UNIVERSIDAD HISPANOAMERICANA

FACULTY OF EDUCATION

THESIS SUBMITTED TO OBTAIN THE LICENTIATE DEGREE IN BILINGUAL PRESCHOOL EDUCATION

# “The Effectiveness of applying Play-Based Learning Approach Strategies to Enhance Pre-Writing Skills in Pre-K level at Saint Jude School, I Semester 2025”.

SUSTENTANT:

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TUTOR

MSc. Ariel Gustavo Vargas Vindas

2025

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Yo Amanda Castro Carvajal, mayor de edad, portador de la cédula de identidad número uno dieciocho cero veinte sesenta y uno catorce (1-1802-0614) egresado de la carrera de Educación Preescolar Bilingüe de la Universidad Hispanoamericana, hago constar por medio de éste acto y debidamente apercibido y entendido de las penas y consecuencias con las que se castiga en el Código Penal el delito de perjurio, ante quienes se constituyen en el Tribunal Examinador de mi trabajo de tesis para optar por el título de Licenciatura en Educación Preescolar Bilingüe, juro solemnemente que mi trabajo de investigación titulado: “The Effectiveness of applying Play-Based Learning Approach Strategies to Enhance Pre-Writing Skills in Pre-K level at Saint Jude School, I Semester 2025”, es una obra original que ha respetado todo lo preceptuado por las Leyes Penales, así como la Ley de Derecho de Autor y Derecho Conexos número 6683 del 14 de octubre de 1982 y sus reformas, publicada en la Gaceta número 226 del 25 de noviembre de 1982; incluyendo el numeral 70 de dicha ley que advierte; articulo 70. Es permitido citar a un autor, transcribiendo los pasajes pertinentes siempre que éstos no sean tantos y seguidos, que puedan considerarse como una producción simulada y sustancial, que redunde en perjuicio del autor de la obra original. Asimismo, quedo advertido que la Universidad se reserva el derecho de protocolizar este documento ante Notario Público.

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Estimado señor(a)

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He revisado y he hecho las observaciones relativas al contenido analizado, particularmente lo relativo a la coherencia entre el marco teórico y análisis de datos, la consistencia de los datos recopilados y la coherencia entre éstos y las conclusiones; asimismo, la aplicabilidad y originalidad de las recomendaciones, en términos de aporte de la investigación. He verificado que se han hecho las modificaciones correspondientes a las observaciones indicadas.

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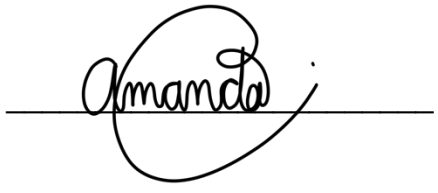

Amanda Castro Carvajal

118020614

## Dedicatory

This thesis is dedicated to those who have been my anchor, inspiration, and constant companions throughout this journey. Every word written and every effort made carries a piece of you.

To God, for being my guiding light and my source of strength every step of the way. Your presence gave me hope in moments of doubt and peace in times of uncertainty.

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This accomplishment is not mine alone—it belongs to all of you.

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## Abstract

This research aimed to determine the effectiveness of Play-Based Learning strategies in enhancing pre-writing skills among Pre-K students at Saint Jude School, Costa Rica, during the first quarter of 2025. The study employed a mixed-methods approach, combining pre- and post-assessments with anecdotal records and classroom observation. Five pre-writing indicators were assessed: pencil grasp, tracing accuracy, shape tracing, bilateral coordination, and fine motor play. The findings revealed a significant improvement in all indicators after the implementation of student-centered, hands-on activities rooted in the principles of Play-Based Learning. Notable progress was observed particularly in tracing accuracy and shape tracing. Additionally, qualitative data showed increased motivation, independence, and engagement among students. The proposal presented in Chapter VI suggests a practical, developmentally appropriate set of strategies that encourage exploration through play invitations and the intentional use of materials. Rooted in a variety of early childhood pedagogies, the study concludes that Play-Based Learning is a powerful and effective approach for fostering writing readiness in young learners.


**Key Words:** Play-Based Learning, pre-writing skills, early childhood education, fine motor development, student-centered learning

## Resumen

Esta investigación tuvo como objetivo determinar la efectividad de las estrategias de Aprendizaje Basado en el Juego para fortalecer las habilidades preescritoras en estudiantes de Pre-Kínder del Saint Jude School, Costa Rica, durante el primer trimestre del año 2025. El estudio empleó un enfoque mixto, mediante la aplicación de pruebas diagnósticas (pre y post test), registros anecdóticos y observaciones del entorno de aula. Se evaluaron cinco indicadores preescritores: agarre del lápiz, precisión al trazar, trazado de formas, coordinación bilateral y juego motor fino. Los resultados mostraron mejoras significativas en todos los indicadores tras la implementación de actividades prácticas y centradas en el estudiante, basadas en los principios del Aprendizaje Basado en el Juego. Se destacó un progreso notable en la precisión al trazar y en el trazado de formas. Asimismo, los datos cualitativos reflejaron mayor motivación, autonomía y compromiso por parte de los estudiantes. La propuesta presentada en el capítulo VI sugiere un conjunto de estrategias prácticas y apropiadas para el desarrollo que fomentan la exploración mediante invitaciones al juego y el uso intencionado de materiales. Basado en una variedad de enfoques pedagógicos de la educación inicial, el estudio concluye que el Aprendizaje Basado en el Juego es una metodología poderosa y eficaz para promover la preparación hacia la escritura en los primeros años.


**Palabras Clave:** Aprendizaje Basado en el Juego, habilidades preescritoras, educación inicial, motricidad fina, aprendizaje centrado en el estudiante

# Chapter I

# Research Problem

## 1.1 INTRODUCTION

In today's rapidly evolving world, the demands on education have never been greater. Educators are tasked with preparing students for a future characterized by the need of skills such as critical thinking, communication, creativity, collaboration… (Buckle, 2024) and challenges as uncertainty, technological advancements, and global interconnectedness.

To meet these challenges and skills, traditional educational approaches are increasingly being questioned and replaced by innovative methodologies and approaches that prioritize a lifelong learning.

The Play-Based Learning approach emerges as a promising solution to address the shortcomings of outdated educational practices. Rooted in the understanding that children learn best through play, the approach has gained significant attention in recent years. Research consistently demonstrates its effectiveness in enhancing cognitive, social-emotional, and language development, laying a strong foundation for academic success.

As a matter of fact, this research aligns with the growing recognition of the importance of play in child development. As UNICEF (2023) states, "Playing and learning is crucial for every child's development – starting from when they are born." By prioritizing play-based learning, we can foster a more engaging, meaningful, and effective educational experience for young children.

However, despite its proven benefits, the implementation of Play Based Learning in classrooms, particularly in developing countries like Costa Rica,

remains inconsistent due to various barriers. These include resistance from traditional educators, limited resources, and concerns about meeting curricular demands. As a result, many children continue to receive a fragmented and teacher-centered education that fails to inspire curiosity, creativity, and a love of learning.

Furthermore, this study aims to investigate the effectiveness of applying Play-Based Learning Approach strategies to enhance pre-writing skills in Pre-K level at Saint Jude School during the first quarter of 2025. Pre-writing skills are essential for developing literacy and communication abilities, laying the groundwork for future academic success. By focusing on this foundational aspect of language development, this research seeks to contribute to a more innovative and effective educational system that better prepares students for the challenges of the 21st century.

The research will employ a quasi-experimental design with a single-group pretest-posttest approach to assess the impact of Play Based Learning approach strategies on pre-writing skills through a series of carefully selected activities. This will provide a stimulating and engaging learning environment that encourages exploration, creativity, and communication; and by examining the outcomes of this study, in both a qualitative and quantitative way, hope to shed light on the potential of Play Based Learning approach to transform early childhood education in Costa Rica and provide valuable insights for educators seeking to improve literacy outcomes and prepare students for the demands of the modern world.

Moreover, this study is particularly relevant to Costa Rica, where educational challenges persist. The country still faces disparities in access to quality education, particularly in rural areas. Implementing innovative approaches like Play Based Learning can help address these challenges and improve educational outcomes for all students.

By investigating the effectiveness of Play Based Learning strategies in enhancing pre-writing skills, this research contributes to a growing body of evidence supporting the benefits of Play-Based Learning Approach. The findings of this study have the potential to inform educational policies and practices in Costa Rica and beyond, promoting a more child-centered and effective approach to early childhood education.

### *1.1.1 Background*

During the 2018-2019 school year, Walther (2019) directed an investigation which aimed to investigate whether preschool students can make appropriate academic growth in a play-based inclusive classroom. The goal was to determine if play-based learning could help students progress towards being at or above benchmark levels in areas like literacy and numeracy by the end of the school year.

As for the methodology, instruments and population; the research was conducted in two half-day preschool classrooms [one with 8 students (1 girl, 7 boys) and another with 14 students (8 girls, 6 boys); all aged four to five] using a play-based learning approach. Through the approach the students engaged in a variety of play activities for an hour and a half of each session.

The instruments used for data collection included the Individual Growth and Development Indicators screener (IGDIs) administered in fall, winter, and spring; and Teaching Strategies GOLD, which used anecdotal notes, videos, and pictures for continuous assessment throughout the year.

As part of the results Walther's (2019) investigation, it was noticed that the data from IGDIs was mixed. Some students showed progress in literacy areas like sound identification and alliteration, but not all met the required benchmarks. However, in the other hand, the GOLS strategies data indicated more positive outcomes. Students showed significant academic growth in areas like letter-sound correspondence and quantification. By the end of the year, most students were at or above benchmark levels for all objectives.

In spite of the instrument results contradiction the IGDIs data did not strongly support the hypothesis that students can make consistent academic growth through play-based learning. However, the Teaching Strategies GOLD assessment showed that students did make significant growth, particularly in literacy and numeracy. The discrepancy suggests that play-based learning might be more effectively assessed through ongoing, in-class observations rather than isolated testing environments.

All in all, the researcher recommends further research into the different parts of the school day to identify which segments are most conducive to play-based learning. Additionally, more attention should be given to how themes in play are chosen, encouraging student input to make learning more meaningful. Finally,

comparing teacher-led activities with play-based learning could provide insights into balancing academic rigor with play in early childhood education.

Ultimately, Walther's action-research investigation provides a clear focus on academic growth within a play-based learning framework, specifically in early childhood education. This allows to refine the current investigation and narrow down the scope of your research regarding the expectation of academic outcomes.

Later on, during 2022, Acevedo directed a dissertation where it was explored how nine kindergarten teachers in a public school in the USA implement play-based learning practices. It also investigated the barriers they face in this process. Play-based learning is shown to support children's development in areas such as oral language, social-emotional skills, and literacy. However, teachers encountered challenges in effectively incorporating play into academic instruction due to curricular demands.

In relation to the methodology and the Instruments; the study employed a basic qualitative research design. Data were collected through semi-structured interviews with nine kindergarten teachers, focusing on their experiences with play-based learning. The data were transcribed, coded, and analyzed to identify overarching patterns and themes related to implementation practices and challenges faced.

Accordingly with the data collection and analysis, the study found that teachers used both structured and unstructured play-based activities in their classrooms, allowing students to explore, collaborate, and experiment in small

groups. It also indicated that teachers lacked adequate professional development opportunities related to play-based learning. Lastly, it was said that some of the barriers to effective implementation included limited time, insufficient training, lack of resources, and pressure from the curriculum.

The findings highlighted the need for more comprehensive training and support for teachers to effectively incorporate play-based practices into their instruction. The disconnect between the demands of academic curricula and the benefits of play was a significant issue that needed addressing. This dissertation contributes to improving play-based pedagogies and identifying solutions to the barriers teachers face in kindergarten classrooms.

Additionally, Acevedo (2022) recommended to increase professional development for teachers on play-based learning practices, to enhance administrative support to bridge the gap between play and academic instruction and, to provision of more resources and time for teachers to integrate play-based learning effectively into their classrooms.

Overall, the investigation directly addresses the problematization surrounding outdated, teacher-centered approaches in education. By exploring how PBL practices are applied in kindergarten classrooms and identifying the barriers teachers face, this research helps to limit the gap between 21st-century learning needs and traditional educational methods. By promoting strategies that integrate cognitive, emotional, and social development, this investigation supports the view that PBL can enhance literacy outcomes and prepare students for the

demands of the modern world, particularly in contexts like Costa Rica, where educational challenges persist.

Furthermore, in 2023, Rodriguez Campos conducted an investigation about the implications of implementing the Play-Based Learning (PBL) approach in enhancing key skills (social skills, problem-solving, critical thinking, and language development) among a convenience sample drawn from one class of 14 three- and four-year-old students (nine girls and five boys). It aims to identify how PBL can contribute to children's holistic development in a bilingual environment, particularly in learning English as a second language.

Consequently, the research followed a participatory action approach, focusing on qualitative data collection through semi-structured interviews and observations. Three interviews were conducted with the homeroom teacher, complemented by five class observations to assess the approach implementation. The study used documentary review as an additional instrument to gather relevant literature and data.

The findings revealed that the Play-Based Learning approach significantly enhanced children's soft skills. Students showed an improvement in vocabulary acquisition, communication, and social interaction. Play invitations allowed children to practice English naturally, with both structured and free-form activities aiding in language development. However, challenges were noted, particularly for students with learning disabilities, as well as those who lacked English practice at home.

Therefore, the study concluded that Play-Based Learning effectively fosters holistic development in young learners, particularly in enhancing language skills and promoting curiosity. It provides a flexible, engaging environment for children to explore, create, and interact with peers, thereby developing key social and cognitive skills.

Given the overview of the research, Rodríguez Campos (2023) suggested three recommendations. The first one being that teachers should continue applying diverse, flexible strategies to maintain students' interest and engagement in learning through play. The second one is to use attractive materials and environments to cater to children's interests for successful implementation. The third is that schools should invest in further training for teachers to enhance their understanding of the PBL methodology, particularly in managing students with learning disabilities.

Undeniably, the research provides a focused exploration of how Play-Based Learning (PBL) impacts the development of key soft skills among early childhood learners in a bilingual ESL setting like in most private schools in Costa Rica. It also narrows the scope to preschoolers aged 3 to 4, highlighting the effectiveness of PBL within structured and unstructured activities.

### *1.1.2 Problematization*

Since the early studies of human education by great philosophers like Plato and Socrates, one idea has remained clear: leisure is a key part of the learning process. Plato emphasized that children learn best through play, as it is the most natural and direct form of leisure for young children. Likewise, play was central to

the Socratic method, where students actively constructed knowledge through interaction among peers (Hunnicutt, 1990; Kruse & Connor, 2023).

Building on these foundational ideas, modern research has deepened the understanding of play's role in child development. As UNICEF (2023) states:

> “Playing and learning is crucial for every child’s development – starting from when they are born. The first years of life shape a child’s development in every aspect – physical, linguistic, social, and emotional. Those years build the foundation for their future life.”

As a result of all the trajectory that sustains play as an essential element in children’s life, education advocates (organizations, researchers, teacher, parents, caretakers, etc.) have been working on a new Educational Approach that could sustain play itself as the main tool to obtain educational results both inside and outside the classrooms.

Therefore, Play Based Learning is a Whole-Child approach where students learn through play. This method includes two broad categories: Guided Play (teacher-directed) and Free Play (Child-led). It also incorporates various play schemas tailored to developmental stages (Danniels & Pyle, 2018; University of New Hampshire, 2024; Carazo, 2023); where principles, about the nature of learning are translated into the classroom through play strategies that meet academic, emotional, creative, psychological, spiritual, and development needs (Hameed, 2024).

Research highlights several critical benefits of Play-Based Learning in the 21st-century classroom, including:

- Cognitive development
- Creativity and imagination
- Metacognition
- Empathy and cooperation
- Communication and collaboration
- Resilience and self-esteem
- Vocabulary acquisition and literacy skills
- Motivation and engagement.

These benefits align with the nature of integral learning proposed through Play Based Learning Approach by a leisure-moderated process. (Carazo, 2023; Briey, 2023).

Nevertheless, while Play Based Learning offers many benefits, some may question whether it can adequately prepare students for the future. Haile and Ghirmai (2024) and Pyle et al. (2018) share some of the most reported challenges in their findings. One challenge is balancing policies and curricular mandates with play-based activities. Additionally, parental concerns over academic rigor in Play-Based Learning approach can create tension, as traditional norms often emphasize more structured learning. Lastly, the teacher's training and qualifications influence their teaching style. Some teachers prefer a classroom where children take the lead in their learning (student-centered), while others favor a more structured approach with teacher-directed instruction.

However, one persistent issue in today's education is that many Latin American countries continue using traditional, teacher-centered approaches developed during the 19th century (Espinoza, 2019). These methods were designed for industrial-age workforce needs, but today's rapidly evolving society demands a rethinking of education. As Sage and Matteucci (2021) explain:

> "Education was established to create employees for 19th and 20th century manufacturing models. The 21st century requires a rethink. Change is happening fast, with jobs not guaranteed as robots are taking over routines. We must prepare students for uncertainty & higher-level employment – helping them *think* and *communicate* instead of *retain* and *recall facts* for passing exams."

¿How are teachers expected to accomplish twenty-first century learning objectives and abilities with approaches that no longer meet the population needs? Costa Rica students are no exception from this situation. Each year more students present difficulties in the Literacy process. As Artavia et al. (2024) explain in the article The Evolution of Education in Costa Rica: Challenges and Opportunities; "The country still faces challenges regarding the quality of learning outcomes."

To meet the demands of the 21st century, especially in literacy, preschool students in Costa Rica require a well-balanced, modern educational approach. Play-Based Learning, which aligns naturally with early childhood development, offers a promising strategy to teach critical language skills like reading, writing, listening, and speaking. Implementing PBL may be the key to equipping future generations for the challenges of the modern world.

### *1.1.3 Problem Statement*

The current educational approaches in Costa Rica are failing to adequately prepare students for the demands of the 21st century, particularly in literacy.

### *1.1.4 Justification*

This study proposes a Play-Based Learning -centered approach as a way to address the challenges posed by outdated teaching methods in the 21st century. By emphasizing play and exploration, Play-Based Learning aligns with the natural learning styles of young children and promotes a natural development.

Implementing Play-Based Learning strategies in a Costa Rican preschool class from Saint Jude School would aim to contribute to a more innovative and effective educational system that better prepares students for:

- The challenges and opportunities of the 21st century and in curriculum matter would be expected to improve their writing abilities (which for preschool translates as pre-writing skills due).
- Develop essential skills like creativity, problem-solving, critical thinking, and communication, which are crucial for success in today's rapidly changing world.

Subsequently, after revising and analyzing previous investigations about the topic, and the problematization itself, the current proposal would be: The Effectiveness of applying Play-Based Learning Approach Strategies to Enhance Pre-Writing Skills in Pre-K level at Saint Jude School during the first quarter of 2025.

This arises from the hypothesis that implementing Play-Based Learning approach strategies will significantly improve pre-writing skills in Preschoolers of pre-kinder level at Saint Jude School during the first quarter of the 2025 in comparison to traditional teaching methods that have been used in the past, not only in a broad way in Costa Rica but also inside the institution.

Regarding the methodology, an idea that arose from one reading was the use of "*Single-Group Pretest-Posttest Design*". This design will involve administering a pre-test to assess the pre-writing skills of the participants before implementing the Play-Based Learning strategies. After a specified intervention period, a post-test will be administered to measure any changes in pre-writing skills. Even though there will be no control group, the comparison of the pre-test and post-test scores, observations and interviews will provide a more comprehensive understanding of the impact of Play-Based Learning; and whether or not the approach is being successful to fill the literacy content.

To successfully enhance the pre-writing skills, some Play-Based Learning strategies that might be used are:

<u>Sensory Play Activities</u>

- Finger painting: Provide a variety of colors and textures for children to explore.
- Playdough: Encourage children to shape and mold playdough into different forms.
- Sand play: Let children create designs and patterns in the sand.

