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Enhancing Phonemic Awareness in Bilingual Kindergarten Students: The Impact of

Multisensory Material in Pre-reading Skills.

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Abstract

The current research explores the incidence of didactic material in the English learning process while considering phonemic awareness in kindergarten students and its importance in English language teaching. Previous research has discovered that teachers' beliefs and practices have a significant influence on teaching phonemic processes (Tatto, 2019). Still, little attention has been given to the impact of the instructional material on teaching a language to kindergarten students (Vidal, 2019).

The study, which will be carried out considering the population in the William Kilpatrick Kindergarten, adopted a qualitative paradigm and an action research approach to collect data on students' speaking skills; it was developed through semi-structured interviews. Furthermore, it is expected to help teachers to make informed decisions about the materials they choose for the teaching process. Consequently, this might suggest that an effective approach for teaching English to early childhood students could involve instructional material that takes into account the significance of age and phonemic awareness in the learning process.

Keywords: Phonemic awareness, multisensory material, pre-reading skills.

Chapter I: Introductory remarks

Early literacy development in bilingual kindergarten students relies on effective strategies to foster phonemic awareness and pre-reading skills. As outlined in the introduction, the implementation of didactic material plays a key role in this educational endeavor, shaping the learning experiences of young learners and setting the stage for their future academic success. However, despite the recognized importance of phonemic awareness, challenges persist in selecting appropriate instructional materials that cater to the diverse needs and interests of students, particularly in bilingual educational settings. Building upon this premise, the statement of the problem delves into the specific challenges and gaps in the current educational landscape, highlighting the necessity for research to address these issues.

Furthermore, the rationale underscores the significance of this research endeavor, emphasizing its potential to contribute valuable insights and methodologies to the field of early childhood education and bilingualism. Drawing upon the state of the art, the existing literature provides a comprehensive overview of relevant concepts, theories, and methodologies, laying the groundwork for the subsequent investigation. Finally, guided by the research question and objectives, this study seeks to explore the impact of multisensory material on phonemic awareness and pre-reading skills development among bilingual kindergarten students, aiming to provide actionable insights for educators and curriculum developers.

1.1 Introduction

The implementation of didactic material in teaching reading and developing phonemic awareness is crucial for ensuring a successful educational process with long-term implications for academic and professional success. As emphasized by Groth (2020),

phonemic awareness skills taught at the appropriate time and with adequate support contribute to children's literacy development and progress. Therefore, the selection of didactic material should consider various aspects such as learning styles, interests, age appropriateness, and the availability of comprehensible and engaging materials that cater to the student's needs.

On the one hand, children often encounter challenges in mastering phonemic awareness, leading to difficulties in pronouncing certain phonemes, blending or omitting sounds in words, and struggling with segmenting words into phonemic units. These difficulties, known as phonological impairments, could, according to Adams (1990) as cited by Bruck and Genesee (1995) directly impact their reading acquisition process, resulting in slow and less fluent reading, comprehension problems, and struggles in associating sounds with corresponding letters.

On the other hand, choosing suitable didactic materials to develop phonemic awareness and teach reading to kindergarten students poses multiple challenges. These challenges may include unclear learning objectives, limited material diversity, content that may not be appropriate for the student's level, and a lack of relevance to their interests and needs. As pointed out by Campbell (2018), some studies have identified a lack of teacher knowledge about explicit decoding instruction, leading to ineffective phonics instruction methods. These obstacles can hinder students' motivation, engagement, and focus during the learning process. Moreover, the availability and accessibility of didactic materials should also be taken into account when selecting appropriate resources.

Concerning the context of this project, the focus is on teaching phonemics to young children within the William Kilpatrick Kindergarten, located in Cajicá. The kindergarten consists of 10 students aged 2 to 6, ranging from preschool to kindergarten levels, and is supported by three established teachers and a music teacher. Bilingual education is carried

out through coursebooks and activities that involve physical materials such as magnetic boards, crafts, and tangible games. Given that some students are as young as 2 years old, at an age when they are learning to speak and express their thoughts, the process of phonemic awareness becomes crucial as they learn to identify and associate sounds with reading.

Considering all the above, this project will be divided into chapters, therefore Chapter 1 (Introductory Remarks) will be the statement of the problem, research questions, objectives, and justification. Then in Chapter 2 (Literature Review), there will be a compilation of the most important literature related to the problem, identifying gaps and important contributions to the current project. Then in Chapter 3 (Theoretical Framework) there will be addressed the main essential concepts of this project. Consequently, in Chapter 4 (Methodology), it will be discussed the research approach, instruments, and techniques used for the development of this project, and finally, in Chapter 5 (Expected Findings and Conclusions) there will be an interpretation of what is expected to be achieved with the development of this project and how does it contribute to the educational research field.

1.2 Statement of the problem

The implementation of didactic material in the development of phonemic awareness when teaching reading is essential for guaranteeing a proper educational process since it has a great impact on future abilities required for having a good performance in both academic and professional life. According to Bradley and Bryant (1983), the experiences that a child has with the sounds of the words contribute to categorizing those words, which influences the reading acquisition process. Thus, as stated by Groth (2020) children's literacy development progresses smoothly when phonemic awareness skills are taught at the proper time and with the proper support. That is why the didactic material should be selected considering several

aspects such as learning styles, interests, ages, and comprehensible and ludic material, in order to understand and consider the necessities of the students.

On the one hand, considering the semi-structured interview carried out in the target population, children may experience confusion in the pronunciation of certain phonemes, blend or omit sounds in words, and even have difficulty segmenting words into phonemic units. These difficulties, known as phonological impairments, manifest themselves in the ability to recognize and manipulate the sounds of spoken language, which directly affects their reading acquisition process and can result in slow and not very fluent reading, comprehension problems, and difficulties in associating sounds with corresponding letters (Tamayo, 2017).

On the other hand, there are multiple challenges in choosing didactic materials to generate phonemic awareness to teach reading to kindergarten students, these could be unclear learning objectives, limited material diversity, inappropriate content for the student's level, and a lack of relevance to their interests and needs. Thus, as stated by Campbell (2018) "Some studies have identified teacher's lack of knowledge about explicit decoding instruction, resulting in inaccurate methods of phonics instruction" (p. 11). These obstacles can have adverse effects on the student's motivation, engagement, and focus during the learning process. Additionally, it is crucial to consider the availability and accessibility of didactic materials when selecting appropriate resources.

In order to determine the pedagogical decisions employed for ensuring early reading skills, specifically concerning phonemic awareness, the study involved the conduction of a semi-structured, face-to-face interview with two experienced kindergarten teachers. The interviews encompassed a range of questions, including the criteria utilized by the teachers in their selection of instructional materials aimed at imparting phonemic knowledge to their

young learners. One of the participating teachers responded to this specific query, as evident in the subsequent excerpt:

> *Interviewed 2 (English teacher):* Mm, I think little things that catch their attention. So things, uh, what do you call that, concrete material? So, things that they can manipulate that they can, let's say, on the letters of the didactic board, then you tell them the alphabet in English and they glue them, recognizing the sound of the word and they glue it on the board. So, let's say one of the activities we did was to put the names of each one. Then they write the names with the letters on the board and start spelling, so the materials are very playful, within their reach and they can manipulate them. (*Interview in William Kilpatrick Kindergarten with the English Teacher, March 2023, own translation*)

In this answer, it could be observed the importance of selecting appropriate materials for the interests and age of the children since its impact on the learning process. Therefore, proper materials can enhance the child's comprehension and understanding. When materials are selected to align with the child's interests, they become more invested in the learning process and are more likely to retain the information presented. Thus, as stated by Cihon et al. (2008) "The challenge for teachers of reading is to meet the diverse instructional needs of all children in their classrooms." (p.138). Therefore, apart from the challenge of selecting appropriate materials, there is also an essential factor to consider which is that children are at a decisive age at which their literacy processes are starting.

On the other hand, another question posed during the interview with the primary objective of ascertaining the educators' encounters in instructing phonemics to kindergarten students was: "What specific experiences have you encountered while teaching phonetics to your kindergarten students?" Subsequently, one of the interviewed teachers responded to this question, as evidenced in the following excerpt:

Interviewed 1 (Spanish teacher): Mm. Well, one experience is that, for example, there is a child who, for example, you tell him at the moment, it says ma-ma. Right? Then he says to me, uh, uh, there it says a-a? then again, no. There it says ma-ma and comes back again. So

he doesn't, he doesn't process what we are doing. He just goes away. (Interview in William Kilpatrick Kindergarten to the Spanish Teacher, March 2023, own translation)

What could be analyzed from the previous answer, and considering that the population has no learning difficulties, is that children may not get interested enough in the learning process which, consequently, would suggest that there is a lack of suitable material that catches students´ interest and attention in the learning process. Furthermore, since teachers are usually trained without emphasizing phonemic awareness the reading teaching process is developed by showing students how a letter sounds when it is next to another, but the impact of phonemic awareness could be not considered, which could delay the acquisition of reading skills. According to Campbell (2018), "phonological awareness is particularly beneficial for pre-school-aged children and an important predictor of decoding and later reading success" (p. 4) this reconfirms the impact and usefulness of considering phonemic awareness in the teaching process to guarantee proper development of the pre-reading skills in the kindergarten.

According to the observation made in the kindergarten, regarding reading in English, students are able to identify the symbol of some letters by doing and decorating its graph, furthermore, students are able to identify its sound and the graphic representation of their names. However, according to the Derechos Básicos de Aprendizaje in English (DBA) and considering students´ age, students should be able to recognize the consonants, vowels, and syllables, identify and associate the sounds of the letters they hear in readings, and link them with their spelling or pseudo-letters to write what they want or need to express (a story, an invitation, a letter, a recipe, etc.), and also to write his or her name with the letters he/she knows, likewise according to the curriculum students should be able to do short dictations. Nevertheless, considering the information obtained from the interview done in the

kindergarten there are difficulties such as phonological impairments or lack of students´ attention, which could unveil problems with the instructional material applied.

In light of the above-mentioned challenges, there is a pressing need for suitable instructional materials for teaching English while immersing phonemic awareness in kindergarten students. It means that teaching phonemics to kindergarten students is an important aspect of their language development and literacy process, as it helps them to acquire the necessary skills to read and write effectively. However, finding suitable instructional materials for this age group can be challenging since children in kindergarten are still in the early stages of their language development and have limited attention spans.

Therefore, instructional materials that are visually engaging and interactive are essential. The materials should also be age-appropriate and adaptable to their learning styles (El-Sabagh, 2021). Thus, by providing teachers with evidence-based, engaging, and accessible resources, educators can promote the development of strong phonemic awareness skills and support the academic success of students, considering the incidence of phonemic awareness on the acquisition of reading skills.

