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Play-based Learning Strategies and Their Influence on Preschoolers' Cognitive and Social Skills Development

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Abstract. *This study determined the influence of play-based strategies on the social and cognitive growth of preschool children in public early childhood schools in Danao City during the school year 2024–2025. With a descriptive-correlational research design, the study utilized 40 preschool teachers utilizing purposive sampling. Data were gathered utilizing a validated observation-based measure of instructional practices and child development indicators. Findings indicated that the teachers applied play-based strategies with high frequency, most significantly those that supported creativity, social interaction, and expressive communication. Such instructional practices were associated with measurable gains in children's reasoning power, language usage, emotional intelligence, and cooperative behavior. Statistical analysis indicated a statistically significant positive relationship between implementation level of guided play and cognitive-social developmental outcomes, upholding Vygotsky's Sociocultural Theory. Although the positive results are comforting, however, the study found the following challenges: generational differences between teachers and absence of parental involvement, which hindered optimal maximization of the advantage of play-based learning. In response, the study suggested a Preschool Success Nurturing Connections Initiative to foster teacher competence, enhance home-school partnership, encourage open communication, and utilize structured progress monitoring. In summary, the findings reaffirm the central role of purposeful, developmentally responsive play in cultivating integral early childhood development and necessitate policy and practice frameworks that enshrine meaningful play as the cornerstone of preschool education.*

Keywords: *Play-based Learning Strategies, Cognitive Development, Social Skills Development, Preschool Education, Descriptive-Correlational Research, Danao City Division, Cebu, Philippines*

Introduction

The Problem and its Scope

Rationale

Early childhood education is a critical stage in a child's cognitive and social development, laying the foundation for lifelong learning. Among the various instructional approaches, play-based learning has gained significant recognition for its effectiveness in fostering both cognitive abilities and social competence in preschoolers. Play-based learning strategies integrate structured and free play activities to enhance children's problem-solving skills, creativity, and interpersonal interactions. According to

Fisher et al. (2024), such approaches support essential neurodevelopmental processes, improving executive function, cognitive flexibility, and higher-order reasoning. Furthermore, these methods cultivate social-emotional development by promoting collaboration, communication, and adaptability. Despite the growing body of research highlighting the benefits of play-based learning, its implementation varies widely, and its impact on preschoolers' cognitive and social growth from the perspective of teachers remains an area that requires further exploration.

Across the world, early childhood education continues to evolve, with an increasing emphasis on play-based learning as a tool for enhancing both academic performance and social skills. Countries that have established strong early education systems, such as Finland and Sweden, have successfully embedded play-based methodologies into their curricula. These nations recognize the value of experiential learning, allowing children to develop cognitive abilities and social adaptability through structured play. However, in many developing countries, the integration of play-based learning remains a challenge due to traditional academic expectations, inadequate resources, and insufficient teacher training. This has resulted in disparities in the adoption of play-based pedagogies, particularly in regions where rigid instructional methods continue to dominate early education.

Within the Philippines, the education system has undergone significant reforms to promote developmentally appropriate teaching practices, particularly in early childhood education. Government policies advocate for play-based learning, recognizing its role in fostering holistic child development. However, despite these initiatives, its application remains inconsistent. Many preschools still rely on conventional teaching strategies due to limited access to professional development programs that equip teachers with the necessary skills to implement play-based methodologies effectively. Additionally, the transition to hybrid and alternative learning modalities following the COVID-19 pandemic has further complicated efforts to integrate play-based approaches into the classroom. The lack of structured play opportunities, especially for children in underserved communities, has created concerns about their cognitive and social development.

In the local perspectives, preschool education is still largely influenced by traditional methods. Many early learning centers, particularly public preschools and community-based daycare centers have yet to adopt play-based learning as a primary instructional strategy. One significant factor contributing to this challenge is the limited training of non-professional daycare workers, who serve as key facilitators of early childhood education. Without adequate knowledge and practice in implementing play-based teaching, young learners may miss out on opportunities to develop critical thinking, creativity, and social interaction skills. While some private institutions have begun incorporating play-based learning, public preschool settings continue to face barriers in aligning with global best practices.

Furthermore, socio-economic conditions play a crucial role in determining the accessibility and implementation of play-based learning strategies. Many early childhood centers in low-income communities lack the necessary resources and infrastructure to support play-centered activities. Teachers in these settings often manage large class sizes with minimal support, making it difficult to create an environment that fosters interactive and exploratory learning. Understanding these challenges from the perspective of educators will provide valuable insights into how play-based learning can be effectively integrated within local early childhood education settings.

In light of these challenges, this study aims to investigate the impact of play-based learning strategies on the cognitive and social development of preschoolers from the perspective of teachers. By examining teachers' insights and experiences, this research seeks to bridge the knowledge gap on how play-based learning influences early childhood education in the local context. The findings will provide valuable recommendations for educators, policymakers, and stakeholders in early childhood education, advocating for the adoption of play-centered approaches in preschool curricula.

The potential outcomes of this study include a preschool success nurturing connections plan to enhance play-based learning in early childhood education and the enrichment of preschool learning environments to facilitate holistic child development. Furthermore, the study provide empirical data to support advocacy efforts aimed at increasing investments in early childhood education, ensuring that all children, regardless of socio-economic background, have access to high-quality, developmentally appropriate learning experiences. Thus, this research benefits the preschool educators by equipping them with effective strategies, policymakers by informing evidence-based reforms, and children by fostering cognitive and social growth through meaningful, developmentally appropriate learning experiences. Addressing the challenges of implementing play-based learning would contribute to a more inclusive and effective early childhood education system, preparing young learners for future academic and social success.

Theoritical Framework

The study relies on some essential theories and legal background that aid in exploring the effectiveness of play-based learning strategies among preschoolers in the development of the preschoolers' cognitive and social skills. The study draws on the following theories; **Jean Piaget's Cognitive, Development Theory (1936), Lev Vygotsky's Sociocultural Theory (1934), and Parten's Stages of Play Theory (1932).** Likewise, the following legal bases provide the foundation for this study, aligning with the principles of play-based learning and its impact on preschool education. **Republic Act No. 7610: Special Protection of Children Against Abuse, Exploitation, and Discrimination Act (1992); Republic Act No. 10157: The Kindergarten Education Act (2012); and Republic Act No. 10533: Enhanced Basic Education Act (2013).**

Piaget's Cognitive Development Theory (1936). Jean Piaget's Cognitive Development Theory (1936) is one of the most influential frameworks in understanding how children acquire knowledge.

Piaget proposed that cognitive development occurs through a series of stages, each characterized by different modes of thinking and learning. The four stages he identified include the sensorimotor stage (birth to 2 years), the preoperational stage (2 to 7 years), the concrete operational stage (7 to 11 years), and the formal operational stage (11 years and older).

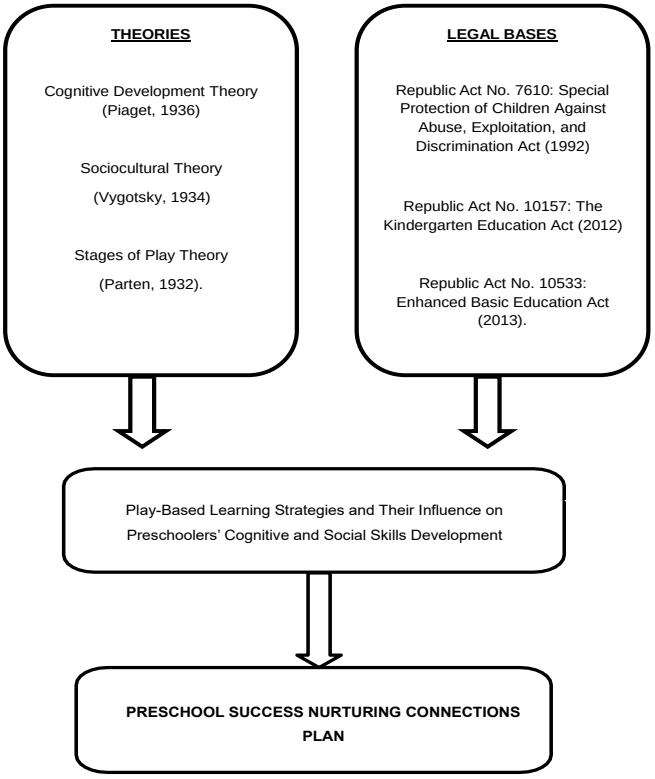

Figure 1. Theoretical-Conceptual Framework of the Study.

Piaget proposed that cognitive development occurs through a series of stages, each characterized by different modes of thinking and learning. The four stages he identified include the sensorimotor stage (birth to 2 years), the preoperational stage (2 to 7 years), the concrete operational stage (7 to 11 years), and the formal operational stage (11 years and older). Preschoolers fall within the preoperational stage, where symbolic thinking, pretend play, and egocentrism dominate their cognitive processes. According to Piaget, learning occurs through active exploration and interaction with the environment, making play an essential aspect of cognitive development. Children construct their understanding through assimilation and accommodation, constantly refining their mental structures to adapt to new experiences (Bjorklund & Causey, 2023).

Piaget's theory is used in this study because it underscores the role of active engagement in cognitive development, which aligns with the principles of play-based learning. His theory provides a foundational explanation of why preschoolers learn best through hands-on activities rather than passive instruction. Play fosters the development of symbolic thought, problem-solving skills, and cognitive flexibility, all of which are crucial in early childhood education. Since Piaget emphasized self-directed learning, the study explores how play-based strategies enhance preschoolers' ability to think critically and independently. Moreover, his theory supports the integration of structured play in preschool curricula to stimulate exploration, reasoning, and creativity in young learners (Santrock, 2024).

Consequently, this study investigates the impact of play-based learning strategies on cognitive and social development, making Piaget's theory particularly relevant. One specific cognitive development aligned with this problem is symbolic representation, which emerges in the preoperational stage. Symbolic representation allows children to use objects, actions, and ideas to represent other objects or concepts in play. This ability enhances problem-solving, creativity, and communication skills, all of which are crucial for social interactions and cognitive growth. By integrating play-based learning, teachers can facilitate the development of symbolic representation, helping preschoolers engage in abstract thinking and cooperative play, which directly supports their cognitive and social advancement (Miller, 2024).

Several contemporary studies have expanded on Piaget's Cognitive Development Theory, providing empirical support for the role of play-based learning in enhancing preschoolers' cognitive and social development. Bodrova and Leong (2024) explored the relationship between play-based learning and executive function, finding that structured play activities enhance children's ability to self-regulate, plan, and problem-solve. Their study reinforces Piaget's assertion that cognitive development is an active process facilitated through interaction with the environment. Similarly, Goswami (2023) examined how pretend play fosters cognitive flexibility and found that children engaged in imaginative play exhibited stronger reasoning and decision-making skills. This supports the idea that symbolic thought, a key feature of Piaget's preoperational stage, is crucial for cognitive growth.