- Water play: Provide opportunities for children to pour, splash, and experiment with water.

Dramatic Play Activities

- Puppet shows: Create puppets together and act out stories.
- Pretend play – Role Play: Encourage children to pretend to be different characters or in different settings.

Literacy-Based Activities

- Storytelling: Read stories aloud and encourage children to retell them in their own words.
- Fingerplays: Use fingerplays to reinforce letter recognition and sound-symbol correspondence.
- Writing center: Set up a writing center with a variety of writing materials, such as crayons, markers, pencils, and paper.

Outdoor Play

- Nature walks: Take children on nature walks to explore the environment and collect natural materials.
- Outdoor games: Play games that involve physical movement and coordination.

By applying Play-Based Learning strategies in the classroom, it should be possible to aim for outcomes (even before post-testing) such as:

- Improved pre-writing skills formation and fine motor skills

- Increased interest in writing and storytelling
- Enhanced expressive writing abilities
- Positive impact on overall literacy development

Lastly, by combining these correlational and descriptive elements, this study will employ a correlational-descriptive research design to provide a comprehensive understanding of how Play Based Learning strategies can effectively enhance pre-writing skills in a real-world classroom setting.

## 1.2 RESEARCH QUESTION

**What is the effectiveness of applying Play-Based Learning approach strategies to enhance pre-writing skills in Pre-K level at Saint Jude School, Costa Rica during the first quarter of the 2025?**

## 1.3 OBJECTIVES OF THE INVESTIGATION

### 1.3.1 *General Objective*

a. **To determine the effectiveness of applying Play-Based Learning approach strategies to enhance pre-writing skills in Pre-K level at Saint Jude School, Costa Rica during the first quarter of 2025.**

### 1.3.2 *Specific Objectives*

a. To identify the initial pre-writing skills of Pre-K Level class at Saint Jude School, Costa Rica.
b. To explore Play-Based Learning strategies to enhance pre-writing skills in Pre-K students.

c. To determine the Impact of Play-Based Learning on the enhancement of Pre-writing Skills.
d. To assess the specific pre-writing skills that demonstrate the greatest improvement following a Play-Based Learning intervention.

## 1.4 SCOPE AND LIMITATIONS OF THE INVESTIGATION

### *1.4.1 Scope of the research*

To provide a more focused investigation, this study will examine the effectiveness of Play-Based Learning strategies in enhancing pre-writing skills among a classroom of approximately ten pre-kinder level preschoolers at Saint Jude School, San José, Costa Rica, during the first semester of 2025.

Additionally, the research will consider variables such as pre-writing skills (measured by specific assessment tools) and Play-Based Learning approach strategies (implemented in the classroom). Given these variables, the data collection methods will include pre-tests, post-tests, and classroom observations.

### *1.4.2 Limitations of the research*

To fully understand the implications of these findings, it is crucial to consider the limitations of the study. The first limitation to consider is the limitation to a single school (Saint Jude School in San José Costa Rica) and a relatively small sample size (approximately 10 students). Another limitation has to do with the study design. While the *Single-Group Pretest-Posttest Design"* is appropriate to the type of research since there's a lack of control group for the study. This could limit the ability to definitively attribute changes in pre-writing skills solely to the PBL

intervention. The last limitation to mention is regarding the external validity. The findings may not be directly applicable to other schools or regions with different cultural, socioeconomic, or educational contexts.

**Hypothesis**

By applying Play-Based Learning approach strategies with PreK students from Saint Jude School during the first quarter of 2025, their pre-writing skills will be enhanced significantly.

# Chapter II

# Theoretical Framework

## 2.1 INTRODUCTION

This chapter examines the significance of play as a foundational element in early childhood development and its integration into education through the Play-Based Learning approach. Beginning with an exploration of play's definition, stages, and types, the chapter emphasizes how this natural activity fosters cognitive, emotional, and social growth in children. Key theoretical perspectives from pioneers such as Piaget, Vygotsky, and Montessori highlight the developmental benefits of play, which extend far beyond mere entertainment. These principles serve as the backbone of the Play Based Learning approach, which blends child-led exploration with purposeful learning strategies to nurture holistic growth.

Building on this foundation, the chapter provides practical insights into designing effective play-based learning environments, selecting appropriate materials, and employing strategies like play invitations and provocations. The benefits of PBL, including enhanced creativity, socio-emotional skills, and cognitive development, are contextualized within the framework of pre-writing skill acquisition for Pre-K learners. By connecting theory with practice, this chapter sets the stage for understanding how PBL can transform early childhood education into a dynamic, engaging, and impactful experience that will allow children to grow with the necessary skills to develop in the 21$^{st}$ century.

## 2.2 PLAY

### *2.2.1 Definition of play*

Play, as an intrinsic human behavior, has long been recognized as a cornerstone of childhood development. According to the Cambridge dictionary (2024) “when you play, especially as a child, you spend time doing an enjoyable and/or entertaining activity.” Yet, its significance extends far beyond mere amusement. Play, in its multifaceted forms, serves as a powerful catalyst for cognitive, social, emotional, and physical growth.

According to Peter Gray (2013), play can be defined through five key characteristics: self-chosen and self-directed, intrinsically motivated, guided by mental rules, imaginative, and conducted in an alert, active, but relatively non-stressed frame of mind. Each of these characteristics plays a crucial role in understanding the nature and significance of play in children's lives.

The first characteristic of play is that it is *self-chosen and self-directed*. This means that play is fundamentally voluntary; children engage in play activities because they want to, not because they feel obligated to do so. Gray emphasizes that “players” have the autonomy to decide not only whether to play but also how to engage in play, which fosters a sense of ownership over their activities. This freedom allows children to explore their interests and desires, leading to deeper engagement and satisfaction.

Play is also characterized by *intrinsic motivation*, meaning that children engage in play for the inherent enjoyment it provides rather than for external rewards or

outcomes. (Gray, 2013) Intrinsic motivation is driven by internal satisfaction and joy derived from the activity itself. Research shows that activities pursued out of intrinsic motivation lead to greater engagement and creativity, as children are more likely to explore, experiment, and take risks when they are motivated by personal interest rather than external pressures. (Di Domenico & Ryan, 2017)

Another defining feature of play is that it is *guided by mental rules*. While play is self-directed, it operates within a framework of rules that kids create and agree upon. These rules can be flexible and imaginative, allowing for creativity within structured boundaries (Gray, 2013). Vygotsky (2016) highlighted the importance of these mental rules as they help children learn to control their impulses and navigate social interactions. The shared understanding of rules fosters cooperation among players and enhances the learning experience by encouraging negotiation and problem-solving skills.

*Imaginative* engagement is a vital aspect of play. It involves a mental shift away from reality, allowing children to create new worlds, scenarios, and roles (Gray, 2013). This imaginative quality not only enhances creativity but also supports cognitive development by encouraging abstract thinking and hypothetical reasoning.

Finally, play occurs in an *alert, active*, yet relatively non-stressed state of mind. This characteristic underlines the importance of emotional well-being during play. (Gray, 2013) Children are fully engaged and focused on their activities while feeling free from external pressures or stressors. This relaxed state enhances learning

outcomes by allowing children to experiment freely and develop resilience through trial and error. (Smith & Pellegrini, 2023)

By understanding these five characteristics—self-chosen and self-directed, intrinsically motivated, guided by mental rules, imaginative, and conducted in an alert yet relaxed frame—it is possible to define the essence of play.

### *2.2.2 Play Stages*

When diving deeper into what *play* encompasses by itself, especially if from an educational perspective when it's intended to use it as a praxis tool, becomes crucial to understand the play stages (visual representation can be found in Figure 1. Types of play for children) and which is the stage students are currently on to provide the most unique and integral experiences. Scientific researchers agree there are six defined play stages: unoccupied play, solitary play, spectator/onlooker play, parallel play, associate play and cooperative play. (Pathways Organization, 2024)

The first stage of play acknowledged in children is unoccupied play. This stage covers from birth until the child is three months old approximately. It is considered "the beginning of play" (British Broadcasting Corporation [BBC], 2023) At this stage, infants play by moving their body parts: their arms, legs, hands, feet, etc. In many cases it may not look like play, however, by exploring the movements from their own incentive it is considered play, unoccupied play. (British Broadcasting Corporation [BBC], 2023; Pathways Organization, 2024)

The second stage of play in children is Solitary play. This stage goes from birth until the child is two years approximately. As infants turn into toddlers and developmentally, they can accomplish more, play becomes more evident by integrating the use of concrete toys or materials to entertain themselves (toys, stack blocks, books…) However, there is one clear characteristic: children will play by themselves without further interaction with peers. The solitary play stage is believed to happen as a result of the lack of social skills to interact with other children yet. In some cases, solitary play may occur or persist if children are feeling tired and overwhelmed or if being *shy* is part of their personality. (British Broadcasting Corporation [BBC], 2023; Pathways Organization, 2024)

The third stage of play in children is Spectator/Onlooker behavior play. This stage happens when toddlers are about two years old approximately. During this stage children become aware and observant about how their peers play, yet they voluntarily decide not to get involved. It is said to be a stage where children learn social skills and rules from watching in detail others. (British Broadcasting Corporation [BBC], 2023; Pathways Organization, 2024)

The fourth stage of play in children is parallel play. This stage begins around age two approximately. Parallel Play consists of children playing alongside or near others but not engaging. When this type of play is ongoing it is possible to see children have small conversations between themselves, copy other's play; however, it usually doesn't last long as they aren't playing together to achieve a mutual goal. This stage is a natural evolution from onlooker play, as children go

from being on the edge to being closer to the action. (British Broadcasting Corporation [BBC], 2023; Pathways Organization, 2024)

The fifth stage of play in children is associate play. This stage takes place when children are between three and four years approximately. The associative play stage is the first stage of play in which children willingly interact with others while playing, even if the interaction isn't for long. This interaction could be doing an activity related to the kids around but not interact directly with another child. In other words, even though there is a clear interaction, each child is still centered on their ideas and don't intend to share a common goal while playing. (British Broadcasting Corporation [BBC], 2023; Pathways Organization, 2024)

The sixth stage of play in children is cooperative play. This stage begins when the children are about four years approximately. It is the last stage of play; and it is said to be the most complex and interactive stage. It is considered cooperative play when the two people involved in play have interest and aligned goals towards the joint activity. The play may have rules and a purpose. Through this play stage children develop skills such as empathy, communication, patience and teamwork. (British Broadcasting Corporation [BBC], 2023; Pathways Organization, 2024)

*Figure 1. Types of play for children*


**Source:** Nicole Harris, 2024.

### *2.2.3 Play schemes*

Renowned psychologist Jean Piaget emphasized the significance of play in his theory of cognitive development, arguing that through play, children actively construct their understanding of the world around them. He believed that play is not just a form of entertainment; it is a fundamental way in which children learn, explore, and make sense of their experiences. (McLeod, 2024)

At the heart of Piaget's theory are *schemas*, which are mental frameworks that help children organize and interpret information. As children engage in various types of play, they develop specific patterns of behavior known as *play schemas*.

These schemas serve as tools for exploration, enabling children to interact with their environment in meaningful ways. By understanding play schemas, we can gain insight into how children think, learn, engage with their environment, and grow through their playful activities while developing critical skills through play. (McLeod, 2024)

Play schemas are defined as recurring patterns of behavior that children exhibit during play. These schemas guide their exploration and help them make sense of the world around them. (Anya 2024)

There are nine play schemes: connection, transforming, enclosing, orientation, transporting, rotation, positioning, enveloping and trajectory. Each schema reflects a child's natural curiosity and developmental needs, guiding their play activities in unique ways.

The schemes can vary from one child to another, and some may never display all of them. As a matter of fact, in the way some children may not display all schemes, it is also possible for children to display several schemes at once. When a child displays more than one scheme at the time is common to have a predominant schema. (Anya 2024; Education Scotland, 2019).

To gain a deeper insight into these concepts, the nine distinct types of play schemas are going to be examined. Each type offers a unique perspective on how children interact with objects and their surroundings.

The *Connection Schema* is the first to consider. This schema involves the act of joining objects together or taking them apart, showcasing a child's fascination with

how things fit and interact. For instance, children might play with magnetic tiles, supermarket carts, glue objects together… As they explore connections, children develop fine motor skills and spatial awareness, while also honing their problem-solving abilities as they learn about balance and stability. (Ralphs, 2024; Carazo, 2023)

Second, there is the *Transforming Schema.* This centers on changing the form or appearance of objects, encompassing actions such as mixing, pouring, or molding. Children might find joy in mixing colors with paints, play with stacking toys, cook or mold playdough. Engaging in transforming play enhances creativity and encourages scientific thinking as children observe the effects of their manipulations; it fosters cognitive skills related to cause and effect, allowing children to understand how their actions can change the world around them. (Ralphs, 2024; Carazo, 2023)

In third place, there is the *Orientation Schema*, which involves exploring objects from various angles and perspectives. In this schema, children exhibit a natural curiosity about spatial relationships and encourages curiosity about the environment. Examples of play in this schema can be playing with mirrors, and climb trees and ladders, turn objects upside down, look at them from different angles to see how they fit together differently. As children experiment with different viewpoints, they begin to grasp concepts like symmetry and perspective. (Ralphs, 2024; Carazo, 2023)

Building on this exploration of perspectives is the *Enveloping Schema.* This schema is characterized by covering or hiding objects or oneself, reflecting a

child's fascination with containment and security. For example, children might wrap toys in blankets, play peek-a-boo, and play with their hands on sensory activities. Enveloping play allows children to explore ideas of safety while enhancing their imaginative storytelling abilities. It also supports emotional development as they learn about boundaries and personal space. . (Ralphs, 2024; Carazo, 2023)

Then, the *Trajectory Schema.* This schema focuses on how objects move through space; particularly how they travel when thrown, dropped, or rolled. Children often engage in activities such as throwing balls, rolling cars, filling and emptying containers, among others. Engaging in trajectory play helps children understand concepts like force and gravity while developing motor skills and hand-eye coordination. This foundational understanding lays the groundwork for later learning in physics and mathematics. (Ralphs, 2024; Carazo, 2023)

Following, the *Rotation Schema*. This schema involves spinning or turning objects and oneself, highlighting children's interest in circular motion. Children delight in spinning tops, twirling around themselves, or playing with wheels on toys. Rotation play allows children to experience motion in a tangible way. (Ralphs, 2024; Carazo, 2023)

Next, the *Enclosing Schema,* which revolves around creating barriers to contain objects or oneself within defined spaces. In this schema, children might build walls with blocks, create forts using cushions, or fill containers with various items. Enclosing play promotes spatial awareness and helps children understand concepts of inside and outside; it also encourages creativity and provides opportunities for storytelling and role-playing. (Ralphs, 2024; Carazo, 2023)

Following is the *Positioning Schema*, which involves arranging objects in specific orders or patterns that reflect a child's desire for organization. Children may engage in activities such as lining up toys by size or color, sorting items into categories, or creating intricate patterns with blocks. Positioning play supports mathematical thinking by introducing concepts of order and classification while developing fine motor skills as children manipulate objects to create desired arrangements. (Ralphs, 2024; Carazo, 2023)

Finally, the *Transporting Schema*, which focuses on moving objects from one place to another, emphasizing children's interest in mobility. In this schema, children might carry toys in bags, push carts around the room, or transfer items between containers. Transporting play fosters independence and responsibility; it encourages problem-solving as they figure out how to move items efficiently within their environment. (Ralphs, 2024; Carazo, 2023)

Having explored the nine distinct play schemas, it becomes clear that these patterns of behavior are not only fundamental to children's development but also manifest in various ways within educational settings. In a Pre-K classroom, these schemas come alive as children engage in diverse activities that reflect their innate curiosity and desire to explore. Observing how these play schemes unfold in such an environment provides valuable insights into the learning processes of young children, showcasing their natural tendencies to connect, transform, and interact with the world around them.

### *2.2.4 Types of play*

The *Types of play* categorize play based on its content and purpose, highlighting the cognitive and physical aspects. (Little Tikes, 2024). While *play stages* focus on the social dynamics of play. Each play type offers a unique benefit to a child's development and while the types of play are not mutually exclusive; children often engage in multiple types of play at the same time. (Rymanowicz, 2015)

Researchers have determined over 15 types of play that happen as a result of the play schemes and stages in children (Anderson-McNamee & Bailey, 2010); among which it can be found: competitive, parallel, imaginative, constructive, physical, sensory, dramatic, constructive, social, exploratory, independent… However, Nicole Harris (2024) suggests there are five main types. These being: symbolic play, fantasy play, competitive play, physical play and constructive play.

Symbolic play is where children use objects and actions to represent something else. A block becomes a car, a stick transforms into a magic wand, and a doll is a beloved friend. Symbolic play fosters creativity, empathy, and the ability to think flexibly. (Harris, 2024)

Secondly, there is the Fantasy play. Where children go on imaginative journeys; where they elaborate stories, often involving supernatural elements or fantastical characters. This type of play allows children to escape reality, process emotions, and explore fears and anxieties in a safe environment. (Harris, 2024)

Next, the Competitive play. It involves activities that aim to outperform others. Competition can ignite a child's passion and drive. It fosters a sense of achievement, resilience, and sportsmanship. Through competition, children learn to handle both victory and defeat, developing important social skills like cooperation, negotiation, and conflict resolution. (Harris, 2024)

Then, Physical play. It is essential for children's physical development, as it promotes strength, coordination, and agility.  Physical play not only enhance motor skills but also contribute to cognitive development as it stimulates the brain, improves concentration, and reduces stress. (Harris, 2024)

Lastly, constructive play involves creating and building, whether it's with blocks, Legos, or art supplies. This type of play encourages problem-solving, spatial reasoning, and fine motor skills. Children learn to plan, design, and execute their creations, fostering creativity and innovation. (Harris, 2024)

### *2.2.5 Importance and benefits of play*

Play is a fundamental aspect of overall human development. It provides a rich and stimulating environment where children can explore, experiment, and learn at their own pace. The importance of play relies on the benefits that it provides. According to Basilio et al. (2012) “The evidence for the developmental benefits of play is actually now overwhelming.” Among the main benefits that can be mentioned are cognitive development, social skills, emotional growth, creativity, problem-solving abilities, language acquisition, physical well-being, and stress reduction. (Carazo, 2023)

While all these benefits contribute to a child's holistic development, this section will focus in depth on four of the most significant: cognitive development, social skills, physical well-being, and language acquisition.

Beginning with the cognitive development; play stimulates cognitive development by encouraging problem-solving, critical thinking, and creativity. Through play, children construct mental models of the world and develop abstract thinking skills. (Bodrova & Leong, 2007).

Then, the social skills. Play facilitates social interaction, cooperation, and empathy. Children learn to share, negotiate, and resolve conflicts, fostering positive relationships and emotional intelligence. Play also helps children develop self-esteem and a sense of identity (Paley, 1986).

In addition, physical play, such as running, jumping, and climbing, promotes gross motor skills, balance, and coordination. It also contributes to healthy physical development by encouraging physical activity.

