

Motivation in Early Language Learning: Balancing Sensory and Experiential, and Technological Approaches

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Resumen

El propósito de este trabajo de investigación es analizar la efectividad de los procedimientos de enseñanza que se basan en los principios de la educación sensorial y experiencial, así como aquellos que incorporan pantallas tecnológicas, para mantener los niveles de motivación y la capacidad de atención en niños/as pequeños/as que aprenden un segundo idioma. Para lograr esto, el presente trabajo emplea una metodología de Investigación-Acción Exploratoria, que aboga por un proceso iterativo y reflexivo que permite a los docentes experimentar y perfeccionar sus estrategias de enseñanza en tiempo real.

La recopilación de datos se llevará a cabo principalmente a través de observaciones en clase para evaluar la efectividad práctica de estos diferentes enfoques en entornos de jardín de infantes. Además, se realizarán entrevistas con profesores de inglés y con maestras de salas para proporcionar más información y ayudar en el análisis exhaustivo del método empleado. Durante cada observación de clase, se completarán tablas con indicadores, los cuales incluyen las señales y actitudes de motivación y desmotivación frente a las propuestas didácticas. Además, se entrevistará a los docentes siguiendo ciertas preguntas, las cuales luego serán comparadas, resumidas y analizadas.

El trabajo de investigación tiene como objetivo ofrecer una comprensión equilibrada de cómo estos dos enfoques educativos distintos impactan en el involucramiento y la atención sostenida de niños/as pequeños/as

contribuyendo en última instancia al desarrollo de prácticas de enseñanza más efectivas en el aprendizaje temprano de un segundo idioma.

Al combinar datos de observación con retroalimentación cualitativa de los docentes, este trabajo de investigación busca informar y mejorar los enfoques pedagógicos, asegurando que se adapten efectivamente a las necesidades de los niños/as en un entorno educativo cada vez más digital y rico en estímulos sensoriales.

Palabras Clave: efectividad, motivación, capacidad de atención, educación sensorial y experiencial, pantallas tecnológicas, niños/as pequeños aprendiendo una segunda lengua.

Abstract

The purpose of this paper is to analyse the effectiveness of teaching procedures that rely on the principles of sensory and experiential education, as well as those incorporating technological screens, in maintaining motivation levels and attention spans in young foreign-language learners. To achieve this, the research project employs an Exploratory Action Research methodology, which advocates for an iterative, reflective process that allows teachers to experiment with and refine their teaching strategies in real time.

Data collection will be primarily conducted through class observations to assess the practical effectiveness of these differing approaches in kindergarten settings. Additionally, interviews with English and class teachers will provide further insights and aid in the comprehensive analysis of the method employed. During each class observation, charts will be completed with indicators, which include the signs and attitudes of motivation and demotivation towards the didactic proposals. Furthermore, teachers will be

interviewed using specific questions, which will then be compared, summarised, and analysed.

The research project aims to offer a balanced understanding of how these two distinct educational strategies impact young learners' engagement and sustained attention, ultimately contributing to the development of more effective teaching practices in early childhood foreign-language learning.

By combining observational data with qualitative feedback from teachers, this research seeks to inform and improve pedagogical approaches, ensuring they cater effectively to the needs of young learners in an increasingly digital and sensory-rich educational environment.

Key Words: effectiveness, motivation, attention spans, sensory and experiential education, technological screens, young language learners.

Introduction

Many teachers widely acknowledge that challenges such as motivating students and maintaining attention spans in classroom activities are prevalent. Consequently, significant efforts are invested in exploring and applying novel teaching techniques that engage young language learners and leverage motivation for productive language learning. Furthermore, some educators hold the belief that since children are frequently exposed to screens at home, integrating such technological gadgets into educational proposals is deemed optimal for strengthening motivation. Indeed, during 2023, we conducted three successful lessons in first grade at a private school in Rosario using their newest digital and interactive screens, aiming to replicate, to some extent, the exposure and daily use of technological devices students experience at home.

Many other educators, however, insist that school should be a space for nurturing, dialogue, discovery, manipulation, and sensory experimentation. They argue that this approach is essential to provide children with opportunities they would otherwise lack, thus promoting holistic development and a deeper connection to learning and their environment. In 2024, we face a new challenge, which involves teaching in a kindergarten school in Rosario where technological screens are not readily available. To this effect, we have proposed the following three exploratory questions: What signs of interest and motivation do young learners show when faced with more holistic, sensorial, pedagogical approaches?; What signs of interest and engagement do young learners show towards teaching proposals that incorporate technological screens?; From the perspective of teachers in Rosario, do they rely exclusively on one technique for learning and motivation enhancement, or do they consider incorporating both technological and holistic approaches?

The primary focus of this research paper will be to assess the effectiveness of two different teaching proposals and to evidentialise whether certain factors such as disinterest, detachment, and demotivation are present towards pedagogical approaches that do not utilise interactive screens, or if there are still perceivable motivation and engagement levels towards traditional methods that incorporate sensory experiences, innovative discovery, and in-person interaction.

In this respect, the following paper will have the following hypothesis statement: If students are exposed to interactive screen-based proposals, it is believed that they will demonstrate higher levels of interaction, motivation, and attention. However, it is believed that traditional sensory-based proposals will foster deeper learning and a more meaningful connection with the content, potentially influencing the quality and durability of acquired knowledge. In order to confirm the validity of the hypothesis, this research paper will have the following research question as a tenet in the investigation process: How effective are teaching procedures advocating for sensory and experiential education and those incorporating technological screens in maintaining kindergarten learners' motivation levels and attention spans?

Theoretical Framework

We shall begin the following theoretical framework by pinpointing that we have identified and summarised the most relevant aspects of each of the upcoming topics, which we think to be highly linked with the purpose of this research investigation project.

Motivation

Experienced writer and editor specialising in education and technology Lorna Collier (2015) discusses easy ways to boost student success by increasing their engagement in learning. Young children often start school

with a high level of excitement and eagerness to learn. However, research indicates that this enthusiasm tends to decline as they grow older, particularly by the time they reach high school. Many teenagers come to view school as boring and irrelevant, which negatively impacts their motivation and engagement. This decline in interest is troubling as it can lead to issues such as increased absenteeism, behavioural problems, and dropout rates, all of which can significantly affect their future prospects.

The drop in motivation and engagement as students transition from elementary to secondary school is well-documented. Eccles notes that this decline is evident in various indicators, such as attendance and behaviour, highlighting a general decrease in students' motivation and engagement during this period (Eccles in Collier, 2015).

Children are naturally curious and eager to learn, but maintaining this enthusiasm requires strategic approaches. Technology has emerged as a powerful tool to engage young learners. While no single device or piece of software is a solution on its own, technologies like tablets and smartphones show great promise. These tools are familiar to children, seen as relevant to their daily lives, and, most importantly, are engaging. Shernoff (2014) highlights that the newer generation learns differently, utilising their own tools, online resources, and handheld devices. He suggests that engagement can be sustained if these methods are embraced, supported, and further developed (Shernoff, 2014, in Collier, 2015).

Technology can be a huge tool for individualizing instruction, says PhD education professor Karen Harris (2014), adding that it needs to be directed by a teacher and used thoughtfully to meet kids' needs, with learning objectives in mind. Harris (2014) also sees both the potential for technology and areas of concern. She cautions that educators need to ensure technology

in the classroom doesn't turn into students spending too much time staring at screens alone, rather than interacting with other students and teachers. A lack of such direct communication could impair the ability of kids and teachers to form relationships that are crucial to engagement.

Flow theory, developed by Mihalyi Csikszentmihalyi (2002) and applied to education by David Shernoff (2014), provides another perspective. This theory posits that students are most engaged when they are challenged at an optimal level—tasks that are neither too easy nor too difficult. Shernoff's research using the Experience Sampling Method (ESM) found that students are often least engaged during passive activities like lectures and more engaged during interactive tasks. "Applying flow theory, I have conceptualized student engagement as a continuum" (Shernoff, 2014, in Collier, 2015), describing how engagement peaks when concentration, interest, and enjoyment are high.

In conclusion, addressing the decline in motivation and engagement among young language learners requires a multifaceted approach. By understanding and applying theories and by implementing practical classroom strategies, educators can create environments that sustain students' interest and drive to learn. "Nothing succeeds like success" (Harris, 2014, in Collier, 2015). We believe that collaborative efforts between policymakers and educators are essential to translate research findings into effective practices that foster lifelong learning and success.

