarding the recommended number of times children should be exposed to technology.

In addition, a second percentage is observed corresponding to a frequency of 2 times per class, with a total of 18 records, which is considered a normal frequency of application use in the classroom with 4 to 5 years old students.

**Figure 60**

*TIME USED PER CLASS SESSION*



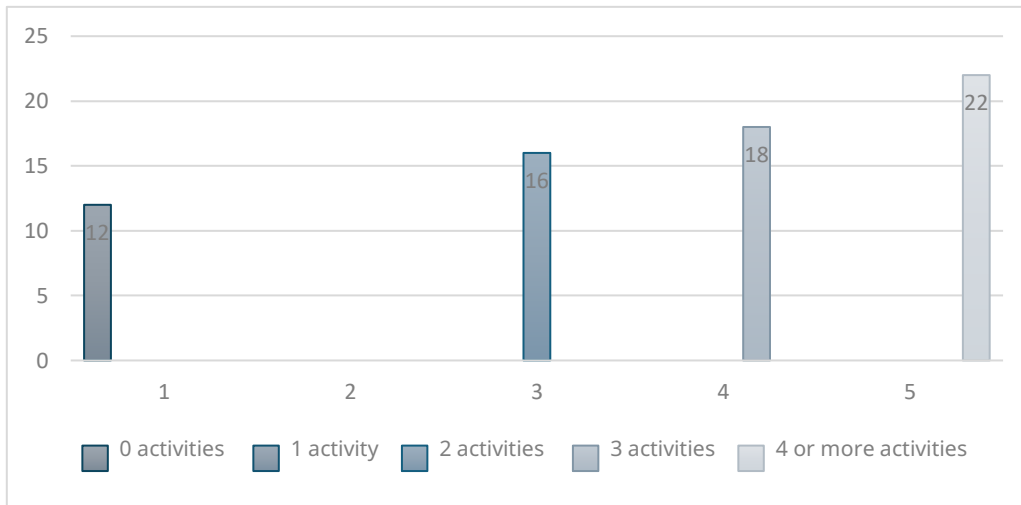
*Note:* Quantitative observations of daily work, Instrument N°3. Obregón, (2025)

This table presents the data obtained through observation regarding the time of application use per class, which ranged between 10 and 20 minutes. It is important to note that order instructional strategies previously mentioned in the theoretical framework were also implemented during the lessons, and that the use of the application positively reinforced students learning.

Therefore, it is concluded that the average time in which the application was used during phonics with preschool students was effective for their learning process.

**Figure 61**

*NUMBER OF ACTIVITIES COMPLETED PER CLASS SESSION*



*Note:* Quantitative observations of daily work, Instrument N°3. Obregón, (2025)

This graph shows the number of activities completed per sessions. The results indicate that students were able to complete between 2 and 4 activities, however, a percentage of students, for different reasons, were absent from some of the sessions.

These absences are also reflected in other assessment instruments applied, which affected their ability to achieve the expected learning outcomes and the proposed results.

**CAPÍTULO V:**  
**CONCLUSIONS AND RECOMMENDATIONS**

## 5.1 CONCLUSIONS

This research allows us to analyze the impact of using Starfall ABC app in improving the identification of alphabet sounds in 4 to 5 years old students. Based on the results obtained, specific conclusions associated with the research objectives are presented, considering theoretical, educational and methodological contributions relevant to preschool education.

### 5.1.1 Conclusions for the first specific objective

The results of the study indicate that the use of the Starfall ABC app significantly contributed to improving the identification of alphabet sounds among preschool students aged 4 to 5, facilitating a more dynamic, innovative, and creative process.

The organized and structured teaching of phonemes and graphemes facilitated progressive learning, improving accuracy in the recognition of initial sounds and strengthening the foundations of early literacy. This is one of the reasons why the research focuses on the importance of teaching letters according to the order and age provided by researchers, to achieve meaningful learning appropriate to the student's age.

Using the Starfall ABC app, the students also showed a process of vocabulary acquisition that contributed positively to the results, since the students, in addition to recognizing the phonemes individually, were able to recognize initial sounds among words and discriminate those that were similar; this is achieved with the learning of the sounds worked on.

It was also evidenced that the role of the teacher is fundamental as a guide and mediator in the implementation of technological tools within the classroom, guiding and accompanying the learning process. The students assumed a more active and participatory role, interacting with digital resources and strengthening their skills in recognizing the sounds of the alphabet in a meaningful way.

However, certain limitations were identified, such as frequent student absences, which limited continuous exposure to the planned activities. These factors highlight the importance of continuity and implement support strategies to provide equal learning for all students.

### **5.1.2 Conclusions for the second specific objective**

The findings allow the conclusion that there is a positive relationship between the amount of time spent using the Starfall ABC app and the accuracy of alphabet sound identification. It has therefore been concluded that the implementation of the application in preschool classrooms significantly benefits the teaching-learning process in students, achieving positive results that contribute to their phonological development.

However, it is important to mention the time in relation to the students who used the application consistently, both in the classroom and at home, as they showed greater improvement in phoneme-grapheme correspondence and in pronunciation. Therefore, the importance of the frequency and time of use of the application is evident; greater use of this tool promotes better results in the learning process.

From an educational perspective, the support by technological resources proved to be an effective strategy for promoting meaningful learning at an early age. The integration of visual, auditory and interactive elements captured students' attention and active participation, which positively impacted their phonological performance.

It is essential to consider the daily recommended time by researchers regarding the use of technology in children, since proper and balanced use allows taking advantage of its educational benefits without generating excessive use. In this sense, establishing appropriate time limits encourages students to use tools such as the Starfall ABC application, with a purpose that promotes learning effectively.

The importance of guided repetition and frequent practice in the development of phonological awareness. Educational applications promote learner autonomy and reinforce learning outside the classroom when appropriate guidance and monitoring are provided by teachers and families.

A relevant limitation of the study was that some students did not reinforce learning at home using the app, which may have affected the consistency of the results. Therefore, future research is recommended to explore strategies for increasing family involvement in

the use of digital tools, as well as to extend the data collecting period or increase the sample size to strengthen the generalizability of the findings.

This concludes by emphasizing the importance of accompanying and supervising students both at home and at school during the use of technology, to ensure appropriate, safe, and pedagogically oriented use. This accompaniment allows enhancing the benefits of digital tools and promoting meaningful learning in students.

## **5.2 RECOMMENDATIONS**

Based on the results obtained in the present research study, the following recommendations are proposed oriented to the deficiencies, gaps, and situations identified during the analysis of the results, with the aim of strengthening the teaching-learning process of English at the preschool level.

It is recommended that the institution formally incorporate the use of the Starfall ABC app as a support in phonics at the preschool level. This will allow us to guarantee its use in the classroom and reinforce learning, particularly for groups experiencing difficulties in alphabet sound identification. In addition, it's suggested that guidance be provided to families regarding the importance of responsible use of educational applications as a complement to classroom instruction.

Teachers are encouraged to use the Starfall ABC app in a planned manner during phonics lessons to reinforce the learning of phonemes and graphemes in the classroom. The use of the app should be limited to approximately 15 to 20 minutes per session, as this timeframe proved to be effective in maintaining students' attention and promoting active engagement without causing overstimulation.

However, it's recommended that reinforcement activities be designed for students with frequent absences, allowing them to consolidate learning through guide use of the app at home and preventing learning gaps.

It's recommended that families be actively involved in the learning process by encouraging the use of the Starfall ABC app at home as a reinforcement tool, especially for students who experience frequent absences.

Finally, it's advised to complement the use of the app with the didactic activities presented in the theoretical framework , such as phonological games, multisensory activities, and oral exercises, to enrich the teaching-learning process and promote a significant learning.

## **CAPÍTULO VI: PROPOSAL**

## 6.1 Name of the proposal

Phonics in motion

## 6.2. Place of development, organization, or population involved.

The proposal will be developed at Saint Josephine Bilingual School, a preschool education institution located in Grecia, Alajuela.

The target population includes preschool students aged 4 to 5 years old who are in the process of developing early literacy and phonetic awareness.

## 6.3. Objectives of the proposal

### 6.3.1 General Objective

To design an educational action plan that incorporates the use of the Starfall ABCs app to promote phonetic learning in 4- to 5-year-old preschool students.

### 6.3.2 Specific Objectives

1. To organize the content of the Starfall ABC's app into a structural educational sequence covering all letters from A to Z.
2. To create a set of classroom resources and printable materials that complement the digital activities from Starfall ABC's.
3. To enhance the development of listening and pronunciation skills through repetition and audiovisual support.

## 6.4. Budget

**Table 12**

*Budget of the proposal*

<b>Resource</b>	<b>Estimated cost</b>
Print the flashcards	₡150 per copy
Wrap	₡200 per copy
Total estimated	₡350 per copy

*Note:* The implementation of the “Phonics in Motion” proposal requires a basic budget, as it relies mainly on the use of free digital resources and low-cost instructional materials.

### 6.5 Development of the proposal

The proposal “Phonics in Motion” aims to design a quick reference guide based on the Starfall ABC app, reinforced with the use of flashcard that includes images, vocabulary, and visual support showing the correct mouth position for each phoneme. This proposal is intended for preschool children between the ages of 4 and 5.

The guide focuses on the phoneme’s /m/, /n/, /p/, /b/, /t/, /d/, /c/, /g/, /f/, and /j/, which were selected due to their frequency and suitability for early language development. The vocabulary used is based on the content provided by the Starfall ABC app, ensuring consistency between the digital resources and the printed materials.

The proposal organizes the content of Starfall ABC into a practical and accessible format that supports teachers in the instruction of each phoneme. It includes sound recognition, grapheme association, and related vocabulary. The flashcards incorporate representative images, and visual illustrating mouth positioning, which support proper articulation and phoneme-grapheme association.

Furthermore, this proposal seeks to promote a more systematic and intentional use of the application by complementing it with concrete visual materials that enhance meaningful learning. The integration of digital resources and resources and flashcards allow for the creation of dynamic, playful, and interactive learning experiences that are developed appropriate for preschool children.

**Table 13**

*Phonics in motion*

Class session	Phonemes	Vocabulary Starfall ABC	Time
Week 1	/m/	monkey, moon, motorcycle, mask.	15 minutes
	/n/	nest, nine, number, net, pepper	15 minutes

## Week 2

pizza,pepperoni, pink, pigs, 15 minutes  
puppies.