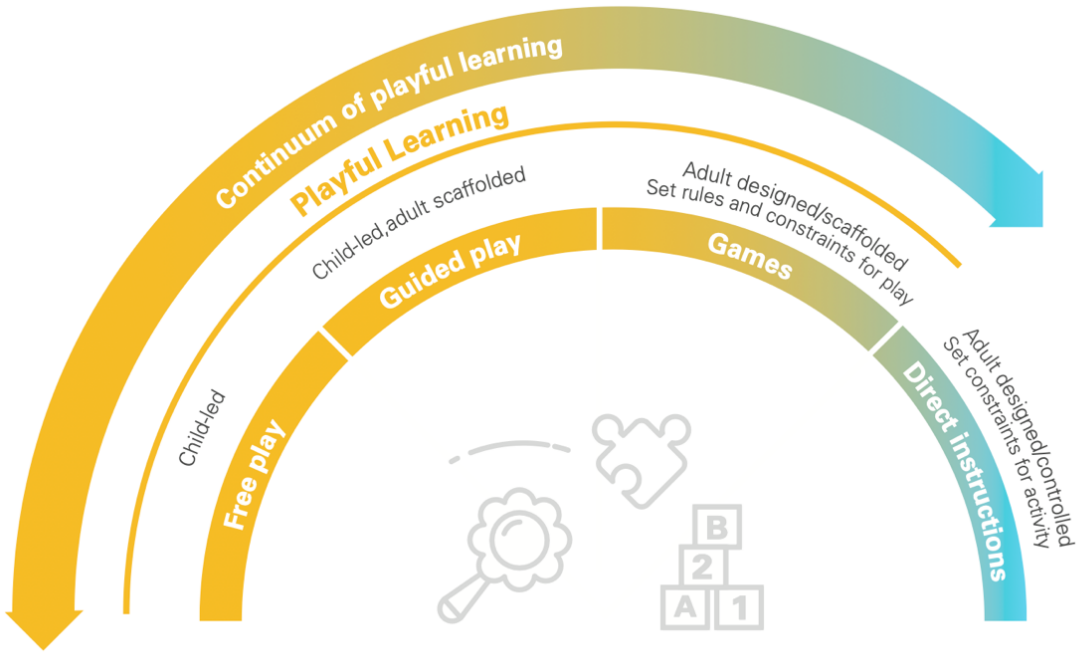
Lastly, play provides opportunities for language acquisition and literacy development. Children use language to communicate with peers, express ideas, and engage in storytelling.

### *2.2.6 Roles in play*

While children are the primary participants in play, adults also have a significant role in shaping and supporting children's play experiences. In many cases, depending on the type of interventions done by each of the parts, the play experience can evolve from the most child-led experience, free play, to the most

adult-led, direct instruction, where play loses most of its essence; as shown in. the Figure 2. Continuum of Playful Learning (UNICEF & LEGO Foundation, 2018). As result, it is necessary to deepen in the roles of both children and adults

*Figure 2. Continuum of Playful Learning*




**Sourse:** UNICEF & LEGO Foundation (2018).

The figure 2. "Continuum of Playful Learning" captures how children engage with play and learning, showing the transition from child-led activities to adult-directed instruction. Emphasizing the interconnected roles of play and education with the children and the adults. It shows that playful learning encompasses a variety of roles, each valuable in its own context. (UNICEF & LEGO Foundation, 2018).

Furthermore, diving into the roles, first, we have the children. As the primary agents of play, children should be the center of the play by embracing and demonstrating role characteristics such as being driven by intrinsic motivation, exploration, curiosity, imagination, experimentation, initiative, develop social interaction (Rymanowicz, 2015)

However, while children are the primary actors in play, adults play a vital supporting role. Adults should adopt a supportive role that enhances children's learning without taking control. Among the supportive role functions listed by Rymanowicz, (2015) it is to be found:

- Create environments that foster play
- Provide resources
- Observe and respond
- Model playful behaviors
- Guide and engage in children's play experiences when appropriate
- Providing open-ended questions

Children thrive on self-directed exploration and social interaction, yet adults can enhance these experiences. Balancing these roles effectively fosters a rich play experience that contributes significantly to children's growth and development. By acknowledging these distinct roles, caregivers can foster enriching play experiences that contribute to children's integral development as current twenty first century society members. (Carazo, 2023)

## 2.3 PLAY BASED LEARNING APPROACH

### *2.3.1 Origin & foundation of Play based Learning Approach*

According to the Cambridge University (2024) “The play-based approach to teaching and learning is not a new idea.” The background of the Play-Based Learning approach lies in the foundational ideas put forth by key educational theorists who advocated for the role of play as a critical instrument for learning and development. Their work, findings and research insights fundament the groundwork for contemporary practices that led to the Play-Based Learning approach as it is known in the early childhood education community today.

In a first instance, the origin of the approach origin goes back to the 19th century to the work of the German Friedrich Froebel (1782–1852), an educator who founded kindergarten and is considered to the day one of the most influential educational reformers of the 19th century (Curtis, 1998). Froebel showed how children engage in playful, self-initiated interactions with their surroundings to discover through play. (Cambridge University, 2024) Froebel’s legacy was clear: through play, children could learn about the world around them and develop essential skills.

Moving forward in history, another education pioneer emerged: Maria Montessori (1870–1952). An Italian physician and educator. Montessori observed how children learned when given the freedom to choose their activities. She introduced the concept of "purposeful play," where children interacted with real-life materials that encourage to follow innate instincts, exploration and learning at an individual pace. (McArdle, 2024) Montessori's approach highlighted the importance

of independence and self-directed learning, reinforcing Froebel's belief in the power of play.

Eventually, the renowned Russian psychologist Lev Vygotsky (1896–1934). He was a believer that children learn best when they engage in collaborative play (social interactions) with peers and guided by knowledgeable adults through 'scaffolding' to reach the "zone of proximal development" as himself named the capacity of a child to reach its fullest potential through guidance. (Cambridge University, 2024; Encyclopedia Britannica, 2024)

Along with Vygotsky, the Play-based Learning approach continued to evolve with the contributions of Swiss psychologist Jean Piaget (1896–1980). Piaget studied how children's thinking and knowledge developed most when using play as a vital tool to assimilate new experiences into their understanding of the world. (Encyclopedia Britannica, 2024a; McLeod, 2024) As Carazo (2024) said: "When children played, they were not just having fun; they were constructing knowledge."

Contemporary educators continue to adapt these principles to meet the needs of diverse learners in modern classrooms by allowing children to explore, experiment, and engage meaningfully with their environment. This approach is now widely recognized in early childhood education as a vital component of effective teaching practices.

### *2.3.2 Definition Play Based Learning approach*

Play-based learning is an educational approach that integrates play as a fundamental component of the learning process; allowing students to learn through

play spaces designed to achieve specific goals. (Carazo, 2023; Cambridge University, 2024)

### *2.3.3 Key principles of play based learning approach*

The Play-Based Learning approach is built on principles that prioritize the natural ways children learn and develop, through play. According to Harvard's University Project Zero of Pedagogy of play (2022); the principles "that serve as the conceptual foundation for a pedagogy of play"; indicate a truthful connection between the nature of play and educational praxis that are child-led as a result of active teaching.

Harvard University (2022) Project zero - playful learning project (POP) suggests eighth main principles: playing with purpose, learners leading their own learning, experiencing choice, wonder and delight, connecting inside and outside the classroom, reflect on playful experiences, cultivate a culture of playful learning for adults, fostering trust and welcoming negotiation, studying the paradoxes between play and school.

a) **Playing with purpose**. Playful learning integrates academic objectives, curriculum content, and activities with learners' personal interests. By connecting the curriculum with real-world inquiries and play; the approach motivates learners to engage deeply into a game. That results in a specific outcome. (Harvard University, 2022)

b) **Learners leading their own learning.** In a Play-Based Learning environment, the emphasis is on giving learners responsibility for their learning. This encourages students to acquire the desired knowledge at

their own pace. Intrinsically motivated, learners are inspired to challenge themselves, push boundaries, and embrace mistakes as opportunities for growth, resilience and confidence. (Harvard University, 2022)

c) **Experiencing choice, wonder and delight**. The Play-Based Learning approach learners are characterized by moments where they engage meaningfully with people, ideas, materials, or environments that spark wonder and delight.

(Harvard University, 2022)

I. **Connecting inside and outside the classroom.** The approach aims to bridge the gap between academic learning and practical application, fostering a deeper understanding through meaningful connections created by the real and authentic play experiences (Harvard University, 2022).

II. **Reflect on playful experiences.** Learners are encouraged to think about their experiences before, during, and after play, to draw meaningful connections. This reflection can be done in the way that best suits the children. (Harvard University, 2022)

III. **Cultivate a culture of playful learning for adults.** For children to thrive in a playful learning environment, the adults that surround them must also adopt a playful mindset. This involves cultivating creativity, flexibility, and the ability to see potential in ordinary materials, spaces, and ideas. From an educational point of view, growing a playful community can foster teaching practices and outcomes. (Harvard University, 2022)

IV. **Fostering trust and welcoming negotiation.** Play Based Learning relies on a foundation of trust and open communication among all the people involved in the education process. By trusting and negotiating it can be ensured that the learning environment is safe, supportive, and inclusive (Harvard University, 2022).

V. **Studying the paradoxes between play and school.** Play and traditional schooling often present apparent contradictions; as shown in figure 3. Play is open-ended, unpredictable, and driven by the child, while school is structured, orderly, and guided by adult-set agendas. Play involves risk and messiness, while school emphasizes safety and control. Making amends among these paradoxes requires educators to collaborate, reflect, and document their experiences systematically (Harvard University, 2022).

*Figure 3. Comparative representation of the paradoxes between play and school.*


**Source:** International School of Billund, (2024)

Through these principles, Play-Based Learning continues to inspire innovative practices in education, highlighting the timeless value of play as a cornerstone of growth and discovery

### *2.3.4 Learning Environment Design in Play Based Learning*

The design of the learning environment plays a crucial role in supporting the principles and practices of Play-Based Learning. In this approach, the environment is not merely a backdrop for activities but an active participant in the learning process, often referred to as the "third teacher." As the "third teacher" it fosters curiosity, creativity, and autonomy, providing children with opportunities that align with the play-based pedagogy. (Carazo, 2023)

To achieve the “third teacher”, the Harvard University (2022), suggest through the Project Zero Pedagogy of Playful Learning five main characteristics of the Learning environments to succeed with the Play Based Learning Approach. These are: Environment decision design, Access and flexibility, Safety and Comfort, Respect for Materials and Spaces and, Aesthetic Features.

a) **Environment decision design.** Both learners and teachers are involved in shaping the space, with their input valued and implemented whenever feasible. The arrangement of the physical space and its intentional use.
b) **Access and flexibility.** Learners have access to diverse and adaptable spaces, furniture, and materials, allowing them to freely experiment and bring their ideas to life.

c) **Safety and comfort.** The environment prioritizes safety and comfort while incorporating playful elements. Playful elements of a learning environment include architectural features, furnishings and versatile materials (e.g., loose parts for imaginative play and exploration).
d) **Respect for Materials and Spaces:** Students are encouraged to care for and maintain the provided materials that surround their space, fostering a sense of responsibility and respect for the environment.
e) **Aesthetic Features*:*** Thoughtfully chosen aesthetic elements—such as natural light, transparency, and organic materials—create a sense of wonder and delight. These features inspire, cultivating a playful, calming, and engaging atmosphere.

Furthering, the Cambridge University (2024) suggest an additional characteristic that the play-based environment should encompass. The continuous provision.

The continuous provision is “the term used to describe the resources and areas of the learning environment that children can explore freely every day for an extended period” (Cambridge University, 2024). In early childhood, continuous provision if often reflected as classroom “areas” or “corners” created by the teacher to work on a specific curricular area.

As a result of these characteristics, the Cambridge University (2024), has suggested that when planning a Play-Based environment, all the responsible of the learning process should reflect on the experience that is aimed to give to the children. They suggest asking to oneself simple questions such as: “Is the learning

environment irresistible?", "Is it somewhere that you want to play and explore?", "Does it encourage joyful curiosity and invite you to be creative?" That way, educators, parents, administrators and caregivers can reflect on their playful environment and make the necessary adjustments.

### *2.3.5 Materials to teach through Play Based Learning Approach*

While it is true that materials are not required to play and learn, it is innate for children to seek out objects in their surroundings and use them to play and therefore to learn. Materials serve as tools that ignite curiosity, foster creativity, and support meaningful exploration. Carefully chosen materials empower children to engage actively with their environment, encouraging hands-on learning and the development of critical skills. This explains the need to understand the materials used in the Play-Based Learning Approach.

Key categories of materials in this approach include loose pieces, open-ended toys, and symbolic play toys, each playing a unique role in promoting meaningful and engaging play. These categories will be explored in detail to highlight their significance in fostering effective learning through play (Carazo, 2023)

**Loose Pieces**. According to Casey and Robertson (2016) Loose pieces are materials that can be moved, manipulated, combined, redesigned, and taken apart in multiple ways. They are open-ended resources that encourage children to use their imagination and creativity without predetermined outcomes. They are considered open-ended toys, yet due to the importance they serve in the implementation of the Play Based Learning Approach have their own classification apart. (Carazo, 2023)

As a material, loose pieces have defined characteristics. The first one is that loose pieces are versatile; they can be used in countless ways, allowing children to create their own unique play experiences. Secondly, they can be Natural (made from natural materials) or Synthetic (like plastic containers or fabric scraps). And lastly, they are “non-prescriptive”; this means there are no specific instructions for how to use loose parts, enabling children to explore and create freely. (Penn State University, 2019)

Finally, Carazo (2023) provides an exhaustive list of loose pieces that can be used in the implementation of the Play-based Learning approach.

- Buttons
- Gems
- Straws
- Shells
- Marbles
- Flowers
- Pom-poms
- Paper clips
- Screws
- Feathers
- Vase gems
- Seeds
- Beads
- Strings
- Bottle caps
- Can lids
- Corks
- Pipe cleaners
- Fabrics
- Wooden pallets
- Moss
- Plant leaves
- Acorns
- Logs
- Sticks
- Balls of wool
- Threads
- Containers
- Curtain rings
- Hair curlers
- Toilet paper rolls
- CD cases
- Beads
- Egg cartons
- Baby food lids
- Funnels
- Ping pong balls
- Cups
- Papers
- Nuts

**Open-ended toys.** Bahri and Setiawan (2023) explained that “Open-ended toys are a type of toy that provides space for interpretation and can be used in various ways to trigger children's creativity.” Unlike traditional toys with specific functions or outcomes, open-ended toys encourage exploration and experimentation, enabling children to create their own playful experience. This is supported by Carazo (2023) who explained on the matter that “Open-ended toys can be used in different ways; there are no rules or steps to them.” Some examples of open-ended toys and materials include building blocks, art supplies, magnets, craft materials, loose parts – pieces, etc.…

**Symbolic Play toys.** According to Reed (2007) Symbolic play toys are those that children use to represent something else during imaginative play. Carazo (2023) explained that “Children use these types of toys to represent other things or ideas.” This enhances children cognitive and linguistic development through the use of symbols. Examples of this types of toys include kitchen sets, doctor, supermarket, cars, action figures and dolls, costume accessories, play money and cash registers, puppets and dress-up clothes

Given the natural characteristics of loose pieces, open-ended toys and symbolic play toys the benefits can be easily identified. Starting with the encouragement of creativity by manipulation. Then, development of problem-solving skills by using critical thinking skills to achieve outcomes. Next, support of social interaction due to the playful nature of the material. As well as enhanced

exploration through hands-on experimentation. And lastly the development of cognitive and literacy skills.

The right materials not only capture children's interest but also inspire creativity, exploration, and critical thinking. Together, these materials form the foundation for meaningful learning experiences that nurture children's cognitive, social, and emotional growth.

### *2.3.6 Planning with Play Based Learning Approach*

Through mindful planning, educators can ensure that play remains the central component of learning, recognizing that children thrive when they explore their interests and express their creativity through play. By carefully selecting resources and designing activities that align with children's developmental needs, play schemas, types play and material selection; educators foster an environment where learning occurs naturally and joyfully. This intentional approach leads to two distinct strategies: play provocations and play invitations. (Carazo, 2023)

**Play invitations**

Carazo (2023) explains that play invitations are designed to encourage children to explore specific concepts or activities. They create an environment that invites engagement and exploration, often with a particular focus in mind. All this to that guide children toward particular learning outcomes.

To apply play invitations as a Play Based Learning approach strategy, Curtis (2004) suggest five specific guidelines that characterize them: purposeful

arrangement, engagement, flexibility, connection to interests and, integration of skills.

In the first place, to achieve the purposeful arrangement, materials are carefully selected and combined with intention, while displaying them aesthetically to capture attention and spark interest. Secondly, for the engagement, the play invitation needs to encourage children to interact, think critically, and express their ideas. Next the flexibility, which intends to allow for various interpretations and uses of the material by children. Then the connection to interests. Which elaborates on the idea that even if a specific objective is being targeted through the strategy, it should try to be aligned with the students' current interests or experiences. Finally, the last characteristic is the integration of skills which explains the importance of providing opportunities to practice literacy, numeracy, science, and other skills naturally during play. (Curtis, 2004)

**Play provocations.** According to England (2019) "The word 'provocation' explains exactly what it is. It's something that 'provokes', and in this case we are looking at how to 'provoke' thinking." Play provocations are designed to spark curiosity and encourage exploration, often presenting children with open-ended materials or scenarios that challenge them to think critically and creatively.

Play provocations have two main characteristics; they stimulate action and have open-ended exploration which implies that they do not have predetermined outcomes but any interaction that as a result leads to discovery is a fulfilling outcome.

Lastly on this matter, provocations are usually presented utilized by using open – ended leading questions that encourage children to explore ideas further. In this matter, England (2019), suggests that" teachers should be prepared for the direction of play to change based on children's interests and responses" by using these strategies.

**Play invitations vs play provocations.**

In "Looking for Learning: Provocations" (2019), Laura England distinguishes between play invitations and provocations. She explains that while both aim to encourage exploration, a provocation is typically framed by a broad idea that provokes action and stimulates thinking, whereas an invitation to play is a mindfully planned space that encourages exploration, engagement, and discovery. Due to the natural confusion the strategies present given the similarity in certain aspects. Table 1 provides a detailed comparison of play invitation and play provocation.

Table 1. Comparison of play invitation and provocation.

| Aspect | Play invitation | Play Provocation |
|---|---|---|
| **Purpose** | Encourage exploration of specific concepts | Stimulate action and deeper thinking |
| **Structure** | More structured with guided activities | Open-ended with no specific outcome |
| **Educator's role** | Set up environments/materials for focused play | Pose questions or provide materials for inquiry |

| | | |
|---|---|---|
| **Outcome expectation** | Expected engagement with certain themes | No expected outcome; encourages free exploration |

**Source:** Developed by Amanda Castro, 2024.

Evidently, play invitations and provocations serve different but complementary roles in the play-based learning approach. While invitations guide children toward specific learning objectives through structured environments, provocations encourage spontaneous inquiry and exploration based on children's interests. Effective planning involves understanding these distinctions and thoughtfully creating environments and detailed strategies that foster both types of engagement, ultimately enhancing children's learning experiences through play.

### *2.3.7 Benefits of the Play Based Learning Approach*

Play-based learning offers a wealth of benefits that extend beyond traditional academic outcomes, emphasizing holistic development. Moreover, play-based learning supports collaboration, communication, and independence, laying a strong foundation for lifelong learning. This section explores six of the key advantages of this approach proposed by Eloise (2023), demonstrating its effectiveness in nurturing confident, well-rounded individuals. (Eloise, 2023)

- **Creativity and Imagination.** Unstructured play provides a space where kids can freely invent, experiment, and explore. Play encourages them to think creatively and innovate without limitations. These activities build creative problem-solving skills, which are invaluable for generating ideas and addressing challenges in the future. (Eloise, 2023)

- **Socio-Emotional Skills.** Play-based learning creates an environment where children can enhance their social and emotional abilities. Through play, they put into practice soft skills that enhance empathy and emotional intelligence. They also learn to navigate different perspectives, practice resilience and regulate their emotions as they encounter the dynamics of social interactions during play. These skills are foundational for managing real-world challenges later in life. (Eloise, 2023)
- **Cognitive Development.** Through play, children enhance their problem-solving skills and critical thinking abilities. Through hands-on play, learning sharpens critical thinking and builds an understanding of cause-and-effect relationships. (Eloise, 2023)
- **Independence and self-discovery.** Children are given the freedom to follow their interests and choose activities. This autonomy nurtures independence and promotes self-discovery, enabling them to build confidence and a sense of identity. (Eloise, 2023)
- **Physical Development.** Many play activities involve physical movement, which aids in developing fine and gross motor skills. (Eloise, 2023)
- **Language Development.** Engaging in pretend play or storytelling helps children expand their vocabulary and improve their communication skills as they interact with others in various scenarios. (Eloise, 2023)

## 2.4 PRE-WRITING SKILLS

### *2.4.1 Definition pre-writing skills*

Pre-writing skills refer to the fundamental abilities required for writing, including fine motor skills, visual-motor coordination, and cognitive processes. These skills are a crucial building blocks that enable children to transition smoothly into formal writing activities such as control a pencil, draw shapes, and eventually form letters and words. (Kid Sense Child Development, 2024a).