Incorporating multisensory materials into the classroom is a powerful way to address the diverse learning needs of students (Beyer, 2022). Recognizing that each student has a unique learning style and may benefit from varied approaches, multisensory materials offer a dynamic and inclusive solution. By engaging multiple senses, these materials create a holistic learning experience that goes beyond traditional instruction. This approach not only reinforces phonemic awareness but also opens up interesting routes for deeper comprehension and retention of essential reading skills.

While the importance of multisensory materials in fostering phonemic awareness for proficient reading is widely acknowledged, there remains a need to address several critical issues. Firstly, despite the recognized benefits, there is limited clarity on the optimal design

and implementation of multisensory approaches within educational settings. Additionally, the effectiveness of these materials in facilitating a deep understanding of phonemes and graphemes, particularly among diverse student populations, requires further investigation. Furthermore, while hands-on activities and interactive games are emphasized, there is a lack of comprehensive research on their specific impact on improving reading fluency. Therefore, this study seeks to address these gaps by examining the nuanced role of multisensory materials in promoting phonemic awareness and enhancing reading skills among students, aiming to provide actionable insights for educators and curriculum developers.

Despite the recognized importance of pre-reading skills, particularly phonemic awareness, in the early literacy development of kindergarten students, there remains a gap in understanding the specific impact of multisensory material on these processes. While research acknowledges the significance of vocabulary development, print awareness, and comprehension strategies in laying the foundation for proficient reading, there is a lack of comprehensive investigation into how the implementation of multisensory material influences these critical aspects of literacy acquisition. Furthermore, while studies such as Beyer (2022) highlight the necessity of mastering letter names and sounds for successful reading, there is limited empirical evidence on the effectiveness of multisensory approaches in facilitating this mastery among kindergarten students.

In the same way, Despite the growing body of literature on phonemic awareness and early literacy development, there remains a notable gap in local studies examining the impact of multisensory material on these foundational skills, particularly within the context of bilingual kindergarten education. While international research provides valuable insights into the efficacy of multisensory approaches, the applicability of these findings to the local context may vary due to cultural and linguistic differences. Thus, there is a pressing need for localized investigations to bridge this gap and provide tailored insights for educators and

policymakers in Colombia (Osorio de Sarmiento, et al, 2020a; Piñeros-Ricardo, et al, 2024). This research project seeks to address this gap by specifically focusing on the impact of multisensory material on phonemic awareness and pre-reading skills development among bilingual kindergarten students in Bogotá, Colombia.

Therefore, this research project aims to address these gaps by exploring what the implementation of multisensory material reveals about the phonemic awareness and literacy processes of kindergarten students, with a specific focus on vocabulary development, print awareness, and comprehension strategies. Through a qualitative method and action research approach, supplemented by techniques like interviews and theoretical analysis, this study seeks to provide actionable insights for educators and curriculum developers to enhance pre-reading skills acquisition in early childhood education.

1.3 Rationale

In order to comply with the bilingualism policy at the national level (Colombian Ministry of National Education, 2018), the creation and adaptation of strategies and resources that contribute to and facilitate the bilingualism process should be encouraged (Gonzalez, 2023). The use of instructional materials in teaching phonemics is crucial to ensure a proper bilingual educational process, particularly for young children who are learning to read and write. However, selecting appropriate instructional materials for kindergarten students presents several challenges, including unclear learning objectives, limited material diversity, inappropriate content, and a lack of relevance to their interests and needs.

That is why research focused on the educational field is required, in this case, the realization of this project is relevant due to the impact that this project would have in the future development of language policies in primary and preschool education, considering that

this study can contribute to shed light in how phonemic awareness can help into literacy processes specifically in the reading skill.

Given the importance of effective phonemic instruction, this research project seeks to explore the variety of instructional materials used to teach phonemics to bilingual kindergarten students and establish guidelines for creating and selecting instructional materials (Rice et al. 2024). Since by providing evidence-based, engaging, and accessible resources, educators can promote strong phonemic awareness skills and support the academic success of all students, particularly considering the impact of phonemic awareness on literacy skills.

Additionally, this project is carried out with the professional purpose of expanding and evolving knowledge about instructional material to teach phonemics to kindergarten students, which would determine the importance of teacher training and the need to acknowledge the importance of instructional material in the learning process, in turn, this project seeks to ensure progress in the field of educational research, by studying and determining the aspects that influence the process of selection of instructional material.

On the other hand, this project's alignment with international policies, such as the Sustainable Development Goals (SDGs), underscores its commitment to fostering quality education, as outlined in SDG Goal 4. By implementing a teaching process that incorporates didactic materials, the project directly contributes to advancing this global agenda, ensuring that all learners have access to effective educational resources.

Furthermore, by adhering to Article 67 of the Colombian Political constitution and Law 115, which recognize education as both a fundamental right and a public service, the project reinforces the legal framework that mandates equitable access to education for all individuals in Colombia. Through its adherence to these international and national policies, the project not only promotes educational inclusivity and equity but also upholds fundamental

principles of human rights and social justice, thereby facilitating the realization of broader societal goals related to education and development.

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Thus, analyzing it from a macro-level perspective, the findings of this research can inform education policy by highlighting the importance of incorporating multisensory materials into early childhood education curricula. It can advocate for the development and implementation of policies that encourage the integration of evidence-based, engaging, and adaptive resources in kindergartens and preschools (Garcia et al., 2023). Which can lead to improved literacy outcomes among young learners at a systemic level. Likewise, policymakers can use research findings to allocate resources for the creation and dissemination of appropriate multisensory materials. This could include investments in the development of age-appropriate teaching resources, teacher training programs, and accessible learning materials.

From a meso-level perspective, the present research can benefit educators by emphasizing the significance of multisensory materials and phonemic awareness in early childhood education. This can trigger professional development opportunities, workshops, and training sessions for teachers to enhance their instructional strategies and material selection processes.

Finally, from a micro-level perspective, students stand to benefit significantly from this research project as it emphasizes the use of engaging and interactive materials tailored to their learning styles and interests (Gonzalez, 2023). This approach ensures that learning becomes enjoyable and meaningful for young learners. Besides, through the use of multisensory materials, students are likely to develop stronger phonemic awareness skills, which are critical for reading acquisition. This can result in better reading fluency, comprehension, and overall literacy skills (Blomert and Froyen, 2010).

To sum up, this research project is vital for the improvement of bilingual education in Colombia, particularly for kindergarten students who are learning to read and write in both, Spanish and English as a foreign language. By exploring the variety of multisensory materials used to teach phonemics to these students, the project aims to establish a booklet identifying multisensory material that addresses phonemic awareness while guiding the pre-reading skills acquisition process. The project also highlights the importance of teacher training and the need to acknowledge the significance of instructional materials in the learning process. Ultimately, this project seeks to ensure progress in the field of educational research by studying and determining the aspects that influence the process of selection of instructional materials.

1.4 State of the art

The state of the art serves as a compass, orienting researchers within the expansive landscape of existing knowledge. By synthesizing relevant literature, this comprehensive overview establishes the context for a new study, clarifying key concepts, theories, and methodologies in the chosen field. It not only helps researchers situate their work within the broader academic discourse but also aids in identifying gaps or unresolved questions, setting the stage for the formulation of precise and meaningful research questions.

Furthermore, the state of the art is instrumental in methodological decision-making. By examining how previous studies have approached similar inquiries, researchers gain valuable insights into effective research designs and methodologies. This methodological guidance not only informs the choices made in the current study but also fosters a continuous improvement in research practices.

Table 1. Summary table of articles

In order to offer a general view of the literature revised concerning the use of multi-sensory material for the development of phonemic awareness and pre-reading skills, it is presented a chart in which it is specified the title, year, author, institution, ambit (international, national and local) of each article revised for the delimitation of the theory behind the topic of this research (see Annex 1)

1.4.1 Literature review

In order to have a general view of the information and gaps in a complete panorama, some papers have been analyzed from a macro, mezzo, and micro perspective, going from international, to national and finally to local perspectives. In the first one, Lee (2016) in the article *Multisensory modalities for blending and segmenting among early readers* analyses, In this study investigated whether teaching blending and segmenting skills to second graders is more effective using physical materials (letter cards) or technology (iPads). They found both methods to be equally successful, suggesting traditional multisensory materials like letter cards remain useful for pre-reading skills. However, the study didn't focus on phonemic awareness, a key concept here, limiting its direct contribution to this research. Despite this, it highlights the potential of various multisensory materials in teaching methods.

In a second study, entitled *The Impact of Multi-sensory Language Teaching on Young English Learners' Achievement in Reading Skills* Korkmaz and Karatepe (2018) focus on investigating the impact of multisensory language teaching (MSLT) on the English reading

skills of 4th graders in Turkey. It addresses the challenges of traditional English language teaching by emphasizing the need for innovative approaches to accommodate diverse learning styles. Employing an experimental design, the research compares a control group taught through conventional methods with an experimental group exposed to MSLT. The MSLT approach incorporates auditory and visual materials, along with hands-on activities such as matching, sticking, and coloring. While the study doesn't specifically focus on generating phonemic awareness, its emphasis on multisensory materials in teaching reading skills contributes valuable insights into effective instructional methods for diverse learners.

In the same way, in a third study entitled *Multisensory letter integration and implicit learning of reading with 5-year-old children* Labat et al. (2019) investigated how multisensory learning improves pre-reading skills and phonemic awareness in young children. Their study highlights the importance of strong letter knowledge (names, sounds, shapes) for grasping the alphabetic principle. They also explore the effectiveness of implicit learning and how it might complement explicit learning approaches. Their research aligns with this project by showing that multisensory materials promote letter recognition, a key step in reading development. However, they acknowledge the need for further studies to fully understand the long-term impact of multisensory approaches on reading skills

Consequently Beyer (2022) in the paper entitled *The Relationship Between Multisensory Learning and Phonemic Awareness and Letter Identification in Kindergarten* investigated the link between multisensory teaching and student learning in a kindergarten intervention. Their seven-week study with six students showed that a multisensory approach improved letter identification skills. This aligns with this project's focus on multisensory materials and phonemic awareness, particularly how letter recognition strengthens retention. Their findings suggest a connection to reading skills that warrants further research. Additionally, the study highlights the benefits of using multisensory materials in teaching.

On the other hand, O'Brien, Seward and Zhang (2022) discuss in the article *Multisensory Interactive Digital Text for English Phonics Instruction with Bilingual Beginning Readers* the implementation of a technology-based tool called See Word Reading designed to teach English letter sounds to bilingual kindergarteners. This program uses multisensory elements like pictures to improve phonemic awareness. Their findings showed positive impacts on students' decoding, reading, and spelling skills. While this aligns with your research on multisensory learning and phonemic awareness, it focuses more on letter-sound relationships and reading, rather than general pre-reading skills. So, its applicability to some parts of your project might be limited.