ball, bouncing, boy, bear, big, 15 minutes  
brown,

## Week 3

/t/ tiger, ten, taxi, turtle, tunes 15 minutes

/d/ doll, dancing, ducks, dinosaur. 15 minutes

## Week 4

/c/ cat, cow, computer, camp, 15 minutes

/g/ girl, gorilla, go, green, gets, 15 minutes  
gumball

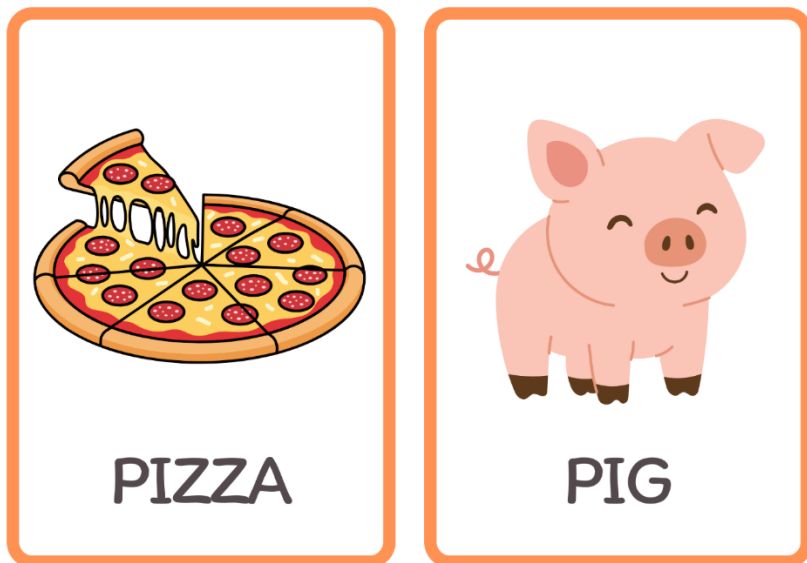
## Week 5

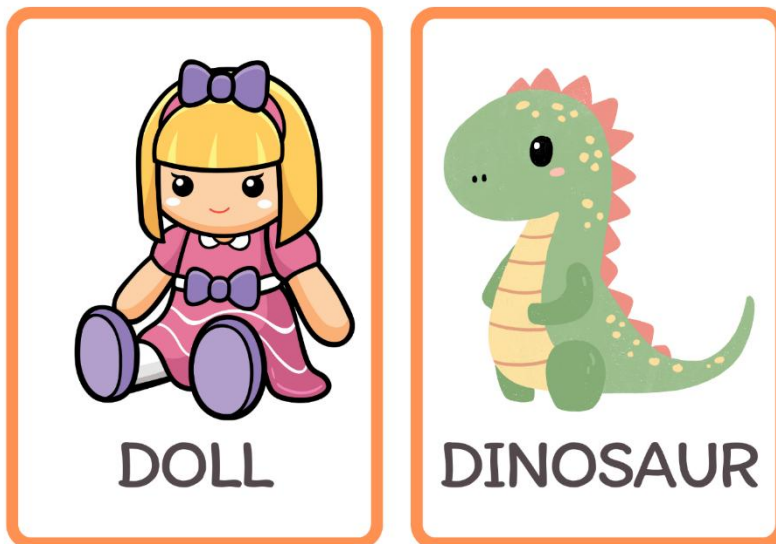
/f/ fox, fish, five, fingers, fantastic 15 minutes

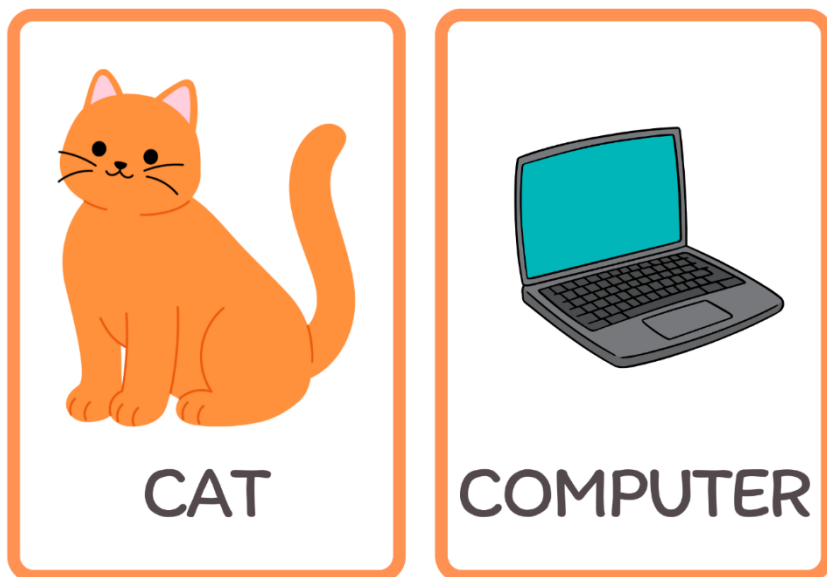
/j/ jet, jump, jellybeans, 15 minutes

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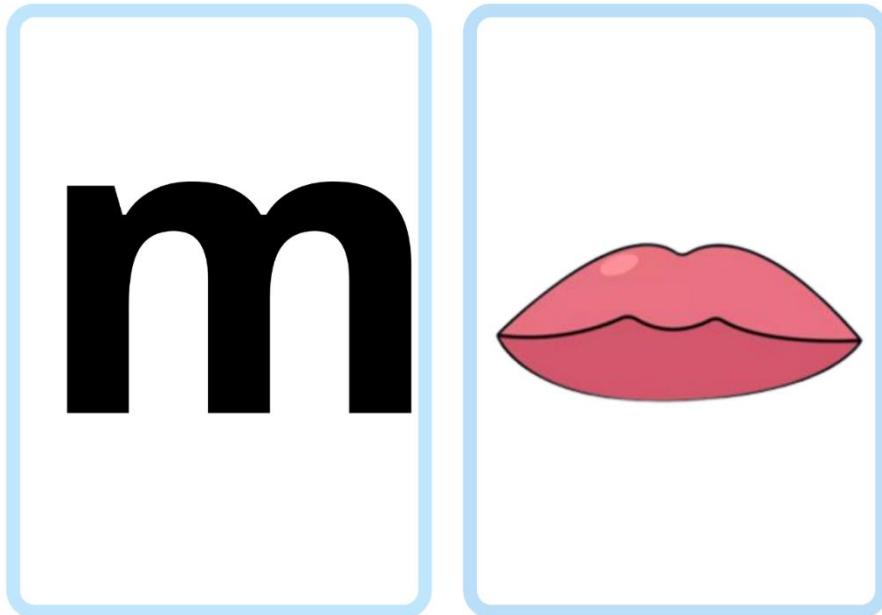
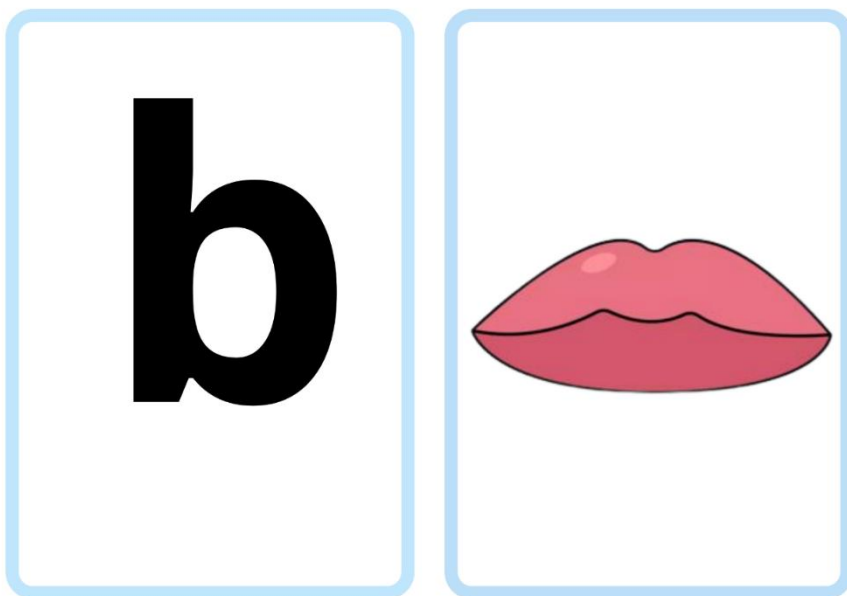
**Figure 62***FLASHCARD PHONEME /M/***Figure 63***FLASHCARD PHONEME /N/*

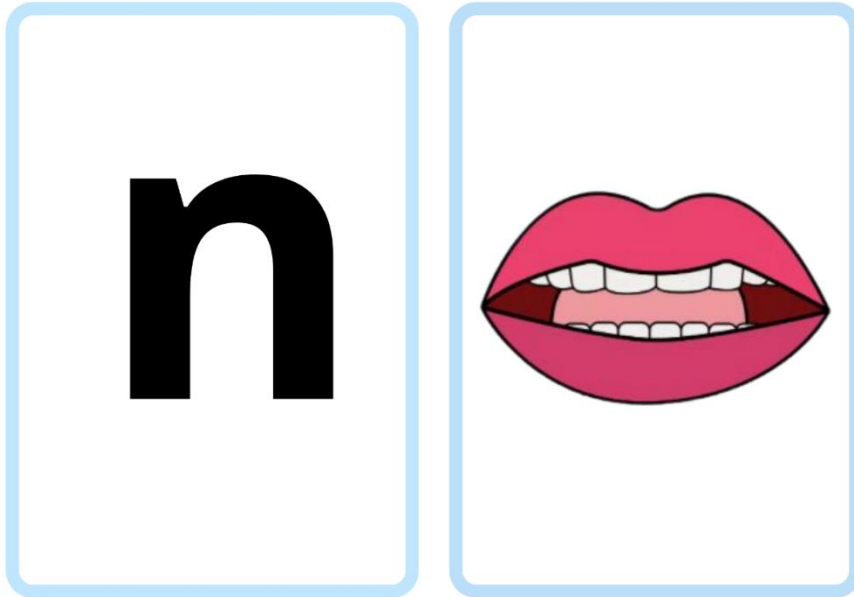
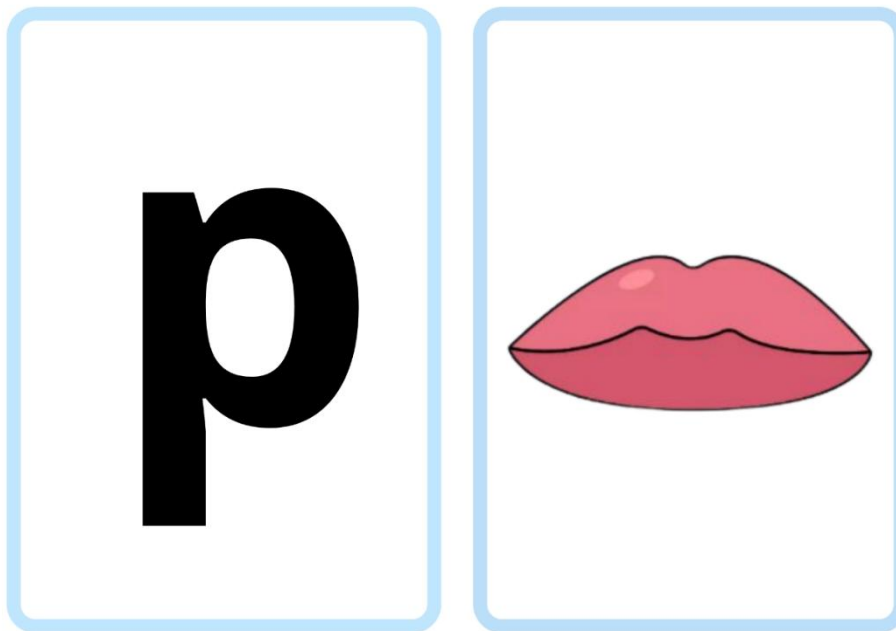
**Figure 64***FLASHCARD PHONEME /P/***Figure 65***FLASHCARD PHONEME /B/*