According to the article, “How Do I Write…? Scaffolding Preschoolers' Early Writing Skills” by Cabell et al. (2013)

> “Providing preschoolers with rich writing experiences can help to lay a foundation for their later reading and writing success. (…) With appropriate scaffolding, early writing provides support for children's overall literacy development. Taking an individualized approach to writing instruction allows teachers to capitalize on children's literacy skills at each level of development.”

Cabell et al. (2013) article can aid to understand how with an individualized approach such as the Play Based Learning approach educators could aim to develop and enhance the pre-writing skills in preschoolers in a playful way.

### *2.4.2 Importance of prewriting skills*

The significance of pre-writing skills lies in their role as precursors to successful handwriting. It underscores the importance of early writing skills as a foundational aspect of children's literacy development (Cabell et al., 2013). They help children:

**Develop Fine Motor Skills.** Mastery of pre-writing skills allows children to develop fine motor skills, hand-eye coordination, gain the finger strength and dexterity necessary for holding and controlling a pencil effectively (Beck, 2023; Cabell et al., 2013)

**Enhance Cognitive Abilities.** These skills involve thinking processes as planning, organization, and memory; that aid in idea generation and organization, which are crucial for coherent writing, problem-solving and academic tasks. (Cabell et al., 2013; Greutman, 2021)

**Promote Confidence.** Successful experiences with writing encourage a positive attitude towards learning and literacy activities. When children are equipped with the necessary pre-writing skills, they are less likely to experience frustration during writing tasks, thereby boosting their self-esteem and willingness to engage in writing activities (Cabell et al., 2013; Royal Children’s Hospital, 2005)

**Facilitate Academic Success.** Proficiency in pre-writing skills can lead to improved performance in school, as writing is interconnected with the other language macro skills: reading, speaking and listening. Additionally, early writing experiences are precursors to understanding written language, phonemic

awareness and the relationship between spoken and written words, which is vital for developing literacy. (Cabell et al., 2013; Kid Sense Child Development, 2024a).

In essence, Cabell et al. (2013) wanted to emphasize that early writing skills are not just about forming letters but are integral to broader cognitive, linguistic, and social development. These skills set the stage for future academic and personal success, making them a critical focus in early childhood education.

### *2.4.3 Types of pre-writing skills*

Pre-writing skills can be categorized into several key areas:

- **Pencil grasp.** Pencil grasp refers to how a child holds a pencil when writing or drawing. A proper grip is crucial for effective writing as it allows for better control and precision when forming letters and shapes (Greutman, 2021)
- **Hand-eye coordination**. This skill involves the ability to coordinate visual input with hand movements. Effective hand-eye coordination is essential for tasks such as drawing shapes or tracing letters, which are foundational activities leading up to writing (Kid Sense Child Development, 2024a)
- **Bilateral integration.** Bilateral integration refers to the ability to use both hands together in a coordinated manner. This skill is important when performing tasks that require one hand to stabilize paper while the other writes or draws (Beck, 2023)

- **Object manipulation.** Children need to develop the ability to manipulate various objects, such as crayons or scissors, which enhances their fine motor control and prepares them for using writing tools effectively (Greutman, 2021)
- **Visual perception.** Visual perception encompasses the ability to interpret and make sense of visual information, which is critical for recognizing letters, shapes, and patterns necessary for writing (Kid Sense Child Development, 2024a)
- **Hand dominance.** Hand dominance refers to the consistent use of one hand over the other for tasks. Establishing a dominant hand helps streamline motor processes involved in writing activities (Royal Children's Hospital, 2005)
- **Hand division.** Hand division involves using one hand for stabilizing or guiding while the other hand performs the task (e.g., holding paper with one hand while writing with the other). This skill is important for effective handwriting as it promotes control and stability during writing tasks (Beck, 2023)

## 2.5 PRE-KINDER LEVEL CHARACTERISTICS

Understanding the characteristics of pre-kindergarten (Pre-K) children is essential for educators and caregivers to support their development effectively. This section outlines the developmental expectations for Pre-K children, including cognitive, fine motor, gross motor, and language milestones, as well as the curriculum standards and the integration of twenty-first-century skills.

### *2.5.1 Developmental expectations of pre-k level*

Developmental expectations for Pre-K children encompass a range of skills that are typically acquired during this stage. These skills are categorized into cognitive, fine motor, gross motor, and language milestones.

- **Cognitive milestones**

  Cognitive development during the ages of three to four is characterized by significant advancements in reasoning, memory, and problem-solving abilities. Children begin to engage in symbolic play, ask questions about their environment, and demonstrate an understanding of basic concepts such as numbers and classifications. They develop skills in questioning, spatial relationships, imitation, and memory retention. (Kid Sense Child Development, 2024b).

- **Fine motor milestones**

  Fine motor skills involve the coordination of small muscles in the hands and fingers. At this age, children typically develop the ability to manipulate objects with increasing precision. They can grasp crayons for drawing, use scissors with guidance, and perform simple tasks like buttoning clothing. Engaging in activities such as threading beads or completing puzzles helps refine these skills (Greutman, 2021).

- **Gross motor milestones**

  Gross motor skills encompass larger movements involving the arms and legs. Children aged three to four years show improvements in

balance and coordination; they can run, jump, climb, and throw a ball with greater control. Additionally, activities like playing on playground equipment or participating in group games enhance their physical abilities while promoting social interaction (Kid Sense Child Development, 2024b).

- **Language milestones**

  Language development is rapid during this stage as children expand their vocabulary and begin to form more complex sentences. By age four, many children can engage in conversations using complete sentences and express their thoughts clearly. They also start to understand the concept of rhyming words and can follow multi-step directions (Kid Sense Child Development, 2024a).

### *2.5.2 PreK Standards curriculum*

- **IEYC Curriculum.** According to the International Curriculum Association (2022), “The International Early Years Curriculum (IEYC) is a comprehensive and contemporary curriculum solution encompassing all areas of learning relevant to the early years, kindergarten and pre-school.”

*Figure 4. IEYC Logo*

**Source:** International Curriculum Organization, (2022)

The International Early Years Curriculum (IEYC) is a research-based framework tailored for children aged 2 to 5 years. It recognizes the developmental needs of young learners and employs a holistic, inquiry-based approach to education, play-based approaches. And these skills can be adapted wherever the children are globally. (Rafflesia Education Group, 2024; International Curriculum Association, 2022).

The IEYC is structured around eight guiding principles (Figure 6) that emphasize the importance of play in learning and the need for developmentally appropriate practices. The key features can be:

- **Holistic Development**. The IEYC aims to support all areas of a child's growth, including cognitive, social-emotional, physical, and language development through a comprehensive approach were learning experiences are relevant and engaging. (International Curriculum Association, 2022)
- **Play-Based Learning.** Central to the IEYC is the belief that play is an essential aspect of children's learning and development. Through play, children explore their interests and learn to express themselves creatively (International Curriculum Association, 2022).
- **Learning Strands.** The curriculum is organized into four main learning strands: Independence and Interdependence, Communicating,

Enquiring, and Healthy Living and Physical Well-Being. (International Curriculum Association, 2022).

- **Process of Learning.** The IEYC emphasizes a process-oriented approach rather than solely focusing on outcomes. This includes stages such as "Entry Point," "Capturing Curiosity," "Explore and Express," and "Exit Point," which guide educators in facilitating meaningful learning experiences (International Curriculum Association, 2022). Figure 5 provides a visual representation of the process-oriented approach that is used as part of the IEYC.

*Figure 5. The IEYC process-oriented approach.*


**Source:** (Brightstar International School Of Phnom Penh, 2022)

- **Thematic Units:** The curriculum provides a variety of thematic units that encourage exploration and inquiry. These units are designed to be flexible, allowing educators to adapt them based on children's interests and developmental needs (International Curriculum Association, 2022).

*Figure 6. IEYC Learning Principles*


**Source:** (Rafflesia Education Group, 2024)

By integrating these elements, the IEYC fosters an environment where children can thrive as curious, creative, and reflective learners. This curriculum not only

prepares children for future academic success but also instills a love for learning that lasts a lifetime.

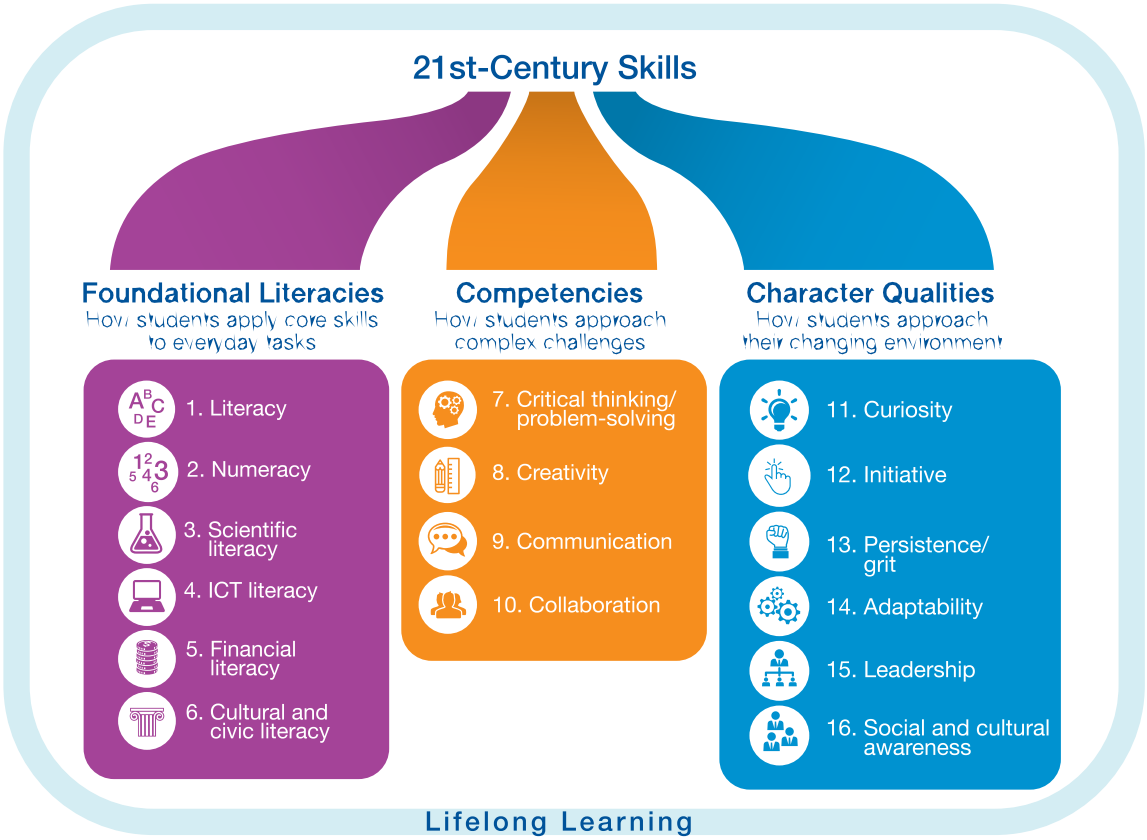
### *2.5.3 Twenty first century skills in Pre-K level*

In her Play-Based Masterclass, Mariana Carazo (2023) explains that Twenty-first-century skills are critical skills that prepare children for future success in a rapidly changing world. These skills have become increasingly recognized as essential for students to thrive in a global economy and are integral to educational frameworks worldwide.

The National Association for the Education of Young Children (NAEYC) emphasizes that play fosters children's ability to think critically and solve problems, which aligns well with the goals of teaching Twenty-First Century Skills (National Association for the Education of Young Children, 2020).

To achieve the of teaching all the 16 skills (literacy, numeracy, scientific literacy, ICT literacy, financial literacy, cultural and civic literacy, critical thinking/problem solving, creativity, communication, collaboration, curiosity, initiative, persistence/grit, adaptability, leadership and, social and cultural awareness), the World Economic Forum (2024), grouped the skills into three categories: *foundational literacies*, *competencies* and *character qualities*. In Figure 7, the 16 – 21$^{st}$ century skills can be found divided into the categories that the World Economic Forum (2024) assigned to each with a small explanation of each broad category.

*Figure 7. 21st century skills*




**Source:** World Economic Forum, (2024)

In Pre-K settings, these skills include in a most prominent way critical thinking, creativity, collaboration, and communication. Although, all can be integrated through the curriculum and innovative approaches; like the Play – Based Learning Approach.

Play-based learning is a powerful approach that nurtures essential Twenty-First Century Skills in children. Through exploration and imaginative play, children engage in problem-solving and decision-making, which enhances their critical thinking abilities. Collaborative activities, such as group games and role-playing,

promote teamwork and social interaction, allowing children to learn from each other while developing cooperation skills (Hirsh-Pasek et al., 2009).

Furthermore, play provides rich opportunities for communication. As children interact, they practice expressing their thoughts and feelings and develop listening skills necessary for effective communication (Hirsh-Pasek et al., 2009). Additionally, the creative nature of play encourages imaginative thinking; when children engage in pretend scenarios or storytelling, they enhance their creativity, which is linked to improved problem-solving abilities later in life (Craft, 2002).

By fostering 21st century skills through playful interactions, educators can effectively prepare young learners for future challenges. As educational paradigms continue to evolve, integrating these approaches becomes increasingly essential for holistic child development.

# Chapter III

# Methodological Framework

This chapter presents the methodological framework designed to evaluate the effectiveness of Play-Based Learning (PBL) strategies in enhancing pre-writing skills among Pre-K students at Saint Jude School, Costa Rica. It outlines the type of research, purpose, temporal dimension, framework, and techniques utilized to collect and analyze data. The chapter also addresses the sampling approach and instruments employed to achieve the study's objectives, ensuring rigor and validity.

## 3.1 TYPE OF RESEARCH

This investigation follows a quasi-experimental design with a single-group pretest-posttest approach, employing mixed methods. According to White and Sabarwal (2014), “Quasi-experimental methods are often used when it is not possible to randomize individuals or groups to treatment and control groups.” This allows to understand the need to apply this specific research design and approach as the implementation of Play Based Learning Strategies will be applied with only one group of PreK students. Therefore, there is no room to randomize the sample or have a second group to use as a control group.

As part of the research design, quantitative methods include pre-tests and post-tests, while qualitative data is gathered through observations and anecdotal records documenting Play Based Learning strategy implementation. This design evaluates the direct impact of Play Based Learning approach on pre-writing skills within the study's timeframe.

### *3.1.1 Purpose (Theoretical or applied)*

While theoretical research typically focuses on generating or testing abstract concepts, models, or frameworks without a direct emphasis on solving practical problems. The purpose of this research is to evaluate the effectiveness of applying Play-Based Learning (PBL) strategies to enhance pre-writing skills in Pre-K students at Saint Jude School during the first quarter of 2025. This study objective, in contrast, necessitates a methodological framework that aligns with the study's applied nature, focusing on practical implementation and measurable outcomes, while also exploring the qualitative dynamics of learning through play. (Baimyrzaeva, 2018)

### *3.1.2 Temporal Dimension*

Because the study tracks the development and improvement of pre-writing skills over a specific period—the first quarter of 2025, requiring measurements at multiple time points, it can easily be pointed out the reason why the temporal dimension of the research is longitudinal.

According to Thomas (2020):

> "In a longitudinal study, researchers repeatedly examine the same individuals to detect any changes that might occur over a period of time. (…) No set amount of time is required for a longitudinal study, so long as the participants are repeatedly observed."

This approach enables the study to track the progression of skills in Pre-K students at Saint Jude School following the implementation of Play-Based Learning Approach strategies. To better understand why research is longitudinal, three research indicators that support this categorization will be explored below.

The first indicator that explains why the research is longitudinal is the data collection over time. By using a single-group pretest-posttest design, which involves measuring the participants' pre-writing skills at the beginning of the study (pretest), implementing the Play-Based Learning strategies, and then reassessing their skills at a later point in time (posttest). This requires data collection across different points in time.

The second indicator that explains why the research is longitudinal is being able to track change. The study is designed to track changes in pre-writing skills over the course of the intervention, focusing on how the application of Play-Based Learning impacts these skills.

The third and last indicator that supports why the study is longitudinal is the temporal perspective. By analyzing the progression of pre-writing skills from pretest to posttest, the study adopts a longitudinal perspective to understand the cause-and-effect relationship between the intervention and outcomes.

### *3.1.3 Framework (Mega, Macro & Micro)*

The Mega-Macro-Micro framework is a theoretical investigation model designed to organize the levels of focus within a study (Eaton, 2020). In this study, the effectiveness of applying Play-Based Learning (PBL) strategies to enhance

pre-writing skills in Pre-K students is explored within a mega (broad- context) – macro (intermediate or institutional contexts) and micro (specific contexts) framework. This section enables the research to be analyzed from its broad – global educational priorities to the institutional practices, and classroom-level activities and interventions, ensuring an integrated approach to understanding the problem and the proposed solutions.

The mega-level encompasses the global and societal context influencing the study (Eaton, 2020). This level addresses how educational paradigms are shifting worldwide, with an emphasis on 21st-century skills such as creativity, collaboration, and critical thinking. It highlights the increasing global recognition of play as a fundamental tool for early childhood education, supported by organizations like UNICEF and LEGO Foundation. At this level, the study aligns with international calls for innovative, child-centered pedagogies that move beyond traditional teacher-led approaches.

Then, the macro-level focuses on the national and institutional context of the study (Eaton, 2020). Specifically, within Costa Rica at Saint Jude School. Here, the research situates itself within the challenges and opportunities in the Costa Rican education system, such as:

- Persistent reliance on traditional, teacher-centered pedagogies that may not fully prepare students for 21st-century challenges. (Sage and Matteucci, 2021)

- Disparities in access to quality education, particularly in Latin America, that highlight the need for innovative methodologies like Play-Based Learning. (Espinoza, 2019)
- The institutional framework at Saint Jude School, which seeks to adopt research-backed approaches to improve literacy outcomes for Pre-K students.

This level also considers the role of curriculum standards, such as the International Early Years Curriculum (IEYC, 2024), and how these influence the design and implementation of educational strategies.

Lastly, the micro-level situates on the classroom and individual student experience. This is where the intervention—the application of Play-Based Learning strategies—occurs and is evaluated. The focus is on:

- The specific activities designed to enhance pre-writing skills.
- The role of the teacher in facilitating a play-based environment and scaffolding learning experiences.
- The assessment of pre-writing skills through pretests, posttests, and classroom observations to measure the direct impact of PBL strategies.

At this level, the study also considers the nuances of implementing play-based approaches with young learners, addressing variables such as developmental milestones, learning preferences, play stages, schemes and types.

By employing the Mega-Macro-Micro framework, this research systematically addresses the issue of enhancing pre-writing skills in Pre-K

students. It ensures that the study is grounded in a comprehensive understanding of its context while maintaining a clear focus on actionable outcomes.

### *3.1.4 Nature*

This investigation has a mixed-method research approach, integrating both qualitative and quantitative methods to provide a comprehensive understanding of the effectiveness of Play-Based Learning Approach strategies in enhancing pre-writing skills among Pre-K students.