Attention Spans in Young Language Learners

Attention spans in young language learners are intricately shaped by their environment and developmental stages. According to Dr in Music Education and Piano Pedagogy Myrtle D. Millares (2012), children exhibit a natural inclination to swiftly absorb information when exploring independently, yet structured lessons can pose challenges due to potential distractions. "Children

naturally learn about their environment and gather information quickly when left to their own devices, but when asked to learn a 'lesson,' the process seems more difficult as distraction becomes an obstacle" (Millares, 2012, p.20). This dichotomy suggests that while children excel in unstructured settings, maintaining focus in structured learning environments requires targeted strategies from educators.

Psychological perspectives highlight attention as a selective process influenced by both internal and external factors. As cited by Millares, William James describes attention as a mechanism through which individuals shape their cognitive experiences by selecting what to notice and process. Moreover, Millares (2012) notes, "Psychologists approach attention in different ways and that as attention increases the more automated a response becomes." This viewpoint suggests that as children gain experience and develop mental presets, their ability to sustain attention improves.

In terms of development, young students' ability to maintain attention is shaped by their tendency to seek out new experiences. Millares (2012) discusses, "Children appear not to have well-formed 'presets' that can help them distinguish any one task as worthier of attention than another." This suggests that educators must consider the developmental stage of each child when designing learning experiences that promote sustained attention.

Individual variability in attention spans is another crucial consideration. "Attention span differs greatly from child to child; however, each child showed a consistent personal attention span over a variety of tasks" (Millares, 2012). This variability underscores the importance of personalised approaches to education, acknowledging that what captivates one child's attention may not engage another equally. Educators must be adept at recognizing and adapting to these differences to optimise learning outcomes for all students.

Multimodality in Foreign Language Learning

Professor Javier González García (2018) in *El Enfoque Multimodal del Proceso de Alfabetización* reviews the concept of multimodal literacy, emphasising its operability, coherence in the application of strategies, and exemplifying with activities and use cases in various contemporary educational contexts. Multimodality in the English classroom represents a paradigm shift in how literacy is understood and practised, especially in response to global changes in communication technologies. Traditionally, literacy was narrowly defined within the confines of written text, privileging alphabetic forms of expression. However, the emergence of multimodality challenges this uni-modal perspective by acknowledging that meaning-making extends beyond traditional textual forms. Today, “children effortlessly navigate between diverse media and modes of communication, incorporating written text alongside visual, auditory, and kinesthetic elements to construct meaning” (Bearne, 2009, in González García, 2018).

In educational settings, this shift requires a reevaluation of pedagogical approaches. Educators now recognise that effective literacy instruction must encompass not just reading and writing, but also fluency in interpreting and producing texts that blend multiple modes. “This includes understanding how images, sounds, gestures, and spatial arrangements contribute to communication and comprehension” (Kress, 2005, in González García, 2018). “The integration of digital technologies further complicates this landscape, introducing new genres and forms of representation that challenge traditional notions of fixed and static texts” (Lancaster & Rowe, 2009, in González García, 2018).

The concept of multimodality underscores the dynamic and interactive nature of contemporary literacy practices. Students are encouraged to engage

creatively with various modes of representation, blurring the boundaries between text, image, and sound. For instance, “classroom activities might involve creating multimedia presentations, designing digital stories, or analyzing visual narratives—all of which foster critical thinking and multimodal literacy skills” (Jewitt, 2008; Stein, 2008 in González García, 2018).

Furthermore, the educational potential of multimodal approaches extends beyond traditional classroom boundaries. Research highlights how activities such as using video games for learning can enhance student engagement and deeper understanding across subjects like history, literature, and science. “By integrating gaming technologies into pedagogical practices, educators leverage students’ familiarity with digital media to scaffold learning experiences that are interactive, collaborative, and meaningful” (Cruz-Palacios & Marzal, 2017 in González García, 2018).

In conclusion, integrating multimodality in the English classroom enhances literacy practices and keeps education in step with modern communication trends. It equips students to decode and encode messages across various forms of communication, preparing them to navigate today's digital and visual world effectively. By embracing multimodal strategies, educators foster a more inclusive and comprehensive approach to literacy that embraces diverse ways individuals create, communicate, and interpret meaning in the 21st century.

Literature Review

We will continue by exploring the ongoing research concerning how young children interact with screens and how these interactions have positively and negatively impacted the teaching-learning process. We shall begin this section of our research investigation paper by discussing the choice of the following three papers interconnectedly summarised below.

We have selected three key papers for our literature review based on their comprehensive coverage of relevant topics aligned with our research investigation question: the impact of teaching procedures, incorporating technological screens or adhering to experiential activities, on motivation levels and attention spans in kindergarten learners. Firstly, Hassinger-Das et al.'s (2020) exploration of "Children and Screens" provides insights into the evolving role of screen-based media, from television to smartphones and tablets, and their varying effects on children's cognitive development. Secondly, Robins (2024) discusses how tactile learning through devices can enhance engagement and retention, crucial for understanding how sensory and experiential education methods influence young learners. Lastly, Ray's (2023) examination of different types of screen time and their impacts on educational outcomes and health underscores the need for balanced screen use in educational settings. Together, these papers offer a comprehensive framework for understanding the complex interplay between teaching methodologies and children's learning experiences in the digital age.

The three chosen papers for this literature review highlight several common points regarding teaching procedures for maintaining kindergarten learners' motivation and attention spans. First, they all emphasise the importance of creating interactive and engaging learning experiences, showing that both sensory/experiential education and technology-based methods are most effective when they actively involve and interest children. Second, they stress the need for a balanced and mindful use of technology, agreeing that while educational screen time can be beneficial, it must be carefully managed to avoid potential negative effects on children's development. Third, they highlight the crucial role of social interaction in enhancing the effectiveness of both sensory/experiential and screen-based learning methods. We will continue by expanding each of these three points in common.

Firstly, all three papers emphasise the significance of creating interactive and engaging learning experiences for children to enhance their motivation and attention spans. In “Children and Screens,” Hassinger-Das et al. (2020) highlight that children benefit more from educational programming and digital media when they are interactive and engaging. For instance, children demonstrate higher levels of word learning, comprehension, and attention when they interact with others around digital media. The inclusion of interactive elements, such as prompts from characters on educational TV shows, significantly boosts children’s understanding and engagement. As noted, “children learn more from screens when the experience incorporates interactive elements to facilitate links between the screen and children’s real-life experiences” (Hassinger-Das et al., 2020, p. 74). This research underscores that children learn more effectively from screens when the experience is not passive but involves active participation and engagement.

Similarly, Robins (2024) in “How Tactile Devices Can Improve Children’s Learning,” discusses how tactile devices and sensory-rich experiences help children engage multiple senses, leading to a more interactive and effective learning experience. The paper points out that traditional classroom education, which often relies on passive listening, is not always the best method for young children who may struggle to stay focused. Instead, tactile learning, which incorporates visual, auditory, and hands-on elements, can make learning more engaging and help children retain information better. Robins states, “tactile learning in education helps kids engage multiple senses, leading to a richer and more interactive learning experience” (Robins, 2024). This approach aligns with the findings of Hassinger-Das et al. (2020), emphasising the need for interactive and sensory-rich learning experiences. Ray (2023) further supports this point by suggesting that educational screen time, particularly when interactive, can positively impact children’s learning

outcomes and engagement. Ray notes, “educational screen time provides the most benefit, showing positive effects on children’s persistence and educational outcomes” (Ray, 2023).

Secondly, the three chosen papers agree on the need for a balanced and mindful approach to the use of technology in children's education to avoid potential negative impacts. Hassinger-Das et al. (2020) highlight that the critical issue is not whether screens are used but how they are used. They emphasise “It is less about the dichotomy between screens versus no screens than about how screens can be used to support healthy development and learning” (Hassinger-Das et al., 2020, p. 72). The research suggests that while digital media are pervasive and potentially displacing other activities, the key is to integrate screens in a way that supports meaningful and socially interactive experiences.

Ray (2023) reinforces this by discussing the different impacts of various types of screen time. While educational screen time shows positive effects, excessive or passive screen time can have detrimental effects on children's development, such as emotional dysregulation and impaired cognitive functioning. Ray emphasises “Each of the studies shared here indicates the need for responsible screen use among children” (Ray, 2023). Similarly, Robins (2024) notes the potential of technology to enhance learning through tactile feedback but also warns, “There are plenty of experiences that we have that are just entertaining or they’re engaging in ways that are not necessarily going to contribute to learning” (Robins, 2024).