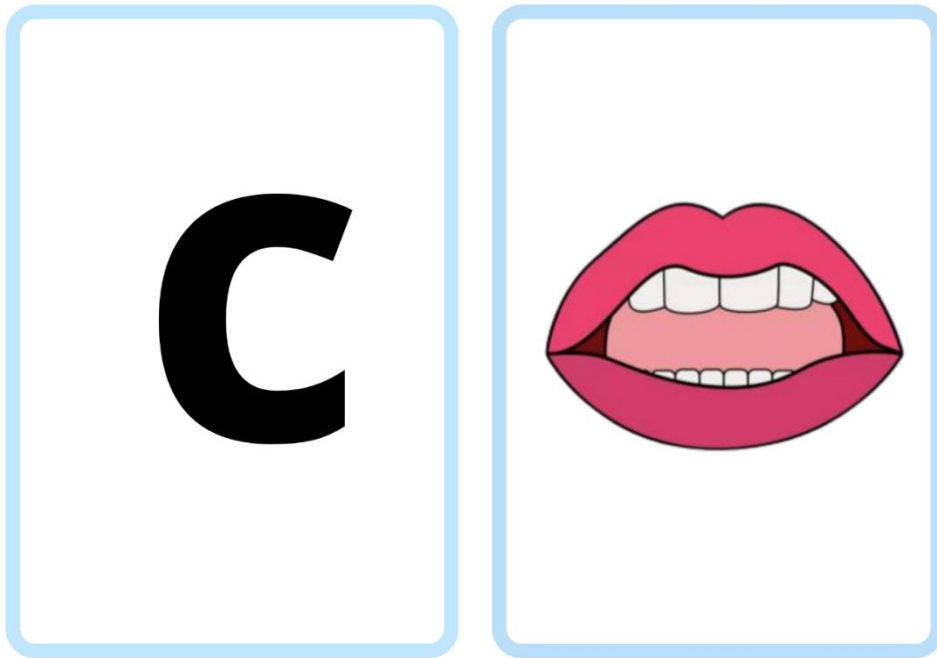
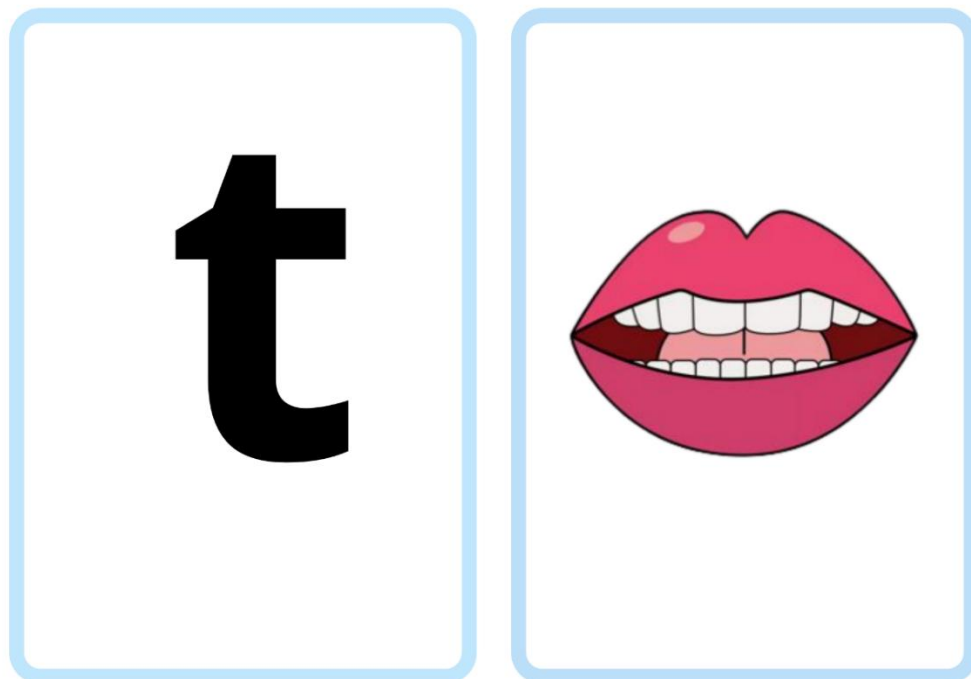
**Figure 66***FLASHCARD PHONEME /T/***Figure 67***FLASHCARD PHONEME /D/*

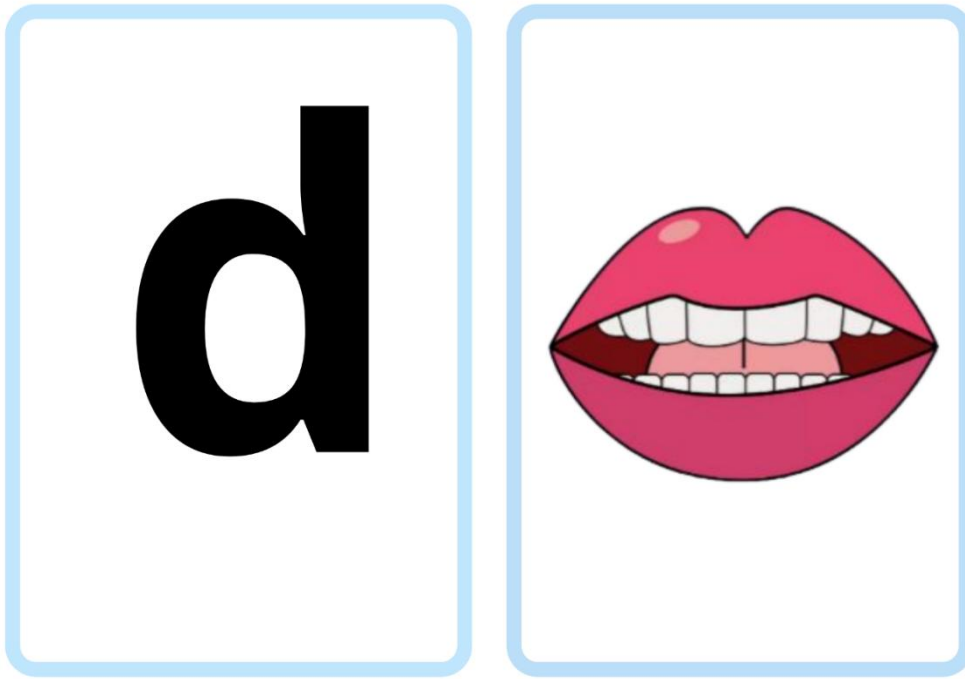
**Figure 68***FLASHCARD PHONEME /C/***Figure 69***FLASHCARD PHONEME /G/*

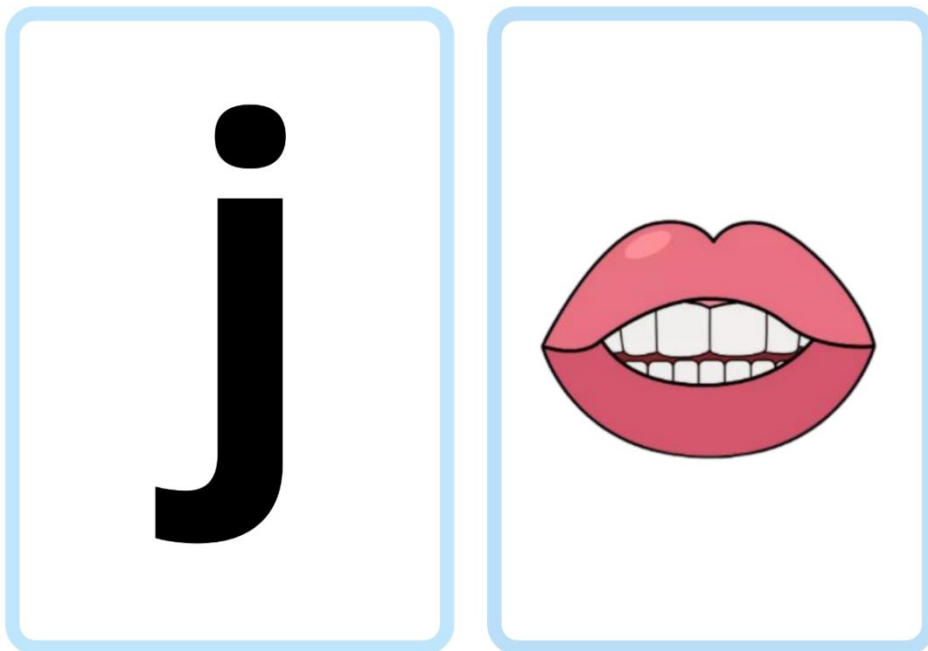
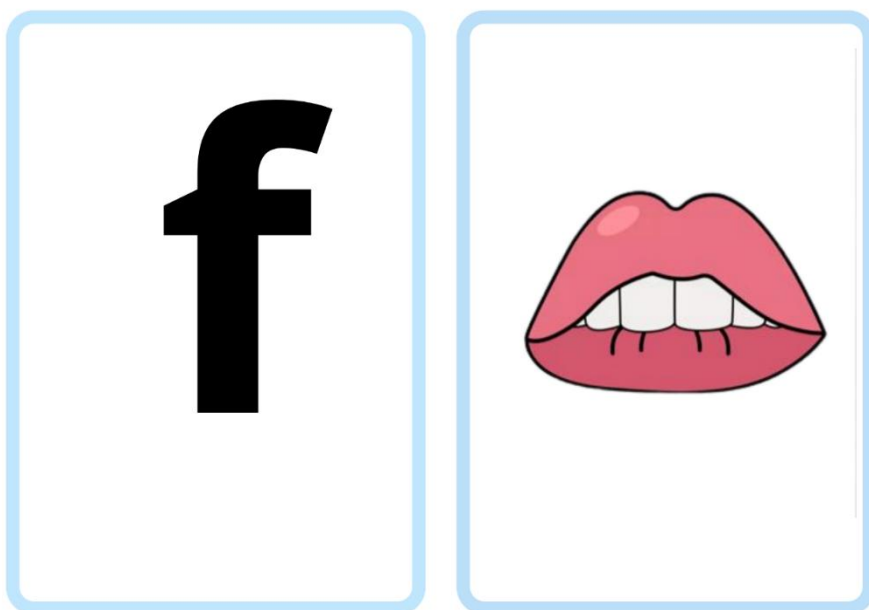
**Figure 70***FLASHCARD PHONEME /F/***Figure 71***FLASHCARD PHONEME /J/*

**Figure 72***PHONEME /M/***Figure 73***PHONEME /B/*

**Figure 74***PHONEME /N/***Figure 75***PHONEME /P/*

**Figure 76***PHONEME /C/***Figure 77***PHONEME /T/*

**Figure 78***PHONEME /D/***Figure 79***PHONEME /G/*

**Figure 80***PHONEME /J/***Figure 81***PHONEME /F/*

## REFERENCES

- Afifah, N., & Lubis, Y. (2023). Exploring Minimal Pairs of Consonants in English: A Literature Review. *Jurnal Pendidikan Rafflesia*, 1(2), 45–52. <https://doi.org/10.70963/jpr.v1i2.41>
- Amalia Solikhah, N. (2023). The Impact of Technology in Teaching and Learning English as Foreign Language: TESOL Context. *Journal Corner of Education, Linguistics, and Literature*, 3(1), 83–91. <https://doi.org/10.54012/jcell.v3i1.194>
- Araya Ramírez, J. (2019). Los Principios de la Conciencia Fonológica en el Desarrollo de la Lectoescritura Inicial. *Revista De Lenguas Modernas*, (30). <https://archivo.revistas.ucr.ac.cr/index.php/rlm/article/view/38981>
- Banavath, S., & Reddy, C. (2023). Learner-centered Teaching and Approaches for Second Language Learning. *International Journal of English Language, Literature and Translation Studies (IJELR)*, 10(4), 11-13. <http://www.ijelr.in/10.4.23/14-21%20HAO%20ZHANG.pdf>.
- Bataineh, R., & Al-Ghareeb, M. B. (2025). Starfall as a Catalyst for Kuwaiti EFL Young Learners' Reading Comprehension: A Teacher's Reflections. *Journal of Ethnic and Cultural Studies*, 12(1), 141–153. <https://doi.org/10.29333/ejecs/2338>
- Bdeir, M., Bahous, R., & Nabhani, M. (2020). Improving reading readiness in kindergarten children through early phonological awareness interventions. *Education 3-13*, 50(3), 348–360. <https://doi.org/10.1080/03004279.2020.1851740>.
- Benesch S. (2012). *Considering Emotions In Critical English Language Teaching: Theories And Practice*. New York: Routledge.
- Beltrán, M. El aprendizaje del idioma inglés como lengua extranjera. *Revista Redipe* [Internet]. 2017 [cited 13 de Agosto 2025]; 6(4):91-8. <https://revista.redipe.org/index.php/1/article/view/227>.
- Boyadzhieva, E. (2016). Learner-centered Teaching and Learner Autonomy. *Procedia-Social and Behavioral Sciences*, 232, 35-40. <https://doi.org/10.1016/j.sbspro.2016.10.008>.