The mixed nature of this investigation is rooted in its need to capture both the measurable outcomes of the intervention (quantitative) and contextual factors influencing these outcomes (qualitative). This dual-method approach strengthens the reliability and validity of our findings by combining the best aspects of both quantitative and qualitative methods (George, 2021)

The quantitative aspect of the study focuses on the objective and measurable impact of the Play Based Learning strategies intervention by providing numerical evidence of change in the participants' pre-writing skills.

The qualitative component delves into the subjective insights, contextual and experiential dimensions of the intervention, offering insights that numbers alone cannot capture. (George, 2021)

The mixed-method nature of this investigation aligns with its aim to assess not only the outcomes but also the processes surrounding the implementation of Play Based Learning Approach Strategies. According to George, 2021, using a

mixed nature approach ensures a well-rounded analysis, enhancing the relevance and applicability of the findings in real-world educational settings.

### *3.1.5 Character*

The character of a research study defines its fundamental purpose and approach to understanding the phenomenon under investigation. It determines whether the focus is on exploring new ideas, describing current situations, establishing relationships between variables, or explaining underlying causes. This investigation, which aims to evaluate the effectiveness of Play-Based Learning Approach strategies in enhancing pre-writing skills among Pre-K students, exhibits characteristics of both descriptive and correlational research.

By combining these approaches, the study seeks to both describe the phenomenon of Play-Based Learning in the classroom and analyze the relationship between the implementation of Play Based Learning strategies and the improvement of pre-writing skills.

**Descriptive Nature.** The descriptive nature of the investigation enables a detailed presentation of the implementation and outcomes of Play-Based Learning strategies. This is valuable for early childhood stakeholders, such as educators and policymakers, to visualize and understand how these strategies unfold in a real-world Pre-K educational setting (Loeb et al., 2017). The descriptive aspect focuses on:

- **Detailed Observations**: The study meticulously documents classroom activities, the types of PBL strategies employed, and students' interactions during the intervention.
- **Rich Contextual Description**: The research provides an in-depth account of the classroom environment, teaching methodologies, and the specific challenges and successes encountered during the intervention. This illustrates the practical nuances of implementing Play Based Learning strategies in early childhood settings.

**Correlational Nature.** The correlational aspect of the investigation emerges from its focus on exploring the relationship between the application of Play-Based Learning strategies and the enhancement of pre-writing skills. By identifying patterns or trends, the study seeks to establish a predictive link between PBL strategies and the development of foundational literacy skills (Bhandari, 2023). This aspect emphasizes:

- **Variable Association.** The study examines whether and how the use of Play-Based Learning correlates with measurable improvements in students' pre-writing abilities. It identifies key factors that contribute to this relationship, offering insights into the effectiveness of the intervention.
- **Data Analysis**. Pretest and posttest results are compared to determine the strength and nature of the relationship between the intervention and skill development. This includes statistical evaluation to ensure reliable and valid findings that can inform future research or educational practice.

By integrating descriptive and correlational elements, this investigation provides valuable insights into both the process and outcomes of Play-Based Learning implementation. The descriptive component highlights the contextual and practical aspects of the intervention, while the correlational component examines its measurable impact on pre-writing skills. Together, these approaches bridge the gap between theory and practice, contributing to the advancement of early childhood education methodologies.

## 3.2 SUBJECTS AND SOURCES OF INFORMATION

### *3.2.1 Primary Sources*

Table 2. Primary sources of information used in the research process.

| **Author – University or organization** | **Contents** | **Year** |
|---|---|---|
| Harvard University | Project Zero: Pedagogy of Play | 2022 |
| Cambridge University | Getting started with play-based learning in early years | 2024 |
| LEGO Foundation | A world of learning through play | 2024 |
| UNICEF | Learning through play. | 2023 |
| National Association for the Education of Young Children. (NAEYC) | Developmentally appropriate practice in early childhood programs serving children from birth through age. | 2024 |

**Source:** Developed by Amanda Castro, 2025.

### *3.2.2 Secondary Sources*

Table 3. Secondary sources of information used in the research process.

| **Author** | **Books and dissertations** | **Year** |
|---|---|---|
| Carazo M | Play Based Learning Master Class Book | 2023 |
| Acevedo, E | Dissertation on kindergarten teachers' implementation of play-based learning practices in the USA. | 2022 |
| Rodriguez, V | Thesis - The implications of implementing the Play-Based learning Approach in enhancing the soft skills (social skills, problem solving, critical thinking, language development) among three- and four-year-old students attending Pre-K level at Amadita Primary School in Coronado, San José during the Second Semester 2023 | 2023 |
| Walther, L | Master's Dissertation - The Impact of Play-based Learning. | 2019 |
| Paley, V | Book – Boys and girls: Superheroes in the doll corner | 1986 |

**Source:** Developed by Amanda Castro, 2025.

### *3.2.3 Tertiary Sources*

Table 4. Tertiary sources of information used in the research process.

| Author | Journals & Articles | Year |
|---|---|---|
| Basilio, M., Kuvalja, M., & Verma, M. | The importance of play | 2012 |
| Cabell, S. Q., Tortorelli, L. S., & Gerde, H. K. | How do I write. . .? Scaffolding preschoolers' early writing skills. | 2013 |
| Danniels, E., & Pyle, A. | Defining Play-based Learning. | 2018 |
| Smith, P., & Pellegrini, A. | Learning Through Play | 2023 |
| Haile, T. S., & Ghirmai, D. J. | Play-Based Learning: Benefits and Challenges of its Implementation. | 2024 |

**Source:** Developed by Amanda Castro, 2025.

## 3.3. SAMPLING (OBJECTS AND SUBJECTS OF STUDY)

### *3.3.1 Subject of study*

This section of the methodological framework provides an overview of the participants involved, highlighting their demographic characteristics, and description of the study site to contextualize the investigation.

As part of the study unit, the corresponding categorization of the parts must be explained: universe and sample.

The universe of the study unit in question corresponds to all Pre-Kindergarten students enrolled at Saint Jude School during the academic year 2024–2025 in San José, Costa Rica. This broader group represents the target population from which the sample is drawn.

The sample of the study unit would be Pre-Kinder B students. According to A. Artavia and Gurdián (2021), the sample is "a group or subset of a population determined for research." The selected sample consists of 10 students aged 3 to 4 years, reflecting the diversity and developmental stages typical of this age group. The sample size is appropriate for a detailed qualitative and quantitative analysis of the intervention’s impact.

Finally, as part of the study unit, the place where the research will be carried out. The study will be conducted at Saint Jude School, a private, educational international institution with a focus on innovative teaching methodologies, such as the International Early Years Curriculum (IEYC). Key features of the study site include:

- A well-equipped Pre-Kindergarten classroom with resources designed to support Play-Based Learning.
- A safe, child-centered environment that encourages exploration and creativity.
- Teachers experienced in integrating play into educational practices, ensuring a conducive atmosphere for implementing the intervention. The institution also emphasizes bilingual education, providing an enriched

environment for fostering language and literacy development, including pre-writing skills.

### *3.3.2 Sampling and type*

In any research study, the sampling strategy and type of investigation are crucial components that shape the methodology and validity of the findings. This section outlines the sampling approach used to select participants and the type of investigation employed to address the research question. The choices made in these areas are aligned with the goals of assessing the effectiveness of Play-Based Learning strategies in enhancing pre-writing skills among Pre-K students at Saint Jude School in Costa Rica.

The first thing to be addressed is sampling. According to A. Artavia and Gurdián (2021), sampling is "a technique with which we select a sample from a given population." A non-probabilistic convenience sampling method is used in the research, since the sample is drawn from an accessible group of students within the school. This method was chosen for the following reasons:

- **Feasibility**: The researcher has access to the classroom and students through institutional agreements.
- **Specificity:** The sample aligns with the study's focus on early childhood education and the pre-kinder age group.
- **Relevance:** Participants are directly involved in play-based activities designed to enhance pre-writing skills, ensuring they are suitable subjects for the study.

The sampling technique used was convenience sampling, as the participants are selected based on their availability and accessibility within the Pre-K classroom at Saint Jude School. While this approach may limit the generalizability of the findings, it is practical and suitable for a focused, classroom-based intervention. (A. Artavia & Gurdián, 2021)

The decision on the sampling technique and its classification is based on the fact that the sample is representative of the population under study, as it includes students who are directly engaged in the educational context where the Play Based Learning Approach strategies will be implemented. This ensures that the findings are relevant to the specific setting and can inform similar interventions in comparable environments.

## 3.4. TECHNIQUES AND INSTRUMENTS

### *3.4.1 Techniques and instruments*

The techniques and instruments used in an investigation are essential for collecting and analyzing data effectively. They ensure that the research question is addressed with precision and reliability (A. Artavia & Gurdián, 2021). This study employs a combination of qualitative and quantitative techniques, aligned with its mixed-method approach, to assess the effectiveness of Play-Based Learning Approach strategies in enhancing pre-writing skills among Pre-K students. These methods are carefully selected to capture both measurable changes and contextual insights.

**Pre-Test & Post test of Skills (Checklist).** A standardized assessment that will measure baseline and improvement of the pre-writing skills through a checklist before and after the implementation of the Play-Based Learning Strategies. The checklist follows the system Saint Jude School uses by aligning with the IEYC Curriculum where each indicator has three levels: Beginning “B”, Developing “D” or Mastering “M”. Teachers are required to evaluate students following the established acronyms: B-D-M. This tool includes the evaluation of skills that align with the IEYC Curriculum and developmentally appropriate practices, such as pencil grasp, tracing accuracy, shape tracing, Bilateral Coordination in Fine Motor Activities and Fine Motor Play Skills

The pretest results will establish a baseline for comparison with posttest data, allowing for a clear measurement of progress. Both pre-test and post-test utilize the same assessment criteria to ensure consistency and reliability, allowing for direct comparison between pre- and post-intervention results. The pre-test & post-test of Skills checklist can be found in annex 1.

**Play-Based Learning Strategies.** Implementation of Play Based Learning Strategies such as play invitations (structured exploration), play provocations (open-ended challenges), and instruction sessions. These strategies serve as the tailored intervention, to stimulate skill development in an engaging and meaningful manner. Detailed records will track the frequency and types of activities conducted. The Play Based Learning strategies (Learning Invitations) created for the investigation can be found in annex 3. Each Play invitation includes the skills that it

works, materials required to set up the activity, and the objective – instruction of the strategy.

**Anecdotal Records.** Classroom observations are conducted throughout the intervention to document student engagement, behavior, participation, interaction, and the use of materials during play-based learning sessions. This instrument allows the researcher to capture anecdotal feedback (qualitative details) that may not fit into the checklist, such as unexpected behaviors or unique student responses. These records provide insights into how students interact with the learning environment and materials, complementing quantitative findings. Annex 2 provides an anecdotal record sheet instrument to achieve this.

It is important to mention that the Instruments were revised by 6 professionals, among them three Pre-K teachers, a Preschool Principal, Curriculum Coordinator and psychopedagogue; before being applied with the target sample.

### *3.4.2 Chart of objectives*

**Table 5 Variables chart**

| Specific Objectives | Variable | Conceptual definition | Instrumental definition | Operational definition |
|---|---|---|---|---|
| To identify the initial pre-writing skills | Initial pre-writing skills | Pre-writing skills refer to the foundational | Pre-writing skills will be measured | Each Pre-K student will complete a |

| | | | | |
|---|---|---|---|---|
| of Pre-K Level class at Saint Jude School, Costa Rica. | | abilities required for writing, including fine motor control, hand-eye coordination, and pencil grasp, which are essential precursors to formal writing. The Pre-K students are the ones in preschool whose ages usually go between 3 years and 3 months to 4 years and two months. | using observational checklists and assessments such as tracing patterns, drawing shapes, or manipulating objects to evaluate fine motor skills and coordination. | series of activities designed to evaluate their current level of pre-writing skills, such as tracing patterns, drawing shapes, or manipulating objects. Results will be scored using a predefined rubric, with scores expressed as a percentage representing the mastery level of pre- |

| | | | | |
|---|---|---|---|---|
| | | | | writing skills. The pre-test will establish a baseline, with students expected to achieve at least 30-40% proficiency in the assessed skills before the intervention. |
| To explore Play-Based Learning strategies to enhance pre-writing skills in Pre-K students. | Play-Based Learning strategies | Play-Based Learning strategies involve child-centered, activity-based approaches where structured and unstructured | Strategies will be explored through observation and documentation of activities such as play invitations and provocation | Teachers will implement and document through chronicles various PBL activities in the classroom and maintain a log of |

| | | | | |
|---|---|---|---|---|
| | | play activities are designed to promote learning and development. | sensory play, role-playing, and creative manipulation of objects that encourage fine motor skills development. | student engagement, interaction, and skill enhancement. |
| To determine the Impact of Play-Based Learning on the enhancement of Pre-writing Skills. | Impact of Play-Based Learning on pre-writing skills | The measurable effect of implementing Play-Based Learning strategies on the development and improvement of foundational pre-writing skills in young children. | The impact will be determined by comparing pre-test and post-test scores of pre-writing skills before and after a defined period of PBL intervention. | A pre-test and post-test will be administered to evaluate the development of skills such as pencil grasp, tracing, and shape replication. Results from the post-test |

| | | | | |
|---|---|---|---|---|
| | | | | will be scored using the same rubric as the pre-test and expressed as a percentage. The difference in scores will indicate the impact of the intervention. Students are expected to show an improvement of at least 20-30 percentage points from their pre-test scores, achieving an overall |

| | | | | |
|---|---|---|---|---|
| | | | | proficiency of 60-70% or higher in pre-writing skills. |
| To assess the specific pre-writing skills that demonstrate the greatest improvement following a Play-Based Learning intervention. | Specific pre-writing skills with the greatest improvement | The particular pre-writing abilities, such as hand-eye coordination, pencil control, or object manipulation, that show the most significant enhancement after engaging in Play-Based Learning activities. | Specific skills will be assessed using detailed rubrics for each skill category across multiple sessions. | Post-test results will be analyzed to identify the skill categories with the highest percentage of improvement. Observation notes and scores for each activity will support the analysis. |

**Source:** Developed by Amanda Castro (2025)

### *Hypothesis*

According to the Merriam-Webster Dictionary, (2024) a hypothesis is “a tentative assumption made in order to draw out and test its logical or empirical consequences.” Given the definition above, this section of the theoretical framework aims to propose a hypothesis for the current investigation.

Following, and understanding the concept of the hypothesis, the proposed one for the investigation would be that *by applying Play-Based Learning approach strategies with PreK students from Saint Jude School during the first quarter of 2025, their pre-writing skills will be enhanced significantly*.

Deepening into the hypothesis, it is essential to talk about the variables of the investigation and how these affect. In a first instance, Bevans (2022) explains a variable as “an attribute of an object of study.” Furthering into the variables, it is key to know which types of variables a research has on a study to choose the appropriate tools and evaluation mechanisms to obtain results. Bevans (2022) also explains that

> “Experiments are usually designed to find out what effect one variable has on another. It is usual to find in those cases two types of variables: Dependent and Independent (…) You manipulate the independent variable (the one you think might be the cause) and then measure the dependent variable (the one you think might be the effect) to find out what this effect might be.”

In this research, it can be identified two variables, one dependent and another independent. The dependent variable being the enhancement of the pre-writing skills; and the independent variable being the application of the Play-Based Learning approach strategies.

# Chapter IV

# Analysis of the results

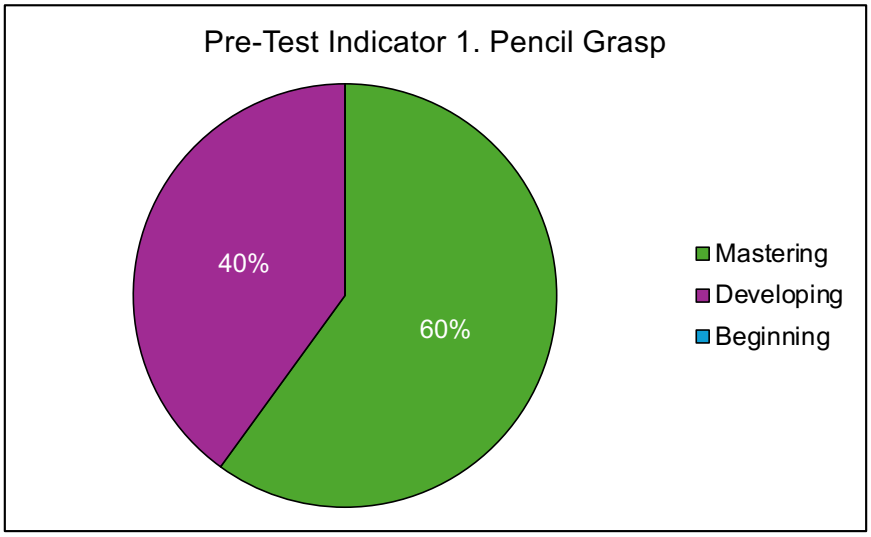
## 4.1 DIAGNOSTIC OF THE CURRENT SITUATION

### *4.1.1 Analysis of the Pre-test instrument*

To begin the diagnostic process, a pre-test instrument was applied to ten Pre-K students from Saint Jude School during the first semester of 2025. The instrument aimed to evaluate the participants' initial level of development in key pre-writing skills, including pencil grasp, tracing accuracy, shape tracing, bilateral coordination, and fine motor play abilities. The results provided a clear baseline for identifying areas of strength and those requiring targeted intervention through Play-Based Learning strategies.

***Graph # 1***

*Pre-Test Indicator 1: Pencil Grasp*

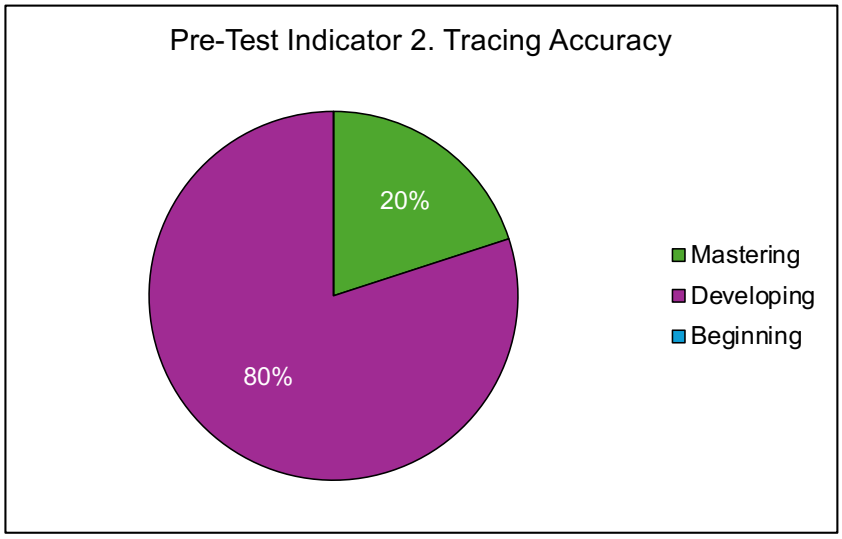



**Source:** Pre-Test applied to Pre-K students from Saint Jude School during the first semester of 2025

Figure 8 presents the results for the Pencil Grasp indicator. 60% of students (6 out of 10) demonstrated mastery of this skill, while 40% (4 students) were at the developing stage. No students were identified at the beginning level.