Thirdly, the importance of social interaction in enhancing the effectiveness of both sensory/experiential learning and screen-based learning is also present in the three selected papers. Hassinger-Das et al. (2020) note that children benefit most from social interactivity, whether through digital media

or in-person interactions, to enhance learning outcomes. They state that “children demonstrate higher levels of word learning, comprehension of content, and attention when engaging with others around digital media” (Hassinger-Das et al., 2020, p. 72). This research shows that children learn best in environments where they can interact socially, as this interaction helps to contextualise and reinforce the information being presented.

Similarly, Robins (2024) underscores the value of tactile learning environments that foster social engagement among children. By engaging multiple senses and promoting interactive experiences, tactile devices can create more inclusive and effective learning settings. Robins explains, “Tactile learning in education helps kids engage multiple senses, leading to a richer and more interactive learning experience” (Robins, 2024). This approach is complemented by Ray (2023), who emphasises the need for balance and social interaction even when incorporating educational screen time. Ray asserts, “As parents and teachers, we must also refrain from too much screen time and explore other opportunities for engagement and learning beyond our screens” (Ray, 2023). This collective evidence highlights that while technology can play a valuable role in education, it is the social interactions and collaborative experiences that truly enhance learning and development in young children.

Data collection

From Harklau's (2011) outlining of research methods, we have chosen class observations and interviews as our primary data collection methods to address our research question on the effectiveness of sensory and experiential education versus the use of technological screens in maintaining kindergarten learners' motivation and attention spans. Class observations will be our main focus, providing a direct, immersive way to study the interactions

and behaviours of kindergarten learners in real time. By engaging in participant observation, where the observer becomes part of the classroom setting, we can gain a deeper understanding of the dynamics at play. Observations allow us to see firsthand how different teaching methods impact students' motivation and attention spans in their natural learning environment. This approach directly captures students' engagement and teacher-student interactions that might not be fully articulated in interviews, providing a comprehensive view of the educational practices in question.

Interviews with class and English teachers supported our analysis by offering detailed information directly from those implementing the teaching methods. These interviews addressed questions such as teachers' preferences for using screens versus hands-on activities to keep 5-year-olds motivated and focused, the types of screens used and children's responses, the incorporation and importance of hands-on activities, observed differences in engagement between screens and hands-on activities, and teachers' inclinations towards screens or hands-on activities based on children's needs.

In this respect, we would like to present the tools we have used for gathering information. For class observations, we have prepared tables to record signs of motivation and indicators of demotivation among young children in classes where technological screens are present, compared to classes emphasising experimental and discovery-based approaches. These tables have helped us systematically capture observations and categorise behaviours that reflect varying levels of engagement and response to different teaching methods. We deem it relevant to mention that we have used the same indicators (see Tables 1 and 2 in Appendix A) to record young children's motivation signs and demotivation attitudes in classes that included the use of technological screens as well as during sensory and experiential activities.

For the interviews conducted, we have developed two forms: one in Spanish for Spanish-speaking classroom teachers and another in English for English-speaking teachers (see both links in Appendix B). These forms are designed to allow teachers to provide detailed responses to the questions posed. Additionally, we have created a table for analysing the responses obtained (see Table 3 in Appendix C). This table has enabled us to systematically compare the arguments and insights shared by teachers, facilitating a deeper analysis of the data collected through interviews.

Data analysis

To start with this section of our final research paper, we shall begin by analysing the information collected in class observations where we could record signs of motivation and attitudes of demotivation in two classes that promoted the use of digital screens and in two classes that focused on experiential and sensory activities. It is important to clarify the choice of the two institutions where we have conducted the class observations.

On one side, we have chosen the kindergarten of a state-run school in Rosario, Santa Fe, Argentina to observe English classes that include the use of technology and sensory and experiential activities due to our previous experience at this institution during our Practicum for the Teaching Workshop IV. This experience provided us with a deep understanding of its educational environment and confidence in the pedagogical quality of the establishment. Additionally, being a 19th-century school, it has spacious areas where students engage in various motor, physical, and movement activities. Initially, they do not have technological equipment available in each classroom, making this school an interesting context to evaluate student motivation and attention in response to the planned pedagogical proposals. The diversity of methodological approaches implemented in this school will allow us to obtain

a comprehensive and comparative view of how different teaching strategies influence children's motivation and attention.

On the other side, we have chosen the private kindergarten in a bicultural, educational centre in Rosario, Santa Fe, to observe English classes that include the use of technology and experiential activities due to its innovative and bicultural approach, which enriches the learning environment for students. This kindergarten is equipped with advanced technological devices for teachers, such as smart television devices, tablets, and projectors in most of the classrooms, which facilitate the integration of digital tools into daily activities. The access to modern technology will provide us with a valuable perspective to evaluate how these resources influence children's motivation and attention.

We continue by analysing the data collected from class observations with a brief description of the procedures followed in the two lessons that adhered to the incorporation of technological screens in the two different kindergarten contexts.

Approach followed: Teaching procedures following technological screens.

Lesson N° 1 (see Tables 4.1 and 4.2 in Appendix D)

- Institution: Kindergarten of the chosen state-run school.
- Date: June, 2024.
- Objectives:
 - To introduce and practice vocabulary related to colours in English.
 - To help students identify and name different colours.
- Procedure:

-Interactive Colour Presentation: The teacher uses the iPad to show a colourful slideshow that introduces each colour one by one (red, blue, yellow, green). Each slide includes an image of an object in the colour (e.g., a red apple, a blue sky).

-Step-by-step Review: The teacher goes through each colour, showing the corresponding image and saying the colour out loud. Students are encouraged to repeat the colour name.

-Turn-taking: Students take turns coming up to the iPad to participate in the game, while others observe and cheer on their classmates. The teacher uses a simple online wheel of names on the iPad which selects the name of one young learner to go to the front and play. The teacher shows the image of a black and white apple, and the chosen kid has to say the correct colour out loud to colour it accordingly.

Lesson N° 2 (Tables 5.1 and 5.2 in Appendix D)

- Institution: Kindergarten of the chosen private school.

- Date: July, 2024.

- Objectives:

-To revise and reinforce vocabulary related to parts of the body in English.

-To help students identify and name different parts of the body.

- Procedure:

-Interactive Presentation: The teacher uses a screen projector to display a colourful digital image of a child with labelled body parts. Each part lights up and is pronounced when touched (the screen is non-interactive; the body part lights up when the teacher clicks on it).

-Step-by-step Review: The teacher goes through each part of the body (head, shoulders, knees, toes, eyes, ears, mouth, nose, etc.) by touching the body part, prompting students to repeat the words.

-Sing-Along Song: The teacher plays a "Head, Shoulders, Knees, and Toes" video on the screen and encourages the students to sing along and mimic the actions shown in the video.

-Interactive Game: The teacher introduces a simple drag-and-drop game where students have to match the body parts' names to the correct parts on the screen. The children take turns coming up to the screen to participate. (Again, the screen is non-interactive; the teacher clicks on the body part the learner points at and it automatically matches the name label).

We have found four categories of analysis to address the role of technological screens in keeping motivation levels and attention spans in young learners in kindergarten. The following analysis of the data gathered after the observation period will be divided into the *interest*, *participation*, *persistence*, and *attention* axes in both lessons observed altogether.

To start with the *interest axis*, Lesson 1 and Lesson 2 reveal a consistent pattern of enthusiasm and engagement among 5-year-old students when technological screens are utilised. In Lesson 1, the use of an iPad successfully captured the children's interest, as evidenced by their animated facial expressions, smiles, and active body movements like jumping and waving hands, indicating that the interactive nature of the iPad activities kept them engaged and made the learning experience enjoyable and dynamic. Similarly, in Lesson 2, the screen projector played a significant role in capturing the children's interest, as most children displayed excitement through bright smiles and energetic body movements, demonstrating that the visual and

interactive elements of the screen projector were appealing. In both lessons, most children showed interest and engagement during activities involving the technological screens, with few signs of boredom or indifference.