- Cando, J. (2020). The Starfall app and the English pronunciation. [Tesis de Grado, Universidad Técnica de Ambato]. Repositorio Institucional de la Universidad Técnica de Ambato. <https://repositorio.uta.edu.ec/handle/123456789/31951>
- Duke, N. K., & Cartwright, K. B. (2021). The science of reading progresses: Communicating advances beyond the simple view of reading. *Reading Research Quarterly*, 56, S25–S44.
- Emiliasari, R. N., Prasetyo, E., & Syarifah, E. F. (2019). Problem-based Learning: Developing Students' Critical Thinking. *Linguists: Journal of Linguistics and Language Teaching*, 5(1), 56-64. <https://doi.org/10.29300/ling.v5i1.1962>.
- Escobar, M. (2023). La construcción del lenguaje escrito en el preescolar. *Revista Arbitrada del Centro de Investigación y Estudios Gerenciales*, 65, 13-25. <https://revista.grupocieg.org/wp-content/uploads/2023/12/Ed.6513-25-Escobar.pdf>.
- Fikroni, M. R. (2022). English Language Teaching at Kindergarten: What Happens in The Classroom. *GENIUS: Indonesian Journal of Early Childhood Education*, 3(1), 9–22. <https://doi.org/10.35719/gns.v3i1.75>
- Fuentealba, Lidia A., Philominraj, Andrew P., Ramirez-Muñoz, Bruno E., Quinteros, Nicol A. (2019). English for Preschoolers: A Pending Task in Initial Teacher Training. *Información tecnológica*, 30(3), 249-256. <https://dx.doi.org/10.4067/S0718-07642019000300249>
- Gándara, Y. L., & Rendón-Romero, S. I. (2023). Critical approaches to English language teacher education: A narrative inquiry into trainee teachers' experiences as speakers of English. *Heliyon*, 9(12), e22882. <https://doi.org/10.1016/j.heliyon.2023.e22882>
- Ghanizadeh, A., Razavi, A., & Jahedizadeh, S. (2015). Technology-enhanced language learning (TELL): A review of resources and upshots. *International Letters of Social and Humanistic Sciences*, 54, 73–87. <https://doi.org/10.1080/09588221.2018.1527365>
- González, M. (2023). Aprendizaje del inglés y el uso de las Tics como método de enseñanza en un grupo de estudiantes de la carrera de inglés de la universidad Autónoma de

Chiriquí. Revista Boletín Redipe 12(3):114-124.  
<https://revista.redipe.org/index.php/1/article/view/1946>

Gutiérrez-Fresneda, Raúl, Vicente-Yagüe Jara, María Isabel De, & Alarcón Postigo, Rafael. (2020). Desarrollo de la conciencia fonológica en el inicio del proceso de aprendizaje de la lectura. *Revista signos*, 53(104), 664-681. <https://dx.doi.org/10.4067/S0718-09342020000300664>.

Gromik, N., & Litz, D. (2021). Study benefits of smartphones: perceptions of female emirati pre-service teacher undergraduates. *Education Sciences*, 11(12), 817.

Gillon, G. (2023). Supporting Children Who Are English Language Learners Succeed in Their Early Literacy Development. *Folia phoniatrica et logopaedica : official organ of the International Association of Logopedics and Phoniatics (IALP)*, 75(4), 219–234. <https://doi.org/10.1159/000531407>

Gutiérrez Fresneda, R., & Díez Mediavilla, A. (2018). Conciencia fonológica y desarrollo evolutivo de la escritura en las primeras edades. *Educación XX1*, 21(1), 395-415. , doi: 10.5944/educXX1.13256.

Hennebry-Leung, M., & Xiao, H. A. (2023). Examining the role of the learner and the teacher in language learning motivation. *Language Teaching Research*, 27(1), 30–56. <https://doi.org/10.1177/1362168820938810>.

Hernández Conejo, P., Chacón Campos, L., & Pérez Ramírez, O. (2024, June 6). *Instruments for assessing learning* [PDF]. Ministerio de Educación Pública de Costa Rica. <https://www.mep.go.cr/educatico/instrumentos-evaluacion-aprendizajes>

Hernández, R., Fernández, C., & Baptista, P. (2014). *Metodología de la investigación* (6<sup>a</sup> ed.). México: McGraw-Hill.

Hoareau, L., Thomas, A., Tazouti, Y., Dinet, J., Luxembourger, C., & Jarlégan, A. (2021). Beliefs about digital technologies and teachers' acceptance of an educational app for preschoolers. *Computers & Education*, 172, 104264. [10.1016/J.COMPEDU.2021.104264](https://doi.org/10.1016/J.COMPEDU.2021.104264)

- Huanhuan, R., & Chi, M. (2017). The Impact of Phonics Instruction on Pre-school Learners' Development in English Language Course. *Advances in Computer Science Research*, 59, 674-679. DOI: 10.2991/emcm-16.2017.131.
- Huo and Wang (2017) The Effectiveness of Phonological-Based Instruction in English as a Foreign Language Students at Primary School Level: A Research Synthesis. *Front. Educ.* 2:15. doi: 10.3389/feduc.2017.00015.
- Iberahim, A., Yunus, M. M., & Sulaiman, N. A. (2023). A Review on Technology Enhanced Language Learning (TELL). *International Journal of Academic Research in Business and Social Sciences*, 13(2), 1509-1519. <http://dx.doi.org/10.6007/IJARBSS/v13-i2/16496>.
- Ishak, I., & Nahdhiyah, N. (2020). The Strategies. *English Language Teaching for EFL Learners*, 2(2), 83-94. <https://dx.doi.org/10.24252/elties.v2i2.15159>.
- Jia H. (2022). English as a Foreign Language Learners' Well-Being and Their Academic Engagement: The Mediating Role of English as a Foreign Language Learners' Self-Efficacy. *Frontiers in psychology*, 13, 882886. <https://doi.org/10.3389/fpsyg.2022.882886>
- Jiménez, J. (2018). El uso de las TIC en la enseñanza del inglés: El caso de la Escuela de Inglés, Universidad de Panamá. *Revista acción y reflexión educativa*, 43, 22-43. <http://portal.amelica.org/ameli/jatsRepo/226/2261046002/index.html>.
- Khayitova, A. (2025). Teaching English in preschool educational organizations by using art therapy. *Web of Teachers: Inderscience Research*, 3(6), 54-57. <https://webofjournals.com/index.php/1/article/view/4597>
- Kiss, R. y Csapó, B. (2025). Evaluación basada en tecnología de la conciencia fonológica en el jardín de infancia. *Revista Internacional de la Primera Infancia*, 57 (1), 25-49. <https://doi.org/10.1007/s13158-023-00386-7>.

- Kuche, E., Demissie, A., & Wanna, W. (2024). English language teacher educators' knowledge and skills on early grade reading instruction. *Heliyon*, *10*(19), e38360. <https://doi.org/10.1016/j.heliyon.2024.e38360>.
- Khotimah, H., Ratno Abidin, Wahono, & Suweleh, W. (2023). The Phonics Approach Improves Early Reading Skills in Preschoolers Aged 4-5 Years. *Jurnal Pendidikan Anak Usia Dini Undiksha*, *11*(1), 24–30. <https://doi.org/10.23887/paud.v11i1.5661>
- Koyuncu, S.; Kumpulainen, K.; Kuusisto, A. Teaching English as a Second Language in the Early Years: Teachers' Perspectives and Practices in Finland. *Educ. Sci.* 2023, *13*, 1177. <https://doi.org/10.3390/educsci13121177>.
- Kuppen, S., & Bourke, E. (2017). Rhythmic Rhymes for Boosting Phonological Awareness in Socially Disadvantaged Children. *Mind, Brain, and Education*. *Mind, Brain and Education*, *11*(4), 181-189. <https://doi.org/10.1111/mbe.12148>.
- Lawrence, S. M. (2017). Preschool children and iPads: Observations of social interactions during digital play. *Early Education and Development*, *29*(2), 207–228. [10.1080/10409289.2017.1379303](https://doi.org/10.1080/10409289.2017.1379303)
- López Montero, R. (2019). Enseñanza del inglés a nivel preescolar en un contexto de educación pública. *Revista Educación*, *44*(1), 31–48. <https://doi.org/10.15517/revedu.v44i1.34626>
- López L. M. (2012). Assessing the Phonological Skills of Bilingual Children from Preschool Through Kindergarten: Developmental Progression and Cross-Language Transfer. *Journal of research in childhood education : JRCE*, *26*(4), 371–391. <https://doi.org/10.1080/02568543.2012.711800>.
- Loría-Rocha, Marianella. (2020). Conciencia fonológica, un camino seguro hacia la lengua escrita: argumentación y estrategias. *Revista Innovaciones Educativas*, *22*(32), 170-183. <https://dx.doi.org/10.22458//ie.v22i32.2939>.
- Ly, C. (2024). Teachers' Roles on English Language Teaching for Promoting Learner-Centered Language Learning: A Theoretical Review. *International Journal of TESOL & Education*, *4*(2), 78-98. <https://doi.org/10.54855/ijte.24425>

- Menon D. (2022). Uses and gratifications of educational apps: A study during COVID-19 pandemic. *Computers and education open*, 3, 100076. <https://doi.org/10.1016/j.caeo.2022.100076>.
- McArthur, G., Sheehan, Y., Badcock, N. A., Francis, D. A., Wang, H. C., Kohnen, S., Banales, E., Anandakumar, T., Marinus, E., & Castles, A. (2018). Phonics training for English-speaking poor readers. *The Cochrane database of systematic reviews*, 11(11), CD009115. <https://doi.org/10.1002/14651858.CD009115.pub3>
- Mhlongo, S., Mbatha, K., Ramatsetse, B., y Dlamini, R. (2023). Challenges, opportunities, and prospects of adopting and using smart digital technologies in learning environments: An iterative review. *Heliyon*, 9(6), e16348. <https://doi.org/10.1016/j.heliyon.2023.e16348>.
- Mahmoud, S. (2025). The Impact of Technology on English Language Learning. *International Journal of Multidisciplinary Comprehensive Research*. 4(3), 81-85. <https://doi.org/10.54660/IJMCR.2025.4.3.81-85>.
- Ministerio de Educación Pública de Costa Rica. (2023). *Evaluación diagnóstica: Conocer para mejorar* [PDF]. Dirección de Desarrollo Curricular. [evaluacion diagnostica v1 0.pdf](https://doi.org/10.54660/IJMCR.2025.4.3.81-85)
- Mohd, M., Hua, K., Mohd, S., Mat, S. (2023). Teachers' Beliefs and Teaching Practices in Teaching Phonics to Lower Primary Learners. *International Journal of Learning, Teaching and Educational Research*. 22(5), 587-604. <https://doi.org/10.26803/ijlter.22.5.30>.
- Moreno Agurto, V. A. (2020). La importancia de la enseñanza del idioma inglés en la etapa escolar. *Alétheia*, 8(1), 41–52. <https://doi.org/10.33539/aletheia.2020.n8.2422>.
- Moukoro, Ismaila. (2024). Revolucionando el aprendizaje de idiomas: el impacto transformador de las aplicaciones móviles. *Apertura (Guadalajara, Jal.)*, 16(2), 22-35. <https://doi.org/10.32870/ap.v16n2.2528>.
- Municipalidad de Grecia. (14 de agosto de 2025). Cantón de Grecia. <https://www.grecia.go.cr/articulo/6/canton-de-grecia>