***Graph # 2***

*Pre-Test Indicator 2: Tracing Accuracy*

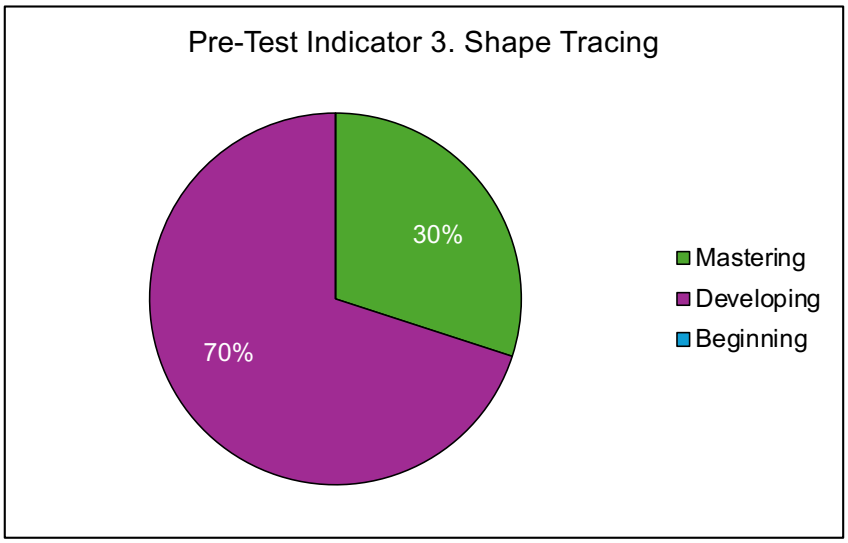



**Source:** Pre-Test applied to Pre-K students from Saint Jude School during the first semester of 2025

Figure 9 presents the outcomes for Tracing Accuracy. 20% of students (2 out of 10) achieved mastery, whereas 80% (8 students) were still developing this skill. No students were marked at the beginning level.

***Graph # 3***

*Pre-Test Indicator 3: Shape Tracing*

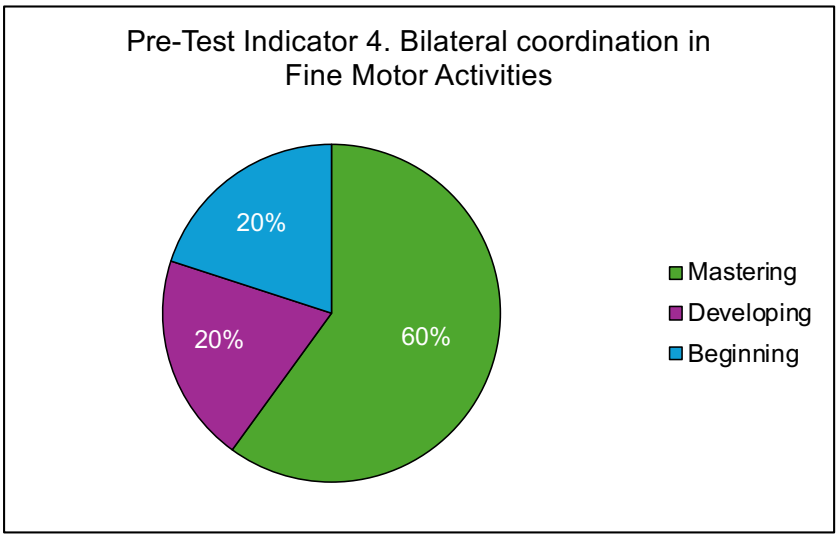



**Source:** Pre-Test applied to Pre-K students from Saint Jude School during the first semester of 2025

Figure 10 presents the data for Shape Tracing. 30% of students (3 out of 10) demonstrated mastery, while 70% (7 students) were in the developing stage. None were reported at the beginning level.

***Graph # 4***

*Pre-Test Indicator 4: Bilateral Coordination in Fine Motor Activities*

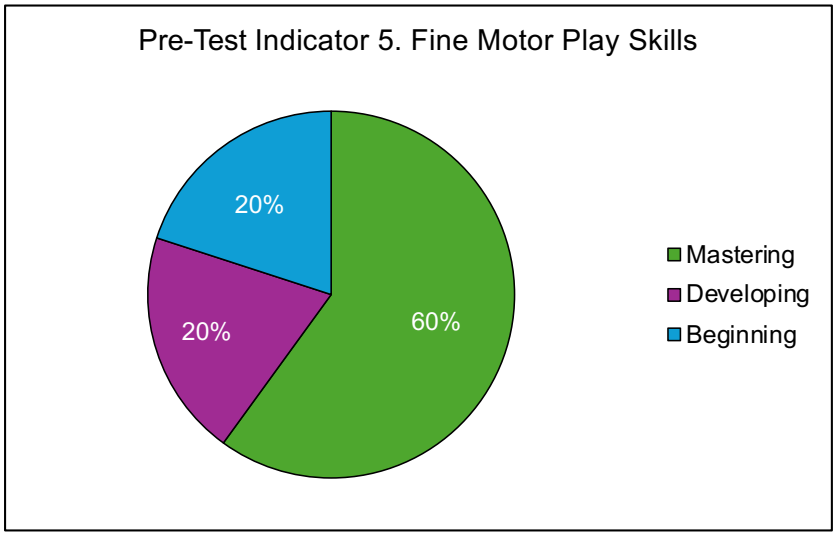



**Source:** Pre-Test applied to Pre-K students from Saint Jude School during the first semester of 2025

Figure 11 presents the results for Bilateral Coordination. 60% of students (6 out of 10) achieved mastery, with 20% (2 students) at the developing level and 20% (2 students) at the beginning level.

***Graph # 5***

*Pre-Test Indicator 5: Fine Motor Play Skills*




**Note:** Pre-Test applied to Pre-K students from Saint Jude School during the first semester of 2025

Figure 12 presents the outcomes for Fine Motor Play Skills. Similarly, 60% of students (6 out of 10) reached the mastery level, 20% (2 students) were developing, and 20% (2 students) remained at the beginning stage.

### *4.1.2 Analysis of the Anecdotal Records instrument*

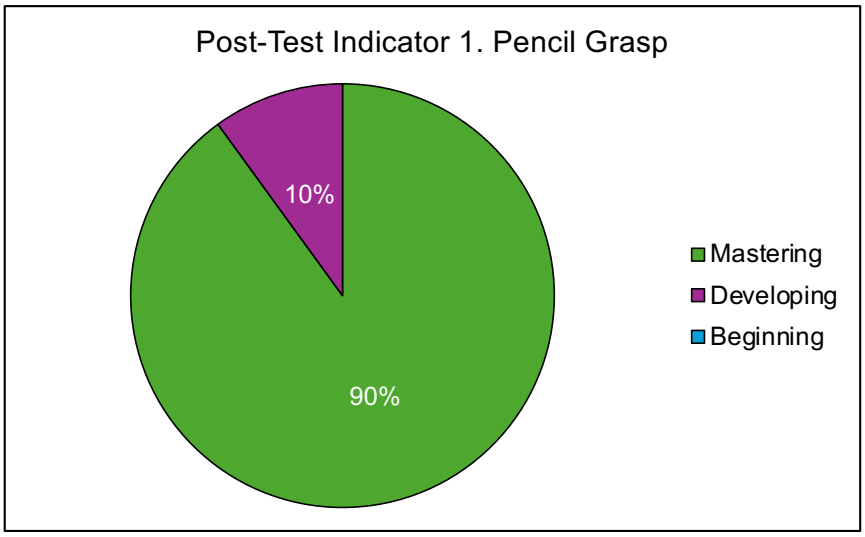
In addition to quantitative data, qualitative evidence was gathered through anecdotal records collected during the Play-Based Learning intervention. These records captured meaningful observations related to student engagement, behavior, skill application, and responses to various activities. The insights provided by these records offer a deeper understanding of how students interacted with materials, developed fine motor skills, and responded emotionally and socially to the learning environment.

### *4.1.2 Analysis Post-Test instrument*

To evaluate the impact of the implemented Play-Based Learning strategies, a post-test instrument was administered to the same group of ten students. The goal was to compare their development in key pre-writing indicators and measure the effectiveness of the intervention. The following figures present the outcomes of each indicator after the application of the Play Based Learning strategies.

***Graph # 6***

*Post-Test Indicator 1: Pencil Grasp*

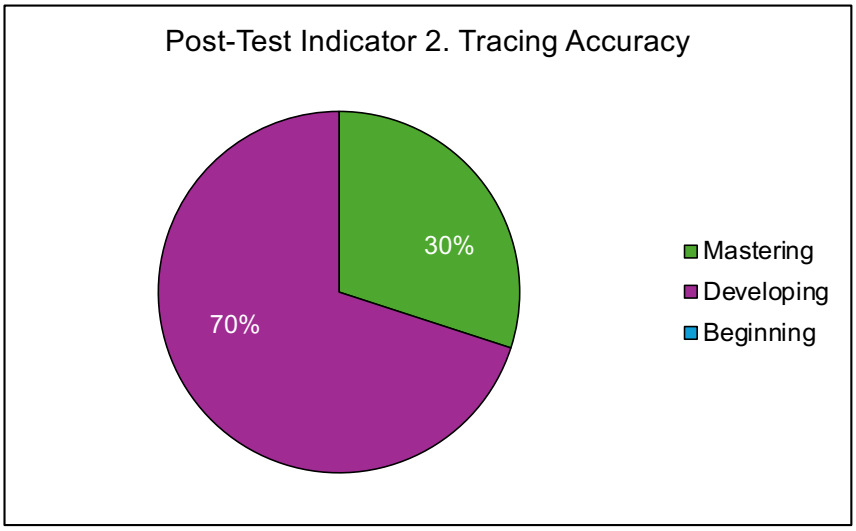



**Source:** Post-Test applied to Pre-K students from Saint Jude School during the first semester of 2025.

Figure 13 presents the post-test results for the Pencil Grasp indicator. 90% of students (9 out of 10) demonstrated mastery, while 10% (1 student) remained at the developing stage. No students were at the beginning level.

***Graph # 7***

*Post-Test Indicator 2: Tracing Accuracy*

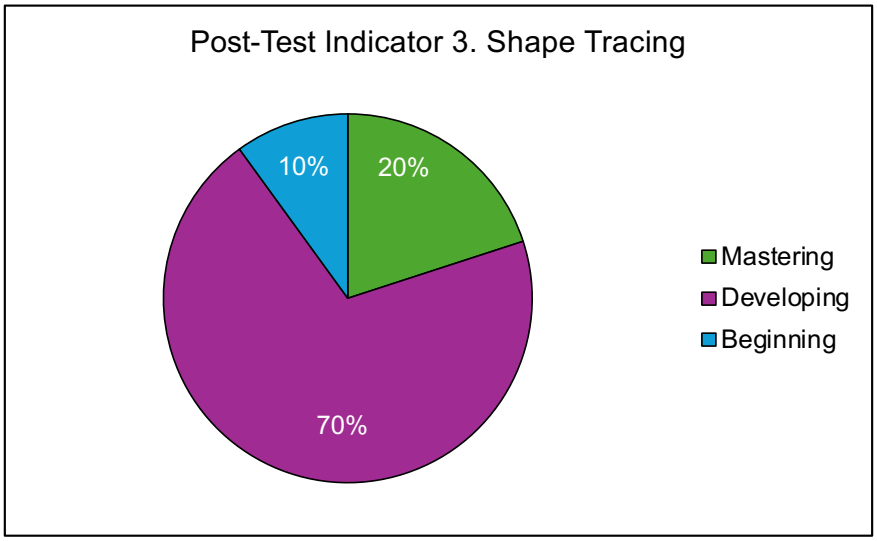



**Source:** Post-Test applied to Pre-K students from Saint Jude School during the first semester of 2025.

Figure 14 presents the outcomes for Tracing Accuracy. 60% of students (6 out of 10) achieved mastery, while 40% (4 students) were still developing. No students were at the beginning level.

***Graph # 8***

*Post-Test Indicator 3: Shape Tracing*

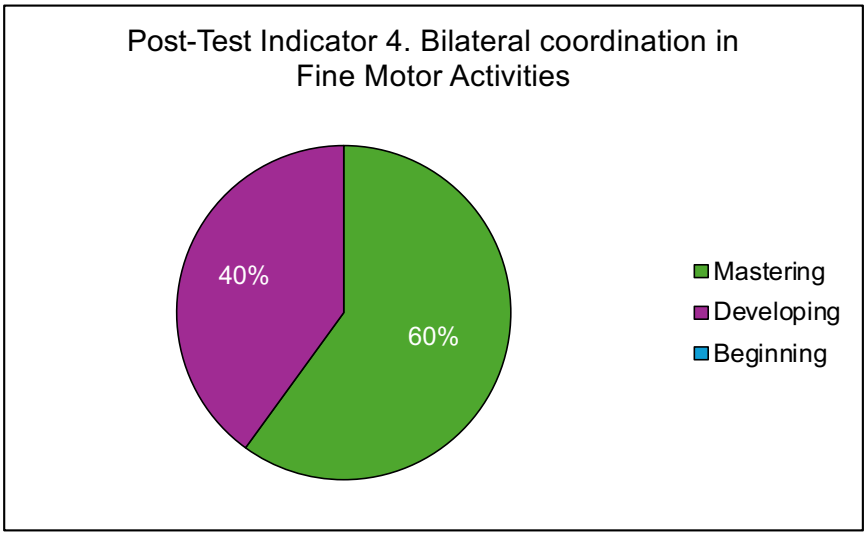



**Source:** Post-Test applied to Pre-K students from Saint Jude School during the first semester of 2025.

Figure 15 presents the post-test data for Shape Tracing. 70% of students (7 out of 10) demonstrated mastery, 20% (2 students) remained at the developing stage and 10% (1 student) was identified at the beginning level.

***Graph # 9***

*Post-Test Indicator 4: Bilateral Coordination in Fine Motor Activities*

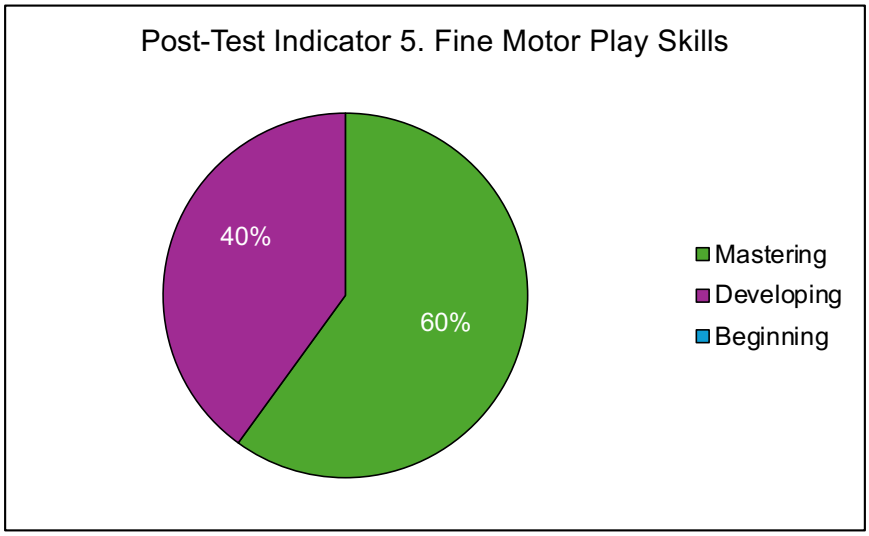



**Source:** Post-Test applied to Pre-K students from Saint Jude School during the first semester of 2025.

Figure 16 presents the results for Bilateral Coordination. 90% of students (9 out of 10) reached the mastery level, and 10% (1 student) was still developing. No students remained at the beginning level.

***Graph # 10***

*Post-Test Indicator 5: Fine Motor Play Skillls*




**Source:** Post-Test applied to Pre-K students from Saint Jude School during the first semester of 2025.

Figure 17 presents the post-test outcomes for Fine Motor Play Skills. 90% of students (9 out of 10) reached mastery, and 10% (1 student) was at the developing stage. No students were identified at the beginning level.

# Chapter V

# Conclusions and Recommendations

## 5.1 CONCLUSIONS

### *5.1.1 Conclusion referent to the general objective*

The findings of this study confirm that the application of Play-Based Learning strategies had a positive and measurable impact on enhancing pre-writing skills among Pre-K students at Saint Jude School during the first semester of 2025. Both quantitative and qualitative results demonstrated significant progress across key indicators such as pencil grasp, tracing accuracy, shape tracing, bilateral coordination, and fine motor play. The approach fostered not only academic development but also student engagement, emotional well-being, and motivation. These outcomes support the effectiveness of Play-Based Learning as an integral pedagogical method in early childhood education.

### *5.1.2 Conclusion referent to the first specific objective*

In relation to identifying the students' initial pre-writing skills, the pre-test results showed that while some students had developed abilities such as pencil grasp, fine motor play, and bilateral coordination, other critical skills—particularly tracing accuracy and shape tracing—were still in the developing stage for most participants. For example, in pencil grasp, 60% of students demonstrated a 'Mastering' level, indicating they held the pencil using a consistent proper grasp (pronate or quadruped) with full control, while the remaining students were at a 'Developing' level, using functional but unstable grips. In contrast, in tracing accuracy, only 20% reached the 'Mastering' level—tracing lines accurately within boundaries—while the majority (80%) traced with deviations, fitting the 'Developing' description. These results highlighted an uneven skill distribution at the beginning

of the study, emphasizing the necessity for targeted instructional strategies based on students' individual developmental needs.

### *5.1.3 Conclusion referent to the second specific objective*

Through the exploration of Play-Based Learning strategies, the study found that students responded positively to a variety of playful and interactive activities. Anecdotal records demonstrated that learners were highly engaged, motivated, and emotionally connected to the activities. These strategies not only promoted the development of fine motor and pre-writing skills but also enhanced students' social interactions and emotional self-regulation. Play-Based Learning proved to be a versatile and effective approach for addressing early childhood developmental goals.

### *5.1.4 Conclusion referent to the third specific objective*

The comparison between pre- and post-test results revealed a notable improvement in all five indicators assessed. Pencil grasp, bilateral coordination, and fine motor play each increased from 60% to 90% mastery. Students who initially used developing or incorrect grips progressed to demonstrating consistent, proper pencil grasps with full control ('Mastering' level). Tracing accuracy and shape tracing, which had the lowest initial mastery levels, experienced a 40% increase. This suggests that many students who previously traced with boundary deviations or produced uneven shapes ('Developing') advanced to tracing accurately with minimal errors and clear edges ('Mastering'). These results confirm that the implementation of Play-Based Learning strategies had a strong and

positive impact on students' development of pre-writing skills, validating its relevance in early educational settings.

#### *5.1.5 Conclusion referent to the fourth specific objective*

The greatest improvements were observed in the indicators that initially presented the lowest levels of mastery, specifically tracing accuracy and shape tracing. Initially, students struggled to follow lines accurately or produced shapes that were uneven or incomplete; fitting the 'Developing' or even 'Beginning' performance levels. After the intervention, most progressed to producing well-defined traces and shapes, indicating a transition into the 'Mastering' level. This suggests that Play-Based Learning strategies are particularly effective when applied to areas where students require the most support. The flexibility of the method allowed educators to adapt activities to meet individual needs, leading to a more personalized and impactful learning experience.

## 5.2 RECOMMENDATIONS

- It is recommended that Play-Based Learning be formally integrated into the early childhood curriculum as a core instructional approach. The positive outcomes observed in this study support its effectiveness in promoting both academic and socio-emotional development in young learners.
- Educators should conduct diagnostic assessments at the beginning of the academic year to identify students' specific developmental levels in pre-writing skills. This allows for differentiated planning and early intervention in areas of greatest need.

- Training and professional development opportunities should be provided to teachers to ensure they are equipped with the knowledge and tools to implement Play-Based Learning strategies effectively. This includes planning engaging, developmentally appropriate activities that intentionally target specific fine motor and pre-writing skills.
- Classroom schedules should include dedicated time blocks for structured play-based activities focused on fine motor development. These activities should be varied and adaptable to meet the diverse learning styles and developmental levels of students.
- Formative assessment strategies, including observational tools and anecdotal records, should be used continuously to monitor students' progress. This allows for timely adjustments to instruction and ensures that learners receive support aligned with their evolving needs.
- Future research could explore the long-term impact of Play-Based Learning on writing readiness and early literacy skills, providing broader evidence of its benefits in early education.