Vygotsky's Sociocultural Theory (1934). Lev Vygotsky's Sociocultural Theory emphasizes the role of social interaction, cultural influences, and language in cognitive development. Unlike Piaget, who focused on individual cognitive construction, Vygotsky argued that learning is fundamentally a social process. He proposed that children acquire knowledge and skills through interactions with more knowledgeable individuals, such as parents, teachers, and peers. One of the key concepts in this theory is the Zone of Proximal Development (ZPD), which describes the difference between what a child can do independently and what they can achieve with guidance. Another significant concept is scaffolding, where adults or more capable peers provide temporary support to help children perform tasks, they would otherwise find too challenging. Vygotsky also highlighted the importance of play as a medium for cognitive and social growth, enabling children to explore roles, practice problem-solving, and internalize cultural norms (Daniels, 2024).

Likewise, Vygotsky's theory is highly relevant to this claim as it underscores the importance of teacher guidance and peer collaboration in learning. Since the study focuses on play-based learning strategies, Vygotsky's emphasis on social interactions aligns with the idea that children learn best through engaging, interactive experiences. His concept of scaffolding directly supports the structured yet flexible nature of play-based education, where teachers facilitate learning by adjusting their support according to the child's developmental level. The study adopts this theory to analyze how preschoolers

develop cognitive and social skills through play-based activities that involve cooperation, dialogue, and guided learning (Santrock, 2024).

The study investigates the impact of play-based learning strategies on cognitive and social development, making Vygotsky's theory particularly significant. One of the key concerns in early childhood education is ensuring that young learners receive adequate support in their developmental journey. Vygotsky's emphasis on the social context of learning directly addresses this issue by highlighting how peer collaboration and teacher guidance can enhance a child's ability to grasp complex concepts. Play-based learning provides opportunities for children to interact, negotiate, and problem-solve together, which aligns with Vygotsky's belief that cognitive development is deeply embedded in social experiences (Miller, 2024).

Parten's Stages of Play Theory (1932). Mildred Parten's Stages of Play Theory (1932) focuses on the social aspects of play and how children interact with peers during play-based activities. Parten identified six stages of play: unoccupied play, solitary play, onlooker play, parallel play, associative play, and cooperative play. These stages describe the progressive development of social interactions in children, emphasizing how play evolves from independent activities to complex social interactions. According to Parten, as children mature, their play experiences shift from solitary to cooperative, allowing them to develop essential cognitive and social skills. This theory highlights the role of peer interactions in early childhood learning and how different forms of play contribute to children's overall development (Parten, 2024).

Moreover, Parten's theory is relevant to this study as it provides a structured framework for understanding how preschoolers engage in play and how these interactions influence cognitive and social growth. The study explores how play-based learning strategies align with Parten's stages, examining the role of different play types in enhancing problem-solving, language acquisition, and social skills. Since play is central to early childhood education, Parten's theory supports the argument that structured and free play activities contribute significantly to preschoolers' developmental progress (Santrock, 2024).

The impact of play-based learning strategies on preschoolers' cognitive and social development as what this study would like to investigate, this Parten's theory is particularly relevant. One of the challenges in early childhood education is ensuring that play is effectively utilized as a learning tool. Parten's emphasis on the social dimensions of play aligns with the study's focus on how teacher-facilitated and peer-directed play contribute to learning. By analyzing how preschoolers transition through different play stages, this study assessed how structured and unstructured play settings influence preschoolers' ability to interact, collaborate, and develop problem-solving skills (Miller, 2024).

At last, kids get to the cooperative play stage, which is topmost in Parten's framework for social development. Children like Oliver, Ella, and Max in cooperative play help to create a great construction using big cardboard boxes and resources gathered from throughout the classroom. They assign parts in this situation: Oliver is the architect, Ella is the construction worker, and Max is the materials manager. Through conversation, they negotiate their obligations and even settle disputes for example, choosing where to locate doors or windows. Teachers in a play-based learning setting can direct this interaction by presenting assignments that call for cooperation, such joint storytelling, developing a shared art project, or working alongside a problem (Lemke & Hudson, 2023). Children acquire leadership, empathy, teamwork, and conflict resolution at this point in their social development. This fits Vygotsky's (1934) hypothesis that social interaction and cultural instruments (e.g., language, role play) form maximum cognitive processes. Less about direct intervention and more about observing and guiding the group's negotiation and cooperation process is the teacher's role.

Further stressing how cooperative play develops critical thinking and problem-solving abilities as well as social skills is research by Lee and Rosenberg (2022), which shows children working together to make decisions, plan strategies, and resolve conflicts. Play-based learning clearly illustrates here how it not only promotes development of social skills but also improves cognitive capacities, therefore laying the road for next academic success.

Republic Act No. 7610: Special Protection of Children Against Abuse, Exploitation, and Discrimination Act (1992). Republic Act No. 7610, also known as the Special Protection of Children Against Abuse, Exploitation, and Discrimination Act, is a Philippine law designed to safeguard children's rights and ensure their holistic development. The law emphasizes the importance of providing a safe and nurturing environment for children, including access to education, play, and recreational activities. Section 32 of the law recognizes play as essential to children's physical, emotional, and cognitive well-being, aligning with global standards in early childhood education (Department of Justice, 2024). The act highlights the role of child-friendly learning spaces in fostering a positive developmental environment, underscoring the necessity of play-based approaches in early education.

This law directly supports the study as it upholds the child's right to education and play, recognizing the role of play-based learning in fostering cognitive and social development. By promoting structured play as a fundamental right, Republic Act No. 7610 reinforces the need for play-based strategies in preschool settings. The study aims to explore how teachers implement play-based learning while ensuring that preschoolers receive developmentally appropriate education in a safe and supportive environment (Garcia & Santos, 2024).

Several studies have examined the impact of Republic Act No. 7610 on early childhood education. Reyes and Alvarez (2023) explored how child protection policies influence preschool learning environments, highlighting the role of play in reducing stress and fostering resilience. Espinosa et al. (2024) investigated the link between safe learning spaces and cognitive development, demonstrating that children thrive academically in play-based, child-friendly settings.

Further research by Whitebread et al. (2024) studied the psychological benefits of play in preventing anxiety and stress, supporting RA 7610's emphasis on child welfare. Frost et al. (2023) examined how structured play interventions enhance social skills, reinforcing the law's objective of promoting children's well-being. Fisher et al. (2024) analyzed teacher training programs related to play-based learning, finding that educators who integrate play strategies effectively improve student engagement.

Additional studies by Lillard et al. (2024) and Zosh et al. (2024) explored the relationship between play and executive function, revealing that play-based activities enhance decision-making and problem-solving skills. Nicolopoulou et al. (2024) investigated how storytelling-based play improves literacy, demonstrating the cognitive benefits of interactive learning. Finally, Weisberg et al. (2024) analyzed the role of play in social adaptation, showing that preschoolers who engage in structured play develop stronger interpersonal relationships.

Particularly against abuse, exploitation, and discrimination, Special Protection of Children Against Abuse, Exploitation, and Discrimination Act (1992) offers fundamental legal foundations to safeguard the welfare of children in the Philippines. Regarding play-based learning techniques and the growth of preschoolers' social skills, this law emphasizes the need of giving kids safe, encouraging, respectful learning environment where they may build social competencies free of worry about damage or abandonment. Including this act into early childhood education guarantees that children not only engage in positive and healthy social interactions but also learn to advocate for their rights, recognize boundaries, and understand appropriate behaviors in social contexts.

A basic component of play-based learning in preschool is that it helps kids acquire crucial social skills like empathy, cooperation, conflict resolution, and sharing all of which are essential for their psychological and emotional well-being. By encouraging secure and caring play surroundings, teachers help guarantee that preschoolers engage in developmentally appropriate activities that support good social interactions and healthy emotional growth. Viewed through the prism of RA 7610, these approaches are quite important in helping very young children understand their rights and how to guard themselves from possible damage while negotiating social situations.

Finally, Tan et al. (2024) explored the long-term benefits of play-based learning, tracking children who experienced play-integrated preschool curricula and comparing their academic and social performance in primary school. Their results showed that early exposure to play-based learning led to stronger problem-solving skills, adaptability, and enthusiasm for learning.

The Enhanced Basic Education Act of 2013 (Republic Act No. 10533). The Kindergarten Education Act of 2012, officially known as Republic Act No. 10157, institutionalized kindergarten education as an integral component of the Philippine basic education system. This legislation underscores the state's commitment to providing accessible and mandatory kindergarten education, recognizing it as a pivotal foundation for children's physical, social, intellectual, emotional, and skills development. A key aspect of this Act is the emphasis on developmentally appropriate practices, notably play-based learning, to adequately prepare children for formal schooling.

The relationship between play-based learning and the cognitive and social development of preschoolers is well-documented. Play-based learning serves as a natural conduit for children to explore, experiment, and understand their environment, thereby fostering critical thinking, problem-solving abilities, language development, and social competencies such as cooperation and empathy. The Omnibus Policy on Kindergarten Education further reinforces this approach by setting basic standards for effective kindergarten education, including the integration of play-based methodologies.

Moreover, this act serves as a foundation for integrating play-based learning into early childhood education, emphasizing the importance of developmentally appropriate and engaging learning experiences. Research has consistently demonstrated that play-based learning significantly contributes to cognitive, social, and emotional development in preschoolers. Whitebread et al. (2022) highlighted that play fosters cognitive flexibility and executive functioning, essential for problem-solving and academic readiness. Lillard and Lerner (2023) further emphasized that children who engage in play-based activities exhibit higher social competence and emotional regulation, which are crucial for peer interactions and classroom behavior. Additionally, Han et al. (2020) reported that play-based learning enhances language acquisition, as children immersed in storytelling and role-playing activities develop stronger vocabulary and narrative skills.

On the other hand, The Enhanced Basic Education Act of 2013 (Republic Act No. 10533) was implemented to strengthen the Philippine education system by extending basic education to thirteen years and integrating developmentally appropriate teaching strategies, including play-based learning in early childhood education. This legislative reform recognizes that early childhood education plays a crucial role in shaping a child's cognitive, social, emotional, and physical development, ensuring that young learners are well-prepared for formal schooling. The Act aligns with global educational standards and promotes a learner-centered, inclusive, and holistic approach that fosters the full potential of every child. Within this framework, play-based learning is increasingly recognized as an effective strategy for enhancing preschoolers' cognitive and social skills, as it provides engaging, meaningful, and interactive experiences essential for early brain development.

Recent studies have reinforced the significance of play-based learning in early childhood education. Similarly, the research published by the Chartered College of Teaching highlights that play-based learning extends benefits beyond the early years, enhancing children's engagement, creativity, and problem-solving skills (Gray & Crittenden, 2024). Hence, a comprehensive review in Frontiers in Education emphasizes that learning through play promotes student engagement, inclusion, and the development of holistic skills, facilitating a smoother transition from preschool to formal schooling (Zosh et al., 2022). This is mutually supported by The Harvard Graduate School of Education underscored the importance of playful learning, suggesting that empowering students to guide their own learning through play fosters intrinsic motivation and deeper understanding (Harvard Graduate School of Education, 2023)

By aligning these theoretical and legal foundations, this study aims to contribute to the ongoing discourse on the effectiveness of play-based learning in preschool education. The insights gained from this research serve as a valuable resource for educators, policymakers, and parents in developing age-appropriate, engaging, and inclusive learning environments. Furthermore, the findings provide an evidence-based recommendations for enhancing teacher training programs, curriculum development, and policy implementation to fully integrate play-based learning into early childhood education. Ultimately, this study seeks to bridge the gap between theory and practice, reinforcing the role of play as a critical component of early learning and child development.