- Muñoz Sánchez, Y. y Melenge Escudero, J. (2017). La conciencia fonológica en el aprendizaje de la lectura convencional en un grupo de niños de 5 a 8 años. *Revista de Investigaciones UCM*, 17(29), 16-31.
- Muppalla, S. K., Vuppalapati, S., Reddy Pulliahgaru, A., & Sreenivasulu, H. (2023). Effects of Excessive Screen Time on Child Development: An Updated Review and Strategies for Management. *Cureus*, 15(6), e40608. <https://doi.org/10.7759/cureus.40608>.
- Navarro Dominguez, M., Arenas Cantillo, S., León-Jacobus, A., & Araque-Barboza, F. (2025). Caracterización de la conciencia fonológica y la discriminación auditiva, una mirada desde la Resiliencia Educativa. *Visión SY*, 22(2), 13–19. <https://revvisy.unimetro.edu.co/index.php/visy/article/view/351>.
- Neumann, M. M. (2020). The impact of tablets and apps on language development. *Childhood Educatio*, 96(6), 70–74. 10.1080/00094056.2020.1846394
- Nikolov, M., & Timpe-Laughlin, V. (2021). Assessing young learners' foreign language abilities. *Language Teaching*, 54(1), 1–37. doi:10.1017/S0261444820000294.
- Nguyen, T. (2022). Language learning motivation of Vietnamese EFL students and their attitudes towards classroom factors. *HCMCOUJS-Social Sciences*, 12(1), 63-78. <https://doi.org/10.46223/HCMCOUJS.soci.en.12.1.2282.2022>.
- Orellana-Munzón, T., Pesantes-Astudillo, F., Beltrán-Mesa, M., & García-Cobas, R., (2025). Uso del Educaplay y YouTube para fortalecer la conciencia fonológica en niños de preparatoria con problemas en la expresión oral. *593 Digital Publisher CEIT*, 10(4), 227-241, <https://doi.org/10.33386/593dp.2025.4.3319>.
- Panjeti-Madan, V. N., & Ranganathan, P. (2023). Impact of Screen Time on Children's Development: Cognitive, Language, Physical, and Social and Emotional Domains. *Multimodal Technologies and Interaction*, 7(5), 52. <https://doi.org/10.3390/mti7050052>.
- Pitafi, A. H., & Ali, A. (2023). An empirical investigation on actual usage of educational app: Based on quality dimensions and mobile self-efficacy. *Heliyon*, 9(9), e19284. <https://doi.org/10.1016/j.heliyon.2023.e19284>

- Papadakis, S. (2021). The impact of coding apps to support young children in computational thinking and computational fluency. A literature review. *Frontiers in Education*, 6. 10.3389/educ.2021.657895
- Pondee, P., Panjaburee, P., & Srisawasdi, N. (2021). Pre-service science teachers' emerging pedagogy of mobile game integration: a tale of two cohorts improvement study. *Research and Practice in Technology Enhanced Learning*, 16(1), 1–27. 10.1186/S41039-021-00152-0/TABLES/5
- Richards, J. C. (2015). *Key Issues in Language Teaching*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/9781009024600>.
- Rivadeneira Rodríguez, E. M., Reyes Cedeño, C. C. y León Reyes, B. B. (2024). Desarrollo temprano del lenguaje: conexiones significativas entre conciencia fonológica, vocabulario y pronunciación. *Revista Conrado*, 20(96), 139-147. <http://scielo.sld.cu>
- Robayo, J. (2021). The starfall app and the reading skill. [Tesis de Grado, Universidad Técnica de Ambato]. Repositorio Institucional de la Universidad Técnica de Ambato. <https://repositorio.uta.edu.ec/handle/123456789/31951>
- Sadeghi, K., & Richards, J. C. (2021). Professional development among English language teachers: challenges and recommendations for practice. *Heliyon*, 7(9), e08053. <https://doi.org/10.1016/j.heliyon.2021.e08053>
- Saint Josephine Bilingual School. (14 de agosto de 2025). Sobre Nosotros. <https://saint.bigcloudpos.com/nosotros>
- Salman, A. (2018). The Effectiveness of Phonics Approach in Teaching Reading. *International Journal of Education and Curriculum Application*, 52-56. doi:10.31764/ijeca. v0i0.1981.
- Soni, N., Aloba, A., Morga, K. S., Wisniewski, P. J., & Anthony, L. (2019). A Framework of Touchscreen Interaction Design Recommendations for Children (TIDRC). *Proceedings of the 18th ACM International Conference on Interaction Design and Children*, 419–431. 10.1145/3311927.3323149

- Scull, J., & Lyons, D (2024). Teaching phonics in context—stories of teachers’ practice and students’ outcomes. *The Australian Journal of Language and Literacy*, 47, 181-201. <https://doi.org/10.1007/s44020-024-00058-6>.
- Sistyawan, Y. N., Purnamasari, I. I., Azizah, W., & Mardiningrum, A. (2022). Teacher Talks and Their Importance for EFL Learners. *JEES (Journal of English Educators Society)*, 7(2), 182-189. <https://doi.org/10.21070/jees.v7i2.1652>.
- Sirona CIC. (2023). *Developing phonological awareness: top tips* <https://www.sirona-cic.org.uk/children-services/wp-content/uploads/sites/4/2023/08/TK31-Developing-Phonological-Awareness-Top-Tips.pdf>
- Stahl, K. (2011). Applying new visions of reading development in today’s classrooms. *The Reading Teacher*, 65(1), 52–56. <https://doi.org/10.1598/RT.65.1.7>.
- Suggate S. (2016). A Meta-Analysis of the Long-Term Effects of Phonemic Awareness, Phonics, Fluency, and Reading Comprehension Interventions. *Journal of learning disabilities*, 49(1), 77–96. <https://doi.org/10.1177/0022219414528540>
- Troseth, G. L., Russo, C. E., & Strouse, G. A. (2016). What’s next for research on young children’s interactive media? *Journal of Children and Media*, 10(1), 54–62. 10.1080/17482798.2015.1123166
- Thiessen, J. (March 11, 2024). Starfall ABC App Review. <https://www.phonics.org/tag/starfal>
- Vaiopoulou, J., Papadakis, S., Sifaki, E., Kalogiannakis, M., & Stamovlasis, D. (2023). Classification and evaluation of educational apps for early childhood: Security matters. *Education and information technologies*, 28(3), 2547–2578. <https://doi.org/10.1007/s10639-022-11289-w>
- Winter, E., Costello, A., O’Brien, M., & Hickey, G. (2021). Teachers’ use of technology and the impact of COVID-19. *Irish Educational Studies*, 40(2), 235–246. <https://doi.org/10.1080/03323315.2021.1916559>

- Xie, F., & Derakhshan, A. (2021). A Conceptual Review of Positive Teacher Interpersonal Communication Behaviors in the Instructional Context. *Frontiers in psychology*, 12, 708490. <https://doi.org/10.3389/fpsyg.2021.708490>
- Zainuddin, N. (2023). Technology Enhanced Language Learning Research Trends and Practices: A Systematic Review (2020-2022). *The Electronic Journal of e-Learning*, 21(2), 69-79. <https://doi.org/10.34190/ejel.21.2.2835>.
- Zhang W. (2022). The Role of Technology-Based Education and Teacher Professional Development in English as a Foreign Language Classes. *Frontiers in psychology*, 13, 910315. <https://doi.org/10.3389/fpsyg.2022.910315>

## ANNEXES

**Annex #1**

*Instrument: Pretest and posttest of phonetic sound*

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**Universidad Hispanoamericana**

**Teacher:** Dayana Obregón Palacios

**Date:**

**Tutor:** Dra. María José Herrera Araya

**Student's name:**

**Research Title:** Impact of using the Starfall ABCs app in improving the identification of alphabet students between 4 to 5 years old of the interactive II A of the Saint Josephine Bilingual School in Grecia, Alajuela during the second semester 2025.

**Specific objective #1:** To determine the improvement in alphabet sound identification among 4- to 5-year-old students after using the Starfall ABCs app during the second semester of 2025.

**Pretest and posttest of phonetic sound:** The instrument is designed to measure improvement in alphabet sound identification among 4- and 5-year-old students following use of the Starfall ABCs app.

**Instructions:** The teacher will administer the pretest and posttest individually to each student. Each question should be read aloud, and visual aids (flashcards) should be shown when necessary. Teacher will mark the students' performance level for each item using the following scale: 1= Not achieved  
2=In progress      3=Achieved

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Student name: \_\_\_\_\_ Date: \_\_\_\_\_

Question	Scale		
	1 Not achieved	2 In process	3 Achieved
<p>Listen and identify which word rhymes with <i>cat</i>: (a) dog, (b) bat, (c) sun.</p> <p>Say the first sound in each of the following words: <i>moon, nest, pizza, ball, tiger, doll, cat, girl, fox, jet.</i></p> <p>Point to the letter that makes each sound: <i>/m/, /n/, /p/, /b/, /t/, /d/, /k/, /g/, /f/, /dʒ/</i></p> <p>Which picture starts with the same sound as: <i>motorcycle, ball, mask</i> <i>nine, number, doll</i> <i>pink, pig, cat</i> <i>boy, mask, bear</i> <i>tiger, pig, ten</i> <i>ducks, dinosaur, ball</i> <i>cow, ten, computer</i> <i>gorilla, cat, go</i> <i>fish, five, number</i> <i>jump, boy, jump</i></p> <p>What sound does each letter make? (Show flashcards <i>/m/, /n/, /p/, /b/, /t/, /d/, /k/, /g/, /f/, /dʒ/</i>)</p>			

**Annex # 2**

*Instrument: Questionnaire for parents*

---

**Universidad Hispanoamericana**

**Teacher:** Dayana Obregón Palacios

**Date:**

**Tutor:** Dra. María José Herrera Araya

**Student's name:**

**Research Title:** Impact of using the Starfall ABCs app in improving the identification of alphabet students between 4 to 5 years old of the interactive II A of the Saint Josephine Bilingual School in Grecia, Alajuela during the second semester 2025.

**Specific objective #2:** To analyze the relationship between the time spent using the Starfall ABCs app and the accuracy in identifying alphabet sounds among 4 to 5-year-old students during the second semester of 2025.

**Questionnaire for parents:** This instrument aims, through a series of questions, to collect daily information from Monday to Friday regarding the time students use the Starfall ABCs app at home, including frequency, duration, and the number of activities completed at home.

**Instructions:** Each day, from Monday to Friday, the parent will record information about their child by answering the questions based on the child's daily use of the app.

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*Questionnaire for parents*

Name of your child: \_\_\_\_\_

Day of the week:	Frequency of use per day:	Time used per day:	Number of activities completed:
Monday	0 times	5 minutes	0 activities
	1 time	10 minutes	1 activity
	2–3 times	15 minutes	2 activities
	3–4 times	20 minutes	3 activities
	5 or more times	30 minutes	4 or more activities
Tuesday	0 times	5 minutes	0 activities
	1 time	10 minutes	1 activity
	2–3 times	15 minutes	2 activities
	3–4 times	20 minutes	3 activities
	5 or more times	30 minutes	4 or more activities
Wednesday	0 times	5 minutes	0 activities
	1 time	10 minutes	1 activity
	2–3 times	15 minutes	2 activities
	3–4 times	20 minutes	3 activities
	5 or more times	30 minutes	4 or more activities
Thursday	0 times	5 minutes	0 activities
	1 time	10 minutes	1 activity
	2–3 times	15 minutes	2 activities
	3–4 times	20 minutes	3 activities
	5 or more times	30 minutes	4 or more activities
Friday	0 times	5 minutes	0 activities
	1 time	10 minutes	1 activity
	2–3 times	15 minutes	2 activities
	3–4 times	20 minutes	3 activities
	5 or more times	30 minutes	4 or more activities

**Annex #3**

*Instrument: Pretest and posttest alphabet sound accuracy*

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**Universidad Hispanoamericana**

**Teacher:** Dayana Obregón Palacios

**Date:**

**Tutor:** Dra. María José Herrera Araya

**Student's name:**

**Research Title:** Impact of using the Starfall ABCs app in improving the identification of alphabet students between 4 to 5 years old of the interactive II A of the Saint Josephine Bilingual School in Grecia, Alajuela during the second semester 2025.

**Specific objective #2:** To analyze the relationship between the time spent using the Starfall ABCs app and the accuracy in identifying alphabet sounds among 4 to 5-year-old students during the second semester of 2025.

**Pretest and posttest alphabet sound accuracy:** This instruments measures students' accuracy in identifying and producing alphabet sound after and before using the Starfall ABC's app.

**Instructions:** The pretest and posttest are administered individually to each student to measure their accuracy in identifying and producing the initial alphabet sound through minimal pairs. Each question should be read aloud, and visual aids (flashcards) should be shown when necessary. Teacher will mark the students' accuracy by marking the appropriate level on the following scale: 1= Not achieved    2=In progress    3=Achieved

---

Student name: \_\_\_\_\_ Date: \_\_\_\_\_

#	Question	Scale		
		1 Not achieved	2 In progress	3 Achieved

1



Produces minimal pair words accurately.