# Chapter VI

# Proposal

## 6.1 PROPOSAL OF THE RESEARCH

This proposal aims to provide early childhood educators with a structured and developmentally appropriate set of play-based strategies to enhance pre-writing skills in Pre-K children. Grounded in the results of the research conducted at Saint Jude School, it highlights the value of hands-on learning experiences to strengthen fine motor control, pencil grasp, and shape tracing abilities in a joyful and motivating learning environment. These strategies are designed to promote foundational writing readiness while respecting the unique developmental pace of each child.

## 6.2 CONTEXT TO DEVELOP THE PROPOSAL

This proposal is intended to be implemented within the Pre-K classroom setting at Saint Jude School, located in Costa Rica. However, it can be easily adapted for any early childhood education context—public or private—that serves children between the ages of 3 and 4 years.

## 6.3 GENERAL AND SPECIFIC OBJECTIVES OF THE PROPOSAL

### *6.3.1 General Objective*

a) To enhance pre-writing skills in Pre-K students through the implementation of hands-on, play-based learning strategies.

### *6.3.2 Specific Objectives*

a) To provide children with sensory and motor experiences that reinforce key pre-writing abilities.

b) To develop pencil grasp, bilateral coordination, and tracing accuracy through engaging, developmentally appropriate play invitation tasks.
c) To promote children's motivation and confidence in early writing tasks through joyful and purposeful play.

## 6.4 SUGGESTED ACTIVITIES

The following activities are based on the core principles of Play-Based Learning, where children are viewed as capable and curious individuals who construct knowledge through active engagement and exploration. The learning environment is prepared intentionally with play invitations — open-ended prompts and carefully selected materials that encourage children to explore, problem-solve, and develop targeted pre-writing skills through hands-on play. The teacher's role is primarily that of an observer and facilitator, stepping in only when necessary to support or extend learning.

Fine Motor Invitation Centers

The classroom is arranged into a series of rotating centers, each offering a different fine motor experience. These invitations are placed on trays or baskets with minimal verbal instruction. Children are free to choose, explore, and revisit stations based on their interests.

- Station 1: Thread the Beads

  → Invitation: "Can you make a pattern using beads and string?"

  → Children thread beads onto laces or pipe cleaners, strengthening hand-eye coordination and bilateral skills.

- Station 2: Pom-Pom Rescue

    → Invitation: “Can you rescue the pom-poms using the tweezers?”

    → Tweezers and small tongs are placed next to containers of pom-poms, encouraging pincer grasp and precision.

- Station 3: Dough Creations

    → Invitation: “Can you make shapes or letters with the playdough?”

    → Children manipulate playdough freely or use letter cookie cutters to explore letter forms and fine motor strength.

- Station 4: Magic Tracing

    → Invitation: “Can you follow the path with your finger or brush?”

    → Textured letters, salt trays, or painted lines invite children to trace shapes and pre-writing strokes using different tools.

Sensory and Vertical Invitations

- Wall Tracing

    → Invitation: “Can you trace the shapes on the wall with chalk or markers?”

    → Shapes are taped at child height on a vertical surface to promote shoulder stability and gross motor coordination.

- Letter Roads

    → Invitation: “Can you drive your car along the letter?”

    → Large letters taped to the floor act as tracks for toy vehicles, helping children internalize letter formation through movement.

Each invitation is designed to be open-ended, allowing for child-led discovery and repetition. The teacher observes student interactions, takes anecdotal notes, and makes adjustments to the environment as needed — rotating materials, increasing challenge, or extending the learning with new provocations.

These activities are meant to be offered in 30–45 minute sessions, twice a week over a four-week period. As children's engagement deepens, the complexity of invitations can be increased gradually, always respecting individual learning rhythms and preferences.

## 6.5 MATERIALS AND TIME REQUIRED

The materials required for this proposal are intentionally simple, open-ended, and accessible, allowing children to manipulate them in various ways depending on their interests and developmental level. Many of these materials can be reused or rotated over time to maintain engagement.

Suggested Materials:

- Beads, threading strings, pipe cleaners
- Tweezers, tongs, pom-poms
- Playdough and rollers, letter or shape cutters
- Salt trays, sand trays, paintbrushes
- Toy cars, masking tape, large letter outlines
- Markers, chalk, large paper, vertical surfaces
- Trays or baskets for presenting materials

Estimated Time:

It is recommended to implement these play-based learning sessions twice per week for at least 45 minutes per session. However, it is important to highlight that the most valuable learning and engagement often emerge after 30 minutes of uninterrupted play. Therefore, while time frames can serve as a guide for planning, teachers should avoid limiting the play experience simply to follow a rigid schedule. Children should be given space and time to engage deeply with the materials, revisit activities, and extend their own learning journeys at their own pace.

## 6.6 EVALUATION OF THE PROPOSAL

To assess the effectiveness of the proposed play-based strategies, three primary evaluation tools will be implemented:

- **Pre- and Post-Assessments**

Children's performance in five key pre-writing indicators (pencil grasp, tracing accuracy, shape tracing, bilateral coordination, and fine motor play) will be assessed using the same rubric employed during the research. Each indicator will be measured across three performance levels: Beginning, Developing, and Mastering.

- **Anecdotal Records**

The teacher will observe and document student behavior, engagement, and emerging skills throughout the play invitations. These observations allow for a deeper understanding of each child's progress and inform any necessary modifications to the environment or materials.

- **Teacher Reflection**

At the end of the implementation period, the teacher will reflect on the effectiveness of the play invitations, noting which ones fostered the most engagement and skill development. This reflection will guide future improvements and adaptations of the strategy.

## 6.7 FINAL CONSIDERATIONS

This proposal aims to reinforce the value of child-led, hands-on play in early education. By shifting from teacher-led instruction to carefully designed play invitations, the approach honors the developmental pace, autonomy, and creativity of young learners. Inspired by pedagogies such as Reggio Emilia and Montessori, the prepared environment becomes the third teacher — inviting exploration, discovery, and fine motor development in meaningful, joyful ways.

By using open-ended materials and prompts, children are not only practicing pre-writing skills, but also developing confidence, concentration, and intrinsic motivation. This proposal is not meant to standardize how learning should happen, but to provide flexible, research-based strategies that educators can adapt and expand upon.

Ultimately, it calls for a shift in mindset — recognizing that the most powerful learning happens when children are trusted to play, explore, and take the lead in their own development.

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# Annexes

**Annex 1. Pre-Test/Post-Test Rubric**

| **Pre-Test/Post-Test Rubric** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Teacher:** Amanda Castro Carvajal<br><br>**Date:** _____<br><br>**Subject:** Playful Learning.<br><br>**Grade:** Yellow Bees – B (Pre-Kinder) | | | | | | | |
| **Students** | | **Pre-Test/Post-Test Indicators (M-D-B)** | | | | | **Individual Comments** |
| **N** | **Name** | **1** | **2** | **3** | **4** | **5** | |
| **1** | | | | | | | |
| **2** | | | | | | | |
| **3** | | | | | | | |
| **4** | | | | | | | |
| **5** | | | | | | | |
| **6** | | | | | | | |
| **7** | | | | | | | |
| **8** | | | | | | | |

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|---|---|---|---|---|---|---|---|
| **9** | | | | | | | |
| **10** | | | | | | | |
| **Additional notes:** | | | | | | | |

| **Pre-Test/Post-Test Indicators** | | | | |
|---|---|---|---|---|
| **Indicator number** | **Skill** | **Indicator description** | **Indicator performance levels** | |
| 1 | Pencil Grasp | Holds pencil or crayon with a proper grip: digital pronate grasp or | Beginning | Struggles to hold the pencil or uses a fist grip with little to no control. |
| | | | Developing | Uses a grip that is functional but not yet stable (four |

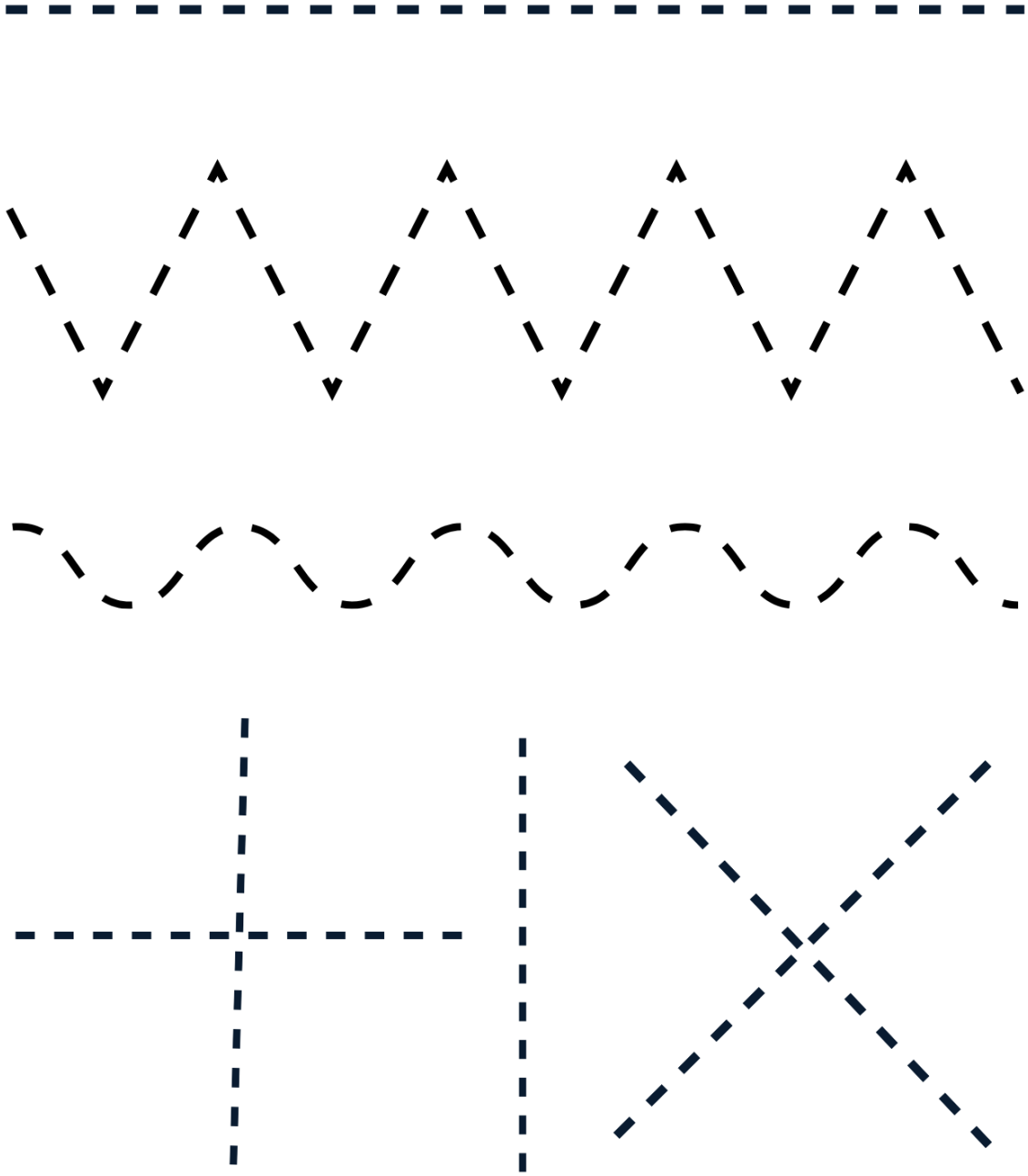
| | | | | |
|---|---|---|---|---|
| | | quadruped grasp. | | fingers, partial tripod grasp…). |
| | | | Mastering | Demonstrates a consistent proper grasp (pronate grasp or quadruped grasp) with full control. |
| 2 | Tracing Accuracy | Imitates correctly simple trace lines: vertical line, horizontal line, cross, zigzag, wave. | Beginning | Unable to follow lines; exhibits significant difficulty in tracing tasks. |
| | | | Developing | Traces lines but with some deviations from the boundaries. |
| | | | Mastering | Traces lines accurately, staying within the boundaries with minimal errors. |
| 3 | Shape Tracing | Traces basic shapes (circle, square, triangle, rectangle) | Beginning | Struggles to trace shapes; output is unrecognizable or incomplete. |
| | | | Developing | Traces shapes that are recognizable but uneven or incomplete in parts. |

| | | | | |
|---|---|---|---|---|
| | | | Mastering | Traces shapes accurately with clear, defined edges. |
| 4 | Bilateral Coordination in Fine Motor Activities | Uses both hands together efficiently in fine motor activities (cutting, threading, tearing paper, stabilizing paper while drawing). | Beginning | Struggles to coordinate both hands; often relies on one hand while the other remains inactive or provides minimal support. Requires frequent assistance. |
| | | | Developing | Uses both hands together but lacks fluidity; may switch hands or need reminders to stabilize objects (e.g., holds paper but struggles to cut smoothly). |
| | | | Mastering | Consistently and efficiently uses both hands in coordination for fine motor tasks, demonstrating smooth, purposeful movements (e.g., cutting along a line while holding paper steady). |

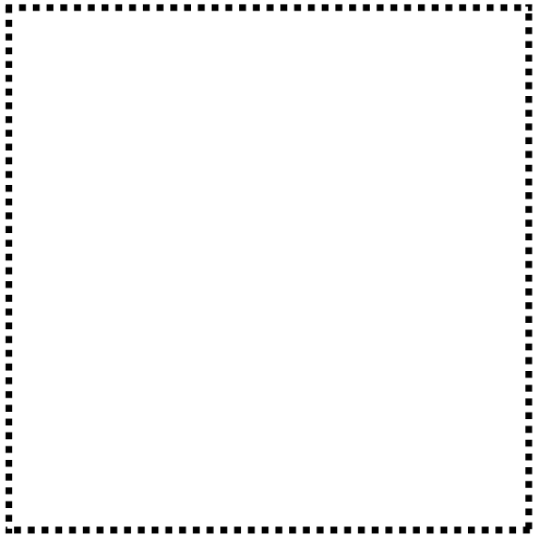
| | | | | |
|---|---|---|---|---|
| 5 | Fine motor play skills | Demonstrates agility with precise hand movements while playing (Building towers, fitting, molding with playdough and lacing.) | Beginning | Engages in play activities that require fine motor skills but has difficulty with hand-eye coordination and needs frequent assistance. |
| | | | Developing | Engages in play activities with some dexterity, occasionally needing guidance or extra time to complete tasks. |
| | | | Mastering | Engages in play activities confidently and independently; with precision, showing agility and control in their hand movements. |

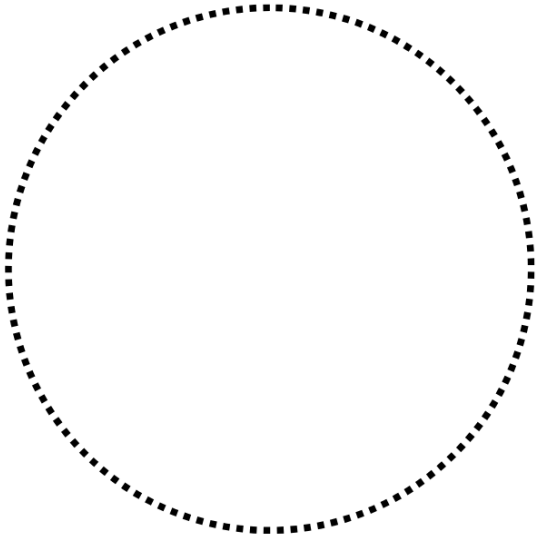
Pre-Test / Post Test Evaluation Instrument for the thesis "The Effectiveness of applying Play-Based Learning Approach Strategies to Enhance Pre-Writing Skills in Pre-K level at Saint Jude School, I Semester 2025."

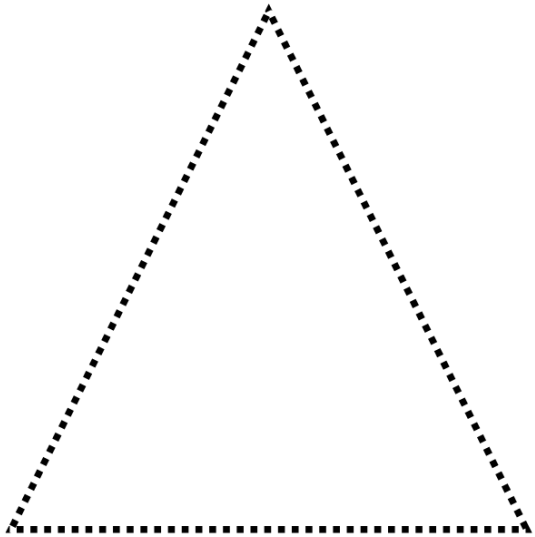
Name: _____ Date: _____

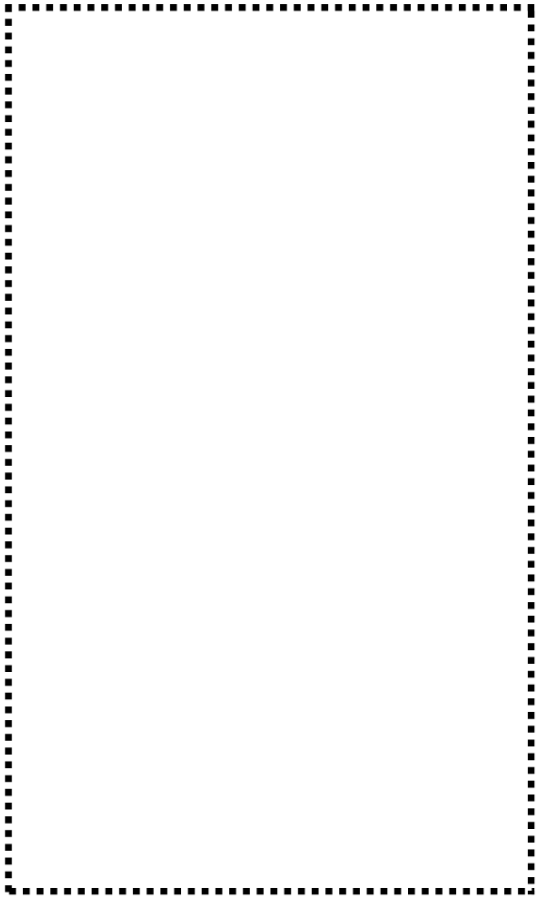


1









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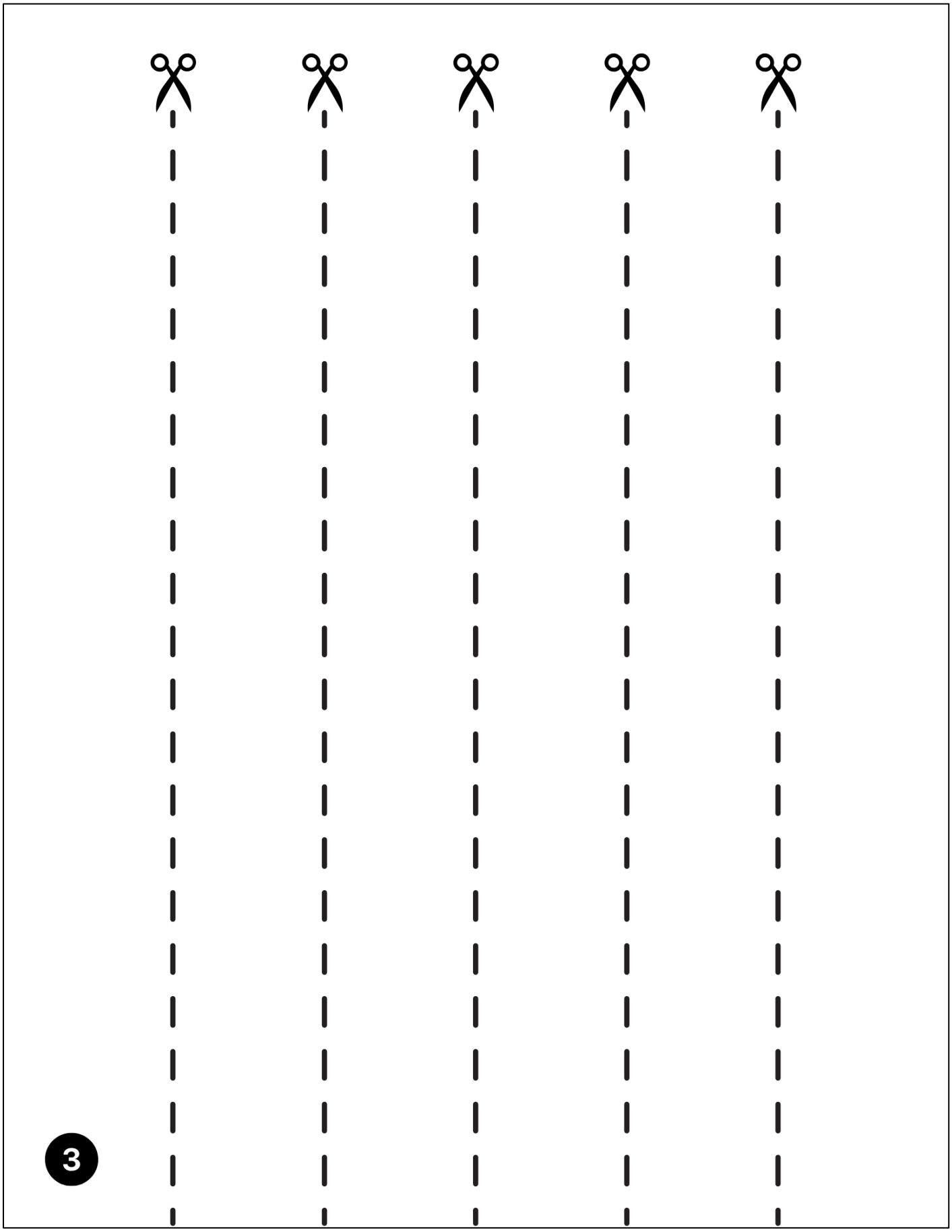