Likewise, Walton (2014) explored in his study *Using Singing and Movement to Teach Pre-reading Skills and Word Reading to Kindergarten Children: An Exploratory Study* the effectiveness of using choral singing and movement to teach pre-reading skills in kindergarten. Through a well-designed study with random classroom assignment, they found that children in the singing/movement group significantly improved in letter sounds, recognizing sounds within words, and word reading compared to a control group. This suggests that incorporating singing and movement offers a valuable multisensory approach for enhancing foundational literacy skills in kindergarteners. The study's strength lies in its randomized design, sustained intervention duration, and focus on a critical stage for early literacy development.

On the other hand, Bdeir, Bahous, and Nabhani, (2020) in their study *Improving reading readiness in kindergarten children through early phonological awareness interventions* examine the impact of a systematic teaching program of phonological awareness skills on children's pre-reading skills in a school in Beirut, Lebanon. Though they didn't mention specific multisensory methods, the structured program likely involved various senses. This reinforces the importance of phonological awareness in preschool and adds to

global discussions on early literacy. By considering these findings alongside others, your project can design a strategy to enhance early reading skills in kindergarteners through multisensory approaches.

On the other hand, as mentioned before, analyses were made at a national level, in this category Perez (2021) in the article entitled *Developing Students' Ability to Decode Sounds and Improving Their Reading and Oral Production through the Jolly Phonics Method at Cartagena International School* investigated using the Jolly Phonics Method, a multisensory program with sounds, movement, and music, to teach beginning English reading skills to Colombian kindergarteners. Their study aimed to address the lack of phonics instruction in Colombian ELT programs. The findings showed that the Jolly Phonics method improved students' reading, pronunciation, and fluency in English. This research aligns with your project by demonstrating the effectiveness of multisensory approaches in developing early literacy skills in young English language learners.

Consequently, Zambrano, Álvarez, and Feria (2022) in the study *Phonological Awareness and Early Reading in Children with And Without the Phonological Disorder* studied the link between phonological awareness and early reading in children (average age 5 years 9 months) with and without phonological disorders. They found a clear connection in both groups. Their research offers a foundation for future studies and proposes intervention programs for children with phonological disorders, emphasizing the importance of supporting their phonological awareness development for better reading skills. This can be valuable for educators and parents in promoting early literacy, particularly for children needing extra help.

As mentioned above, local research was also contemplated, in this category, Gonzales (2022) in the article *Gamified phonics instruction developing second graders' pre-reading process.* tackles a similar topic, recognizing limitations in past research. They propose a new method for teaching proper English vowel sounds to young learners (ages 6-8) in Colombian

public schools. This method aims to improve phonemic awareness and pre-reading skills. Their project aligns with your study by focusing on phonemic awareness in this specific age group and by addressing the common issue of vowel sound confusion during early reading development.

By her side, Valbuena (2014) in the article *Tucker Signing as a Phonics Instruction Tool to Develop Phonemic Awareness in Children* focuses on promoting phonemic awareness in English as a second language through a program called Tucker Signing. They point out a lack of recent research on this program with ESL learners. This study is relevant because it explores the Tucker Signing program and highlights the importance of phonemic awareness and phonics instruction for ESL reading development.

In conclusion, the exploration of national and local research articles within the realm of phonemic awareness and early reading skills provides valuable insights and methodologies that significantly contribute to the depth and robustness of the current research project. In general, these studies contribute valuable insights into the multifaceted nature of phonemic awareness and its role in early reading acquisition. The findings not only support the theoretical foundation of the current research but also provides practical implications for educators and intervention program designers. The diverse methodologies and populations explored in these studies offer a comprehensive view, guiding the present research project in effectively addressing the identified gaps and providing a meaningful contribution to the advancement of early literacy practices. However, it could be noticed that there is a gap concerning local research about phonemic awareness in bilingual kindergarten students, consequently there is a chart to illustrate the process of search in databases (see chart 1).

Chart No. 1. Compilation of search in databases

Search results in local repositories				
database	Search form			
	Phonemic awareness in bilingual kindergarten students	Phonemic awareness	Phonemic awareness in kindergarten	Multisensory material for phonemic awareness
Javeriana university´s repository	0	0	0	0
District university´s repository	0	0	0	0
UIANDES university´s repository	0	0	0	0
Santo tomas university´s repository	0	0	0	0
UNILIBRE university´s repository	0	0	0	0
Rosario university´s repository	0	0	0	0
Del valle university´s repository	0	0	0	0
Antioquia university´s repository	0	0	0	0

Source: own elaboration

The database search process is a complex process that requires a clear understanding of the user's inquiry and the capabilities of the database. The above graphic (chart 1) illustrates the basic steps in the search process, from inquiry specification to analysis of the results. Understanding this process is essential for developing a literature review with contextualized information, and in this case, is essential to understand the gap in local research concerning multisensory material for developing phonemic awareness and pre-reading skills.

1.5 Research question

What does the implementation of multisensory material reveal about the phonemic awareness and pre-reading acquisition process of a group of kindergarten students?

1.6 Research Objectives

1.6.1 General Objective

To determine the information revealed from the implementation of multisensory material concerning the phonemic awareness and pre-reading process of a group of kindergarten students.

1.6.2 Specific Objectives

- To identify any changes or improvements in the pre-reading processes of kindergarten students resulting from the implementation of multisensory instructional material.
- To analyze the impact of the implementation of multisensory materials on phonemic awareness in bilingual kindergarten children.
- To design a booklet identifying multisensory material that addresses phonemic awareness while guiding the pre-reading skills-acquiring process.

Chapter 2: Theoretical Foundations

This chapter delves into the essential constructs underpinning early childhood reading development, with a focus on phonemic awareness, multisensory materials, and pre-reading skills. In the same way, the aim is to provide a comprehensive understanding of how these foundational elements interact to shape early bilingual literacy education. Phonemic awareness, the ability to recognize and manipulate individual phonemes, is explored alongside the role of multisensory materials in enhancing learning experiences through visual, auditory, and tactile engagement. Additionally, pre-reading skills such as vocabulary development, print awareness, and comprehension strategies are examined for their contribution to reading readiness. By clarifying the interplay between these constructs, this chapter lays the groundwork for effective early literacy instruction and underscores the importance of a holistic approach to literacy education.

2.1 Conceptual Framework

The early childhood process is important because it lays the foundation for the rest of the academic journey. At the core of this developmental process are three fundamental constructs: phonemic awareness, that is the ability to recognize and manipulate the smallest sound units of language (Yopp and Yopp, 2000); multisensory materials, which are educational resources that use multiple senses to enhance learning; and pre-reading skills, which are the basic skills and knowledge necessary for effective reading acquisition. This conceptual framework seeks to establish the intricate interplay between these constructs in the unique context of bilingual early childhood education. By examining the relationship between phonemic awareness, the use of multisensory materials, and the cultivation of pre-reading skills, it seeks to shed light on effective strategies for early literacy and promoting bilingualism among the youngest learners. As we delve deeper into the subconstructs and

educational context, we explore how these elements interact, paving the way for an understanding of their collective impact on the educational landscape.

2.1.1 Phonemic Awareness

Phonemic awareness, a foundational skill for proficient reading, is a critical component of early literacy development (Adams, 1990; Ehri & Snowling, 2004). It represents a specific subset of phonological awareness, which is the broader ability to recognize and manipulate the sounds of spoken language (Wagner and Torgesen, 1987). What differentiates phonemic awareness is that it focuses on individual phonemes, the smallest units of sound that have meaning in language (Adams, 1990). It goes beyond phonological awareness by focusing on the ability to isolate, combine, segment, and manipulate these individual phonemes within words (Wagner & Torgesen, 1987). In contrast, phonological awareness encompasses a broader range of skills related to sounds, such as syllable awareness and rhythm onset awareness (Ehri and Snowling, 2004). Phonemic awareness, on the other hand, extends the concept of phonetic awareness to include understanding the relationships between sounds and symbols (letters) in written language, a crucial skill for decoding words during reading (Yopp, 1988). Phonemic awareness, by focusing on the smallest sound units, plays a critical role in reading acquisition and lays the foundation for proficient reading and spelling (Adams, 1990; Ehri and Snowling, 2004).

2.1.1.1 Phonemic Identification

Phonemic identification is an essential precursor to proficient reading, providing learners with the fundamental auditory discrimination skills needed to understand and manipulate the phonemic structure of words (Ehri & Snowling, 2004; Wagner & Torgesen, 1987). It forms the basis for more advanced phonemic awareness skills that enable learners to decode and encode words effectively. The ability to identify and differentiate phonemes is

essential for developing accurate and fluent word recognition, spelling, and comprehension (Adams, 1990; Wagner and Torgesen, 1987). As students progress in their phonemic identification skills, they lay a solid foundation for success in reading and language acquisition.

2.1.1.2 Phonemic Segmentation

According to Muter, Hulme, Snowling, and Taylor (1997), phonemic segmentation refers to the ability to break down a word into its smallest sound units, known as phonemes. This skill is essential to the development of reading and writing, as it allows children to recognize and manipulate the individual sounds in words. Phonemic segmentation involves the awareness that words are composed of a sequence of distinct sounds and that these sounds can be represented by specific letters. This skill has been shown to be highly predictive of progress in reading and writing and has been found to be a key factor in the development of spelling.

2.1.1.3 Phonemic Blending.

According to Gillingham (1935) training the ear to recognize that sounds are blended into words or syllables is an important pre-reading skill. Recognizing that the sounds (when spoken as segmented units) can be blended into a word is a critical step before decoding printed words. Phonemic blending is a crucial milestone in the journey to proficient reading because it empowers learners to decode and recognize words with accuracy and fluency (Wagner & Torgesen, 1987). As learners master phonemic blending, they learn to put sounds together to make a word.

2.1.2 Multisensory Material

Multisensory materials, in line with Orton-Gillingham's (1935) approach, offer a dynamic and inclusive solution to address diverse learning needs. These teaching resources engage multiple senses, including visual, auditory, and tactile, creating a holistic learning experience that goes beyond traditional instruction (Cuturi et al., 2021). Visual engagement is vital to improving comprehension. By incorporating visually stimulating elements, learners are more likely to grasp and retain information (Orton-Gillingham, 1935; Bennett and Rebello, 2012). Auditory engagement plays a critical role in reinforcing learning. By actively listening and engaging with the material, students can deepen their comprehension and retention of essential reading skills (Orton-Gillingham, 1935). Tactile engagement introduces a kinesthetic element to learning. Through hands-on activities and interactive games, learners not only hear and see sounds, but also physically engage with them. This kinesthetic approach allows for a deeper understanding of phonemes and their corresponding graphemes. Understanding the role of multisensory materials is crucial to creating engaging and effective learning environments that accommodate diverse learning styles.