Identify the initial sound of the words  
*/k/ and /b/.*

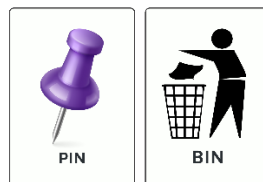
2



Produces minimal pair words accurately.

Identify the initial sound of the words  
*/p/ and /b/.*

3



Produces minimal pair words accurately.

Identify the initial sound of the words  
*/p/ and /b/.*

4

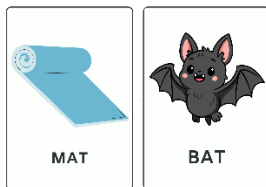


Produces minimal pair words accurately.

Identify the initial sound of the words

*/k/ and /b/.*

5



Produces minimal pair words accurately.

Identify the initial sound of the words

*/m/ and /b/.*

6



Produces minimal pair words accurately.

Identify the initial sound of the words

*/t/ and /k/.*

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**Annex #4**

*Instrument: Quantitative observations of daily work*

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**Universidad Hispanoamericana**

**Teacher:** Dayana Obregón Palacios

**Date:**

**Tutor:** Dra. María José Herrera Araya

**Student's name:**

**Research Title:** Impact of using the Starfall ABCs app in improving the identification of alphabet students between 4 to 5 years old of the interactive II A of the Saint Josephine Bilingual School in Grecia, Alajuela during the second semester 2025.

**Specific objective #2:** To analyze the relationship between the time spent using the Starfall ABCs app and the accuracy in identifying alphabet sounds among 4 to 5-year-old students during the second semester of 2025.

**Quantitative observations of daily work:** This instrument record students' daily use of the Starfall ABCs app, including frequency, duration, and the number of activities completed in class.

**Instructions:** For each class, record each student's use of the Starfall ABCs app. Indicate the number of times the app was used, the approximate duration of use, and the number of activities completed during that class session.

---

**Quantitative Observations of Daily Work**

Student Name: \_\_\_\_\_

1. Class Session:
  - Class 1
  - Class 2
  - Class 3
  - Class 4
  
2. Frequency of use per class session:
  - 0 time
  - 1 time
  - 2–3 times
  - 3–4 times
  - 5 or more times
  
3. Time used per class session:
  - 5 minutes
  - 10 minutes
  - 15 minutes
  - 20 minutes
  - 30 minutes
  
4. Number of activities completed per class session:
  - 0 activities
  - 1 activity
  - 2 activities
  - 3 activities

**Subject:** Phonics  
**Monthly Plan:** October week 4

**Level:** Interactive II      **Trimester:** II  
**Teacher:** Dayana Obregón Palacios

**Year:** 2025  
**Date:** October 29<sup>th</sup>

Performance Criteria & Content		Activities	Evaluation	Time & Resources
<b>Subject</b>	<p style="text-align: center;"><b>Content</b></p> <ul style="list-style-type: none"> <li>• Introduction to letters and their sounds /m/, /n/, /p/, /b/, /t/</li> </ul> <p style="text-align: center;"><b>Indicators</b></p> <ul style="list-style-type: none"> <li>✓ Identify the images shown: <i>moon, mask, nest, number, pizza, pig, ball, bear, tiger, ten.</i></li> <li>✓ Repeat the vocabulary correctly after the teacher.</li> </ul>	<p><b>Warm up:</b> 5 min                      T shows images of the words from the app <i>moon, mask, nest, number, pizza, pig, ball, bear, tiger, ten.</i> The students repeat the vocabulary.</p> <p><b>Activities:</b> 20 minutes</p> <ul style="list-style-type: none"> <li>• Introduction of phonemes using flashcards that show the letter and the correct mouth position.</li> <li>• Sts repeat the sounds corresponding words, following the Starfall ABCs videos.</li> <li>• T places envelopes around the classroom containing images: <i>moon, mask, nest, number, pizza, pig, ball, bear, tiger, ten.</i> Students find the images and, upon opening each envelope, place the image next to the flashcard that corresponds to the initial sound of the word.</li> </ul> <p><b>Wrap up:</b> 5 min                      Sing the Starfall ABC app alphabet song.</p>	<p>Sts will be assessed through initial assessment.</p> <p>Oral review upon the completion of exercises.</p>	<p><b>Time:</b> 1 lesson</p> <p><b>Resources:</b>                      Screen with Starfall ABC app                      Flashcards</p>

**Subject:** Phonics  
**Monthly Plan:** November week 1

**Level:** Interactive II      **Trimester:** II  
**Teacher:** Dayana Obregón Palacios

**Year:** 2025  
**Date:** October 05<sup>th</sup>

Performance Criteria & Content		Activities	Evaluation	Time & Resources
<b>Subject</b>	<p><b>Content</b></p> <ul style="list-style-type: none"> <li>Introduces letters and their sounds /d/, /k/, /g/, /f/, /dʒ/</li> </ul> <p><b>Indicators</b></p> <ul style="list-style-type: none"> <li>✓ Identify the initial phoneme of a word.</li> <li>✓ Repeat the vocabulary and rhyme accurately.</li> </ul>	<p><b>Warm up:</b> 5 min                      T shows images of the words from the app <i>doll, dinosaur, cat, computer, gorilla, go, fish, five, jump, jet</i>. The students repeat the vocabulary.</p> <p><b>Activities</b> 20 min</p> <ul style="list-style-type: none"> <li>Introduction of phonemes using Starfall ABCs app that shows the letter and the sound.</li> <li>Sts have the phonemes /d/, /k/, /g/, /f/, /dʒ/ written on their desks. When the T shows a flashcard and pronounces the word, sts must circle the initial sound phoneme corresponding to that word.</li> </ul> <p><b>Wrap up:</b> 5 min</p> <p>Sts say the rhyme:  <i>Cat and car, cat and car, driving fast, driving far.</i></p>	<p>Sts will be assessed through pretest.</p> <p>Oral review upon the completion of exercises.</p>	<p><b>Time:</b> 1 lesson</p> <p><b>Resources:</b></p> <p>Screen                      Starfall ABCs app                      Flashcards</p>

**Subject:** Phonics  
**Monthly Plan:** November week 2

**Level:** Interactive II  
**Teacher:** Dayana Obregón Palacios

**Trimester:** II  
**Year:** 2025  
**Date:** November 12<sup>th</sup>

Performance Criteria & Content		Activities	Evaluation	Time & Resources
<b>Subject</b>	<p><b>Content</b></p> <ul style="list-style-type: none"> <li>Review phonemes /m/, /n/, /p/, /b/, /t/, /d/, /k/, /g/, /f/, /dʒ/</li> </ul> <p><b>Indicators</b></p> <ul style="list-style-type: none"> <li>✓ Identify the initial phoneme of a word.</li> <li>✓ Pronounce the minimal pairs word accurately.</li> </ul>	<p><b>Warm up: 5 min</b>            Review phonemes using the Starfall ABC app.            /m/, /n/, /p/, /b/, /t/, /d/, /k/, /g/, /f/, /dʒ/</p> <p><b>Activities: 20 min</b></p> <ul style="list-style-type: none"> <li>First, the teacher introduces the minimal pair vocabulary <i>cat and bat, pat and bat, pin and bin, pan and ban, mat and bat, top and cop</i> using flashcards placed in a "surprise box." Then, students play a memory game by taking turns flipping two cards at a time, trying to find matching minimal pairs (e.g., <i>cat-bat, pin-bin</i>). Each time they flip a pair, they say the words aloud, emphasizing the initial sounds.</li> </ul> <p><b>Wrap up: 5 min</b>            Sts takes a flashcard from the box and says which word it matches with.</p>	<p>Sts will be assessed through observation of correct letter word identification.</p> <p>Record time spent on app.</p> <p>Oral review upon the completion of exercises.</p>	<p><b>Time:</b> 1 lesson</p> <p><b>Resources:</b>            Screen            Starfall ABCs app            Flashcards            Surprise box</p>

**Subject:** Phonics  
**Monthly Plan:** November week 3

**Level:** Interactive II      **Trimester:** II  
**Teacher:** Dayana Obregón Palacios

**Year:** 2025  
**Date:** November 19<sup>th</sup>

Performance Criteria & Content		Activities	Evaluation	Time & Resources
Subject	<p><b>Content</b></p> <ul style="list-style-type: none"> <li>Review phonemes  <i>/m/, /n/, /p/, /b/, /t/, /d/, /k/, /g/, /f/, /dʒ/</i></li> </ul> <p><b>Indicators</b></p> <ul style="list-style-type: none"> <li>✓ Identifies words that begin with the same initial phoneme within a group.</li> <li>✓ Pronounce the words correctly.</li> <li>✓ Demonstrate understanding of phoneme recognition.</li> </ul>	<p><b>Warm up:</b> 5 min            Review phonemes using words from the app: moon, nest, pizza, ball, tiger, doll, cat, girl, fox, jet.</p> <p><b>Activities:</b> 20 min</p> <ul style="list-style-type: none"> <li>Sts are given groups of words and must color the ones that start with the same initial sound. While coloring, they say each word aloud to reinforce recognition of the target phoneme. Word groups include:  <i>motorcycle, ball, mask</i>  <i>nine, number, doll</i>  <i>pink, pig, cat</i>  <i>boy, mask, bear</i>  <i>tiger, pig, ten</i>  <i>ducks, dinosaur, ball</i>  <i>cow, ten, computer</i>  <i>gorilla, cat, go</i>  <i>fish, five, number</i>  <i>jump, boy, jump</i></li> </ul> <p><b>Wrap up:</b> 5 min            Sing alphabet sound.</p>	<p>Sts will be assessed through posttest.</p> <p>Compare pretest and posttest results to measure improvement.</p> <p>Sts active participation and attentiveness.</p> <p>Oral review upon the completion of exercises.</p>	<p><b>Time:</b> 1 lesson</p> <p><b>Resources:</b></p> <p>Screen            Starfall ABCs app            Flashcards            Alphabet song            Coloring page</p>



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Saint Josephine School  
Grecia, Alajuela  
direccion@santajosefinacr.com

8 de Agosto del 2025

Señores  
Universidad Hispanoamericana  
Presente

Estimados señores:

Por este medio, la Dirección de *Saint Josephine Bilingual School* autoriza formalmente a la profesora Dayana Obregón Palacios, ced 702880339, a realizar en nuestra institución la investigación correspondiente a su trabajo de tesis, en el marco de sus estudios universitarios.

La autorización comprende la recolección de información y la aplicación de los instrumentos necesarios para el desarrollo de su investigación, siempre y cuando se respete la normativa interna del centro y se garantice la confidencialidad de los datos obtenidos.

Agradecemos de antemano el apoyo que esta investigación pueda brindar al fortalecimiento de los procesos educativos, y reiteramos nuestro compromiso con la colaboración académica.

Atentamente,

*Kattia Sánchez Sánchez*  
Directora Académica





Alajuela, Grecia, Costa Rica

Señores:

Universidad Hispanoamericana

#### Declaración Jurada

Yo, Laura Murillo Jüniga profesor (a) especialista en la enseñanza del idioma inglés, con categoría académica profesional de KT-3 y título de Licenciatura en la Enseñanza del Inglés, con 15 años de experiencia profesional y 15 años de servicio en el ámbito educativo, debidamente incorporado (a) al Colegio de Licenciados y Profesores en Letras, Filosofía, Ciencias y Artes de Costa Rica, hago constar por medio de la presente que he revisado cuidadosamente los instrumentos de medición elaborados por la estudiante Dayana Obregón Palacios, portadora de la cédula 702880339, estudiante de la carrera de Enseñanza en Preescolar Bilingüe de la Universidad Hispanoamericana.