3

**Annex 2. Anecdotal Record Sheet**

| **Anecdotal Records** | | | | |
|---|---|---|---|---|
| **Teacher:** Amanda Castro Carvajal.<br>**Subject:** Playful Learning.<br>**Grade:** Yellow Bees – B (Pre-Kinder) | | | | |
| **Date** | **Student Name** | **Activity Observed** | **Key Skill** | **Teacher's Comments** |
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| | | | | |
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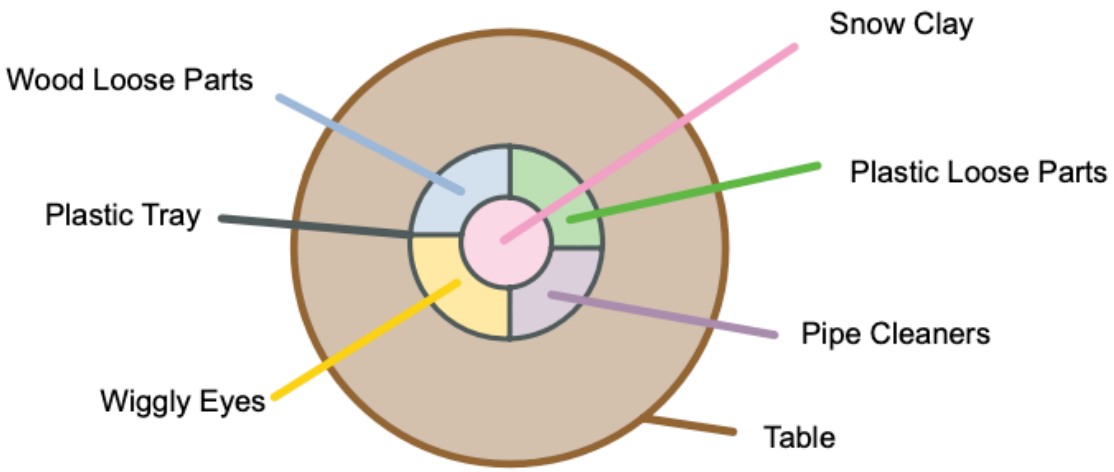
| **Additional Comments** |
|---|
| |

**Annex 3. Play Based Learning Strategies**

Play Invitation 1. Dinosaur Creation

- **Skills**: Bilateral Coordination, Fine Motor Play skills
- **Materials**: Wood small loose parts, plastic loose parts, pipe cleaners, wiggly eyes, snow clay, plastic tray with divisions.
- **Objectives**: Students are invited to create and build their own dinosaurs using loose parts (wood and plastic), wiggly eyes and snow clay.

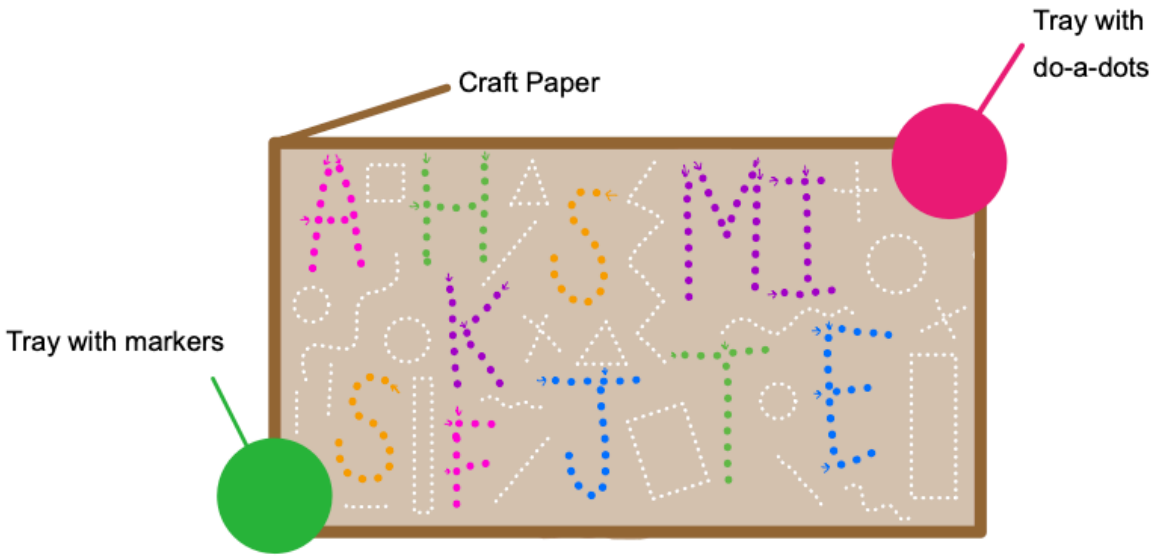
Play Invitation 1 - Set-Up Plan



Play Invitation 2. Kraft Traces & Shapes

- **Skills**: Trace Accuracy, shape drawing, Fine Motor Play Skills
- **Materials**: Craft paper, color & white dots stickers, markers, do-a-dots; and plastic trays.
- **Objectives**: Students are invited to find among the traces the initial of their name, trace it with a marker and then re-do the trace using do-a-dots. Afterwards, they are invited to keep playing with the traces and shapes in the craft paper.

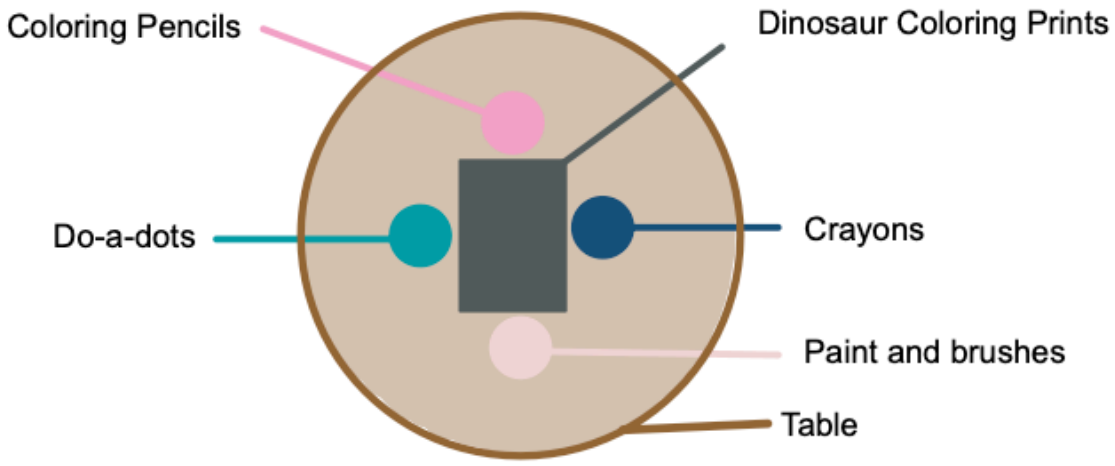
Play Invitation 2 - Set-Up Plan



Play Invitation 3. Dinosaur Painting

- **Skills**: Pencil Grasp, Bilateral Coordination, Fine Motor Play Skills
- **Materials**: Dinosaur coloring prints, crayons, paint and brushes, coloring pencils, markers, do-a-dots and plastic trays.
- **Objectives**: Students are invited to color with their favorite materials a dinosaur color print of their liking.

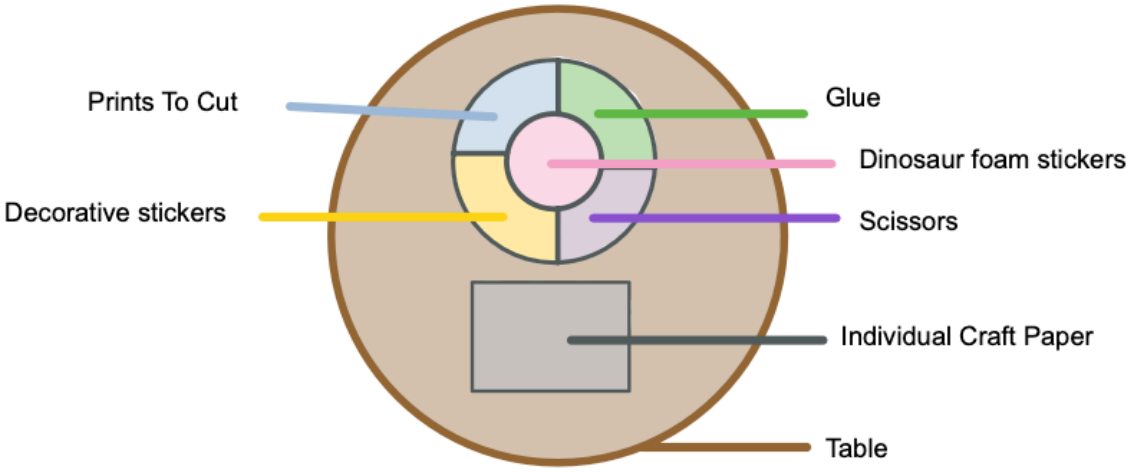
Play Invitation 3 - Set-Up Plan



Play Invitation 4. Dinosaur Habitats

- **Skills**: Bilateral coordination, Fine Motor Play Skills
- **Materials**: Individual Craft Paper, glue, scissors, dinosaur foam stickers, decorative stickers, prints with elements to cut to create a habitat.
- **Objectives**: Students are invited to create their own habitat for the dinosaurs' using materials located in a tray with divisions

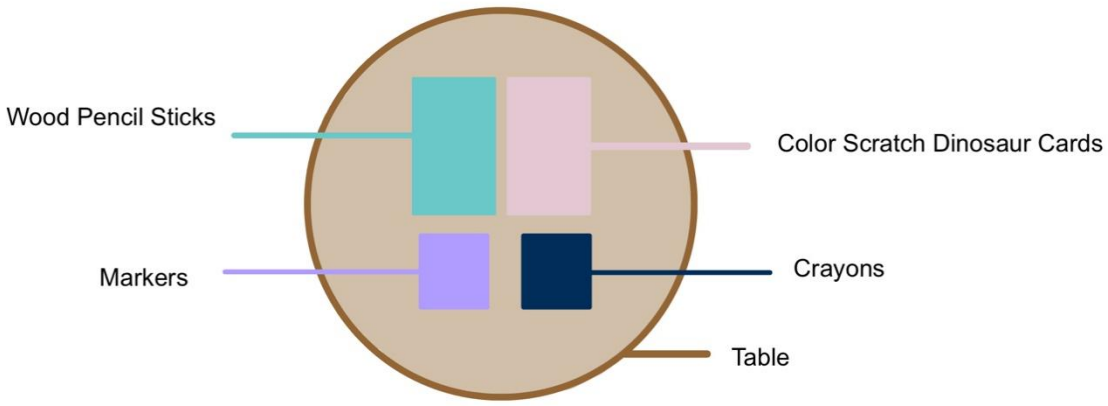
Play Invitation 4 - Set-Up Plan



Play Invitation 5. Scratch & Color a Dino

- **Skills**: Pencil Grasp, Bilateral Coordination, Fine Motor Play Skills
- **Materials**: Color Scratch Dinosaur Cards, Wood pencil sticks, color pencils and markers
- **Objectives**: Students are invited to discover the picture hidden in their art cards by scratching the cards with wood pencil sticks / stylus and then paint the back of the drawing using their favorite material from the table.

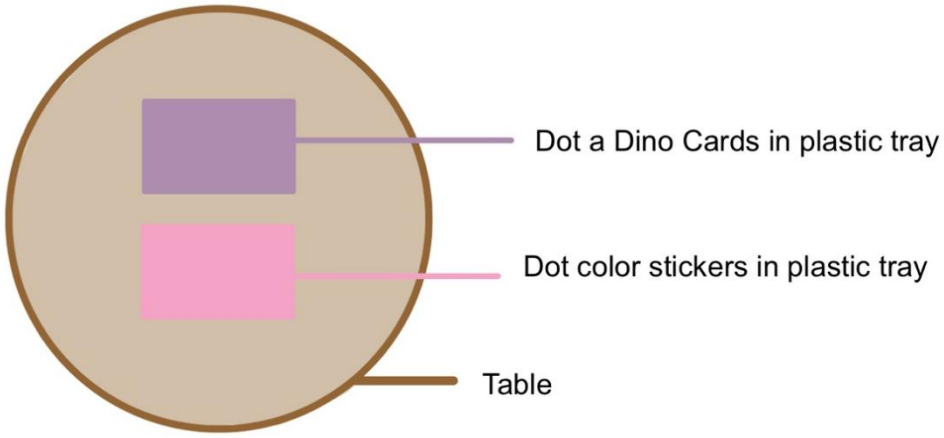
Play Invitation 5 - Set-Up Plan



## Play Invitation 6. Dot a Dino

- **Skills**: Bilateral coordination, Fine Motor Play Skills.
- **Materials**: Dot a Dino Cards, dot color stickers, plastic trays.
- **Objectives**: Students are invited to fill their favorite dinosaur dot-it prints with color dot stickers.

## Play Invitation 6 - Set-Up Plan



## Annex 4. Letter from the Preschool Principal

International St. Jude School 1963 AMAZING LEARNING & EXCELLENCE

March 31st, 2025

To whom it may concern

I, Licda. Yenda Slon Villalobos, as the Preschool Director at St. Jude School, hereby certify that the research project titled:

"The Effectiveness of Applying Play-Based Learning Approach Strategies to Enhance Pre-Writing Skills in Pre-K Level at Saint Jude School, I Semester 2025"

was conducted by Amanda Castro Carvajal as part of her graduation process.

The project was carried out at our institution during March 2025 and involved the implementation of diagnostic and final assessments, along with a series of Play-Based Learning strategies designed to enhance pre-writing skills in Pre-K students. The proposal was reviewed, communicated, and approved by the Preschool Department prior to its execution.

I certify that all research activities were conducted ethically, responsibly, and in close coordination with the teaching staff. We acknowledge and appreciate the professionalism and dedication demonstrated throughout the development of this project.

Sincerely,

Preescolar St. Jude School

Licda. Yenda Slon Villalobos
Preschool Director

iSP International Schools Partnership

**Annex 5. Play Based Learning Strategies Evidence Pictures**

*Figure 8. Play Invitation 1 - Dinosaur Creation Set Up*

Note: A hands-on station offering a variety of materials for children to construct their own dinosaurs, promoting creativity and fine motor development.

*Figure 9. Play Invitation 1 - Dinosaur Creation Evidence*

Note: Student work samples demonstrating independent construction and imaginative play during the Dinosaur Creation activity.

*Figure 10. Play Invitation 2 - Kraft Traces & Shapes Set Up*


Note: A kraft play invitation tray with tracing tools designed to strengthen tracing and pencil grip control skills.

*Figure 11. Play Invitation 2 - Kraft Traces & Shapes Evidence*

Note: Students completing simple traces, letter traces and shape traces through fine motor play skills.

*Figure 12. Play Invitation 3 - Dinosaur Painting Set Up*


Note: An open-ended painting station featuring dinosaur outlines and painting tools to encourage artistic expression and pencil grip / brush grip practice.

*Figure 13. Play Invitation 3 - Dinosaur Painting Evidence*

Note: Painted dinosaurs showcasing color exploration, stroke control, and engagement with the materials.

*Figure 14. Play Invitation 4 - Dinosaur Habitats Set Up*

Note: A multisensory invitation where students use a variety of materials to build miniature dinosaur habitats.

*Figure 15. Play Invitation 4 - Dinosaur Habitats Evidence*

Note: Student creations highlighting imaginative thinking, fine motor coordination, and spatial organization.

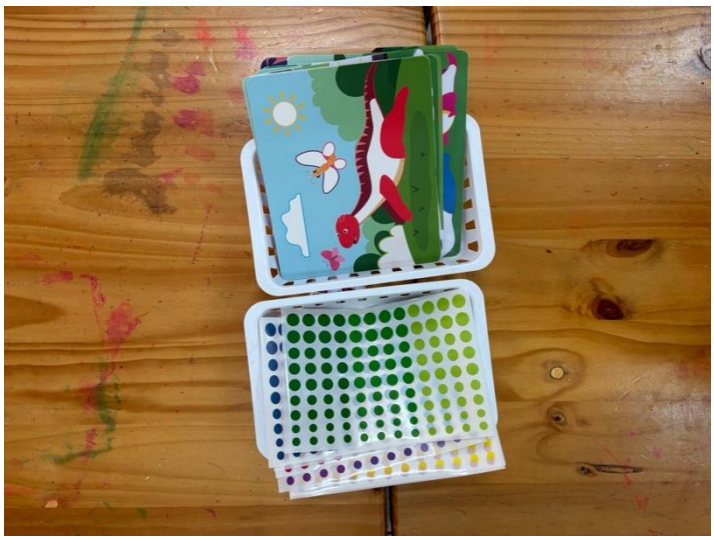
*Figure 16. Play Invitation 5 - Scratch & Color a Dino Set Up*

Note: A scratch-art tray allowing children to uncover colors by tracing over pre-drawn dinosaur outlines using wooden styluses.

*Figure 17. Play Invitation 5 - Scratch & Color a Dino Evidence*

Note: Final artworks reflecting fine motor precision, focus, and visual-motor integration.

*Figure 18. Play Invitation 6 - Dot a Dino Set Up*



Note: An invitation using dot stickers to target specific points on dinosaur images, reinforcing pre-writing patterns and grip strength.

*Figure 19. Play Invitation 6 - Dot a Dino Evidence*

Note: Student responses demonstrating accuracy, control, and enthusiasm during a structured, playful activity.