2.1.3 Pre-Reading Skills

Pre-reading skills encompass a range of fundamental skills and knowledge necessary for reading readiness (Cummins, 1981). Vocabulary development is crucial to language acquisition and comprehension (Cummins, 1981). As children expand their vocabulary, they acquire a deeper understanding of language and are better prepared to comprehend written texts. Print awareness, another vital skill, involves understanding the mechanics of written language, such as letter recognition and understanding the structure of a book (Pullen and Justice, 2003).

Comprehension strategies, as highlighted by Cunningham and Zibulsky (2014), are essential for extracting meaning from text. These strategies allow readers to engage with written material, make connections, and extract meaning from what they read. As children develop these strategies, they become more proficient readers with better comprehension skills (Cunningham & Zibulsky, 2014). Understanding and fostering these pre-reading skills is essential to preparing children for a successful reading journey.

As a conclusion, understanding the interaction and impact of these three constructs—phonemic awareness, multisensory material, and pre-reading skills—is essential for effective early literacy education (Adams, 1990; Cummins, 1981; Orton-Gillingham, 1935). Phonemic awareness lays the foundation for reading proficiency by enabling learners to recognize and manipulate individual phonemes. When coupled with multisensory materials, learners can engage with these phonemes using multiple senses (visual, auditory, tactile), deepening their understanding and retention.

For instance, students identifying phonemes through visually stimulating materials can associate sounds with corresponding letters, enhancing both phonemic awareness and print awareness (Orton-Gillingham, 1935). Moreover, pre-reading skills like vocabulary development are reinforced through phonemic awareness activities, such as phoneme blending, as students learn to combine sounds to form words, expanding their lexicon (Cummins, 1981; Adams, 1990). The dynamic interplay of these constructs facilitates a more holistic and impactful early literacy education.

2.2 Legal Framework

A legal framework is a set of laws, regulations, and practices governing a particular activity area. It provides a foundation upon which contracts and agreements can be built. The function of a legal framework is to establish a structure of rules and procedures that ensure

accountability, transparency, and fairness in the research project. It sets the fundamental rules and norms that guide behavior, interactions, and decision-making within that domain.

The legal framework in a research project is necessary to broadly reconsider the legal and regulatory frameworks governing the research project, including the optimal locus of regulatory authority within the executive branch. Addressing contemporary challenges associated with research projects, including new research capabilities and contexts, the profusion, sharing, and accessibility of personal data, and increasing privacy concerns, will require creative and forward-looking legal, regulatory, and institutional frameworks.

Thus, considering that this research project is being carried out within a qualitative paradigm that considers the particular context and information of selected participants and that its subject population is of underage between 2 to 6 years old, it is crucial to determine the ethical and legal terms through which the information should be managed in order to respect the participation and role of the subject population.

Therefore, the following legal framework will be divided into sections which are Education in Colombia, Private Education (Institution), Population, Preschool education, and processing of personal data. For this categories, it will be contemplated the Colombian Political Constitution of 1991, the General Law of Education 115 of 1994, the Law 1581 of 2012, the ICBF Colombian Legislation on Parental Authority, the DBA (by its initials in Spanish), and the Belmont Report, this main laws, articles, and decrees, among others that serve to this research are going to be presented in the chart called "Important legal aspects" (see chart 1).

Table 2. Important legal aspects

Education in Colombia	Private Education	Early childhood education	Early childhood bilingual education	Processing of personal data
Colombian Political Constitution of 1991 (Article 67)	Colombian Political Constitution of 1991 (Article 68)	Law 115 of 1994 (Article 16)	DBA (Fundamental learning)	ICBF (Article 288 and Article 307)
				Belmont report
				Law 1581 of 2012 (Article 7)

Source: Own elaboration

Thus, this condensation of the legal framework reflects a commitment to conducting research on early childhood bilingual education with a strong legal and ethical foundation. It acknowledges the importance of legal principles, constitutional rights, and ethical guidelines in shaping the research process, ensuring the protection of children's rights, and promoting quality education in Colombia.

2.2.1 Education in Colombia

In this section, it is presented the main legal aspects concerning education in Colombia, therefore, it remains essential to mention that Colombia's legal framework for education is rooted in its political Constitution of 1991, a landmark document that exalts a commitment to education as a fundamental right. The Constitution sets forth the principles that guide the education system, such as the promotion of science, technology, and culture. It also establishes goals for education, including the development of critical thinking and the formation of responsible citizens.

Thus, Articles 67 and 68 of the Constitution, in particular, emphasize the state's responsibility to provide quality education for all, with a focus on protecting children's best interests. These constitutional principles lay the foundation upon which all subsequent education-related laws and policies are built. By its side, according to article 67 education is a right and a public service of the person, so, as this research project is focused on education practices and its aim is to contribute to ensuring a quality education service from the early childhood stage, it is crucial to consider this regulation in order to guarantee the relevance of this research.

2.2.2 Private Education

The article 68 of the Colombian Constitution is a vital provision that addresses the right to education in Colombia, including private education. It enshrines the universal right to education as a fundamental right for all Colombian citizens, irrespective of their socioeconomic background. This encompasses access to both public and private educational institutions, emphasizing equal access without discrimination based on race, gender, religion, or economic status.

Likewise, according to article 68, it is acknowledged the importance of private education while allowing government regulation and oversight to ensure educational standards are met. This regulatory role helps maintain educational quality and ensures private institutions fulfill their educational mission. In some cases, the government may offer financial support to private educational institutions, particularly when serving underserved or disadvantaged populations, making private education more accessible.

Article 68 also safeguards the freedom of teaching, allowing private educational institutions to develop their educational philosophies, curricula, and methods. This encourages innovation and diversity in the education sector. Lastly, it provides the legal

framework for private educational institutions, defining their rights and responsibilities within Colombia's education system.

Considering the above, the present research project aligns with Article 68 of the Colombian Constitution by emphasizing universal access to quality education. By employing multisensory materials, the project caters to diverse linguistic backgrounds, promoting equal access and protecting cultural diversity. This innovative approach also resonates with Article 68's emphasis on educational freedom and diversity in teaching methods. Additionally, the project's adherence to educational standards reflects the constitutional provision for government regulation and oversight. Overall, the research contributes to the constitutional goals of providing inclusive and effective pre-reading education for all students, particularly in bilingual kindergarten settings.

2.2.3 Early Childhood Education

Article 16 of Law 115 of 1994 in Colombia is key for early childhood education. It mandates early childhood education as an integral part of the educational process, ensuring that children receive foundational learning experiences from an early age. The article places emphasis on a holistic approach, recognizing that education in this stage encompasses not only academic learning but also the physical, emotional, social, and cognitive development of the child. This comprehensive perspective sets the stage for the development of well-rounded individuals.

Furthermore, Article 16 advocates for the creation of stimulating environments that nurture the natural curiosity and creativity of young children. It encourages the use of age-appropriate teaching methods, materials, and activities that engage and inspire learning, fostering a positive attitude towards education from an early age. The provision also acknowledges and respects the diverse learning styles and paces of development among young children, calling for educational strategies that accommodate these differences.

Additionally, the article highlights the significance of play in early childhood education, encouraging the use of play-based learning activities that allow children to explore, experiment, and interact with their environment. This approach not only engages but also effectively promotes cognitive and social development. Thus, the present research is crucial in order to shed light on understanding how the implementation of multisensory material would impact the learning process understanding learning styles and development stages.

2.2.4 Early Childhood Bilingual Education

Basic Learning Rights (DBA for its initials in Spanish) constitute a fundamental concept in education policy that applies to all levels of education, including early childhood education. In the context of early childhood bilingual education, these basic learning rights carry significant contributions and importance.

First, these rights underscore the principle of equal access to quality education for all students, including those in the early childhood phase. This is particularly relevant for bilingual education, as it ensures that children from diverse linguistic backgrounds have an equal opportunity to receive a high-quality education. Additionally, these basic learning rights often include standards and indicators for educational quality. Within early childhood bilingual education, such standards ensure that programs meet high-quality educational benchmarks, offer appropriate language development support, and maintain cultural sensitivity in their curriculum.

Thus, DBA provides a comprehensive framework for equal access to quality education, cultural and linguistic inclusivity, setting educational quality standards, involving parents and communities, promoting teacher training, monitoring progress (Gómez, et al, 2023) , and implementing inclusive education practices in early childhood bilingual

education. These rights are essential for creating effective and inclusive bilingual education programs that meet the needs of diverse student populations.

DBA emphasizes the fundamental principle of equal access to quality education for all students, irrespective of their linguistic background. In the context of the research project, this principle ensures that bilingual kindergarten students have equitable access to effective pre-reading skills development, regardless of their level of language proficiency. It underscores the project's commitment to addressing phonemic awareness needs comprehensively.

Additionally, quality standards and accountability mechanisms, often associated with DBA, are equally important in the research project. These standards are essential for assessing the effectiveness of the multisensory materials employed to enhance phonemic awareness. By aligning with these quality standards, the project ensures that the intervention meets the requirements of a high-quality educational program, benefiting bilingual kindergarten students.

2.2.5 Processing of Personal Data

The ICBF (by its initials in Spanish) Colombian Legislation on Parental Authority holds great significance concerning parental authority and the processing of personal data. This legal provision primarily revolves around safeguarding family rights and delineating the parameters for handling personal data within the purview of parental authority. One of the foremost contributions of Article 288 lies in its commitment to protecting family rights, particularly the pivotal role of parents or legal guardians in decisions pertaining to their children's welfare. It recognizes the nature of parental authority in upholding and advancing the best interests of children.

Notably, article 288 prioritizes data privacy and confidentiality within the ICBF. It underlines the imperative of ensuring that personal data linked to familial dynamics and

parental authority are managed prudently, strictly adhering to data protection regulations. This emphasis on privacy safeguards sensitive information from unauthorized access or inadvertent disclosure, especially when dealing with matters of family and child welfare. Moreover, the article places a strong focus on obtaining informed consent and authorization from parents or legal guardians when handling their personal data or that of their children. This insistence on consent is instrumental in respecting individuals' autonomy over their personal information, particularly when it concerns family and child-related affairs.

In this way, the principles articulated in Article 288 align with key considerations for the research project. This article emphasizes the importance of respecting family rights and parental authority, which is particularly relevant when conducting research involving young bilingual kindergarten students. By acknowledging and upholding parental authority, this project can ensure that parents or legal guardians are informed participants in the research process, fostering trust and cooperation.

On the other hand, the Belmont Report is a foundational document in the realm of research ethics, providing essential ethical principles and guidelines for research involving human subjects. While its primary focus is on research ethics, the principles it outlines have profound relevance and importance in the broader context of the processing of personal data in research.