THE PROBLEM

Statement of the Problem

This study determined the influence of play based learning approaches (guided play) in the cognitive and social development of preschoolers as perceived by the teachers in Danao City Division for school year 2024-2025, as basis for preschool success nurturing connections plan.

Specifically, it sought to answer the following questions:

1. What is the demographic profile of the teacher respondents in terms of:

1.1 age and gender;

1.2 years of teaching experience, and

1.3 highest educational attainment?

2. To what extent are play-based learning strategies used in preschool classrooms as observed by teachers?

3. How do preschool learners exhibit cognitive development based on teachers' assessments?

3.1 problem-solving skills, and

3.2 memory and recall?

4. How do preschool learners exhibit social development based on teachers' assessments?

4.1 cooperation with peers, and

4.2 ability to follow rules and routines?

5. Is there a significant relationship between the:

5.1 extent of play-based learning strategies and the cognitive development of preschoolers, and

5.2 extent of play-based learning strategies and the social skills development of preschoolers?

6. Based on the findings, what preschool success nurturing connections plan can be made to enhance cognitive and social development through play-based learning?

Statement of the Null Hypotheses

Based on the objectives of the study, the following null hypotheses were tested at 0.05 level of significance

Ho_1: There is no significant relationship between the implementation of play-based learning strategies and the cognitive development of preschoolers.

Ho_2: There is no significant relationship between the implementation of play-based learning strategies and the social skills development of preschoolers.

Significance of the Study

The current study investigates the impact of play-based academic learning strategies on preschoolers' cognitive and social skills development. This research is vital to several stakeholders in the field of education and child development:

Department of Education. It also adds to the research surrounding play-style learning, indicating the powerful impact this method of development has when guiding the curricula and programs that serve preschoolers. These results can be used to guide policy on the inclusion of play within early education structures to enrich young students' growth in all areas of development.

School Administrators. This study provides school leaders with research validated information about the value of play in improving preschoolers' cognitive and social abilities." This can be used to inform

the design and delivery of programs and classroom environments that promote play, balancing the academic and developmental requirements of early childhood.

Teachers. Teaching and Learning focused on practical approaches to effectively integrating play-based strategies into your classroom. The results help the teachers create new instructional strategies for using play to promote problem solving, creativity, social interaction and emotional regulation in preschool children, supporting their overall development.

Parents. This research emphasizes the value of play in developing a child's cognitive and social skills. It also empowers parents with tangible tools and ideas for how to support their children's development at home through play-based experiences that help strengthen those parent-child bonds and build nurturing spots for learning and exploration.

Learners. The study has direct implications for preschoolers as it offers evidence that play builds skills that are fundamental. They walk up to you and start talking about their work while you hold your coffee up to your face trying to see the same pictures they see, and you wonder how this can be produced without using a set of design books.

Researcher. Through its methodology and findings, the study addresses a gap in the literature and adds to a growing body of research on early childhood education and the benefits of play-based approaches in settings of all kinds. It opens new ways of looking at how different kinds of play affect cognitive and social development, so that evidence-based best practices can be developed.

Future Researchers. This can be a reference point for future studies to further aid the scholars to research new play technique and how do they endure on child. This inspires further exploration of the potential of play as an adaptable educational tool, one that can cater to different learning preferences and cultural experiences, paving the way for greater inclusion and equity in early childhood education.

Research Methodology

This section outlines the research design, environment, respondents, instruments, and procedures, including the statistical treatment of data. It aims to provide a clear overview of all the research techniques used.

Design

To systematically explore the influence of play-based learning strategies on the cognitive and social development of preschoolers, as observed by teachers, this study adopted a descriptive-correlational research design. This is the appropriate design because it aims to examine the relationships between the extent of play-based learning strategies and preschoolers' cognitive and social development, without manipulating any variables. The methodological approach facilitated objective measurement and statistical analysis of correlations between the identified variables, with the primary aim to accurately and consistently determine how play-based learning influenced cognitive and social proficiency by analyzing quantitative data to identify patterns, trends, and correlations that provide empirical insights.

Using a descriptive-correlational research design, the current study looks at how play-based learning techniques (guided play) affect preschoolers' development of cognitive and social abilities. This approach is suitable since it lets the researcher outline the play-based learning techniques now in use in preschool environments and establish the statistical link between these ones and the developmental results of small children. The descriptive part of the study, particularly, seeks to determine the kinds and frequency of play-based methods employed by teachers such as role-playing, guided play, creative games, and cooperative activities as well as to evaluate the levels of cognitive and social skills shown by preschoolers.

The correlational aspect, on the other hand, looks at how much the application of these play-based techniques relates to gains in social skills (e.g., cooperation, communication, and empathy) and cognitive abilities (e.g., attention, memory, and problem-solving). Though this approach does not determine causation, it offers significant insights on possible connections between teaching methods

and developmental advancement. Vygotsky's Sociocultural Theory, which emphasizes the essential part of social interaction and play in children's growth and learning, provides the basis for this strategy.

The study by Weisberg, Hirsh-Pasek, and Golinkoff (2022), and Diamond and Ling (2021) is highly pertinent to this study on play-based learning and preschoolers' cognitive and social development, particularly in the context of adopting an appropriate survey questionnaire and correlational design. Their extensive research on guided play and neuroplay integration offers reliable measures of both cognitive and social development applicable within preschool settings. Their work has demonstrated strong psychometric properties, including validity and reliability, making them robust tools for assessing children's cognitive skills and social interactions. Implementing survey questions based on the researched concepts of these researchers in this study could provide valuable insights into how play-based learning influences children's cognitive and social development, as observed by teachers. Moreover, the structured survey design ensures that data can be efficiently collected and analyzed, providing empirical insights without imposing significant observation burdens on participants.

The study utilized a survey questionnaire, which developed and validated to ensure reliability and validity. The survey consist of four parts: demographic profile of teacher respondents, extent of play-based learning strategies used in the classroom, teachers' assessment of preschoolers' cognitive development, and teachers' assessment of preschoolers' social development. The survey employed Likert scales and other appropriate quantitative measures to gather data.

This research looks at the link between guided play that is, a planned yet adaptable play-based learning approach and the growth of preschoolers' cognitive and social abilities. Guided play activities carried out by instructors defined by adult support and intentional learning goals within play settings constitute the independent variable. The preschoolers' social skills (such as cooperation, communication, and empathy) and cognitive abilities (including problem-solving, attention, and memory) are the dependent variables.

The study used a purposive sampling method targeting preschool instructors and students at chosen early childhood education facilities where guided play is prominently incorporated into everyday learning activities in order to gather pertinent information. This technique guarantees that participants directly experience the instructional approach under investigation. Information are collected using a mix of developmental checklists evaluating children's skills, instructor questionnaires, and classroom observations. Once gathered, the data are arranged, coded, and statistically examined using correlation analysis to assess the strength and direction of the association between guided play and the developmental results of the children. Descriptive statistics also help to characterize the degree of guided play used and the overall degree of social and cognitive abilities seen among the preschoolers.

This comprehensive analytical methodology provided a robust foundation for drawing conclusions on the effects of play-based learning on preschoolers' cognitive and social skills. Through a careful examination of these relationships, the study would contribute to the existing academic literature while also offering practical insights for educators and policymakers. The findings are expected to highlight the crucial role of play-based learning in early childhood development, advocating for evidence-based strategies to support preschool education.

Flow of the Study

This research employed the Input-Process-Output (IPO) model as a structural framework to assess the impact of play-based learning strategies on the cognitive and social development of preschoolers based on teachers' observations. The ultimate objective was to develop intervention strategies based on the study's findings.

Input Phase. The research commenced with the identification of key data sources through targeted inquiries derived from the problem statement. The independent variable was the extent of play-based learning strategies (guided play) used in preschool classrooms, as observed by teachers. The dependent variables were the cognitive and social development of preschoolers, also assessed through teacher observations. The study collected data using a validated survey questionnaire to measure these variables objectively. The survey consisted of four parts: demographic profile of teacher respondents,

extent of play-based learning strategies used in the classroom, teachers' assessment of preschoolers' cognitive development (problem-solving skills, memory and recall), and teachers' assessment of preschoolers' social development (cooperation with peers, ability to follow rules and routines). Likert scales and other quantitative measures were employed to ensure data reliability and validity.

Process Phase. The data collection process involved distributing the validated survey questionnaire to the teacher respondents in selected preschools in Danao City Division during the school year 2024-2025. After gathering the responses, the data were systematically encoded and analyzed using appropriate statistical tools. Descriptive statistics, such as frequency, percentage, and mean, were employed to summarize the demographic profiles, the extent of play-based learning, and the levels of Cognitive and Social development seen in preschoolers, descriptive statistics such as frequency, percentage, and mean were applied. Significant relationships between the variables were then identified using correlational statistical techniques. At last, the results were analyzed, and recommendations and conclusions were based on them.

Output Phase. The study ultimately resulted in the creation of a preschool success nurturing connections plan. Grounded in the results of the study, this plan seeks to improve the application of play-based learning techniques in preschool settings. It offers preschool teachers and administrators practical suggestions and intervention techniques they may use to help children grow cognitively and socially through organized, meaningful play events. Following a systematic research approach helped to shed a whole view of the many elements affecting the growth of cognitive and social abilities of learners. The results provide insightful analysis with significant relevance for curriculum design, educational policies, and classroom teaching methods. The research also emphasizes the need of using developmentally suitable techniques encouraging whole child development. These revelations can help teachers, administrators, and legislators design educational settings that encourage positive social interactions among students as well as stimulate academic progress.

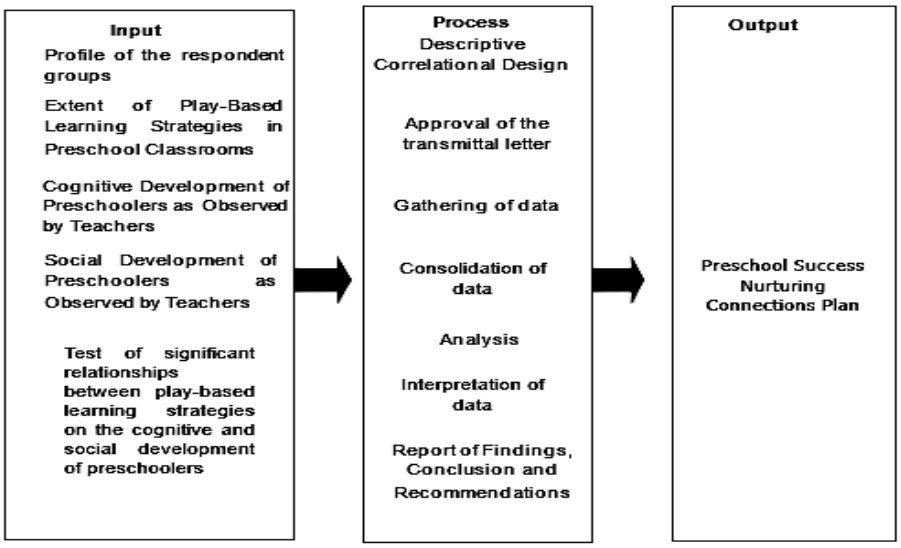

Figure 2. Flow of the Study.