Dichos instrumentos están diseñados como parte del proceso investigativo que el estudiante desarrolla para optar por el grado de Licenciatura, con el tema:

**Impact of using the Starfall ABCs app in improving the identification of alphabet students between 4 to 5 years old of the interactive II A of the Saint Josephine Bilingual School in Grecia, Alajuela during the second semester 2025.**

Después de realizar un análisis riguroso de dichos instrumentos, doy fe de que cumplen con los requerimientos técnicos, pedagógicos y éticos necesarios para su aplicación dentro del contexto educativo propuesto. Por tanto, avalo su validez y pertinencia para ser utilizados en el desarrollo y análisis de la presente investigación.

Para los efectos correspondientes, extiendo la presente declaración en Alajuela, Grecia, Costa Rica, a los 24 días del mes de Octubre del año 2025.

Firma: \_\_\_\_\_

Cédula: \_\_\_\_\_

1-1468-0809



Alajuela, Grecia, Costa Rica

Señores:

Universidad Hispanoamericana

**Declaración Jurada**

Yo, Kattia L. Jiménez Jiménez profesor (a) especialista en la enseñanza del idioma inglés, con categoría académica profesional de MT-6 y título de Licenciatura en la Enseñanza del Inglés, con 28 años de experiencia profesional y 28 años de servicio en el ámbito educativo, debidamente incorporado (a) al Colegio de Licenciados y Profesores en Letras, Filosofía, Ciencias y Artes de Costa Rica, hago constar por medio de la presente que he revisado cuidadosamente los instrumentos de medición elaborados por la estudiante Dayana Obregón Palacios, portadora de la cédula 702880339, estudiante de la carrera de Enseñanza en Preescolar Bilingüe de la Universidad Hispanoamericana.

Dichos instrumentos están diseñados como parte del proceso investigativo que el estudiante desarrolla para optar por el grado de Licenciatura, con el tema:

**Impact of using the Starfall ABCs app in improving the identification of alphabet students between 4 to 5 years old of the interactive II A of the Saint Josephine Bilingual School in Grecia, Alajuela during the second semester 2025.**

Después de realizar un análisis riguroso de dichos instrumentos, doy fe de que cumplen con los requerimientos técnicos, pedagógicos y éticos necesarios para su aplicación dentro del contexto educativo propuesto. Por tanto, avalo su validez y pertinencia para ser utilizados en el desarrollo y análisis de la presente investigación.

Para los efectos correspondientes, extendiendo la presente declaración en Alajuela, Grecia, Costa Rica, a los 24 días del mes de Octubre del año 2025.

Firma: 

Cédula: 107950599



Alajuela, Grecia, Costa Rica

Señores:

Universidad Hispanoamericana

**Declaración Jurada**

Yo, Rosa Solano Ulloa profesor (a) especialista en la enseñanza del idioma inglés, con categoría académica profesional de PT-6 y título de Licenciatura en la Enseñanza del Inglés, con 10 años de experiencia profesional y 10 años de servicio en el ámbito educativo, debidamente incorporado (a) al Colegio de Licenciados y Profesores en Letras, Filosofía, Ciencias y Artes de Costa Rica, hago constar por medio de la presente que he revisado cuidadosamente los instrumentos de medición elaborados por la estudiante Dayana Obregón Palacios, portadora de la cédula 702880339, estudiante de la carrera de Enseñanza en Preescolar Bilingüe de la Universidad Hispanoamericana.

Dichos instrumentos están diseñados como parte del proceso investigativo que el estudiante desarrolla para optar por el grado de Licenciatura, con el tema:

**Impact of using the Starfall ABCs app in improving the identification of alphabet students between 4 to 5 years old of the interactive II A of the Saint Josephine Bilingual School in Grecia, Alajuela during the second semester 2025.**

Después de realizar un análisis riguroso de dichos instrumentos, doy fe de que cumplen con los requerimientos técnicos, pedagógicos y éticos necesarios para su aplicación dentro del contexto educativo propuesto. Por tanto, avalo su validez y pertinencia para ser utilizados en el desarrollo y análisis de la presente investigación.

Para los efectos correspondientes, extiendo la presente declaración en Alajuela, Grecia, Costa Rica, a los 24 días del mes de Octubre del año 2025.

Firma: Rosa Solano U.

Cédula: 701060246



Alajuela, Grecia, Costa Rica

Señores:

Universidad Hispanoamericana

**Declaración Jurada**

Yo, Karla V. Zambona Mairena profesor (a) especialista en la enseñanza del idioma inglés, con categoría académica profesional de MT-5 y título de Licenciatura en la Enseñanza del Inglés, con 18 años de experiencia profesional y 18 años de servicio en el ámbito educativo, debidamente incorporado (a) al Colegio de Licenciados y Profesores en Letras, Filosofía, Ciencias y Artes de Costa Rica, hago constar por medio de la presente que he revisado cuidadosamente los instrumentos de medición elaborados por la estudiante Dayana Obregón Palacios, portadora de la cédula 702880339, estudiante de la carrera de Enseñanza en Preescolar Bilingüe de la Universidad Hispanoamericana.

Dichos instrumentos están diseñados como parte del proceso investigativo que el estudiante desarrolla para optar por el grado de Licenciatura, con el tema:

**Impact of using the Starfall ABCs app in improving the identification of alphabet students between 4 to 5 years old of the interactive II A of the Saint Josephine Bilingual School in Grecia, Alajuela during the second semester 2025.**

Después de realizar un análisis riguroso de dichos instrumentos, doy fe de que cumplen con los requerimientos técnicos, pedagógicos y éticos necesarios para su aplicación dentro del contexto educativo propuesto. Por tanto, avalo su validez y pertinencia para ser utilizados en el desarrollo y análisis de la presente investigación.

Para los efectos correspondientes, extiendo la presente declaración en Alajuela, Grecia, Costa Rica, a los 24 días del mes de Octubre del año 2025.

Firma: \_\_\_\_\_

Cédula: 155811875626



Alajuela, Grecia, Costa Rica

Señores:

Universidad Hispanoamericana

**Declaración Jurada**

Yo, Tekisha Edwards Lewis profesor (a) especialista en la enseñanza del idioma inglés, con categoría académica profesional de MT-5 y título de Licenciatura en la Enseñanza del Inglés, con 15 años de experiencia profesional y 15 años de servicio en el ámbito educativo, debidamente incorporado (a) al Colegio de Licenciados y Profesores en Letras, Filosofía, Ciencias y Artes de Costa Rica, hago constar por medio de la presente que he revisado cuidadosamente los instrumentos de medición elaborados por la estudiante Dayana Obregón Palacios, portadora de la cédula 702880339, estudiante de la carrera de Enseñanza en Preescolar Bilingüe de la Universidad Hispanoamericana.

Dichos instrumentos están diseñados como parte del proceso investigativo que el estudiante desarrolla para optar por el grado de Licenciatura, con el tema:

**Impact of using the Starfall ABCs app in improving the identification of alphabet students between 4 to 5 years old of the interactive II A of the Saint Josephine Bilingual School in Grecia, Alajuela during the second semester 2025.**

Después de realizar un análisis riguroso de dichos instrumentos, doy fe de que cumplen con los requerimientos técnicos, pedagógicos y éticos necesarios para su aplicación dentro del contexto educativo propuesto. Por tanto, avalo su validez y pertinencia para ser utilizados en el desarrollo y análisis de la presente investigación.

Para los efectos correspondientes, extiendo la presente declaración en Alajuela, Grecia, Costa Rica, a los 24 días del mes de Octubre del año 2025.

Firma: 

Cédula: 701870038



### Carta de conocimiento informado

Estimados padres de familia o encargado legal:

Reciba un cordial saludo. Mi nombre es Dayana Obregón Palacios, docente de preescolar bilingüe del Saint Josephine Bilingual School y estudiante de la carrera de ciencias de la educación con énfasis en educación preescolar bilingüe en la Universidad Hispanoamericana. Actualmente me encuentro desarrollando un proyecto de investigación como requisito para optar por el título de Licenciatura en Educación Preescolar Bilingüe. La investigación se titula:

**“Impact of using the Starfall ABCs app in improving the identification of alphabet students between 4 to 5 years old of the interactive II A of the Saint Josephine Bilingual School in Grecia, Alajuela during the second semester 2025.”**

El propósito de esta investigación es analizar y determinar la efectividad de la aplicación *Starfall ABCs* como herramienta pedagógica para mejorar la identificación de los sonidos del alfabeto en los estudiantes de preescolar de 4 a 5 años del nivel Interactive II A.

Este estudio busca aportar evidencia sobre cómo la integración de recursos digitales en la enseñanza inicial puede favorecer la conciencia fonémica, fortalecer el proceso de enseñanza–aprendizaje y contribuir al desarrollo de habilidades lectoras en inglés fundamentales en los niños de edad temprana.

Aspectos por considerar:

- La participación de su hijo (a) es completamente voluntaria.
- La información recopilada será **confidencial** y utilizada únicamente con fines académicos.
- En ningún momento se revelará el nombre del estudiante, ni se expondrá información que permita identificarlo.
- Usted puede retirar su consentimiento en cualquier momento sin que esto afecte a su hijo (a) de forma negativa.
- No existe ningún riesgo físico o emocional para su hijo (a) derivado de esta participación.



Por medio de esta carta, solicito su autorización para que su hijo (a) pueda participar en las actividades de esta investigación. Agradezco de antemano su colaboración y apoyo en este proceso académico, que tiene como fin contribuir con la mejora del aprendizaje del idioma inglés en el aula.

Si tiene alguna pregunta o desea más información, puede contactarme al correo electrónico:

[dayana.obregon0339@uhispano.ac.cr](mailto:dayana.obregon0339@uhispano.ac.cr)

Atentamente:

Teacher Dayana Obregón Palacios

#### Firma de consentimiento

Yo Yancy Jiménez Arroyo, padre/madre o encargado legal del estudiante  
Rojas Jiménez Sofía  si autorizo /  no autorizo \_\_\_\_\_

la participación de mi hijo (a) en la investigación académica descrita anteriormente.

Firma: Yancy Jiménez A.

Cédula: 1-1466-0078

Fecha: 24 Septiembre 2025



Por medio de esta carta, solicito su autorización para que su hijo (a) pueda participar en las actividades de esta investigación. Agradezco de antemano su colaboración y apoyo en este proceso académico, que tiene como fin contribuir con la mejora del aprendizaje del idioma inglés en el aula.

Si tiene alguna pregunta o desea más información, puede contactarme al correo electrónico:

[dayana.obregon0339@uhispano.ac.cr](mailto:dayana.obregon0339@uhispano.ac.cr)


Atentamente:

Teacher Dayana Obregón Palacios

#### Firma de consentimiento

Yo Elizabeth Montano, padre/madre o encargado legal del estudiante  
Sebastian Rojas. M  **si autorizo** /  **no autorizo** \_\_\_\_\_

la participación de mi hijo (a) en la investigación académica descrita anteriormente.

Firma: 

Cédula: 603950211

Fecha: 29/09/2025



Por medio de esta carta, solicito su autorización para que su hijo (a) pueda participar en las actividades de esta investigación. Agradezco de antemano su colaboración y apoyo en este proceso académico, que tiene como fin contribuir con la mejora del aprendizaje del idioma inglés en el aula.

Si tiene alguna pregunta o desea más información, puede contactarme al correo electrónico:


[dayana.obregon0339@uhispano.ac.cr](mailto:dayana.obregon0339@uhispano.ac.cr)

Atentamente:

Teacher Dayana Obregón Palacios

#### Firma de consentimiento

Yo Carol Salazar Rojas, padre/madre o encargado legal del estudiante  
Marie Paz Chavarria Salazar si autorizo / no autorizo si autorizo  
la participación de mi hijo (a) en la investigación académica descrita anteriormente.

Firma: 

Cédula: 206930335

Fecha: 24-09-2025



Por medio de esta carta, solicito su autorización para que su hijo (a) pueda participar en las actividades de esta investigación. Agradezco de antemano su colaboración y apoyo en este proceso académico, que tiene como fin contribuir con la mejora del aprendizaje del idioma inglés en el aula.