Regarding the *participation axis*, Lesson 1 and Lesson 2 highlight the varying degrees of participation among 5-year-old students when using technological screens. In Lesson 1, the iPad effectively fostered active participation, as children eagerly repeated colour names, volunteered to take turns, and cheered on their classmates during the interactive game, demonstrating high energy levels and enthusiasm. Most children were keen to get involved with the iPad activities. In contrast, Lesson 2 showed a different outcome with the screen projector, where not all children participated eagerly. Despite the engaging visuals provided by the screen projector, a few learners appeared bored during the song and when pointing to body parts, suggesting, perhaps, that the level of interaction and engagement depends on the frequency and duration teachers and learners make use of the screen projector in each class. What we are suggesting here is that the constant presence of the school projector in every class reduces its novelty when applied to a specific topic. The frequency and duration with which teachers use technological screens in each class influence the level of participation of young children, who sometimes find the activities boring and monotonous.

When analysing the data collected from both lessons, we find that Lesson 1 and Lesson 2 reveal different levels of *persistence* among 5-year-old students when using technological screens in the activities proposed. In Lesson 1, while many children persisted in their efforts to pronounce colour names correctly, some became frustrated and gave up easily, opting to talk to a partner nearby when they encountered difficulties, such as saying “grinch” instead of “green.” This indicates that the iPad, despite its interactive nature, did not fully alleviate moments of frustration for all students. In contrast, Lesson 2 demonstrated a

higher level of persistence among most children during the interactive game on the screen projector. The children continued their efforts to correctly identify body parts even when faced with challenges, likely due to the engaging and interactive features of the screen projector that encouraged them to keep trying. This suggests that while both technological screens can foster persistence, the way interactive features are utilised and the nature of the tasks can significantly impact children's resilience and determination to overcome challenges.

Finally, when addressing the *attention axis* in both lessons observed in the two chosen educational contexts, we find Lesson 1 and Lesson 2 present differing levels of attention among 5-year-old students when engaging with technological screens. In Lesson 1, the children demonstrated a high level of attention during the slideshow and interactive game on the iPad, remaining engaged and focused on the task without easily getting distracted. This suggests that the interactive and visually stimulating features of the iPad effectively captured and maintained their attention throughout the lesson. Conversely, in Lesson 2, children showed only acceptable levels of attention during the presentation, song, and game on the screen projector. Many did not remain consistently engaged and focused as they solved tasks, indicating that the screen projector, while visually engaging, may not have been an effective tool to sustain young learners' attention, at least for prolonged times. As in the persistence axis, this demotivation attitudes suggest that the frequency and duration of teachers' use of technological screens in each class impact the attention levels of young children, who may occasionally find the activities dull and repetitive.

We will proceed by analysing the signs of motivation and attitudes of demotivation observed in the lessons that followed a more sensorial and experiential approach in the two chosen kindergarten contexts. We are

providing our readers with a brief description of the procedures followed in each lesson.

Approach followed: Teaching procedures including sensorial or experiential activities.

Lesson N° 3 (Tables 6.1 and 6.2 in Appendix D)

- Institution: Kindergarten of the chosen state-run school.
- Date: June, 2024.
- Objectives:
 - To improve listening, comprehension, and vocabulary through the story "The Little Girl Who Lost Her Name" by David Newby.
 - To enhance the students' sensory perception by involving multiple senses in the learning process: listening, touching, seeing.
- Procedure:
 - Introduction to the Story: The teacher briefly discusses the concept of losing something precious (like one's name) and how it might feel.
 - Interactive Reading: The teacher reads "The Little Girl Who Lost Her Name," using expressive voice modulation and body language to bring the story to life. Children are invited to repeat character names and key phrases to enhance memory and engagement.
 - Preparation for Main Activity: The teacher prepares trays filled with cornmeal and beans, hiding letters of the protagonist Clara's name (C, L, A, R, A) in the mixture.
 - Finding Clara's Name: Children use their hands to dig through the trays and find the hidden letters. As each letter is found, the teacher

asks the children to guess the letter and then places it on a board to spell out Clara's name.

-Discussion and Reflection: Children are encouraged to share their favourite part of the story and why they liked it.

Lesson N° 4 (Tables 7.1 and 7.2 in Appendix D)

- Institution: Kindergarten of the chosen private school.

- Date: July, 2024.

- Objectives:

-To revise and ensure children can identify and name different parts of the face (eyes, nose, mouth, ears).

-To develop sensory awareness through hands-on activities.

- Procedure:

-Introduction to the Topic: The teacher shows a large picture of a face and points to each part, asking the children to name it (e.g., "What is this?" while pointing to the eyes).

-Touch and Tell: The teacher prepares a bag filled with items representing parts of the face (e.g., toy glasses for eyes, a toy nose, a mouth shape, ears, etc.). Children take turns reaching into the bag, feeling an item without looking, and guessing which part of the face it represents. The teacher confirms and shows the item to the class.

-Making Funny Faces: The teacher brings two large ovals representing faces with their parts removed. A bag is prepared with different objects shaped like eyes, nose, ears, and mouth. Children are divided into two groups. Each child takes a turn to cover their eyes, reach into the bag,

and pick an object. They then stick the object on one of the blank ovals to form a funny face.

We will apply the same four categories of analysis, as previously done for teaching procedures with technological screens, but this time to address the role of sensory and experiential activities in keeping motivation levels and attention spans in young learners in kindergarten. In this respect, the following analysis of the data gathered will be also divided into the *interest*, *participation*, *persistence*, and *attention* axes.

Starting with the *interest* axis, the sensory and experiential activities in both lessons significantly fostered interest among 5-year-old students, as evidenced by their animated facial expressions, smiles, and active body movements such as jumping and waving hands. In Lesson 3, the children's enthusiasm and curiosity were particularly noticeable during the letter-finding activity in cornmeal and beans. This activity, which involved tactile exploration and the excitement of discovery, effectively captivated their attention and made the learning process enjoyable. The sensory engagement provided by the texture of the cornmeal and beans, combined with the challenge of finding the letters, maintained a high level of interest and motivation. Similarly, in Lesson 4, the "Touch and Tell" and "Making Funny Faces" activities elicited active participation and visible excitement. The children eagerly guessed the items and took turns sticking parts on the blank ovals to create funny faces, showing that hands-on, interactive tasks are highly effective in engaging young learners. These activities not only make the learning experience fun but also help to sustain the children's focus and interest by involving multiple senses and encouraging active involvement.

When it comes to the *participation* axis, it can be said that the sensory and experiential activities in both lessons played a pivotal role in fostering active

participation among 5-year-old learners. In Lesson 3, for instance, children eagerly dug through trays to find letters, engaging with both the teacher and their peers, which indicates that the tactile and interactive nature of the activity stimulated their involvement. The children's enthusiasm was not limited to the task itself but extended to their interactions, showing that the sensory component enhanced their willingness to communicate and collaborate. Similarly, in Lesson 4, children demonstrated active participation by enthusiastically guessing items in the "Touch and Tell" activity and sticking parts on the ovals during the "Making Funny Faces" activity. This hands-on approach not only encouraged them to physically engage with the materials but also promoted cognitive engagement as they identified and placed the facial parts. The eagerness to engage, take turns, and contribute to the tasks highlights how sensory experiences can captivate children's interest and encourage them to be more involved.

As to the *persistence axis*, the sensory and experiential activities in the two lessons reveal differing impacts on fostering persistence among 5-year-old students. In Lesson 3, the children displayed remarkable persistence despite the challenge of finding letters in the cornmeal and beans. They continued their search with determination and enthusiasm, without showing signs of frustration or irritability, which highlights the activity's ability to maintain their motivation and focus. The hands-on nature of the activity likely provided enough engagement and tactile feedback to keep the children interested and driven to complete the task. In contrast, Lesson 4 presented more significant challenges, as some children struggled to identify or place objects correctly in the "Touch and Tell" and "Making Funny Faces" activities. This led to frustration and a lack of persistence, requiring additional support and encouragement from the teacher and peers. The children's irritability and need for external motivation suggest that while the activities were engaging,

the difficulty level might have been too high for some, leading to discouragement. These contrasting outcomes suggest that while sensory and experiential activities can foster persistence by making tasks engaging and rewarding, they also need to be appropriately challenging and supported to prevent discouragement. The teacher's role in providing encouragement, adjusting the level of difficulty, and creating a supportive environment is crucial in helping children persist through difficulties.