Environment

This study is conducted by the researchers in the selected schools in Danao City Division during the school year 2024-2025 as basis to propose preschool success nurturing connections plan to enhance play-based learning in early childhood education.

Danao City Division. Under the Central Visayas, Region VII Department of Education (DepEd), the Danao City Division is among the acknowledged Schools Division Offices (SDOs). Danao City, a 2nd class component city geographically found in northern Cebu province, is quite important for the educational growth of surrounding towns. Located in the city proper, the division office oversees both public and private basic educational institutions providing Kindergarten to Senior High School. The city is easily reachable and well-connected by land transportation making it perfect for research projects involving school visits, teacher interviews, and classroom observations.

Including young children registered in Kindergarten programs, the Danao City Division supports DepEd's mandate of providing all students inclusive, equitable, and high quality basic education. Among others, the division provides early childhood education services through several public primary schools including Danao City Central School, Danasan Elementary School, Dunggoan Elementary School, Guinsay Elementary School, Langosig Integrated School, Maslog Elementary School, Pili Integrated School, Quisol Integrated School, Sabang Elementary School and Taytay Integrated School. Staffed by qualified and licensed Kindergarten instructors trained in early childhood development and the K to 12 Basic Education Curriculum, these schools have set-aside Kindergarten classrooms. These basic initiatives show the division's dedication to early learning and holistic child development. These institutions also rigorously follow DepEd's Early Childhood Care and Development (ECCD) framework, which stresses the need of nurturing young children's physical, cognitive, language, and socio-emotional development. Many of the teachers in the division use several approaches, including play-based learning, therefore directly supporting the emphasis of this study. This technique presents a great chance to investigate and assess how organized play may affect preschoolers' social interactions, problem-solving skills, communication, and preparation for primary education. Moreover, the variety of the Danao City student group from urban areas to more rural barangays presents a fair perspective of how these approaches play out in several academic settings.

This study would survey 40 preschool (Kindergarten) teachers from chosen public elementary schools within the Danao City Division. These participants were selected because of their active participation in Kindergarten instruction and their knowledge in putting several teaching methods, including play-based ones, into practice. Data collected from these instructors offered important insights into how play is used in classroom instruction, the perceived advantages and difficulties, and its observed impact on preschoolers' cognitive and social development. For several really good reasons, I decided the Danao City Division to be the main venue for this study on Play-Based Learning Strategies and Their Impact on Preschoolers' Cognitive and Social Skills Development. First, active and effectively implemented Kindergarten programs spread over several schools offer a great basis for studying and analyzing play-based teaching approaches. Second, the division's reasonable size and easy access of its schools make it perfect for doing extensive fieldwork including interviews, classroom observations, and data collecting. Third, the division’s variety of early learning experiences let the research examine a wide range of early learning experiences.

Finally, early contacts with Kindergarten instructors and school officials revealed clearly that the division is encouraging of research projects meant to enhance instructional strategies and student performance. Their willingness to cooperate guarantees the study's viability and helps to highlight the common objective of improving early childhood education. Given these combined elements, Danao City Division becomes a very appropriate and deliberate option for investigating how play-based learning could help to preschoolers' cognitive and social growth in the Philippine educational setting. The selected public schools are child-friendly government institutions under the Department of Education (DepEd), these schools engaged in this study are equipped to handle the difficulties of delivering good early childhood education. For preschoolers, these institutions provide a learning-based setting that is inspiring, rich, and safe. They are devoted to establishing a respectful, resilient, and enabling environment whereby kids may flourish academically, socially, and emotionally. Every institution gives safety and security top importance, therefore guaranteeing that both psychological and physical well-being come first in the learning process. Designed with flexibility and accessibility in mind, their facilities offer play-based learning environments. Whether in urban or rural settings, the closeness of schools to local attractions such parks, markets, or natural resources enhances the instructional experience by enabling youngsters to engage with their surroundings and community. This all-encompassing strategy fosters a caring and encouraging atmosphere in which children feel appreciated, safe, and free to participate in their social and intellectual growth.

Figure 3. Location Map of the Research Environment.

Respondents

The study participants were purposively chosen preschool teachers who played a crucial role in affecting young children's learning experience and were well placed to offer insightful comments about the effect of play-based learning approaches in early childhood education (ECE). Since these teachers directly experienced how play affected preschoolers' intellectual, emotional, and social development, they were deemed the most suitable study participants. Their experiences, knowledge, and views on the process of implementing play-based learning in their classrooms and its extension to the young preschoolers they instructed were gathered through a formal survey. The questionnaire captured the quality of the play-based teaching methods that were utilized, the variety of the play activities utilized, and the attitude towards how the social and intellectual abilities of children evolved.

In selecting the respondents, **purposive sampling** was utilized with specific inclusion requirements to guarantee that all the participants possessed substantial backgrounds in preschool education, particularly in institutions where play-based learning is either mandatory or promoted. Invitations for participation were extended to teachers who had experience with preschool children and who contributed to the production, application, and assessment of play-based learning activities.

The responses received from these purposively selected teachers provided insightful, qualitative data that helped in comprehending the impact of play-based learning methods on young children's intellectual and interpersonal skills development. Their findings helped gain a deeper insight into how some play-based activities impact different domains of development such as problem-solving, language, social interaction, and emotional regulation. The purpose of this research is to create an overall picture of the factors that contribute to the successful early childhood development by collecting data from a broad spectrum of educators across different educational settings. Not only will the findings enhance our understanding about the impact of play-based learning, but they also provide practical suggestions for improving early childhood programs in order to contribute more effectively to the cognitive and social development of preschoolers. By adopting this purposive sampling approach, the study contributes to the overall objective of preparing well-rounded, flexible learners and to the continuous discussion on best practices in early childhood education.

Table 1. Distribution of Preschool Teachers.

Preschool Class	Teachers (n)	Percentage (%)
Danao City Central School	**4**	**10.00**
Danasan Elementary School	**4**	**10.00**
Dunggoan Elementary School	**4**	**10.00**
Guinsay Elementary School	**4**	**10.00**
Langosig Integrated School	**4**	**10.00**
Maslog Elementary School	**4**	**10.00**
Pili Integrated School	**4**	**10.00**
Quisol Integrated School	**4**	**10.00**
Sabang Elementary School	**4**	**10.00**
Taytay Integrated School	**4**	**10.00**
TOTAL	**40**	**100**

Distribution of the Research Respondents

Table 1 shows the distribution of 40 preschool teachers chosen evenly across ten different designated schools. Four teachers from each school were contributed, which totaled precisely 10.00% of the sample. This equal distribution across all participating institutions leads to a total of 100%, therefore demonstrating a rather balanced respondent distribution.

Instruments

The researchers used a self-constructed survey questionnaire as the main research tool so that they may well collect extensive data in line with the study goals. Careful design of this tool, named Play-Based Learning Observation Questionnaire, aims to gather preschool teachers' insights and actual classroom experiences on the application and effects of play-based learning (PBL) in early childhood education environments. Anchored in the theoretical foundations of guided play and neuroplay integration, the instrument offers a developmental framework that promotes the holistic development of young learners via play-centered instructional methods.

To attain the validity, reliability, and credibility of the tool for data collection employed in the study, the researchers properly tested the validity and reliability of the self-devised instrument called Play-Based Learning Observation Questionnaire. The instrument was conceived to investigate the implementation and impacts of play-based learning approaches on preschool learners' cognitive and social development, as perceived by their teachers. The content validation process entailed consultation with three experts in the field of Early Childhood Education, Educational Psychology, and Research and Evaluation.

The experts were requested to review every item in the instrument according to four key criteria: relevance, clarity, consistency, and coherence with the research aims and theoretical background, more

specifically Vygotsky's Sociocultural Theory. On a four-point scale from "Not Relevant" (1) to "Highly Relevant" (4), the experts gave detailed comments and recommendations for enhancement. Following their feedback, the Content Validity Index (CVI) was calculated and produced an overall mean of 0.91, which represents an exceptional level of agreement showing that the contents of the instrument were highly suitable and relevant to the constructs measured. The changes were done to make sure that the clarity and conceptual fit existed before finalizing the instrument.

Subsequent to validation, pilot testing was conducted on a sample of 10 preschool teachers in schools outside the catchment area of the main study to assess the internal consistency of the questionnaire. The information gathered through the pilot test were statistically computed by Cronbach's Alpha, a widely applied reliability coefficient that calculates how much items on a test correlate with each other, thereby assessing internal consistency. The test results for reliability were positive: Part II, which measured the degree to which play-based learning approaches were employed in preschool classrooms, had an alpha of 0.87; Part III, which measured preschoolers' cognitive development, had an alpha of 0.89; and Part IV, measuring social development, had an alpha of 0.91. These reliabilities are far above the widely accepted 0.70 standard, which shows that the instrument is highly reliable in all dimensions. The high reliability coefficients indicate that the instrument measures the variables consistently that it is supposed to assess, and the high content validity guarantees that the items capture the key dimensions of child development and play-based learning. In tandem with each other, the validity and reliability tests establish that the Play-Based Learning Observation Questionnaire is both psychometrically reliable and suitable for application in this research situation, thus a trustable tool for obtaining meaningful and accurate information from preschool teachers on the use and witnessed impacts of play-based learning approaches within the early childhood classroom. Comprising four separate yet connected parts, the questionnaire aims to investigate a particular aspect of play-based learning in the preschool setting. It quantifies qualitative observations in a consistent and organized way using both psychometric scaling methods and demographic data gathering.

Data Gathering Procedures

The data collection process in the current research was conducted in three orderly stages: the initial stage, the actual data collection stage, and the stage after data collection. All the stages were well-planned and conducted to uphold ethical practices, guarantee data validity, and facilitate a seamless research process, particularly considering the engagement of public school institutions and human subjects.

Preliminary Stage. Prior to the conduct of data gathering, the researcher started the formal process of obtaining approval from concerned educational authorities. A written letter of intent was sent to the Schools Division Superintendent of the Department of Education - Danao City Division. The letter stated the objectives of the study, target respondents, and methodologies, and formally asked for permission to carry out the research in the public preschool schools under the aforementioned division. After getting the official sanction, the researcher personally met the principals and school heads of the chosen preschool centers. The school-level meetings were double-barreled in nature: to openly bring forth the research intentions and to elicit institutional support. Through these meetings, the researcher also set a data collection schedule and determined which preschool teachers would act as respondents. The cooperative and respectful manner utilized at this stage played a major role in garnering the administration's support and trust, helping to facilitate the subsequent phases seamlessly.