Therefore, the Belmont Report's ethical principles, including respect for persons, beneficence, justice, informed consent, and the implicit emphasis on data security, hold immense significance and contributions in the context of processing personal data for research and were took into consideration to create the consent form of this project (see annex 2). They provide an ethical foundation for researchers to ensure that data processing respects individuals' rights, maximizes benefits, minimizes harm, upholds principles of fairness and justice, and maintains the highest standards of data security. Adhering to these

principles is not only ethically imperative but also essential for conducting research that aligns with data protection and privacy regulations.

Finally, law 1581 of 2012, also known as Colombia's Data Protection Law, holds immense contributions and importance in the realm of personal data processing within the country. This key piece of legislation plays a central role in safeguarding the rights and privacy of individuals in the context of their personal data. Therefore, law 1581 grants individuals a set of fundamental rights concerning their personal data. These rights include the right to know, update, and rectify their data; the right to revoke consent; the right to access their data; and the right to file complaints with the data protection authority.

By granting individuals with these rights, the law empowers them to exercise control over their personal information, ensuring transparency and active participation in the management of their data. Moreover, the law places a strong emphasis on the need to obtain explicit and informed consent from data subjects for the collection, processing, and transfer of their personal data. It sets stringent standards for consent, requiring that it be obtained in a clear and unambiguous manner. This meticulous approach ensures that data processing activities respect the autonomy and privacy of individuals, reflecting the foremost importance of informed decision-making, which in the present project is crucial in order to guarantee respect for participants who are most underage.

In summary, the establishment of a robust legal framework is essential for ensuring the ethical conduct and regulatory compliance of the research project, particularly when working with a vulnerable population of young children. This legal framework, as outlined, draws upon a comprehensive display of laws, regulations, and ethical guidelines, ranging from Colombia's Constitution to specific educational laws and data protection regulations. By systematically addressing the legal and ethical dimensions of the research, it sets the stage for responsible data handling, informed consent, and adherence to privacy standards. It

underscores the project's commitment to transparency, accountability, and fairness while striving to contribute meaningfully to the field of education in Colombia.

Chapter 3. Research Design

This chapter addresses the methodological framework guiding the research, which operates within the qualitative paradigm and utilizes action research as the methodological approach. Within the qualitative paradigm, action research serves as the vehicle through which we engage with stakeholders, enact change, and collaboratively generate knowledge to address real-world challenges. This chapter outlines the theoretical basis of qualitative research, discusses the principles and processes of action research, clarifies the specific methodological steps undertaken in the present study, and addresses aspects such as the ethical aspects, the population, and theoretical elements in order to support the present research project.

3.1 Qualitative Paradigm

The qualitative paradigm is defined by Quecedo et al. (2002) as "research that produces descriptive data: people's own words, spoken or written, and observable behavior". (p.6). In that sense, qualitative studies are characterized by subjective and situational aspects due to its focus on participants' voices. Likewise, it is stated that qualitative studies attempt to "systematically describe the characteristics of variables and phenomena (in order to generate and refine conceptual categories, discover and validate associations between phenomena or compare constructs and postulates generated from phenomena observed in different contexts)" (Quecedo et al. 2002, p. 12), this underscores the exploratory nature of qualitative research, which aims to uncover rich, detailed insights into complex social phenomena through in-depth analysis and interpretation of qualitative data.

The selection of a qualitative research paradigm for this study is based on several fundamental considerations rooted in the nature of the research problem, the complexity of the phenomenon under investigation, and the overall objectives of the study. The

development of phonemic awareness in bilingual preschool learners represents a multifaceted and intricate process influenced by several factors. Therefore, the qualitative paradigm is the most appropriate for delving into the dynamics and complexities inherent in this phenomenon due to its exploratory characteristics.

Additionally, the qualitative paradigm offers a comprehensive platform for exploring the multifaceted nature of phonemic awareness development in bilingual preschool students. According to Creswell (2013) "by employing qualitative methods such as interviews, observations, and document analysis, the researcher can delve into the variety of experiences, perceptions, and interactions" (p. 27) that shape students' pre-reading skills in the context of bilingual education.

Finally, considering that qualitative research prioritizes the voices and perspectives of participants, foregrounding their lived experiences and subjective viewpoints in the research process, the direct engagement with students, teachers, and other stakeholders through methods such as interviews and observation techniques, allows the researcher to capture the characteristics of students' engagement with multisensory materials, their perceptions of pre-reading activities, and their experiences of phonemic awareness development (Patton, 2015).

3.2 Research Method: Action Research

This research project is carried out with an action research method. Action research embodies a participatory and iterative research methodology rooted in collaborative inquiry, reflection, and intentional action to address real-world problems within specific contexts (McNiff, 2013). This approach emphasizes the active involvement of stakeholders, including researchers, practitioners, and community members, in identifying issues, generating knowledge, and implementing solutions to improve practice (Kemmis & McTaggart, 2005). Through a cyclical process of planning, action, observation, and reflection, action research

aims to foster transformative learning, organizational change, and social justice within diverse settings (Reason & Bradbury, 2015).

Firstly, action research promotes collaborative problem-solving by engaging stakeholders in joint inquiry and decision-making processes (Stringer, 2014). In the context of the project, involving teachers, students, and parents in collaborative inquiry facilitates the identification of practical challenges and opportunities related to phonemic awareness development in bilingual kindergarten settings.

Likewise, action research emphasizes the importance of understanding problems within their specific contexts and leveraging local knowledge to inform interventions (Kemmis & McTaggart, 2005). Given the contextual nature of language learning and the cultural diversity of bilingual kindergarten students, action research enables the contextualization of phonemic awareness development within the unique socio-cultural and linguistic context of the classroom.

Additionally, action research facilitates a cyclical process of planning, action, observation, and reflection, allowing for ongoing refinement and improvement of the interventions planned (McNiff, 2013). Through iterative cycles of data collection and analysis, teachers and researchers can assess the effectiveness of multisensory materials in enhancing pre-reading skills, reflect on the outcomes, and iteratively adjust interventions based on emerging insights and feedback from the participants.

Furthermore, action research fosters empowerment and ownership among participants by giving them agency in the research process and valuing their contributions (Reason & Bradbury, 2015). By involving teachers and students in collaborative inquiry and decision-making, the project cultivates a sense of ownership and commitment to improving phonemic awareness development in bilingual kindergarten classrooms.

To conclude, the use of action research methodology in the present study is justified and beneficial given that action research promotes collaborative problem-solving, understanding of context, continuous improvement, and stakeholder empowerment. By involving teachers, students, and parents in collaborative inquiry and decision-making, the study fosters ownership and commitment to improving phonemic awareness development in bilingual preschool classrooms. Ultimately, action research provides a strong framework for addressing real-world challenges and facilitating transformative learning within educational settings.

3.3 Data Management Instruments

Data management instruments refer to the tools, techniques, and strategies used to collect, store, organize, analyze, and share data effectively and efficiently (Wang and Strong, 1996). The data management instruments used in the present study are interviews and participant observation, the interview was carried out in order to dig for information about the kindergarten management of the teaching and learning process, and the participant observation is developed through a field diary in order to get the information obtained from the implementation and pedagogical intervention.

3.3.1 Semi-Structured Interviews

Semi-structured interviews are a qualitative data management method that falls between structured and unstructured interviews. In semi-structured interviews, the interviewer has a set of predetermined questions or topics to cover, providing a framework for the discussion, but there is also flexibility to explore additional topics or delve deeper into specific areas based on the respondent's responses (Bryman, 2016). This flexibility allows for a more natural and conversational flow of dialogue, enabling the interviewer to probe for rich, detailed responses while still maintaining a degree of structure and consistency across

interviews. In the present study, the semi-structured interview contemplated questions such as:

- Do you help students develop those skills as phonemics in the classroom? how do you do that?

- What experiences have you had teaching phonemic awareness with children?

- What material do you choose to teach phonemic awareness?

- In the case that you have the opportunity to choose the material that you are going to use to teach phonemic awareness. What criteria do they take into account?

The data obtained from these questions is crucial for the exploration and contextualization of the problem since it was from the voices of the teachers. For this reason, the experiences and perspectives of one of the involved parts in the research could be explored. Moreover, these questions served as an essential factor for the delimitation of the problem and to determine to what extent the research was going to be, finally, these questions also served as a factor of validation in order to determine whether the research's results are actually valuable and applicable to the context itself.

3.3.2 Participant Observation

Participant observation is a qualitative research method wherein the researcher immerses themselves in a social setting or group, actively participating in the activities and interactions of the participants while also observing and documenting their behaviors, relationships, and cultural practices (Tannembaun and Spradley, 1980). This method allows the researcher to gain a deep understanding of the social context, norms, and dynamics within the setting under study, as well as the perspectives and experiences of the participants.

In this research, in order to ensure an accurate observation process of the planned interventions, it was developed a field diary format which guides the process of storing information in order to analyze the pedagogical intervention, this can be seen in chart 2.

Chart No. 2. Field diary format for pedagogical intervention

Source: Own elaboration

In this observation format, each column plays an essential role. Thus, the activities column describes the tasks to be performed by the students, the content taught column provides a detailed description of the topics being addressed. The difficulties column identifies potential trouble spots for students, allowing the teacher to anticipate and address student needs. The skills column describes the skills students will develop during the lesson, which helps ensure that the lesson is aligned with the learning objectives. The material role column explains how the multisensory material is used to support students' learning process.

3.5 Categories

Considering the whole theoretical background with its main constructs, the intervention is developed considering 3 main categories in order to establish the indicators to fit the activities planned. The first category is *Pre-reading skills development through phonemic awareness,* since, as mentioned above, phonemic awareness forms the basis

foundation for acquiring the first steps to read (Ehri & Snowling, 2004). The second category

is *Phonemic awareness as a determinant factor in improving pre-reading skills* because of

the factors involved in the phonemic awareness process and finally, the third category is

Multi-sensory material to develop phonemic awareness since as stated above, multi-sensory

material engage multiple senses, including visual, auditory, and tactile, creating a holistic

learning experience that goes beyond traditional instruction (Cuturi et al., 2021).

Table 3. Categories considered for the intervention

	Categories	Indicators
Pre-reading skills	Pre-reading skills development through phonemic awareness	-Correct identification of initial sounds -Verbal expression of phonemic concepts in both languages
	Phonemic awareness as a determinant factor in improving pre-reading skills	-Accuracy in discriminating Similar Sounds -Application of phonemic concepts across languages
	Multi-sensory material to develop phonemic awareness	-Active participation in multi-sensory tasks -Application of multi-sensory strategies to phonemic tasks

Source: Own elaboration

In the same way, indicators are useful to evaluate the effectiveness of an educational

intervention that focuses on the development of phonemic awareness and pre-reading skills.