Attention is another aspect worth considering after the observation period in the two selected lessons. In Lesson 3, children remained highly focused on the sensory activity of finding letters in cornmeal and beans, showing impressive levels of concentration without getting easily distracted. The hands-on, tactile nature of the activity kept them engaged and fully involved, as they actively searched for letters and interacted with their peers and the teacher. Similarly, in Lesson 4, the children exhibited high levels of concentration and engagement during the "Touch and Tell" and "Making Funny Faces" activities. The sensory aspect of these tasks, which involved touching and manipulating objects, helped to capture and maintain their attention, minimising distractions. The children's focus was not only on the task but also on the collaborative aspect, as they took turns and worked together to create funny faces. These observations suggest that sensory and experiential activities are particularly effective in enhancing young children's focus by providing stimulating and interactive learning experiences. Additionally, the interactive and cooperative nature of these activities promotes a sense of involvement and shared purpose, further enhancing their ability to focus.

It is time in our research investigation project to analyse the responses obtained from interviews with four teachers: two teachers of English and two classroom educators, all of whom work with five-year-old kindergarten

students. We selected these teachers based on their workplaces, ensuring representation from different contexts. While all teachers work with the same age group, their environments vary between private and public school management, where they have access to different materials (technological or not) for planning activities.

To facilitate the analysis and comprehension of the responses obtained, we utilised a colour-coding system to categorise similar answers effectively (see Tables 8 and 9 in Appendix E). This method involved the following colour scheme: light orange for responses supporting the implementation of sensory and experiential activities, light blue for responses endorsing the use of technological screens as a method to motivate young learners, and light green for responses favouring the integration of both approaches. The colour-coding system facilitated a clear visual differentiation of the various perspectives, making it easier to identify prevalent trends and patterns within the data. This approach made organising the responses easier and made our analysis more efficient. By visually grouping similar responses, we quickly identified the strengths and weaknesses of each approach, giving us a solid basis for drawing clear conclusions and making practical recommendations afterwards.

Furthermore, after conducting the interviews, we identified four main categories to organise and analyse the responses. The first category, *Preferences for Learning Tools*, includes responses to questions about whether teachers prefer using screens or hands-on activities to keep 5-year-olds motivated and focused (Questions 1 and 5). The second category, *Experiences with Screens*, encompasses responses detailing the types of screens used with 5-year-olds and their reactions (Question 2). The third category, *Implementation of Hands-On Activities*, covers how teachers incorporate hands-on activities into their lessons and their perceived importance (Question 3). Finally, the *Comparative Engagement and Balance* category addresses

observations on how children engage with screens versus hands-on activities and strategies for balancing both approaches (Questions 4 and 6).

In analysing the *Preferences for Learning Tools* category, it is evident that there is a strong inclination towards hands-on activities among the teachers. Teacher 1 and Teacher 2 both express a clear preference for hands-on activities over technological screens, emphasising the tangible, physical experiences that these activities provide. Teacher 1 highlights a shift in focus towards hands-on activities in recent years, reflecting a belief in their effectiveness for engaging young learners. Teacher 2, while acknowledging the benefits of both approaches, maintains a preference for hands-on activities due to their long-term positive effects on children's learning and engagement. Similarly, Teacher 3 and Teacher 4 also favour hands-on activities, citing reasons such as increased concentration, problem-solving skills, and overall enjoyment observed in children. Teacher 4 underscores the importance of sensory exploration and creativity, aligning with the pedagogical goals of early childhood education.

The responses collectively indicate that hands-on activities are highly valued for their ability to provide direct, interactive experiences that engage children in meaningful ways. The teachers note that these activities support essential skills such as concentration, creativity, and communication, which are crucial for young learners. While acknowledging the role of technological screens in capturing attention and motivation, the predominant preference for hands-on activities suggests a belief in their superior ability to foster deep, experiential learning. It also suggests that, despite the advantages of technological tools, sensory and experiential education methods may be more effective in maintaining young learners' motivation and attention spans, as they offer interactive and developmental benefits that are highly valued in early education settings.

As to the *Experiences with Screens* category, it is clear that each teacher utilises screens in various ways, but with some common observations about their impact on young learners. Teacher 1 primarily uses an iPad to display videos and songs, noting that children do not interact directly with the device. Teacher 2 uses a TV for watching videos, reporting that these activities are enjoyable and help children focus. Teacher 3 relies on a projector, the only available screen tool in their institution, and observes that children are attentive and engaged when watching short videos on the "big screen," which seems to enhance their focus and retention. Teacher 4 uses both a cellphone for showing stories and a projector for educational videos, noting increased enthusiasm and attentiveness among the children.

The responses indicate that screens, when used appropriately, can effectively capture children's attention and enhance their engagement. Teachers report that videos and songs help maintain focus and make learning experiences more enjoyable. The positive impact of screens seems to be particularly evident when content is brief and visually stimulating. However, despite these benefits, there is an underlying consensus that screens should complement rather than replace hands-on activities. This aligns with our main research question, suggesting that while technological screens can boost motivation and focus, they are most effective when integrated into a balanced teaching approach that includes sensory and experiential learning methods.

Considering relevant answers for the third category, *Implementation of Hands-On Activities*, it is clear that these activities are highly valued and frequently utilised across different teaching contexts. Teacher 1 provides a vivid illustration of how hands-on activities are used to engage multiple senses and foster creativity. The examples provided, such as the erupting lemon volcano experiment, decorating pots, and creating a simulated "night" environment, demonstrate a commitment to creating immersive and

multisensory learning experiences. These activities are designed not only to teach specific content but also to stimulate children's imagination and emotional engagement. Teacher 2 similarly emphasises the importance of hands-on activities for cognitive development, focusing on activities that promote sensory connections and manual skills. This perspective highlights the role of hands-on activities in enhancing various aspects of cognitive and physical development.

Teacher 3's response underscores the variety and adaptability of hands-on activities, including group, team, and individual tasks. The emphasis on sensory experiences and the use of diverse materials and settings supports the notion that such activities contribute significantly to children's independence, self-esteem, and motor skills. Teacher 4 also highlights the daily use of manual activities, noting their importance for creativity, imagination, and fine motor skills. Collectively, these responses illustrate that hands-on activities are integral to maintaining children's motivation and attention spans. They provide rich, interactive experiences that cater to various developmental needs and learning styles.

In exploring the last category, *Comparative Engagement and Balance*, it is apparent that teachers recognise both the benefits and limitations of screens and hands-on activities in maintaining young learners' motivation and attention. Teacher 1 observes that while screens initially captured students' attention effectively, the novelty has diminished over time. Despite this, they acknowledge that screens can still be a useful tool when combined with other resources, especially in contexts where technological limitations pose challenges. This teacher advocates for a balanced approach, suggesting that technology should complement rather than replace traditional methods. Teacher 2 similarly notes that screens tend to stimulate the brain while leaving the rest of the body passive, contrasting this with the more holistic

engagement offered by hands-on activities. They emphasise the importance of integrating sensory activities into routines for cognitive development and suggest using screens primarily for focused moments or as supplementary tools for autonomous learning.

Teacher 3's response highlights the challenges of relying solely on a projector and suggests that screens should be used in conjunction with hands-on activities to foster independence and support routine activities. They see technology as a supplementary tool rather than a primary method, indicating a preference for a balanced approach that integrates both screens and hands-on activities. Teacher 4 confirms that screens can enhance enthusiasm and attention but emphasises that artistic and manual exploration provides more prolonged engagement. They advocate for a balanced and thoughtful use of technology, suggesting that it should be used in a way that supports educational goals and is integrated into a broader range of activities.

Conclusion

This research investigation paper examined the effectiveness of teaching methods that utilise technological screens versus those that employ sensory and experiential approaches in maintaining motivation and attention spans among kindergarten learners. The hypothesis posited that while interactive, screen-based activities might enhance interaction, motivation, and attention, traditional sensory-based approaches could lead to deeper learning and a more meaningful connection with the content. This hypothesis was analysed through class observations and teacher interviews, focusing on four categories: interest, participation, persistence, and attention.

Observations revealed that technological screens, such as iPads and screen projectors, consistently elicited enthusiasm among kindergarten students. The

interactive features of these devices, including videos and games, effectively captured children's interest, as evidenced by their animated expressions and physical engagement. However, sensory and experiential activities, like the letter-finding exercise in cornmeal and beans or the "Touch and Tell" activity, similarly fostered interest by providing hands-on, tactile experiences that encouraged exploration and discovery.