Data Gathering Stage. On the pre-arranged schedule of survey administration, the researcher or a trained interviewer went to each preschool setting to administer a structured orientation session to the teacher respondents. The session was central to setting the context of the study and ensuring that participants were well-informed. The major aspects of the study were described at length, including the aim of the study, its relevance to early childhood education, research instrument design, and the ethical standards most notably confidentiality, anonymity, and willingness. Teachers were informed that the answers given would be used exclusively for research purposes and would never impact their professional reputation in any way. Upon orientation, the Play-Based Learning Observation Questionnaire was handed out. Clear, verbal, and written instructions were given to assist respondents in completing each part of the survey instrument. The researcher remained accessible to address any

clarifications or concerns, thus creating an atmosphere of openness and precision. Respondents were given plenty of time to think over their answers, ensuring the quality of data gathered. Upon completion, the questionnaires were immediately retrieved, safely compiled, and transported for data encoding and processing.

Post Data Gathering Stage. Having all the survey instruments gathered, the researcher went to the processing and analysis of data. The researcher first carried out the systematic coding and cleaning of the data in a way that involved cross-verifying for incomplete or wrong answers. Having cleaned and validated, the data were encoded and underwent statistical analysis based on descriptive as well as inferential methods. Descriptive statistics namely, frequencies, percentages, and mean scores were calculated to summarize the demographic profiles of the respondents, the degrees of implementation of play-based learning approaches, and the noted levels of preschoolers' cognitive and social development. These findings offered an overall summary and emerging trends pertinent to the study. To cross-validate the hypotheses as well as check for relationships between variables, inferential statistical analysis was performed applying Pearson's Product-Moment Correlation Coefficient (r). This statistical measure evaluated the level of association between the range of play-based learning strategy implementation and related indicators of cognitive and social development that emerged among preschool children. Further, significance tests were utilized to understand whether the correlations that were noted were statistically significant and not the result of mere random chance. The findings were interpreted within the theoretical framework of the study, focusing on implications for preschool classroom practice and policy. Lastly, the researcher prepared an in-depth report presenting the findings, drawing conclusions, and making actionable recommendations to enhance play-based learning as a pedagogical strategy for balanced child development.

Statistical Treatment of Data

For purposes of ascertaining the reliability and validity of the findings of the research, data collected from the participants was subjected to extensive statistical analysis with the help of an expert statistician. Analytical procedures used ensured that patterns, relationships, and trends underlying the responses were properly investigated. The instruments employed in this research were selected with utmost care considering their appropriateness in measuring the extent of play-based learning implementation, as well as the related developmental outcomes among preschool children. Each statistical instrument provided unique information and made significant contributions to the interpretation of how different educational practices impact early childhood development.

Frequency Count. The initial statistical process utilized was the Frequency Count, which laid the groundwork for knowing the responses' distribution across categories. The instrument was crucial to collate data in a systematic manner. All responses pertaining to the participants' demographic profile, the observed child behaviors, and the play-based learning strategies employed in class were documented attentively and counted.

Within the framework of this study, frequency counts enabled the researchers to determine which play-based strategies preschool teachers used most frequently. For instance, it recorded how frequently teachers integrated activities like role-playing, sensory play, block building, or storytelling into daily practice. Additionally, it also recorded how often children were observed displaying certain social and cognitive behaviors like problem-solving during play or cooperation with others. By categorizing these events, the frequency count set the stage for more intricate analysis and allowed the researchers to observe the frequency of specific practices and developmental markers.

Simple Percentage. Following on from the frequency counts, the Simple Percentage was used to gain further insight into the proportions of responses within each category. It converted the raw frequencies into relative values, thus making it simpler to understand the significance of particular observations or practices across the whole sample. Within this research, simple percentages assisted in presenting the distribution of different responses in a more comparative and visually clear manner. For example, it enabled the researchers to characterize the overall trend of teachers to employ certain types of play in their instructional methods, or the prevalence of certain developmental milestones being seen across classrooms. By translating counts into percentages, the analysis gave a more intuitive sense of how

often certain educational methods were being implemented and how consistently children were showing cognitive or social development as a result of those practices. This statistical value, thus, helped to make the data more significant by placing the frequencies into context relative to the total group.

Standard Deviation. To further complement measures of central tendency, the Standard Deviation was used to measure the degree of variation or dispersion in the data. This was important in evaluating the uniformity of teachers' application of play-based learning approaches and the diversity in children's cognitive and social behaviors. A low standard deviation in this study revealed that scores were tightly bunched about the mean, which implied consistent application of some play strategies or homogeneity in development outcomes among participants. A high standard deviation, on the other hand, represented higher variability, which meant differences in instructional procedures or levels of child development. The standard deviation, therefore, offered important information regarding the reliability and stability of the phenomenon observed, making it possible to provide a more refined interpretation of the data.

Weighted Mean. To achieve a more in-depth understanding of how play-based learning strategies were utilized and how they affected the classroom, the Weighted Mean was used. In contrast to a basic average, the weighted mean weighs different points for each answer based on its given weight, which represents the intensity or degree of a reported behavior or strategy. In this study, this instrument was essential to sum up teachers' opinions regarding how extensively or often particular play-based approaches were employed and the degree to which they affected the cognitive and social growth of children. For instance, if teachers measured the effectiveness of specific approaches like guided play, manipulative games, or outdoor free play on a scale, the weighted mean produced a mean that was the general consensus albeit one that considered the relative proportion of high or low ratings. Similarly, the weighted mean was also utilized for quantifying observed levels of social and cognitive abilities in children using indicators like attentiveness, language, empathy, and cooperation while playing.

Pearson Correlation Coefficient (r). The most sophisticated statistical technique employed in this research was the Pearson Product-Moment Correlation Coefficient, which was utilized to ascertain the direction and strength of the relationships between two variables: the degree of play-based learning approaches implemented in the classroom and the preschoolers' levels of cognitive and social development.

Scoring Procedure

The information obtained from the questionnaire survey would be analyzed in depth and systematically, following a well-defined set of procedures to achieve accuracy and a clear interpretation. The scale applied in the process is specially designed to evaluate and measure the depth and reach with which play-based learning approaches are implemented and applied in preschool classrooms. The outcomes of the questionnaire can be critically examined to ascertain patterns, associations, and trends that reflect the influence of play-based learning on the acquisition of critical skills by preschool children, including cognitive, social, emotional, and physical development.

In the review, special emphasis was placed upon examining the ways different play-based activities are used in distinct preschool environments, investigating whether they match best practices in early childhood education. Interpreting these findings, the study provided a significant information about the success of play-based learning approaches in improving not just academic preparedness but also the overall quality of young children's well-being. This would be both qualitative and quantitative in its evaluation methods, making the findings both strong and representative of the varied manner in which play might be used as an educational tool towards improvement in the early childhood classroom.

The information that would be gathered using the survey questionnaires were computed and analyzed based on the following procedures:

This scale rates the extent of play-based learning strategies in preschool classrooms.

Scale	Points	Category	Verbal Description
5	4.25 – 5.00	Extensively Implemented	Play-based strategies are integrated into daily learning activities, and children consistently engage in structured and unstructured play.
4	3.50 – 4.24	Frequently Implemented	Play-based strategies are regularly incorporated (4-5 times per week) and are a key part of classroom instruction.
3	2.75 – 3.49	Moderately Implemented	Play-based strategies are sometimes used (2-3 times per week) but are not fully embedded in daily learning routines.
2	2.00 – 2.74	Minimally Implemented	Play-based strategies are rarely used (1-2 times per week), with minimal teacher facilitation of play in learning activities.
1	1.00 – 1.99	Not Implemented	Play-based strategies are not integrated into the classroom, and traditional instruction is primarily used instead of play-based approaches.

This scale measures the cognitive development of preschoolers as observed by teachers.

Scoring Rubrics for 3.1: Problem-Solving Skills

Scale	Points	Category	Verbal Description
5	4.25 – 5.00	Highly Developed	Learners independently identify and solve problems, apply logical reasoning, and explore multiple solutions consistently.
4	3.50 – 4.24	Developing Well	Learners frequently attempt to solve problems and demonstrate emerging reasoning skills but may need occasional guidance.
3	2.75 – 3.49	Moderately Developed	Learners show problem-solving ability occasionally but need consistent support and encouragement.
2	2.00 – 2.74	Emerging	Learners struggle with problem-solving, often rely on external help, and show limited logical reasoning.
1	1.00 – 1.99	Not Developed	Learners do not attempt problem-solving tasks, show no problem-recognition skills, and require full assistance.

Scoring Rubrics for 3.2: Memory and Recall

Scale	Points	Category	Verbal Description
5	4.25 – 5.00	Highly Developed	Learners consistently recall information, follow multi-step instructions, and retrieve memories with accuracy.
4	3.50 – 4.24	Developing Well	Learners remember most details but may occasionally require cues or reminders.
3	2.75 – 3.49	Moderately Developed	Learners recall some information but struggle with complex sequences or long-term memory tasks.
2	2.00 – 2.74	Emerging	Learners remember limited details and frequently require repetition to retain information.
1	1.00 – 1.99	Not Developed	Learners are unable to recall basic information and struggle to retain even simple facts.

This scale evaluates social development of preschoolers as observed by teachers.

Scoring Rubrics for 4.1: Cooperation with Peers

Scale	Points	Category	Verbal Description
5	4.25 – 5.00	Highly Developed	Learners consistently participate in group activities, cooperate with peers, and work effectively as part of a team.
4	3.50 – 4.24	Developing Well	Learners frequently engage in cooperative behaviors but may need occasional reminders.
3	2.75 – 3.49	Moderately Developed	Learners sometimes participate in group activities but may struggle with teamwork or require teacher intervention.
2	2.00 – 2.74	Emerging	Learners rarely engage in cooperative behaviors and often prefer solitary play or need significant prompting.
1	1.00 – 1.99	Not Developed	Learners do not participate in cooperative play and struggle with group interactions.

Scoring Rubrics for 4.2: Ability to Follow Rules and Routines

Scale	Points	Category	Verbal Description
5	4.25 – 5.00	Highly Developed	Learners consistently follow classroom rules and smoothly transition between activities without reminders.
4	3.50 – 4.24	Developing Well	Learners frequently follow rules and routines but may need occasional support.
3	2.75 – 3.49	Moderately Developed	Learners sometimes adhere to rules but require regular reinforcement and guidance.
2	2.00 – 2.74	Emerging	Learners struggle with following rules and frequently need intervention from teachers.
1	1.00 – 1.99	Not Developed	Learners do not follow classroom rules and have difficulty transitioning between activities.