These are planned to be specific, measurable, achievable, relevant and time-bound (SMART),

and are aligned with the objectives of the intervention. These indicators can be reliably

collected and analyzed, making them a valuable tool for assessing student progress and the

effectiveness of the intervention (see table 3).

3.6 Ethical Considerations

Ethical considerations in research aim to ensure research participants' safety, wellness, and rights. This includes protecting participants from physical, psychological, or emotional harm, as well as safeguarding their privacy, confidentiality, and dignity throughout the research process (Israel 2015). In order to ensure an ethical procedure in the development of the present research was developed an informed consent in which it is specified the participants' right to leave the research when they consider it necessary, also, if it is their preference it is specified the possibility of using an anonymous identity; all of this is developed under the guidelines of the Belmont Report, which has 3 main principles; the beneficence of treatment of participants in order to maximize good outcomes and minimize risks, this entails designing research protocols that prioritize participant well-being, minimizing the risk of harm, and maximizing the potential for positive outcomes; the respect for participants by protecting autonomy and ensuring complete information about the project and voluntary participation and ensure justice which involves that researchers must ensure that the selection of research participants is fair and that no group is unfairly burdened or excluded from participating in research.

3.7 Population

Given the context of the project, which involves teaching phonemics to young children, it is crucial to understand the specific learning environment in which this process is taking place. This project is carried out in William Kilpatrick Kindergarten, which is located in Cajicá and consists of 10 students between the ages of 2 to 6 years old and in levels from kindergarten to preschool. Moreover, there are 3 established teachers and a music teacher. In kindergarten, the process of bilingual education is carried out through project-based learning

models, coursebooks, and activities that involve physical material such as a magnetic board,

handicrafts, and tangible games related to the learning process.

Chapter 4: Pedagogical intervention

This chapter describes a systematic intervention designed to improve phonemic awareness through multisensory teaching methods to develop pre-reading skills in a bilingual kindergarten population. Grounded in research-based practices and innovative pedagogical strategies, the intervention aims to address the linguistic needs of bilingual students while fostering an inclusive learning environment considering different learning styles. This chapter presents a detailed framework for the implementation of the intervention, including teaching materials, teaching methodologies, and evaluation tools, as well as theoretical foundations and support with the objective of describing the pedagogical intervention planned to answer the research question posed in the project.

4.1 Vision of Language and Teaching

A holistic view of language serves as a foundational framework for understanding and addressing the language needs of bilingual learners. By delving into the cognitive, linguistic, and sociocultural dimensions of language, researchers can understand the particularities of language acquisition and development in bilingual kindergartens. This understanding allows researchers to design tailored interventions and pedagogical approaches that effectively target phonemic awareness and pre-reading skills while taking into account the diverse linguistic backgrounds and learning styles of students through the use of multisensory material.

Therefore, language is a multifaceted and dynamic system that encompasses both innate cognitive mechanisms and sociocultural influences. Drawing from Pinker's (2008) insights on the universality of language and its underlying cognitive structures, as well as contemporary research (e.g., Tomasello, 2003; Jackendoff, 2007; Evans & Levinson, 2009), the vision of language recognizes its dual nature as both a product of human cognition and a

social tool shaped by cultural and environmental factors. That is why it is considered as an ever-changing process.

On the other hand, understanding language is crucial to consider also a vision of teaching. Therefore, Amidon (2005) emphasizes the importance of fostering curiosity, creativity, and critical thinking in students, in line with our vision of teaching as a transformative process that empowers students to become lifelong learners and active participants in society. Building on this foundation, this vision of teaching prioritizes personalized instruction, differentiated learning experiences, and inclusive pedagogies that address diverse learning needs and backgrounds. According to Rajagopalan (2019) by integrating research-based practices and innovative pedagogical approaches, teaching is an interactive process that involves exchanging knowledge.

4.2 Roles of Teacher and Student

The student is recognized as an active agent in the learning process, capable of constructing meaning and knowledge through interaction with the environment and with peers (Hattie and Timperley, 2007). Adopting a student-centered approach, autonomy, self-regulation, and critical thinking are encouraged, providing opportunities for exploration, experimentation, and discovery. On the other hand, the role of the teacher is conceived as that of a facilitator of learning, acting as a guide, mediator, and mentor in the educational process. Based on research on effective teaching practices (Hattie, 2009), active and collaborative pedagogical strategies are promoted that involve students in their own learning, fostering the development of cognitive, metacognitive and socioemotional skills. In this vision, learning is conceived as a dynamic and constructive process, in which both the student and the teacher play active and complementary roles in the pursuit of academic excellence and personal growth.

4.3 Activities and Resources

The activities are planned to be carried out through multisensory material since according to Schukraft (2020) it can contribute to the acquisition of pre-reading skills due to the connection between parts of the brain, the senses, and the development of the skills. In this sense, the activities planned involve a wide range of variety of activities which can be seen in the lesson plans developed for the implementation (see annex 5). Also, the resources include picture cards, posters, mystery box, art materials, word hunt objects, vowel books, bingo game sets and assessment sheets, these activities are linked to the needs of the kindergarten since its methodology is based in working as a team through play and communication to learn.

4.4 Evaluation - Assessment

Evaluation and assessment are two distinct processes within the field of education, each serving specific purposes and employing different methods. While both involve gathering information about student learning, they differ in scope, focus, and intended outcomes. In this sense, evaluation is more focused in effectiveness, which is why it measures according to specific standards (Stone et al., 1998). On the other hand, assessment is focused on the process, for this reason, it is developed with stages such as formative and summative (Shepard et al., 2017). In the pedagogical intervention of the present study, assessment is emphasized since there will not be measures from solid products, but it will be focused on the process of students understanding and interacting with the multi-sensory materials in order to acquire phonemic awareness for pre-reading skills.

4.6 Timetable

According to the phases of the Action Research, the development of the project is set into stages. First, there was a diagnosis phase in which the group at the kindergarten was analyzed, in this stage, was done the semi-structured interview, then, the stage of planning was done for 1 month in which it was created the didactic unit and the lesson planning, after, the 3 main phases of Action Research which include act, observe and reflect, are done in 2 months. During these, some field diary formats are filled with the information obtained from the interventions, and finally, that data is analyzed.

Chart No. 3. Timetable
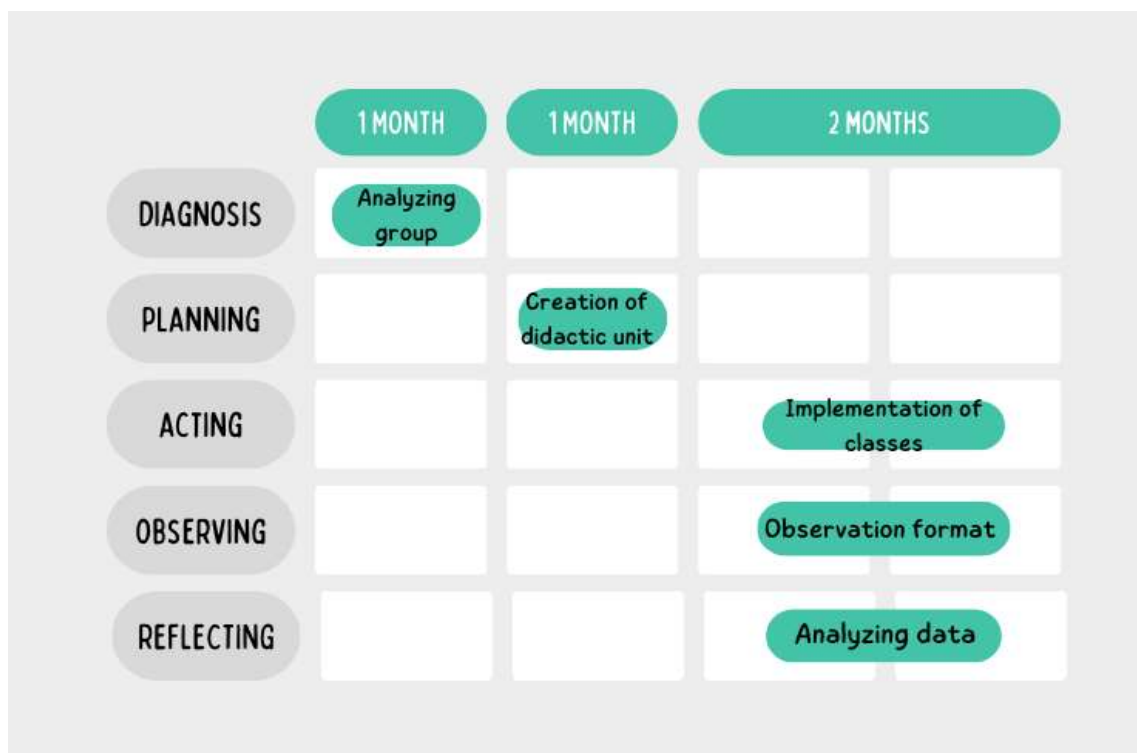
Source: Own elaboration

4.7 Lesson Planning

Lesson planning is a systematic process undertaken by educators to outline instructional objectives, activities, resources, and assessments for a specific teaching session.

As described by Wiggins and McTighe (2005), effective lesson planning involves careful consideration of learning goals, student needs, and instructional strategies to facilitate meaningful learning experiences. Additionally, McAnally (2005) emphasizes the importance of aligning lesson objectives with standards, incorporating diverse instructional techniques to engage students, and providing opportunities for formative assessment to monitor student progress and adjust instruction as needed.

For the present study, a sample of the lesson planning of the first session is the following one (see Table 4):

Fundación Universitaria Juan N. Corpas

Teacher: Juliana Riaño

Topic: Introduction to vowels

Teaching objective: To introduce the concept of vowels through the use of multi-sensory material

Learning objective: By the end of the class, students should be able to identify some of the vowels in its written form and by its sound.

Table 4. Lesson planning 1st session

Time	Activity	Organization	Resources	Assessment
10 min	Introduction	Circle on carpet	None	Informal observation
15 min	Vowel Picture Cards	Small groups	Vowel picture cards	Group discussion
15 min	Singing Vowel Songs	Circle	Recorded/live songs	Participation

Time	Activity	Organization	Resources	Assessment
10 min	Introduction	Circle on carpet	None	Informal observation
20 min	Drawing Vowel Pictures	Individual	Blank paper, art materials	Review of drawings
10-15 mins	Recap	Circle	None	Sharing and feedback

Note: Own source

The format of all the lesson plans (see annex 5) in this curricular unit was intentionally designed to follow a consistent and simple structure, ensuring coherence and clarity across instructional units. The aim of this uniform structure is to establish a cohesive framework that fosters effective teaching and learning experiences for bilingual kindergarten students. Through clear objectives, well-defined activities, and thoughtful assessments, these lesson plans aim to cultivate phonemic awareness skills while supporting the development of pre-reading abilities in young learners thorough the use pf multisensory material. Ultimately, the goal is to provide educators with a versatile and accessible resource that promotes student engagement, facilitates skill acquisition, and fosters literacy development in bilingual kindergarten classrooms.