In terms of participation, technological screens, particularly iPads, promoted active involvement, with children eagerly engaging in interactive activities. However, frequent exposure to screen projectors seemed to diminish their novelty and reduce engagement over time. Sensory activities, on the other hand, consistently inspired active involvement, with children participating eagerly in tactile and collaborative tasks. This indicates that while screens can facilitate participation, the hands-on nature of sensory activities often provides a more stimulating and engaging experience.

The persistence of children when using technological screens varied. Some students quickly became frustrated during screen-based tasks, while others remained determined. Sensory activities, especially those involving tactile exploration, generally encouraged persistence by maintaining motivation and minimising frustration. The key difference appeared to be the direct engagement and feedback offered by sensory activities, which helped sustain children's determination to complete tasks.

Attention levels among students were notably higher during interactive sessions with iPads, suggesting that the dynamic and visually stimulating features of technological devices can capture and maintain focus. However, attention during projector use was less consistent, potentially due to overuse at home and a lack of novelty. Sensory activities consistently maintained high

levels of attention by providing engaging and immersive experiences that minimised distractions.

Interviews with four teachers revealed a strong preference for hands-on activities over technological screens. Teachers highlighted the tangible, multisensory experiences provided by sensory activities as crucial for fostering engagement, concentration, and problem-solving skills. While acknowledging the benefits of screens, teachers emphasised the need for balance, suggesting that screens should complement rather than replace hands-on methods. Teachers noted that technological screens could capture attention and enhance engagement when used appropriately. However, the consensus was that sensory and experiential activities are more effective in maintaining motivation and attention spans by offering rich, interactive experiences that align with developmental needs.

The findings support the hypothesis that while technological screens can enhance interaction and attention in the short term, sensory and experiential activities offer more sustained engagement and meaningful learning experiences. Screens can play a valuable role when used sensibly, providing visual and interactive stimuli that complement traditional methods. However, relying solely on technological screens may lead to reduced novelty and engagement over time.

To optimise learning outcomes, educators should strive for a balanced approach, integrating screens and hands-on activities. By combining the strengths of both methods, teachers can cater to diverse learning styles, foster deeper connections with content, and enhance children's motivation and attention spans. Overall, this research underscores the importance of sensory and experiential education in early childhood settings. While technology offers valuable tools for engagement, the tactile and interactive

nature of sensory activities provides a foundation for holistic development, creativity, and meaningful learning experiences that are vital for young learners' growth.

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Appendix A

Table 1

TABLES FOR OBSERVING CHILDREN'S BEHAVIOUR:		
(This section will be completed according to the approach used in the class observed) *		
MOTIVATION SIGNS: DO THEY SHOW?	YES	NO
Facial and body expression: Motivated children often show enthusiasm through animated facial expressions, smiles, sparkle in their eyes, and active body movements such as jumping or waving their hands.		
Active participation: When motivated, children tend to actively participate in the activity that interests them. They may ask questions, contribute ideas, perform tasks with energy and enthusiasm, and be fully involved in what they are doing.		
Persistence: Motivated children tend to persist in their efforts even when facing challenges. They may try various strategies to overcome obstacles and continue working on a task until it is completed or their goal is reached.		
Focused attention: When motivated, children often show a greater ability to concentrate on a task for longer periods of time without easily getting distracted. They may be completely absorbed in what they are doing and show a higher level of attention and focus.		
*Teaching procedures including technological screens or teaching procedures including sensorial or experiential activities.		

Table 2

(This section will be completed according to the approach used in the class observed) *		
DEMOTIVATION ATTITUDES: DO THEY SHOW?	YES	NO
Lack of interest: Demotivated children may show a lack of interest in the activity they are participating in. They may appear bored, apathetic, or indifferent to what they are doing.		
Passive participation: Instead of actively participating, demotivated children may show passive participation or resist engaging in the activity. They may seem reluctant to get involved, show little energy, or simply not be emotionally present.		
Frustration or irritability: Demotivated children may show signs of frustration, irritability, or displeasure when asked to participate in the activity. They may complain, throw tantrums, or express their discomfort verbally or physically.		
Lack of persistence: Unlike motivated children, demotivated children may show a lack of persistence in their efforts. They may give up easily in the face of challenges, lose interest quickly, or abandon the activity without attempting to complete it.		
Frequent distraction: Demotivated children may be more prone to getting easily distracted during the activity. They may lose focus, divert attention to other things, or constantly seek ways to avoid participating in the task.		
*Teaching procedures including technological screens or teaching procedures including sensorial or experiential activities.		

Appendix B

Link to the form in Spanish for Spanish-speaking classroom teachers:

<https://forms.gle/VCiH5AbuXkahr2he7>

Link to the form in English for English-speaking teachers:

<https://forms.gle/ZH61tZtY5E3YmWmd6>

Appendix C

TABLE FOR TEACHERS' ANSWERS TO THE INTERVIEW:

Table 3

Teachers/ Questions	Teacher 1	Teacher 2	Teacher 3	Teacher 4
1- Do you prefer using screens or hands-on activities to keep 5-year-olds motivated and focused in class?				
2- What types of screens have you used with 5-year-olds, and how did they respond?				
3- How do you include hands-on activities in class for 5-year-olds? Do you think it's important for their learning?				
4- Have you seen any differences in how kids engage when using screens versus hands-on activities?				
5- Considering 5-year-olds' needs, do you lean more towards screens or hands-on activities to keep them engaged? Why?				
6- If you believe it's necessary to strike a balance between both approaches, which strategies would you use? Why?				

Appendix D

Lesson 1

Table 4.1

Teaching procedures including technological screens.		
MOTIVATION SIGNS: DO THEY SHOW?	YES	NO 
Facial and body expression: Motivated children often show enthusiasm through animated facial expressions, smiles, sparkle in their eyes, and active body movements such as jumping or waving their hands.	Most children showed enthusiasm with animated facial expressions, smiles, and active body movements such as jumping or waving their hands.	-
Active participation: When motivated, children tend to actively participate in the activity that interests them. They may ask questions, contribute ideas, perform tasks with energy and enthusiasm, and be fully involved in what they are doing.	Children actively participated by repeating colour names, eagerly volunteering to take turns, and cheering on their classmates during the interactive game.	-

Persistence: Motivated children tend to persist in their efforts even when facing challenges. They may try various strategies to overcome obstacles and continue working on a task until it is completed or their goal is reached.	While many children persisted in their efforts and tried again to pronounce colour names correctly, a few became frustrated, after saying “grinch” instead of “green”, for example, and gave up easily, opting to talk to a partner nearby.	
Focused attention: When motivated, children often show a greater ability to concentrate on a task for longer periods of time without easily getting distracted. They may be completely absorbed in what they are doing and show a higher level of attention and focus.	Children showed a high level of attention during the slideshow and interactive game, remaining engaged and focused on the task without easily getting distracted.	-

Table 4.2

Teaching procedures including technological screens.		
DEMOTIVATION ATTITUDES: DO THEY SHOW?	YES	NO
Lack of interest: Demotivated children may show a lack of interest in the activity they are participating in. They may appear bored, apathetic, or indifferent to what they are doing.	-	Most children showed interest and engagement during the activities involving the iPad, with few signs of boredom or indifference.
Passive participation: Instead of actively participating, demotivated children may show passive participation or resist engaging in the activity. They may seem reluctant to get involved, show little energy, or simply not be emotionally present.	-	Most children actively participated and were eager to get involved with the iPad activities, showing high energy levels.
Frustration or irritability: Demotivated children may show signs of frustration, irritability, or displeasure when asked to participate in the activity. They may complain, throw tantrums, or express their discomfort verbally or physically.	-	Children generally did not exhibit frustration or irritability when using the iPad; they appeared to enjoy the activities.
Lack of persistence: Unlike motivated children, demotivated children may show a lack of persistence in their efforts. They may give up easily in the face of challenges, lose interest quickly, or abandon the activity without attempting to complete it.	While many children persisted in their efforts and tried again to pronounce colour names correctly, a few became frustrated, after saying “grinch” instead of “green”, for example, and gave up easily, opting to talk to a partner nearby.	
Frequent distraction: Demotivated children may be more prone to getting easily distracted during the activity. They may lose focus, divert attention to other things, or constantly seek ways to avoid participating in the task.	-	The children remained focused on the iPad activities and were not easily distracted, maintaining their attention throughout the lesson.