To put it briefly, this study measures how well play-based learning strategies are implemented in preschool classrooms using a specially created scale. It seeks to identify trends and connections that demonstrate the influence of such tactics on kids' cognitive, social, emotional, and physical development with the help of qualitative and quantitative analysis. The research can be ascertain whether play-based activities adhere to best practices in early childhood education by looking at their variety, intensity, and prevalence. It is anticipated that the study would yield useful information about how well play-based learning techniques can improve kids' general wellbeing and academic preparedness. This thorough analysis highlights play's crucial role in early childhood education and its capacity to guide future policies in education.

Definition of Terms

For ease of comprehension, the following operational definitions are employed according to how they are applied in the study:

Cognitive Development. Refers to teachers' observed and evaluated observations, cognitive development in the current study refers to how preschoolers' mental processes are enhanced and improved, particularly their ability to solve problems and their memory/recall.

Extent of Play-Based Learning. Refers to teachers' responses to the survey, this gauges how frequently and how strongly preschool teachers incorporate play-based learning strategies into their lesson plans.

Guided Play. Refers to type of learning through play in which teachers design fun activities with specific learning objectives and give nudging or subtle instructions to help preschoolers navigate exploration, make decisions, and solve problems. It balances student initiative and teacher instruction for social and cognitive development.

Play-Based Learning. Refers to encouraging active engagement, exploration, and interaction, this teaching method encourages preschoolers' cognitive, social, and emotional development through both structured and unstructured play activities.

Play-Based Learning Strategies. Refers to the instructional strategies and exercises used by preschool instructors who prioritize play as the primary learning method. It includes both supervised and unstructured play, as well as the use of playthings to foster social and cognitive development.

Preschoolers. Refers to teachers in order watch and assess these young children in preschool programs to determine how well they are socially and cognitively developing in relation to play-based learning.

Social Development. Refers to seen and evaluated by their teachers, this is the growth of preschoolers' interpersonal competence and behavior, including their capacity to collaborate with others and adhere to rules and routines.

Teachers' Observations. Refers to the deliberate and systematic assessments made by preschool teachers regarding the social and cognitive growth of young children in the context of play-based learning. It is directed by the teachers' professional judgment and evaluation based on observations and interactions in the classroom.

Teacher's Perspective. Refers to the opinions, presumptions, and ideologies of early childhood educators regarding the application of play-based learning techniques and their effects on the intellectual and social development of young children.

Chapter 2
Presentation, Analysis and Interpretation Of Data

This chapter offers a detailed data analysis and interpretation of data collected in the study "Play-Based Learning Strategies and Their Influence on Preschoolers' Cognitive and Social Skills Development." The study was implemented at the chosen schools under the Danao City Division's supervision for school year 2024–2025. The main purpose of this research was to determine the challenges of preschool learners in cognitive and social skill development and the interventions implemented by teachers and stakeholders to counter the challenges. The results of this research form the basis of the conceptualization of a proposed Behavior Modification Guide, which is to be implemented to improve learning strategies and development outcomes in early childhood education.

Data were gathered through validated research instruments, such as questionnaires, standardized interviews, and classroom observations. Teachers at preschool, school principals, and parents significantly contributed to gathering valid and relevant data. Responses were measured, analyzed, and interpreted quantitatively and qualitatively. Descriptive statistics such as frequency, percent, mean, and standard deviation were used to describe responses, and thematic analysis was employed to interpret qualitative responses and extract common patterns and emerging themes. In this comprehensive presentation, the chapter highlights the exemplary role of play-based strategies in facilitating all-around development among preschoolers. It also highlights the relevance of teacher support, resource availability, and parental participation in optimizing these strategies for optimal learning outcomes. With the participation of the respondents in this current study, the following results and findings are given and established:

Profile of The Respondents

This section provides the detailed demographic characterization of the respondents who participated in the study, which are teachers and parents of preschool children in Danao City Division. Including their demographic information is important in identifying the setting where the study was conducted and in making easier interpretation of findings on the contribution of play-based learning approaches in preschool children's social and cognitive development. For parent participants, the profile includes their

sex and age, highest educational level, and years involved with their child's early childhood education, officially through schooled-related activities or unofficially at home. These factors could have an impact on their perceptions and engagement with play-based learning approaches, specifically in terms of support, expectations, and engagement with school programs. For the teacher respondents, the profile entails age and sex, highest degree earned, and years of teaching service, particularly in preschool or early childhood education. These are essential in ascertaining their level of professional experience, pedagogical background, and exposure to developmentally appropriate practices such as play-based learning.

Age and Gender

The table below illustrates the results of the teacher's age and gender respondents. This was beneficial in providing data regarding the demographic composition of the parent population under investigation. Having information on the gender and age composition of parents is essential in determining the sample representativeness.

Table 2. Age and Gender of the Teacher-Respondents.

Age (in years)	Female		Male		Total	
	f	%	f	%	f	%
51 above	3	8.33	0	0	3	7.5
41-50	12	33.33	2	50	14	35
31-40	16	44.44	2	50	18	45
21-30	5	13.89	0	0	5	12.5
Total	**36**	**100.00**	**4**	**0**	**40**	**100.00**

As shown in Table 2, presents the age and sex composition of the teacher-respondents. The highest proportion of respondents falls within the 31–40 age group, accounting for 45% of the total. This is followed by the 41–50 age group, comprising 35%, while the 21–30 and 51-above groups account for 12.5% and 7.5%, respectively. Notably, female teachers dominate across all age brackets, representing 90% of the overall sample. The demographic information implies that the teacher population participating in the study consists largely of female mid-career teachers. This predicts a possibility for robust collaborative and student-focused pedagogies consistent with care-oriented styles normally associated with female teachers. In addition, with a significant number of respondents in the 31–50 bracket, the data indicates a harmonious mix of experience and receptivity to professional development, which would favorably affect the adoption of educational innovations and reforms. These demographic data form an anchoring point in framing the viewpoints and conducts of the teacher-respondents through the research.

The gender distribution reveals a significant imbalance, with women comprising the vast majority (90%) and men only 10% of the respondents. This indicates a highly feminized teaching workforce within the research context. Such disparities are not unusual, particularly in early childhood and primary education, where women have traditionally held the majority of positions (Flores & Dayagbil, 2021).

Understanding the demographic profile of teachers is essential for interpreting their perspectives on educational practices and reforms. Age, for instance, can influence how teachers adapt to new pedagogical methods and the integration of technology in the classroom. According to Lim and Tan (2020), younger teachers are generally more receptive to innovative teaching strategies and technological tools, while older educators may rely more on traditional, time-tested methods.

From a gender perspective, the findings align with previous literature indicating that female teachers are more likely to engage in pastoral care and collaborative teaching approaches. In contrast, male teachers tend to assume roles related to discipline and school leadership (Sarmiento & Roldan, 2021). These demographic insights contribute to understanding how background and experience shape educators' attitudes and teaching behaviors.

As Carreon et al. (2020) emphasize, determining the representativeness of a sample is a crucial step in ensuring the validity and applicability of research findings. Therefore, analyzing the age and gender composition of teacher-respondents provides a vital foundation for interpreting their responses and understanding the broader implications for educational practice.

4.1.1.3. Years of Teaching Experience

The table below presents the years of teaching experience of the teacher respondents. It is very important in presenting the full picture of the teacher respondents' profile. The information tells us about the possible knowledge of the parents on education systems and how much they can help their children learn.

Table 3. Years of Teaching Experience of the Teacher-Respondents.

Years of Teaching Experience	f	%
20 and beyond	2	5
16-20 years	2	5
11-15 years	13	32.5
6-10 years	16	40
1-5 years	7	17.5
Total	**40**	**100.00**

Table 3 shows the distribution of the experience of teaching among the 40 teacher-respondents. Most of them (40%) have 6–10 years of experience, followed by 11–15 years of experience (32.5%). The early career teachers with 1–5 years of experience constitute 17.5%, whereas the experienced teachers with 16–20 years and over 20 years of experience each constitute 5%.

The data implies that the varied levels of experience among the teacher-respondents provide a well-rounded and inclusive knowledge base on present-day educational practice. Dominance by mid-career teachers points to the fact that the sample enjoys a solid grounding in classroom administration and pedagogical know-how, coupled with responsiveness to change. This blend enhances the validity and usability of the findings from the research, ensuring that the drawn conclusions represent a broad range of instructional views and teaching experiences.

This concentration at the mid-career phase (6–15 years) suggests that a high proportion of the participants have moved beyond the novice stage and should be developing good practices in the classroom but are still open to innovation (Santos & Reyes, 2021). Teachers at this phase are likely to have the enthusiasm for new pedagogic methods but with the confidence that comes with many years of experience. 17.5% early-career teachers (1–5 years) is an appropriate measure, as these teachers introduce new concepts into the teaching process and are primarily better adapted to new teaching technology and cooperative strategies (Lopez et al., 2020). They can also gain from additional mentoring regarding enhancing classroom management and long-term planning of the curriculum. However, teachers in excess of 16 years have abundant institutional memory in addition to long-term curriculum planning and school culture history (Cruz & Martinez, 2022).

Collectively, the breadth of experience in teaching enriches the study by drawing out views from across the professional spectrum. Variety provides the guarantee that findings are relevant both to the creative energies of new teachers and to the reflective insights of veterans, and therefore increase validity and usefulness to those interpretations drawn out about teaching practice.

4.1.1.4. Highest Educational Attainment

The table below indicates the level of education of the teachers. It is significant in providing the complete picture of the respondents' background. It is among the most essential factors in identifying their qualifications and possible contribution towards the quality of instruction.

Table 4. Highest Educational Attainment of the Teacher-Respondents.

Years of Teaching Experience	f	%
Doctorate Degree	3	7.5
With Doctorate Units	4	10
Master's Graduate	8	20
With Master's Unit	11	27.5
College Graduate	4	10
Total	**40**	**100.00**

Table 4 indicates 75% of the teacher-respondents to have undertaken postgraduate-level education, a master's degree or master's or doctorate coursework and 25% to have a bachelor's degree. This high skew towards higher-level study indicates there is a highly educated teaching cadre that can draw on considerable theoretical and pedagogical knowledge in their pedagogical practice.

The information implies that the respondents are well poised to provide quality teaching, with a robust professional development culture among the respondents pursuing advanced studies. This diversity in education enables theoretical rigor as well as applied flexibility in the pool of teachers. The high percentage of postgraduate-qualified teachers augments the credibility and teaching competence of the participating schools, promoting evidence-based pedagogy, mentoring, and school improvement. Concurrently, it highlights the imperative for college-level instructors to be sustained by continuous development opportunities to promote instructional parity across experience levels. Eventually, the diversified educational qualifications enhance the institutional ability to adapt to changing education requirements and enhance student performance.

Postgraduate qualifications are typically associated with enhanced teaching performance, as higher education results in more sophisticated interaction with teaching theory, curriculum development, and research-based teaching practice. For example, Johnson and Lee (2021) found that graduates of master's degrees demonstrated higher mastery of differentiated instruction and formative assessment approaches, and that this resulted in higher student achievement in literacy and numeracy (pp. 112–114). Martinez and Santos (2022) also found that teachers enrolled in doctoral studies are more likely to be active members of school-based research studies and curriculum design committees, and that this leads to higher pedagogical culture in the school.