Chapter 5: Preliminary Conclusions and Expected Results

This section provides a glimpse into the anticipated outcomes and initial findings of this research endeavor. Drawing upon comprehensive data collection and planning, this section offers insights into the effectiveness of the multisensory intervention in promoting phonemic awareness development among bilingual kindergarten students. By synthesizing preliminary conclusions based on observed trends, patterns, and emerging themes, this section lays the groundwork for further exploration and interpretation of the project's outcomes. Additionally, it outlines expected results that align with the project's overarching goals and objectives, providing a guide for understanding the potential impact of multisensory materials on pre-reading skills in bilingual early childhood education settings. Through this section, readers gain valuable insights into the project's progress and anticipated contributions to the field of early literacy research and pedagogy.

This study emerged by highlighting the critical role of didactic material in teaching reading and developing phonemic awareness. Therefore, it gives a theoretical foundation for the development of the study through the revision of literature related, then it states the problem by emphasizing the importance of selecting appropriate instructional materials tailored to the needs and interests of young learners, the chapter identifies challenges in teaching phonemic awareness and reading to kindergarten students, such as unclear learning objectives and limited material diversity. It outlines the context of the study conducted at William Kilpatrick Kindergarten in Cajicá, Colombia, and presents preliminary observations from semi-structured interviews with experienced teachers, shedding light on the complexities and nuances of teaching phonemics to young children. Furthermore, this section serves to justify the significance of the research project in addressing gaps in bilingual education and contributing to policy development, educational practices, and literacy outcomes.

Then, after identifying the problem there was a discussion from a theoretical perspective of the main constructs related to the present study which are phonemic awareness, the ability to recognize and manipulate the smallest sound units of language (Yopp and Yopp, 2000); multisensory materials, educational resources that use multiple senses to enhance learning; and pre-reading skills, the basic skills and knowledge necessary for effective reading acquisition. On the other hand, it was discussed the legal framework in which it is mentioned the range of laws that regulate the research from a general perspective going from education in Colombia with the Colombian Political Constitution of 1991 (Article 67) to private education (Article 68), then to Early childhood education with the Law 115 of 1994, (Article 16), then to Early childhood bilingual education with the DBA (Fundamental learning) and finally to the Processing of personal data ICBF (Article 288 and Article 307) the Belmont report and the Law 1581 of 2012 (Article 7).

Consequently, in order to carry out a planned study, the methodological choices were discussed operating within the qualitative paradigm and employing action research. The qualitative paradigm focuses on descriptive data and aims to systematically describe variables and phenomena to generate conceptual categories and validate associations. Action research, on the other hand, embodies a participatory and iterative approach to address real-world problems collaboratively. The study employs semi-structured interviews and participant observation as data management instruments, ensuring a comprehensive understanding of the research context. Triangulation is utilized to enhance the credibility and validity of findings, and ethical considerations are addressed through informed consent following the principles outlined in the Belmont Report. Finally, the research population is specified, it is conducted in William Kilpatrick Kindergarten, involving 10 students aged 2 to 6 and three teachers.

Moreover, there was considered an explanation of a comprehensive vision of language and teaching, underpinning the intervention designed to enhance phonemic

awareness in a bilingual kindergarten setting. Then, it was delineated the roles of teachers and students in a student-centered learning environment, emphasizing autonomy, critical thinking, and collaborative learning. Furthermore, it was outlined a range of multisensory activities and resources planned for the intervention, aligning with research on effective pedagogical strategies. Evaluation and assessment processes were distinguished, with a focus on assessing student understanding and interaction with multisensory materials. Finally, a structured timetable and sample lesson planning were provided, reflecting the iterative nature of action research and the systematic approach to implementing the intervention.

On the other hand, this study proposed initially to delve into the effectiveness of utilizing multisensory material to enhance phonemic awareness and pre-reading skills in bilingual kindergarten students. Through a comprehensive analysis of various activities and resources tailored to the unique needs of the target population, the research aimed to shed light on the intricate processes underlying phonemic awareness and reading acquisition. Therefore, by systematically planning activities such as picture cards, songs, phonics instruction, and outdoor play, the study took the first steps to gain valuable insights into the role of multisensory approaches in facilitating phonemic awareness development among young learners. The findings underscored the significance of engaging multiple senses in the learning process, demonstrating how tactile, auditory, and visual stimuli can contribute to the acquisition of pre-reading skills.

This research offers significant benefits across various aspects. For the institution, it presents an opportunity to enhance educational practices and curriculum by integrating evidence-based interventions tailored to the needs of bilingual learners, thereby fostering a more inclusive and effective learning environment. This not only improves student outcomes and promotes linguistic development but also holds the promise of improving their phonemic awareness and pre-reading skills, leading to increased confidence, motivation, and readiness

for academic success, thereby setting a strong foundation for lifelong learning and linguistic

proficiency.

Annexes

Annex No. 1. Chart to summarize the articles considered in the state of the art

Articles	Title	Year	Author	Institution	Ambit
1	Multisensory modalities for blending and segmenting among early readers	2016	Lay Wah Lee	Routledge Taylor & Francis Groups	International
2	Multisensory letter integration and implicit learning of reading with 5-year-old children	2019	Labat, H., Boisson, A., Brunel, L., Ecalle, J., Versace, R., & Magnan, A.	European Review of Applied Psychology	International
3	The Relationship Between Multisensory Learning and Phonemic Awareness and Letter Identification in Kindergarten	2022	Justine J. Beyer	SOPHIA, Masters of Art in Education Action Research Papers	International
4	Multisensory Interactive Digital Text for English Phonics Instruction with Bilingual Beginning Readers	2022	Beth A. O'brien Renee Seward, Dongbo Zhang	MDPI, Education Sciences	International
5	Developing Students' Ability to Decode Sounds and Improving Their Reading and Oral Production through the Jolly Phonics Method at Cartagena International School	2021	Eilyn Juliana Pérez Gallego	Universidad de Caldas	National

6	Gamified phonics instruction developing second graders' pre-reading process.	2022	González Salazar, Leslie Yineth	Universidad Pedagogica Nacional de Colombia	Local
7	Tucker Signing as a Phonics Instruction Tool to Develop Phonemic Awareness in Children.	2014	Amanda Carolina Valbuena	Gist: Education and Learning Research Journal, ISSN-e	International
8	Using Singing and Movement to Teach Pre-reading Skills and Word Reading to Kindergarten Children: An Exploratory Study	2014	Patrick D. Walton	Thompson Rivers University	International
9	Improving reading readiness in kindergarten children through early phonological awareness interventions	2020	Maha Bdeir, Rima Bahous, and Mona Nabhani	Lebanese American University	International
10	Phonological Awareness And Early Reading In Children With And Without The Phonological Disorder	2022	Katia Lucia Zambrano Ruiz, Marinella Álvarez Borrero and Jhon J. Feria Díaz	Sucre University	National

Source: Own elaboration

Annex No. 2. Consent from for the development of the semi-structured interview

FUNDACIÓN UNIVERSITARIA
JUAN N. CORPAS

CONSENTIMIENTO INFORMADO

Estimado(a) docente

Por medio del presente me gustaría invitarlo a participar en el proyecto de investigación Enhancing Phonemic Awareness in Bilingual Kindergarten Students: The Impact of Multisensory Material in Pre-reading Skills. Desarrollado por Yenny Juliana Riaño, este proyecto se está desarrollando como monografía de pregrado en la licenciatura en lenguas extranjeras (inglés-portugués) de la fundación universitaria Juan N Corpas. Esta investigación tiene como objetivo determinar la información revelada a partir de la aplicación de material multisensorial en relación con la conciencia fonémica y los procesos de pre-lectura de un grupo de alumnos de preescolar.

De esta forma, usted participará en el desarrollo de una narrativa escrita y una entrevista la cual será grabada como parte del proceso de recolección de datos e interpretación de los mismos. Dichos datos serán usados únicamente para propósitos académicos, garantizando la confidencialidad y respeto hacia sus opiniones e historias. Por este motivo, se usarán seudónimos para proteger su identidad si así lo desea. Además, si usted considera retirarse en cualquier etapa del proyecto, está en la completa libertad de hacerlo.

Por otro lado, posterior a la culminación de la investigación, los resultados serán publicados bajo la modalidad de proyecto de grado como requisito de grado. En caso de tener alguna duda o inquietud de este proceso, no dude en comunicarse conmigo.

En total convencimiento que esta experiencia contribuirá al desarrollo profesional y humano de las partes involucradas, agradecería su participación en esta iniciativa.

Atentamente,

Yenny Juliana Riaño Riaño
Licenciado en Lenguas Extranjeras con Énfasis en Inglés y Portugués
Fundación Universitaria Juan N. Corpas.
yenny-riano@juanncorpas.edu.co

Consentimiento:

Yo _____ con CC _____ consiento que se me ha informado acerca de este estudio y el motivo de mi participación en el mismo. De igual forma, soy consciente de que no me encuentro obligado a ser participante del proyecto y, por ende, tengo la libertad de abandonar el proceso en el momento que lo crea conveniente. Asimismo, tengo claro que ante cualquier duda o inquietud puedo acercarme a Yenny Juliana Riaño Riaño, persona encargada del proceso de investigación.

Annex No. 3. Semi-structured interview protocol

Semi-structured interview protocol

Protocol

1. Greetings
2. Inform who you are and what you want
3. Ask if you would like to take part (give details about the interview, consent, and processing of the data)
4. Give informed consent
5. Request permission to record
6. Determine the interviewees' language of comfort
7. Begin the interview
8. At the end, thank them and remind them of the consent terms

Purpose

To explore and gather data about the strategies, experiences, and choices for the development of phonemic awareness in the kindergarten.

Interviewer:

Please feel free to express the information confidently since it will be based on the principles of the Belmont Report and the consent form that you already signed. Before we proceed with the main questions, could you please provide some background information about yourself as an English teacher?

Central questions

- Do you help students develop those skills as phonemics in the classroom? how do you do that?
- What experiences have you had teaching phonemic awareness with children?
- What material do you choose to teach phonemic awareness?
- In the case that you have the opportunity to choose the material that you are going to use to teach phonemic awareness. What criteria do they take into account?

Interviewer's final comment:

Thank you for sharing your insights and experiences. Your input is greatly appreciated and will significantly contribute to my research. If you have any additional thoughts or would like to expand on any points, please feel free to do so. Your time and contribution to this interview are highly valued.