Lesson 2

Table 5.1

Teaching procedures including technological screens.		
MOTIVATION SIGNS: DO THEY SHOW?	YES	NO
Facial and body expression: Motivated children often show enthusiasm through animated facial expressions, smiles, sparkle in their eyes, and active body movements such as jumping or waving their hands.	The majority of children displayed excitement with bright smiles and energetic body movements. The use of the screen projector clearly captured their interest.	-
Active participation: When motivated, children tend to actively participate in the activity that interests them. They may ask questions, contribute ideas, perform tasks with energy and enthusiasm, and be fully involved in what they are doing.	-	While some children participated, not all did so eagerly. A few learners seemed a bit bored during the song and when pointing to body parts, despite the engaging visuals provided by the screen projector.
Persistence: Motivated children tend to persist in their efforts even when facing challenges. They may try various strategies to overcome obstacles and continue working on a task until it is completed or their goal is reached.	Most children showed persistence during the interactive game on the screen projector.	-
Focused attention: When motivated, children often show a greater ability to concentrate on a task for longer periods of time without easily getting distracted. They may be completely absorbed in what they are doing and show a higher level of attention and focus.	Children showed acceptable levels of attention during the presentation, song, and game on the screen projector, but many of them did not remain engaged and focused as they solved tasks.	

Table 5.2

Teaching procedures including technological screens.		
DEMOTIVATION ATTITUDES: DO THEY SHOW?	YES	NO
Lack of interest: Demotivated children may show a lack of interest in the activity they are participating in. They may appear bored, apathetic, or indifferent to what they are doing.	-	Most children showed interest and engagement during the activities involving the screen projector, with few signs of boredom or indifference.
Passive participation: Instead of actively participating, demotivated children may show passive participation or resist engaging in the activity. They may seem reluctant to get involved, show little energy, or simply not be emotionally present.	While some children participated, not all did so eagerly. A few learners seemed a bit bored during the song and when pointing to body parts, despite the engaging visuals provided by the screen projector.	-
Frustration or irritability: Demotivated children may show signs of frustration, irritability, or displeasure when asked to participate in the activity. They may complain, throw tantrums, or express their discomfort verbally or physically.	-	Children generally did not exhibit frustration or irritability when using the screen projector; they appeared to enjoy the activities and remained cheerful.
Lack of persistence: Unlike motivated children, demotivated children may show a lack of persistence in their efforts. They may give up easily in the face of challenges, lose interest quickly, or abandon the activity without attempting to complete it.	-	Children showed persistence, continuing their efforts to correctly identify body parts even when faced with challenges, thanks to the interactive features of the screen projector.
Frequent distraction: Demotivated children may be more prone to getting easily distracted during the activity. They may lose focus, divert attention to other things, or constantly seek ways to avoid participating in the task.	Children showed acceptable levels of attention during the presentation, song, and game on the screen projector, but many of them did not remain engaged and focused as they solved tasks.	

Lesson 3

Table 6.1

Teaching procedures including sensorial or experiential activities.		
MOTIVATION SIGNS: DO THEY SHOW?	YES	NO
Facial and body expression: Motivated children often show enthusiasm through animated facial expressions, smiles, sparkle in their eyes, and active body movements such as jumping or waving their hands.	Children displayed animated facial expressions, smiles, and active body movements such as jumping or waving hands, especially during the sensory activity of finding letters in the cornmeal and beans.	-
Active participation: When motivated, children tend to actively participate in the activity that interests them. They may ask questions, contribute ideas, perform tasks with energy and enthusiasm, and be fully involved in what they are doing.	Children actively participated by eagerly digging through the trays for letters and engaging with the teacher and their peers during the activity.	-
Persistence: Motivated children tend to persist in their efforts even when facing challenges. They may try various strategies to overcome obstacles and continue working on a task until it is completed or their goal is reached.	Despite the challenge of finding the letters in the cornmeal and beans, children showed persistence by continuing to search until all letters were found, demonstrating determination and enthusiasm.	-
Focused attention: When motivated, children often show a greater ability to concentrate on a task for longer periods of time without easily getting distracted. They may be completely absorbed in what they are doing and show a higher level of attention and focus.	Children remained focused on the sensory activity, showing high levels of concentration and absorption without easily getting distracted. The hands-on nature of the activity kept them engaged.	-

Table 6.2

Teaching procedures including sensorial or experiential activities.		
DEMOTIVATION ATTITUDES: DO THEY SHOW?	YES	NO
Lack of interest: Demotivated children may show a lack of interest in the activity they are participating in. They may appear bored, apathetic, or indifferent to what they are doing.	-	Children appeared engaged and interested throughout the activity. They showed enthusiasm and curiosity, especially during the letter-finding activity.
Passive participation: Instead of actively participating, demotivated children may show passive participation or resist engaging in the activity. They may seem reluctant to get involved, show little energy, or simply not be emotionally present.	-	Children actively participated in the sensory activities. They were eager to dig through the trays and interact with the letters and their peers.
Frustration or irritability: Demotivated children may show signs of frustration, irritability, or displeasure when asked to participate in the activity. They may complain, throw tantrums, or express their discomfort verbally or physically.	-	Children did not exhibit signs of frustration or irritability. They remained positive and enthusiastic, even when some letters were harder to find.
Lack of persistence: Unlike motivated children, demotivated children may show a lack of persistence in their efforts. They may give up easily in the face of challenges, lose interest quickly, or abandon the activity without attempting to complete it.	-	Children showed persistence in their efforts to find all the letters. They continued searching with determination until Clara's name was completely spelled out.
Frequent distraction: Demotivated children may be more prone to getting easily distracted during the activity. They may lose focus, divert attention to other things, or constantly seek ways to avoid participating in the task.	-	Children remained focused and engaged during the activities. The hands-on, sensory nature of the tasks kept them absorbed and minimised distractions.

Lesson 4

Table 7.1

Teaching procedures including sensorial or experiential activities.		
MOTIVATION SIGNS: DO THEY SHOW?	YES	NO
Facial and body expression: Motivated children often show enthusiasm through animated facial expressions, smiles, sparkle in their eyes, and active body movements such as jumping or waving their hands.	Children displayed animated facial expressions, smiles, and active body movements such as jumping or waving hands, especially during the "Touch and Tell" and "Making Funny Faces" activities.	-
Active participation: When motivated, children tend to actively participate in the activity that interests them. They may ask questions, contribute ideas, perform tasks with energy and enthusiasm, and be fully involved in what they are doing.	Children actively participated by eagerly guessing the items in the "Touch and Tell" activity and enthusiastically sticking the parts on the ovals during the "Making Funny Faces" activity.	-
Persistence: Motivated children tend to persist in their efforts even when facing challenges. They may try various strategies to overcome obstacles and continue working on a task until it is completed or their goal is reached.	Some children struggled to find objects and got a bit frustrated as a result. They needed additional encouragement and support from the teacher and peers to continue participating.	
Focused attention: When motivated, children often show a greater ability to concentrate on a task for longer periods of time without easily getting distracted. They may be completely absorbed in what they are doing and show a higher level of attention and focus.	Children remained focused on the activities, showing high levels of concentration and engagement without easily getting distracted. The hands-on nature of the tasks kept them absorbed.	-

Table 7.2

Teaching procedures including sensorial or experiential activities.		
DEMOTIVATION ATTITUDES: DO THEY SHOW?	YES	NO
Lack of interest: Demotivated children may show a lack of interest in the activity they are participating in. They may appear bored, apathetic, or indifferent to what they are doing.	-	Children appeared engaged and interested throughout the activities. Their enthusiasm was evident in their active participation and curiosity.
Passive participation: Instead of actively participating, demotivated children may show passive participation or resist engaging in the activity. They may seem reluctant to get involved, show little energy, or simply not be emotionally present.	-	Children actively participated in the sensory activities. They were eager to engage, take turns, and contribute to the tasks.
Frustration or irritability: Demotivated children may show signs of frustration, irritability, or displeasure when asked to participate in the activity. They may complain, throw tantrums, or express their discomfort verbally or physically.	Some children showed signs of frustration when they struggled to identify or place the objects correctly. This led to a bit of irritability, requiring encouragement from the teacher.	
Lack of persistence: Unlike motivated children, demotivated children may show a lack of persistence in their efforts. They may give up easily in the face of challenges, lose interest quickly, or abandon the activity without attempting to complete it.	Some children struggled to find objects and got a bit frustrated, leading to a lack of persistence. They needed additional support and encouragement to continue participating.	
Frequent distraction: Demotivated children may be more prone to getting easily distracted during the activity. They may lose focus, divert attention to other things, or constantly seek ways to avoid participating in the task.	-	Children remained focused and engaged during the activities. The hands-on, sensory nature of the tasks kept their attention and minimized distractions.