Also part of this transitional cohort are teachers who have applied for but not yet achieved advanced degrees (master or doctor levels). Reyes et al. (2023) added that these teachers are advantaged by sustained professional learning communities, relating their new theoretical knowledge to new classroom practices. Their presence signals that there is an active professional culture where continuous learning is embraced and fostered.

Conversely, the mere 25% with bachelor's degrees are still a significant segment of the teaching community. While they lack the specialized training of their postgraduate counterparts, they do possess current exposure to core teacher education programs and have close affiliations with contemporary undergraduate pedagogical methods (Garcia & Tan, 2020). Their experience underlines the significance of differentiated professional development pathways to ensure that all teachers whether formally trained or not have opportunities for instructional development.

4.1.1.5. The Extent of Play-based Strategies Used in Preschool Classrooms

The information provided below illustrates teachers' perceptions of the frequency of use of play-based strategies in preschool classrooms. The results provide information on how often these developmentally appropriate practices are employed to facilitate children's learning and growth. Teachers were required to rate 10 items on the survey questionnaire. The results are given below.

Table 5. Extent of Play-based Strategies Used in Preschool Classrooms.

S/N	Indicators	WM	Verbal Description
1	Use of storytelling and dramatization activities	4.90	Extensively Implemented
2	Free play sessions where children choose their activities	4.98	Extensively Implemented
3	Integration of manipulative toys (e.g., puzzles, blocks) in learning activities	4.93	Extensively Implemented
4	Role-playing and pretend play activities (e.g., house play, store play)	5.00	Extensively Implemented
5	Sensory play activities (e.g., sand, water, textured materials)	5.00	Extensively Implemented
6	Outdoor and physical play activities (e.g., running, obstacle courses)	4.90	Extensively Implemented
7	Music and movement activities (e.g., dancing, rhythm exercises)	4.95	Extensively Implemented
8	Art-based play activities (e.g., painting, crafting, sculpting)	4.93	Extensively Implemented
9	Cooperative play activities that encourage teamwork	4.93	Extensively Implemented
10	Interactive digital play activities (e.g., educational apps, touchscreen games)	4.88	Extensively Implemented
	Aggregate Weighted Mean	**4.94**	**Extensively Implemented**
	Standard Deviation	**0.04**	

Legend: 4.21-5.00-Extensively Implemented (Always); 3.41-4.20-Frequently Implemented (Often); 2.61-3.40-Moderately Implemented (Sometimes); 1.81-2.60-Minimally Implemented (Seldom);1.00-1.80-Not Implemented (Never)

The statistics in Table 5 indicate the prevalence of play-based strategies implemented in preschool classrooms, from the teachers' point of view. The table indicates an Aggregate Weighted Mean (AWM) of 4.94 and a verbal description of "Extensively Implemented," which shows that teachers apply different play-based approaches to learning in their classroom practices quite regularly and consistently. This high rate of implementation reflects a high degree of commitment to child-centered pedagogies that support all-round development through active participation, creativity, and social interaction.

The results imply that teachers are highly committed to developmentally appropriate practices, as noted by the widespread and consistent application of play-oriented approaches across preschool classrooms. This inference is that there exists a culture of pedagogy centered on play that promotes young children's all-around development cognitively, socially, and emotionally.

Among the highest rated are pretend play and role-playing (5.00), sensory play (5.00), and free play (4.98), all of which are essential for facilitating early cognitive, social, and emotional development. These activities give students a chance to experience real-life roles, use their senses, and take control of their own learning options markers of developmentally appropriate practice. As per Weisberg et al. (2020), play-based learning improves executive function, language growth, and problem-solving abilities when children are given autonomy and agency. The remarkably high ratings of all ten measures (4.88 to 5.00) indicate an environment that offers rich, richly varied meaningful play experiences.

Furthermore, the habitual utilization of manipulative toys (4.93), music and movement activities (4.95), and cooperative play strategies (4.93) reflects the interconnection between physical, cognitive, and socio-emotional arenas in classroom pedagogy. These practices converge with the postulations of Pyle et al. (2019), where they contend that well-designed play activities not only support academic readiness but also instill critical soft skills like working together, grit, and emotion regulation. The low standard deviation value of 0.04 indicates a high consistency of implementation between different classrooms and settings, pointing towards institutional backing for play-based learning.

Nevertheless, while all of the strategies are highly used, interactive digital play activity was rated lowest with a weighted mean (4.88) from the listed items. This minor difference could indicate contemporary discussions around screen use during early childhood learning and the accessibility or quality of digital learning materials. According to Neumann (2020), digital technologies have the potential to supplement early learning when used thoughtfully and interactively, but careful planning is needed to prevent passive use and assess developmental relevance.

Overall, the findings indicate that preschool classrooms in the context of this study are successfully integrating play-based approaches as a fundamental component of their pedagogy. This is consistent with international best practices and education models, including those promoted by the National Association for the Education of Young Children (NAEYC), which have highlighted the value of play as a starting point for modes of early childhood learning. These results also resonate with the findings of Whitebread et al. (2021), who contend that continued exposure to play-based learning results in long-term advantages in motivation, social competence, and academic performance.

In total, the prevalent and uniform application of play-based approaches indicated by Table 5 confirms the emphasis on developmentally appropriate practice that equips the whole child. As early childhood education progress, there is a need to retain this solid base, confirming pedagogical approaches are anchored in evidence-based principles nurturing curiosity, creativity, and competence.

4.1.1.6. The Extent of the Cognitive Development of Preschoolers as Observed by Teachers as to Problem Solving Skills

The information shown in table depicts the level of cognitive development of preschoolers as seen by teachers, particularly in terms of problem-solving ability. The information offers useful insights into the learners' capacity to think critically, make decisions, and utilize strategies in solving problems arising during play and structured learning activities. Teachers, in their continuous and direct contact with learners, are best placed to evaluate these developmental skills. They were requested to answer 10 questions from the survey questionnaire intended to measure some of the different dimensions of children's problem-solving behavior. The outcomes are given below.

Table 6. Cognitive Development of Preschoolers as Observed by Teachers as to Problem Solving Skills .

S/N	Indicators	WM	Verbal Description
1	Identifies a problem in play activities (e.g., missing puzzle piece, broken toy)	4.93	Highly Developed
2	Attempts different strategies to solve a problem	4.90	Highly Developed
3	Uses logical reasoning to complete a task	4.75	Highly Developed
4	Asks for help when needed to resolve a challenge	4.85	Highly Developed
5	Uses trial and error to explore solutions	4.95	Highly Developed
6	Demonstrates patience in problem-solving tasks	4.98	Highly Developed

7	Recognizes patterns and sequences in activities	5.00	Highly Developed
8	Thinks creatively to resolve conflicts in play	4.98	Highly Developed
9	Makes independent decisions when faced with a challenge	4.88	Highly Developed
10	Applies learned problem-solving skills in new situations	4.90	Highly Developed
	Aggregate Weighted Mean	**4.91**	**Highly Developed**
	Standard Deviation	**0.07**	

Legend: 4.21-5.00-Highly Developed (Always); 3.41-4.20-Developing Well (Often); 2.61-3.40-Moderately Developed (Sometimes); 1.81-2.60-Emerging (Seldom);1.00-1.80-Not Developed (Never)

Table 6 reports teachers' opinions concerning the level of cognitive development of preschool children as it pertains to their problem-solving skills. The information indicates an Aggregate Weighted Mean (AWM) of 4.91 with a verbal anchor of "Highly Developed," which signifies that students are continuously exhibiting superior problem-solving skills in both structured and unstructured learning sessions. Problem-solving is a key cognitive skill in early childhood, encompassing the capacity to examine situations, test solutions, exercise reasoning, and learn new challenges. Educators, through everyday interaction and close observation, are best placed to assess the development of these abilities among young children.

It implies that teachers have a significant responsibility in discerning and supporting cognitive skills by way of observation and responsive instruction. Their capacity to scaffold problem-solving experience and allow autonomy and reflection enables children to internalize the same and transfer it to novel environments. Additionally, the low variability in responses across teachers confirms the consistency and dependability of these observations, further attesting to the validity of present teaching methods in early childhood education.

Of the ten indicators measured, all were scored as "Highly Developed," ranging from 4.75 to 5.00. The highest scores were found in the realms of identifying patterns and sequences (5.00), creative thinking to resolve conflicts (4.98), and exhibiting patience when involved in problem-solving activities (4.98). These results indicate that students not only can resolve problems but are also using varied strategies like logical reasoning, trial-and-error approaches, and creative thinking. These behaviors are consistent with what recent research indicates as markers of cognitive flexibility and executive function in early childhood (Zelazo & Carlson, 2020). Executive function, specifically cognitive flexibility and inhibitory control, is the basis for a child's capacity to manage complex tasks, adjust to shifting rules, and persevere in the presence of challenge. In particular, indicators like "uses trial and error to explore solutions" (4.95) and "applies learned problem-solving skills in new situations" (4.90) indicate that students are engaged in active knowledge construction through experiential and transferable learning. White et al. (2020) assert that problem-solving abilities in young learners are closely related to possibilities for hands-on activity, reflective thinking, and autonomy in learning environments. These are usually enabled in developmentally inclusive classrooms where instructors support children's thinking while maintaining elbow room for autonomy.

Having the capacity to make independent choices when confronted with difficulties (4.88) and to request assistance when required (4.85) also indicates an equilibrium of both autonomy and help-seeking behaviortwo essential elements of social-emotional and mental maturity. These conclusions are corroborated by the work of Kim and Sheridan (2021), who highlighted that preschool children who are taught to initiate as well as know when to ask for help usually develop more robust metacognitive tactics and learning resilience. In addition, the low standard deviation of 0.07 indicates a high degree of agreement among teachers across settings, which means that these problem-solving behaviors are reliably seen across a broad range of learners and contexts. This reliability resonates with

Denham et al.'s (2021) claims for classroom settings that consistently facilitate inquiry-based learning, guided play, and purposeful problem-solving opportunities to foster cognitive development.

As a whole, the results highlighted in Table 6 indicate a strong development of problem-solving competency in preschool students and support the inference that existing pedagogies are sufficiently conducive to facilitating higher-order thinking. These findings also highlight the need to continue play-based, child-focused teaching methods that enable children to engage problems in imaginative and ongoing ways. As emphasized by Edwards and Cutter-Mackenzie-Knowles (2020), early cognitive development flourishes in environments where curiosity is fostered, errors are seen as learning opportunities, and children have space and time to participate in quality problem-solving experiences.

The data also suggest the value of developing rich learning environments that foster exploration, experimentation, and reflection. By providing children with the autonomy to test hypotheses, make errors, and rethink their strategies, they achieve a richer understanding of ideas and develop resilience. This hands-on learning not only facilitates short-term cognitive benefits but also establishes the foundation for lifelong learning and flexibility.

4.1.1.7. The Extent of the Cognitive Development of Preschoolers as Observed by Teachers as to Memory and Recall

The information contained in table indicates the extent of the cognitive development of preschoolers as observed by teachers as to memory and recall. Teachers were requested to respond to 10 items of the survey questionnaire. Results are illustrated below.