Annex No. 4. Sixth week Didactic Unit to be implemented

Didactic unit: Six weeks

	1	2	3	4	5	6
Topic	Introduction to vowels	Tactile and Auditory Exploration	Art and Creativity with the Vowels	Vowel Movement and Play	Vowel Stories and Songs	Vowel Review and Consolidation
Activities	- Cards with pictures of objects that begin with each vowel. - Recorded or live songs. - Large chalkboard or poster to draw or display pictures.	- "Mystery box" with objects that begin with different vowels. - Cards with pictures of objects related to vowels. - Animal sounds (recordings or toys that make sounds)	- Blank paper. - Paintbrushes, crayons, watercolors, or other art materials. - Printed images of vowel-related objects to inspire children.	- Large cards with vowel letters. - Space for outdoor or indoor play. - Objects that children can find in a "word hunt".	- Books with stories that highlight vowels. - Vowel-related songs on recordings or live. - Illustrations of stories created by the children.	Vowel bingo game: pictures representing words that begin with each vowel. Children should mark the pictures as they are named. Individual Assessment: Ask each child to identify and say aloud a word that begins with a randomly chosen vowel. Reflection: Ask the children what they have learned about vowels and if they can share examples.

Didactic unit

Annex No. 5. Lesson plans for each week

Lesson plan class 1

Time	Activity	Organization	Resources	Assessment
10 min	**Introduction:** - Introduce the concept of vowels in both English and Spanish, discussing their importance in forming words. Engage students by asking questions such as "What are vowels?" and "Can you name some vowels in English and Spanish?"	Circle on carpet	None	Informal observation
15 min	**Vowel Picture Cards:** - Divide the students into small groups and distribute vowel picture cards in both English and Spanish to each group. Instruct the groups to identify and name the objects depicted on the cards, emphasizing words that begin with vowels.	Small groups	Vowel picture cards	Group discussion
10 min	**Singing Vowel Songs:** - Gather the students in a circle and play recorded or sing live songs that emphasize vowel sounds in	Circle	Recorded/live songs	Participation

	both English and Spanish. Encourage students to sing along and participate actively in the songs.			
10 min	**Drawing Vowel Pictures:** – Provide each student with blank paper and art materials. Instruct them to draw pictures of objects that begin with vowels, encouraging creativity and imagination.	Individual	Blank paper, art materials	Review of drawings
Conclusion	Recap	Circle	None	Sharing and feedback

Lesson plan class 2

Time	Activity	Organization	Resources	Assessment
10 minutes	**Introduction:** Review the activities done in the previous class	Gather students in a circle.	None	Observation of engagement and understanding.
15 minutes	**Mystery Box Exploration:** – Present the mystery box filled with various objects that begin with different vowels in both languages. – Explain to the students that they will take turns reaching into the box to feel an object without looking and guess the vowel it starts with. – Encourage students to describe the object's texture, shape, and any other sensory details they notice in both languages.	Students take turns feeling objects and guessing the vowel in both languages.	Mystery box with objects	Observation of tactile exploration and vowel identification.

10 minutes	**Vowel Picture Cards:** - Distribute vowel picture cards to each student or pair of students, ensuring that the objects depicted on the cards are familiar to them in both languages. - Instruct the students to take turns showing their card to the class, naming the object depicted on the card in both languages, and identifying the vowel it starts with.	Distribute cards and students take turns identifying objects, naming them in both languages.	Vowel picture cards	Observation of pronunciation and vowel recognition.
10 minutes	**Animal Sounds Matching Game:** - Introduce a collection of animal sound recordings or toys that make sounds, ensuring that the animals represented are familiar to the students in both languages. - Play one animal sound at a time and invite students to guess the corresponding animal and the vowel sound it starts with in both languages. - Encourage students to mimic the animal sounds themselves in both languages, providing opportunities for them to practice pronunciation and phonemic awareness. - Support students' understanding and participation by providing visual cues, such as pictures of the animals.	Play animal sounds, students guess corresponding vowel in both languages.	Animal sound recordings/toys	Observation of matching and mimicry of sounds.

| 5 minutes | **Conclusion and Closure:**
-Review vowels and associated objects/animals in both languages, reinforcing learning.
- Engage students in discussing their favorite part and what they learned about vowels.
- Provide positive reinforcement and praise for participation, fostering confidence. Encourage continued exploration of vowels in everyday life for practice. | Review vowels and reinforce listening to vowel sounds in both languages. | None | Review of concepts covered and closing remarks, ensuring understanding in both languages. |

Lesson plan class 3

Time	Activity	Organization	Resources	Assessment
25 minutes	**Artistic Expression:** - Distribute blank paper and a variety of art materials, such as paintbrushes, crayons, watercolors, and markers, ensuring that instructions and prompts are provided in both languages. - Encourage students to choose a vowel-related object from the printed images or their imagination and express their creativity through artwork. - Provide support and assistance as needed, using both languages to guide students in their artistic exploration. - Foster collaboration and peer interaction by encouraging students to share their ideas and materials with each other, promoting	Distribute art materials, students create artworks inspired by vowels	Blank paper, art materials (paintbrushes, crayons, watercolors), printed images	Observation of artistic expression and creativity, assessment of language use during creation

	language development and cultural exchange.			
20 minutes	**Art Gallery Presentation:** - Invite students to share their artworks with the class, ensuring that they feel comfortable expressing themselves in both languages. - Encourage each student to describe their artwork and the vowel-related object they depicted, using vocabulary and language structures from both languages. Provide positive feedback for each student's efforts and creativity, acknowledging their ability to express themselves in multiple languages. - Display the artworks around the classroom, creating an inclusive and multicultural art gallery that celebrates the diversity of vowels and languages represented by the students.	Students share their artworks, describe them in both languages	Classroom space for display	Observation of presentation skills and language use, feedback on creativity and expression

Lesson plan class 4

Time	Activity	Organization	Resources	Assessment
30 minutes	**Vowel Movement Game:** - Take students to an outdoor or indoor play area, ensuring that instructions and prompts are provided in both languages. - Explain the rules of the game, emphasizing that students will search for	Take students to play area, explain rules, start the game.	Outdoor or indoor play space, objects	Observation of participation, vowel recognition, and ability to find objects with vowel sounds

	objects that begin with vowel sounds in both languages. - Distribute large cards with vowel letters to each student, reinforcing vowel recognition in both languages. - Encourage students to move around the play area, searching for objects that correspond to the vowel on their card. - Provide support and assistance as needed, using both languages to guide students in their search and communication. - Celebrate each discovery with cheers and encouragement, fostering a positive and inclusive atmosphere.			
20 minutes	**Vowel Relay Race:** - Divide students into teams, ensuring a mix of abilities and language proficiencies in each team. - Set up a relay race course with a starting line, a mid-way point, and a finish line, ensuring that instructions are provided in both languages. - Explain the rules of the relay race, emphasizing teamwork and communication in both languages. - Encourage students to cheer for their teammates and communicate with each other in both languages throughout the race.	Divide students into teams, set up relay race course.	Objects for relay race, designated course	Observation of teamwork, communication, and physical activity during the relay race

Lesson Plan Class 5

Time	Activity	Organization	Resources	Assessment
25 minutes	**Storytime:** - Read aloud a vowel-related story from one of the books, using expressive narration and gestures to engage students in both languages. - Encourage students to listen attentively for the vowel sounds in the story and identify words that start with each vowel. - After reading the story, facilitate a brief discussion about the story's theme and the vowel sounds they heard, allowing students to express their thoughts and ideas in both languages.	Read aloud a vowel-related story, facilitate discussion.	Books with stories highlighting vowels	Observation of listening comprehension, participation, and discussion skills
10 minutes	**Sing-along:** - Play vowel-related songs on recordings or sing them live, ensuring that lyrics and instructions are provided in both languages spoken by the students. - Encourage students to sing along with the songs, emphasizing the vowel sounds and words in both languages. - Use gestures and movements to accompany the songs, making them interactive and engaging for students and reinforcing vocabulary and pronunciation in both languages.	Play vowel-related songs, encourage participation.	Vowel-related songs	Observation of participation, singing, and identification of vowel sounds and words
10 minutes	**Illustration Creation:** - Provide students with paper and art materials, ensuring that instructions are provided in both languages.	Provide materials for drawing illustrations.	Paper, art materials	Observation of creativity, incorporation of vowel-related words, and labeling in both languages

	- Encourage students to draw illustrations inspired by the vowel-related story they heard earlier, incorporating vowel-related words or objects in their drawings. - Support students in labeling their illustrations with vowel-related words in both languages, providing vocabulary assistance and reinforcement as needed.			

Lesson plan class 6

Time	Activity	Organization	Resources	Assessment
20 minutes	**Vowel Bingo Game:** - Introduce the vowel bingo game in both languages, explaining that it will help reinforce vowel recognition skills through fun and interactive play. - Distribute bingo cards with pictures representing words starting with different vowels to each student, ensuring that instructions are provided in both languages. - Call out words that correspond to the pictures on the bingo cards, emphasizing the vowel sounds as you say them in both languages. - Encourage students to mark the corresponding pictures on their bingo cards as they are	Explain game rules, distribute bingo cards, call out words.	Bingo cards with pictures representing words	Observation of students' ability to recognize and mark pictures representing words

	named, providing support and assistance as needed in both languages. - Foster collaboration and peer interaction by encouraging students to help each other recognize and mark the pictures on their bingo cards, reinforcing language development and teamwork in both languages			
15 minutes	**Individual Assessment:** - Conduct individual assessments by asking each child to identify and say aloud a word that begins with a randomly chosen vowel, ensuring that instructions and prompts are provided in both languages. - Provide a list of words starting with vowels for reference during the assessment, ensuring that vocabulary support is available in both languages. - Encourage students to demonstrate their knowledge and pronunciation skills in both languages - Record students' responses and note their accuracy and confidence in identifying and pronouncing words starting with vowels, providing feedback and support as needed in both languages	Ask each child to identify and say a word starting with a vowel.	List of words starting with vowels	Evaluation of students' ability to identify and pronounce words starting with vowels
10 minutes	**Reflection:** - Facilitate a reflective discussion about vowels by asking the children what they have learned during the activities, ensuring that prompts and questions are provided in both languages. - Encourage students to share examples of words they identified during the bingo	Facilitate a reflective discussion about vowels.	None	Observation of students' reflections and participation in the discussion

	game and individual assessment, fostering language expression and communication in both languages. – Discuss any challenges encountered and strategies used to overcome them, providing support and guidance as needed in both languages. – Reinforce key concepts about vowels and their importance in language and communication, ensuring that understanding is reinforced in both languages through interactive discussion and reflection.			

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