Si tiene alguna pregunta o desea más información, puede contactarme al correo electrónico:

[dayana.obregon0339@uhispano.ac.cr](mailto:dayana.obregon0339@uhispano.ac.cr)

Atentamente:

Teacher Dayana Obregón Palacios

**Firma de consentimiento**

Yo Carmen Lilia La Redonda, padre/madre o encargado legal del estudiante  
Mia Antonella Franco si autorizo / no autorizo Sí autorizo

la participación de mi hijo (a) en la investigación académica descrita anteriormente.

Firma:

[Handwritten Signature]

Cédula:

186201266835

Fecha:

25/09/2025



Por medio de esta carta, solicito su autorización para que su hijo (a) pueda participar en las actividades de esta investigación. Agradezco de antemano su colaboración y apoyo en este proceso académico, que tiene como fin contribuir con la mejora del aprendizaje del idioma inglés en el aula.

Si tiene alguna pregunta o desea más información, puede contactarme al correo electrónico:

[dayana.obregon0339@uhispano.ac.cr](mailto:dayana.obregon0339@uhispano.ac.cr)

Atentamente:

Teacher Dayana Obregón Palacios

**Firma de consentimiento**

Yo Kemberli Pamela Espinoza A., padre/madre o encargado legal del estudiante Samuel Meléndez Espinoza si autorizo / no autorizo sí autorizo la participación de mi hijo (a) en la investigación académica descrita anteriormente.

Firma: Kimberly Espinoza.

Cédula: 206960019

Fecha: 26/09/2025.



Por medio de esta carta, solicito su autorización para que su hijo (a) pueda participar en las actividades de esta investigación. Agradezco de antemano su colaboración y apoyo en este proceso académico, que tiene como fin contribuir con la mejora del aprendizaje del idioma inglés en el aula.

Si tiene alguna pregunta o desea más información, puede contactarme al correo electrónico:

[dayana.obregon0339@uhispano.ac.cr](mailto:dayana.obregon0339@uhispano.ac.cr)

Atentamente:

Teacher Dayana Obregón Palacios

**Firma de consentimiento**

Yo Stibaliz Chacón Cruz, padre/madre o encargado legal del estudiante  
Camille Morales Chacón si autorizo / no autorizo si autorizo  
la participación de mi hijo (a) en la investigación académica descrita anteriormente.

Firma: 

Cédula: 113756700

Fecha: 25/09/25



Por medio de esta carta, solicito su autorización para que su hijo (a) pueda participar en las actividades de esta investigación. Agradezco de antemano su colaboración y apoyo en este proceso académico, que tiene como fin contribuir con la mejora del aprendizaje del idioma inglés en el aula.

Si tiene alguna pregunta o desea más información, puede contactarme al correo electrónico:

[dayana.obregon0339@uhispano.ac.cr](mailto:dayana.obregon0339@uhispano.ac.cr)

Atentamente:

Teacher Dayana Obregón Palacios

**Firma de consentimiento**

Yo Erika Álvarez Ballesteros, padre/madre o encargado legal del estudiante  
Samuel Rojas Álvarez si autorizo / no autorizo si autorizo  
la participación de mi hijo (a) en la investigación académica descrita anteriormente.

Firma: 

Cédula: 205790991

Fecha: 25/09/25



Por medio de esta carta, solicito su autorización para que su hijo (a) pueda participar en las actividades de esta investigación. Agradezco de antemano su colaboración y apoyo en este proceso académico, que tiene como fin contribuir con la mejora del aprendizaje del idioma inglés en el aula.

Si tiene alguna pregunta o desea más información, puede contactarme al correo electrónico:

[dayana.obregon0339@uhispano.ac.cr](mailto:dayana.obregon0339@uhispano.ac.cr)

Atentamente:

Teacher Dayana Obregón Palacios

**Firma de consentimiento**

Yo Estela Rodríguez V., padre/madre o encargado legal del estudiante  
Saúl Zamora Rodríguez si autorizo / no autorizo si autorizo

la participación de mi hijo (a) en la investigación académica descrita anteriormente.

Firma: 

Cédula: 2-0641-0956

Fecha: 25/09/25



Por medio de esta carta, solicito su autorización para que su hijo (a) pueda participar en las actividades de esta investigación. Agradezco de antemano su colaboración y apoyo en este proceso académico, que tiene como fin contribuir con la mejora del aprendizaje del idioma inglés en el aula.

Si tiene alguna pregunta o desea más información, puede contactarme al correo electrónico:

[dayana.obregon0339@uhispano.ac.cr](mailto:dayana.obregon0339@uhispano.ac.cr)


Atentamente:

Teacher Dayana Obregón Palacios

**Firma de consentimiento**

Yo Cindy Campos Murillo, padre/madre o encargado legal del estudiante  
Olivia García Campos si autorizo / no autorizo si autorizo

la participación de mi hijo (a) en la investigación académica descrita anteriormente.

Firma: 

Cédula: 2-0577-0066

Fecha: 25-9-25



Por medio de esta carta, solicito su autorización para que su hijo (a) pueda participar en las actividades de esta investigación. Agradezco de antemano su colaboración y apoyo en este proceso académico, que tiene como fin contribuir con la mejora del aprendizaje del idioma inglés en el aula.

Si tiene alguna pregunta o desea más información, puede contactarme al correo electrónico:

[dayana.obregon0339@uhispano.ac.cr](mailto:dayana.obregon0339@uhispano.ac.cr)

Atentamente:

Teacher Dayana Obregón Palacios

**Firma de consentimiento**

Yo Marianela Cisneros Castro, padre/madre o encargado legal del estudiante

Antonio Alfaro Cisneros si autorizo / no autorizo si

la participación de mi hijo (a) en la investigación académica descrita anteriormente.

Firma: 

Cédula: 2-586-295

Fecha: 24/09/2025



Por medio de esta carta, solicito su autorización para que su hijo (a) pueda participar en las actividades de esta investigación. Agradezco de antemano su colaboración y apoyo en este proceso académico, que tiene como fin contribuir con la mejora del aprendizaje del idioma inglés en el aula.

Si tiene alguna pregunta o desea más información, puede contactarme al correo electrónico:

[dayana.obregon0339@uhispano.ac.cr](mailto:dayana.obregon0339@uhispano.ac.cr)

Atentamente:

Teacher Dayana Obregón Palacios

**Firma de consentimiento**

Yo Rolando Sánchez V, padre/madre o encargado legal del estudiante  
Veronica Sánchez A si autorizo / no autorizo Si autorizo

la participación de mi hijo (a) en la investigación académica descrita anteriormente.

Firma:

A handwritten signature in blue ink, appearing to be 'R. Sánchez V'.

Cédula:

401740791

Fecha:

24/9/2025



Por medio de esta carta, solicito su autorización para que su hijo (a) pueda participar en las actividades de esta investigación. Agradezco de antemano su colaboración y apoyo en este proceso académico, que tiene como fin contribuir con la mejora del aprendizaje del idioma inglés en el aula.

Si tiene alguna pregunta o desea más información, puede contactarme al correo electrónico:

[dayana.obregon0339@uhispano.ac.cr](mailto:dayana.obregon0339@uhispano.ac.cr)

Atentamente:

Teacher Dayana Obregón Palacios

#### Firma de consentimiento

Yo Mario Antonio Campos Rodríguez, padre/madre o encargado legal del estudiante Montserrat Campos Larca si autorizo / no autorizo si autorizo la participación de mi hijo (a) en la investigación académica descrita anteriormente.

Firma: Mario Campos Rodríguez

Cédula: 40230984

Fecha: 25/09/2025



Por medio de esta carta, solicito su autorización para que su hijo (a) pueda participar en las actividades de esta investigación. Agradezco de antemano su colaboración y apoyo en este proceso académico, que tiene como fin contribuir con la mejora del aprendizaje del idioma inglés en el aula.

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[dayana.obregon0339@uhispano.ac.cr](mailto:dayana.obregon0339@uhispano.ac.cr)

Atentamente:

Teacher Dayana Obregón Palacios

#### Firma de consentimiento

Yo Yadira Chavez Mendoza, padre/madre o encargado legal del estudiante Markos Socarras Chavez si autorizo / no autorizo SI autorizo

la participación de mi hijo (a) en la investigación académica descrita anteriormente.

Firma: 

Cédula: 11920049223

Fecha: 25/09/25



Por medio de esta carta, solicito su autorización para que su hijo (a) pueda participar en las actividades de esta investigación. Agradezco de antemano su colaboración y apoyo en este proceso académico, que tiene como fin contribuir con la mejora del aprendizaje del idioma inglés en el aula.

Si tiene alguna pregunta o desea más información, puede contactarme al correo electrónico:

[dayana.obregon0339@uhispano.ac.cr](mailto:dayana.obregon0339@uhispano.ac.cr)

Atentamente:

Teacher Dayana Obregón Palacios

#### Firma de consentimiento

Yo Kimberly Herrera Murillo, padre/madre o encargado legal del estudiante Samuel David González Herrera **si autorizo / no autorizo** si autorizo la participación de mi hijo (a) en la investigación académica descrita anteriormente.

Firma: 

Cédula: 206530992.

Fecha: 25-09-25



Por medio de esta carta, solicito su autorización para que su hijo (a) pueda participar en las actividades de esta investigación. Agradezco de antemano su colaboración y apoyo en este proceso académico, que tiene como fin contribuir con la mejora del aprendizaje del idioma inglés en el aula.

Si tiene alguna pregunta o desea más información, puede contactarme al correo electrónico:

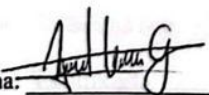
[dayana.obregon0339@uhispano.ac.cr](mailto:dayana.obregon0339@uhispano.ac.cr)

Atentamente:

Teacher Dayana Obregón Palacios

**Firma de consentimiento**

Yo Raquel Quesada Gómez, padre/madre o encargado legal del estudiante  
Isabella Huertas Quesada si autorizo / no autorizo si autorizo  
la participación de mi hijo (a) en la investigación académica descrita anteriormente.

Firma: 

Cédula: 208050277

Fecha: 30/09/25



Por medio de esta carta, solicito su autorización para que su hijo (a) pueda participar en las actividades de esta investigación. Agradezco de antemano su colaboración y apoyo en este proceso académico, que tiene como fin contribuir con la mejora del aprendizaje del idioma inglés en el aula.

Si tiene alguna pregunta o desea más información, puede contactarme al correo electrónico:

[dayana.obregon0339@uhispano.ac.cr](mailto:dayana.obregon0339@uhispano.ac.cr)

Atentamente:

Teacher Dayana Obregón Palacios

#### Firma de consentimiento

Yo Carlos Richmond Zumbado, padre/madre o encargado legal del estudiante  
Amelia Richmond Valverde  si autorizo  no autorizo \_\_\_\_\_  
la participación de mi hijo (a) en la investigación académica descrita anteriormente.

Firma: 

Cédula: 1-17190909

Fecha: 29 / 9 / 25



Por medio de esta carta, solicito su autorización para que su hijo (a) pueda participar en las actividades de esta investigación. Agradezco de antemano su colaboración y apoyo en este proceso académico, que tiene como fin contribuir con la mejora del aprendizaje del idioma inglés en el aula.

Si tiene alguna pregunta o desea más información, puede contactarme al correo electrónico:

[dayana.obregon0339@uhispano.ac.cr](mailto:dayana.obregon0339@uhispano.ac.cr)

Atentamente:

Teacher Dayana Obregón Palacios

**Firma de consentimiento**

Yo Ryan Holsather  padre/madre o encargado legal del estudiante  
Alex Holsather  si autorizo  no autorizo \_\_\_\_\_

la participación de mi hijo (a) en la investigación académica descrita anteriormente.

Firma: Ryan Holsather  
 Cédula: A 50 269989 (US Pasaporte)  
 Fecha: 29 de Septiembre de 2025

Figure 82

SESSION 1



Note: Evidence of the work from session 1.

**Figure 83***SESSION 2*

*Note: Evidence of the work from session 2.*

Figure 84

SESSION 3



Note: Evidence of the work from session 3

**Figure 85***SESSION 4*

*Note: Evidence of the work from session 2.*