Appendix E

TABLES FOR TEACHERS' ANSWERS TO THE INTERVIEW: Questions for teachers of English

Table 8

Teachers/ Questions	Teacher 1	Teacher 2
1- Do you prefer using screens or hands-on activities to keep 5-year-olds motivated and focused in class?	I prefer to use hands-on activities for 5 year olds. In the last 5 years I have started to focus on hands-on activities rather than technology.	Both have their benefits and drawbacks, so I try to integrate them within each class.
2- What types of screens have you used with 5-year-olds, and how did they respond?	I use most of the time an iPad (Tablet). They don't interact directly with it. Usually I display videos and songs.	TV to watch videos. They enjoyed the activities very much. They seem to help them focus.
3- How do you include hands-on activities in class for 5-year-olds? Do you think it's important for their learning?	Every class kids are able to play in English. For example, this year to teach colours, we did the erupting lemon volcano experiment. Kids were able to "create" colours using vinegar, baking soda and food coloring, as well as lemons. Once they came up with the colour, they started drawing with it. I tend to include science experiments and lots of crafts. Last year, we decorated pots then planted seeds for springtime. We also decorated a room simulating "the night" and I read "Goodnight moon". Kids were lying on the floor with cushions looking at the "stars" (Christmas lights). I sprayed lavender scents and played night sounds appealing to all senses. I tried to create a vivid picture in their minds, triggering at the same time their imagination. In the end, we looked at pictures from famous artists such as Marc Chagall, Rene Magritte, Van Gogh... representing the night. In my opinion, when kids are physically and emotionally engaged in an activity, they will best learn about the world around them.	I believe they are very important. I try to include activities that enhance cognitive development: associations, recognition of graphics/sensory connections, manual skills.
4- Have you seen any differences in how kids engage when using screens versus hands-on activities?	Indeed! I believe that screens are not the novelty anymore. I started using my iPad in 2016. Back then kids would really pay attention to the activities I would present. I used to play games, videos, songs... kids were "hooked" to the activities. Almost 8 years later, I don't see the same enthusiasm when presenting the activities here.	They are caught by screens, receiving a lot of stimuli but only stimulating their brain. The rest of the body remains passive. Hands-on activities are more integrative, but require a lot of attention from the part of the teacher to each student.
5- Considering 5-year-olds' needs, do you lean more towards screens or hands-on activities to keep them engaged? Why?	I lean on hands-on activities to keep them engaged. I understand that children need tangible, physical experiences to learn best to explore the world around them.	Although it is difficult, I prefer hands-on activities because of the long-term effects they have.
6- If you believe it's necessary to strike a balance between both approaches, which strategies would you use? Why?	I believe we can take advantage of technology in many ways. For example, educational apps can increase kids' interest and motivation for English class. The problem we encounter in the public area is the lack of tablets (not enough for all students) and most of the time the lack of wifi / or unstable wifi connection. It becomes very challenging to deliver the lesson under those conditions. Staying completely away from technology though, would be like denying reality. That being said, I would just use it as a tool (playing music, showing an exercise, showing a picture, telling a story if I can't get the physical book...)	I try to incorporate as many sensory activities as possible, especially during the routine so as to create a solid basis for cognitive development. The use of screens is an interesting resource for the focussing moment: to present a story, especially. Then, I'd rather design hands-on activities to practise and might leave screen drills or activities as autonomous learning (homework, for example).

TABLE FOR TEACHERS' ANSWERS TO THE INTERVIEW: Questions for class teachers.

Table 9

Teachers/ Questions	Teacher 3	Teacher 4
1- ¿Prefieres utilizar pantallas tecnológicas o actividades manuales (sensoriales, experimentales) para mantener motivados y concentrados a los niños pequeños en clase?	No prefiero utilizar pantallas tecnológicas en mis actividades diarias. Las actividades manuales son de mayor interés por los niños y las niñas. Se observa en ellas mayor concentración, esfuerzo por superarse, logran solicitar ayuda pudiendo identificar su problema y comunicarlo verbalmente a la docente o compañero/a que tienen a su lado. Disfrutan del proceso como así también de poder lograr finalizar la actividad, acercándose a la docente para mostrarle su logro.	Uno de los objetivos del Nivel inicial es conocer el mundo que los rodea por medio la exploración de su entorno por medio de los sentidos. Por eso es tan importante este tipo de actividades. Pero a la vez es una realidad que estamos en la era de las tecnologías y si le pones una pantalla van a estar concentrados y motivados. Pero mi preferencia son las actividades manuales.
2- ¿Qué tipos de pantallas tecnológicas has utilizado con niños pequeños y como han respondieron ante ellas en términos de motivación y atención?	Sólo proyector que es la única herramienta que tenemos disponible en la Institución. Los niños y las niñas se muestran atentos ante la "pantalla grande", pudiendo permanecer frente a ella sin dificultad y con buena predisposición ya que las pocas veces que lo he utilizado, selecciono videos de corta duración. Lo que observan, les impacta más; es decir, el contenido queda más reafirmado.	Celular para mostrar algún cuento y proyector para ver videos sobre efemérides o algún contenido en especial. La cual se los ve mas entusiasmados y atentos.
3- ¿Cómo y cuán a menudo incluyes actividades prácticas/manuales en clases para niños pequeños? ¿Consideras que es importante para su aprendizaje la idea de manipular/experimentar con los sentidos?	Utilizo las actividades manuales a diario! No siempre tienen la misma duración como así tampoco siempre son las mismas propuestas. Se trata de ir planificando actividades grupales que puedan quedar en la sala, actividades en equipos por mesas como así también actividades individuales; al mismo tiempo ir variando los materiales y diferentes escenarios para llevar a cabo las mismas. Si considero importante que en la práctica docente las actividades estén atravesadas por los sentidos porque favorece muchísimo la independencia, la autoestima, la motricidad, el pensamiento pudiendo pensar para luego plasmar/resolver/registrar/dibujar entre otras acciones.	En general utilizo actividades manuales y todos los días, ya que es importante para su exploración del mundo, para estimular su creatividad, imaginación y motricidad fina.
4- ¿Has notado diferencias en cómo los niños se involucran cuando usan pantallas tecnológicas versus actividades prácticas/manuales?	Como expliqué anteriormente, en la Institución solo contamos con proyector. Por tal motivo, no puedo dar cuenta de cómo impacta cada actividad en los niños y niñas.	Obviamente al ver pantallas se los ve mas entusiasmados y atentos ante una actividad de ese tipo. Pero a la vez todo lo que sea de exploración artística y manual lo disfrutan más tiempo utilizando todos sus sentidos.
5- Considerando las necesidades de los niños pequeños en edad escolar, ¿se inclinan más hacia el uso de pantallas tecnológicas o actividades prácticas para mantenerlos motivados e involucrados? ¿Por qué?	Considerando las necesidades de los niños y niñas del Nivel Inicial y conociendo la gran exposición de pantallas que tienen cada uno/a de ellos/as en sus hogares, me inclino siempre por las actividades prácticas como forma principal de enseñanza en mi sala.	Me inclino más en las actividades prácticas y manuales ya que ellos pueden explorar su creatividad, imaginación y motricidad fina e interactuar con otros.
6- Si crees que es necesario encontrar un equilibrio entre ambos enfoques, ¿Qué estrategias usarías para lograrlo? ¿Por qué?	Si es posible encontrar un equilibrio entre ambos enfoques. Implementaría por ejemplo una computadora/tablet para que cada niño/a pueda reconocer las letras de su nombre y escribirlas en la pantalla, o en el caso de la tablet pondría una pizarra para que puedan escribirlo; es decir, lo utilizaría como un complemento a mis actividades de rutina. Sería otra forma más, no la principal, de fomentar la independencia y de realizar registros de actividades relacionadas con el calendario, la asistencia, quien es la locomotora/secretario/a del día.	Como lo dije anteriormente, es una era de la tecnología para las infancias y para el futuro, no está mal presentarle actividades con pantallas, lo que si me gustaría para que haya un equilibrio es tener un uso adecuado, un tiempo determinado, buscarle una finalidad educativa y funcional.