Table 7. Cognitive Development of Preschoolers as Observed by Teachers as to Memory and Recall .

S/N	Indicators	WM	Verbal Description
1	Recalls names of classmates and teachers	4.90	Highly Developed
2	Remembers steps in a familiar routine	4.88	Highly Developed
3	Recalls details from a recently read story	4.95	Highly Developed
4	Identifies objects or pictures from memory	4.98	Highly Developed
5	Follows multi-step instructions correctly	5.00	Highly Developed
6	Recognizes familiar songs or rhymes	5.00	Highly Developed
7	Matches shapes, colors, or patterns from memory	4.93	Highly Developed
8	Remembers the location of objects they have used	4.95	Highly Developed
9	Associates events with past experiences	4.98	Highly Developed
10	Uses memory to complete unfinished activities	4.88	Highly Developed
	Aggregate Weighted Mean	**4.94**	**Highly Developed**
	Standard Deviation	**0.05**	

Legend: 4.21-5.00-Highly Developed (Always); 3.41-4.20-Developing Well (Often); 2.61-3.40-Moderately Developed (Sometimes); 1.81-2.60-Emerging (Seldom);1.00-1.80-Not Developed (Never)

The data in Table 7 shows the level of cognitive development of preschoolers as seen by teachers in the area of memory and recall. Teachers were requested to rate ten indicators measuring different memory abilities that underlie early learning. The findings show a uniform high level of development in all memory-based tasks with the Aggregate Weighted Mean (AWM) of 4.94 that lies in the verbal description of 'Highly Developed.

The results imply that preschool children are demonstrating a highly sophisticated working ability for memory and recall, which is the basis for the acquisition of learning and long-term intellectual development. The exceptionally high scores for all ten indicators indicate that early learning environments are successfully facilitating working memory, sequential thought, and recognition abilities. This is essential since memory and recall underpin basic academic skills like reading comprehension, compliance with instructions, and completion of tasks.

In particular, preschoolers exhibited excellent skills in remembering names of classmates and teachers (WM = 4.90), remembering steps in familiar routines (WM = 4.88), and remembering details from a just-read story (WM = 4.95). Their ability to point to objects or pictures from memory (WM = 4.98) and accurately follow multi-step instructions (WM = 5.00) indicates a strong working memory and sequential processing. Additionally, recognition of well-known songs or rhymes (WM = 5.00), shape, color, or pattern matching from memory (WM = 4.93), and remembering where to put used items away (WM = 4.95) point to excellent visual and auditory memory abilities. Besides, their capacity to link occurrences with prior experiences (WM = 4.98) and applying memory to finish incomplete tasks (WM = 4.88) also attests to their level of maturity in this regard. Going to Table 11, the teachers showed significant concern about peer-related issues, as measured by an Aggregate Weighted Mean of 3.52, corresponding to a generally 'High' level of difficulty. These issues contribute a great deal towards the construction of learners' social and academic lives. Of the issues raised, peer pressure at play and activities ranked highest at 4.21, reflecting a strong inclination among students to conform to peer standards. Conformity can lead to stress and possible repression of individuality, which would affect self-expression and choice-making in young children.

Additional issues are that it is hard to make friends (3.60) and that there is teasing or bullying (3.81), which indicate problems in social inclusion and security. These adverse experiences influence students' confidence and readiness to engage actively in classroom activities. Peer interactions that disrupt (3.48) and the impact of peer group dynamics on school attitude (3.59) illustrate how peer interactions can influence academic engagement and motivation. The more moderate concerns of perceptions of exclusion (2.78) and peer conflict affecting emotional well-being (3.36) are also found but to a lesser extent. Lastly, social anxiety or shyness (3.56) and copying negative peer behaviors (3.47) indicate the multifaceted emotional and behavioral aspects of peer influence.

These results are highly consistent with current academic literature. For example, Chen et al. (2020) highlight the central importance of peer interactions in early childhood development, citing that peers significantly influence children's social competence, emotional regulation, and learning motivation. Their study emphasizes that good peer relationships develop resilience and learning interest, but bad peer experiences result in withdrawal and behavioral problems. In a similar vein, Brown and Ladd (2019) show using longitudinal data that peer rejection and victimization early in life strongly predict more negative school adjustment and emotional problems, underlining the need for early interventions to maintain healthy peer relations.

In addition, Kwon, Han, and Jeon (2021) explain the relationship between social anxiety and cognitive processes in preschoolers, citing that anxiety related to peer interaction can disrupt memory and attention, essential for learning. Their research supports comprehensive socio-emotional and cognitive support within early childhood education models to deal with these interrelated problems effectively.

These results collectively highlight the importance for teachers and caregivers to develop nurturing and inclusive peer settings. Peer issues need to be confronted head-on not just for children's emotional and social health but also for optimizing their cognitive and academic abilities at this early stage in life.

4.1.1.8. The Extent of the Social Development of Preschoolers as Observed by Teachers as to Cooperation with Peers

The information shows that the teachers' impression of the degree of difficulties faced by the learners in terms of their interaction with peers. This is important in comprehending how social dynamics and relationships between peers within the school setting affect the social development of preschoolers, specifically cooperation with peers. Teachers were requested to answer 10 particular items on the survey questionnaire that targeted behaviors indicative of cooperative skills like involvement in group activities, sharing, turn-taking, and solving problems during play. The findings, as presented below, yield useful information regarding the extent of social development shown by preschool learners in group work environments from the teachers' point of view.

Table 8. Social Development of Preschoolers as Observed by Teachers as to Cooperation with Peers.

S/N	Indicators	WM	Verbal Description
1	Willingly participates in group activities	4.98	Highly Developed
2	Works well with peers to complete tasks	4.95	Highly Developed
3	Takes turns during games and group play	5.00	Highly Developed
4	Shares materials and toys with others	4.88	Highly Developed
5	Listens and responds to peer suggestions during play	4.85	Highly Developed
6	Encourages and helps classmates when needed	4.93	Highly Developed
7	Participates in role-playing or pretend play with peers	4.90	Highly Developed
8	Understands and respects classmates' opinions	4.95	Highly Developed
9	Shows enthusiasm when engaging in teamwork activities	4.98	Highly Developed
10	Displays problem-solving skills in cooperative play	4.98	Highly Developed
	Aggregate Weighted Mean	**4.94**	**Highly Developed**
	Standard Deviation	**0.05**	

Legend: 4.21-5.00-Highly Developed (Always); 3.41-4.20-Developing Well (Often); 2.61-3.40-Moderately Developed (Sometimes); 1.81-2.60-Emerging (Seldom);1.00-1.80-Not Developed (Never)

The information shown in Table 8 indicates the observation of the teachers regarding the social development of preschoolers, targeting their collaboration with others. Teachers were requested to rate 10 factors, which describe the children's capacity to work together and peacefully with their peers. The answers repeatedly indicate a very well-developed social cooperative level among preschoolers, with an Aggregate Weighted Mean (AWM) of 4.94. Every single indicator that was scored fell under the category of highly developed, indicating that the preschool students consistently and competently practice cooperative social behaviors.

The results imply that preschoolers in general show strong cooperative skills with peers, for example, sharing, turns, and solving problems in play, but there are still significant peer interaction challenges. These challenges, for example, teasing, bullying, social anxiety, and exclusion, can potentially interfere with children's social development and academic participation. Hence, it is important that schools and teachers adopt inclusive and encouraging practices that nurture healthy peer relationships, encourage

emotional safety, and manage negative social behaviors at an early stage. This can help develop children's social skills, emotional resilience, and readiness for subsequent learning experiences.

These were the highest rated items: taking turns during group play and games (5.00), being enthusiastic about team efforts (4.98), and exhibiting problem-solving skills in cooperative play (4.98). These findings reinforce the children's growing ability to not just actively engage but also manage sophisticated social interactions that need patience, respect, and thinking. Some of the other pointers, like actively engaging in group work (4.98), collaborating with others to finish work (4.95), and respecting and understanding classmates' viewpoints (4.95), signal the preschoolers' growing social skills, which are the building blocks for effective peer relationships as well as future collaborative learning encounters. These outcomes align with the latest research highlighting early social skills as a predictor of subsequent academic competence and emotional adjustment (Wang & Eccles, 2020; Jones et al., 2021). Such cooperative behaviors establish positive relationships among peers and promote a positive classroom environment, essential for motivation and engagement among young children (Domitrovich et al., 2019). Additionally, constructive peer collaboration promotes empathy, perspective-taking, and conflict resolution competencies, all of which are integral to social-emotional learning models comprehensively supported in early childhood education (Denham & Burton, 2020).

However, Table 12 displays the teachers' views regarding the challenges students encounter in relation to peer interaction. Aggregate Weighted Mean of 3.63 points to a significant concern for peer-related problems, expressing substantial barriers influencing learners' social and academic performance. The greatest issue teachers indicate is teasing and bullying, which was ranked highest at 4.19. This is consistent with increasing evidence that bullying behaviors during early childhood can have long-term negative effects on children's self-esteem, social competence, and mental health, hence interfering with their academic engagement (Espelage & Hong, 2017; Healy et al., 2022). Other worries include disruption resulting from peer interactions in the classroom (3.81), the adverse effect of shyness or social anxiety on classroom participation (3.88), and learners' tendency to learn undesirable peer behaviors by imitation (3.81). These issues accentuate the intricate dynamics of peer influence in which social and emotional challenges converge to influence children's general school life (Rubin et al., 2018). In addition, the insufficient peer support that affects interest in studying (3.75) shows the importance of positive peer relationships for maintaining motivation and commitment towards learning activities (Wentzel & Ramani, 2018).

Moderate issues including peer pressure to fit in (3.38), challenges in developing friendships (3.00), and hurt feelings from being excluded from group work (3.25) again signal the importance of active measures to promote inclusion and emotional safety. Most importantly, the significant role of peer group conflict and relationships in shaping students' attitudes toward school (3.69) and their mental health (3.50) highlights the significance of early intervention for social issues in an effort to avoid adverse academic and psychological consequences (Hawkins et al., 2020). This is based on observations by Healy et al. (2022), whose research indicates that positive peer relationships are critical protective factors against academic motivation and emotional well-being, but negative peer interactions, such as being bullied and excluded, are linked with lowered school engagement and increased anxiety. This volume of research highlights the importance of schools adopting holistic social-emotional learning and anti-bullying curriculums specific to young students, designed to promote peer collaboration and decrease social stressors (Jones et al., 2021; Wang & Eccles, 2020).

To conclude, although preschoolers exhibit well-developed cooperative peer skills, as shown in Table 8, the peer-related challenges outlined in Table 12 indicate that peer-related difficulties are still major barriers that interfere with social development and academic success. To overcome these challenges is essential in the formulation of inclusive, supportive learning environments that enhance social competence and emotional resilience during early childhood.

4.1.1.9. The Extent of the Social Development of Preschoolers as Observed by Teachers as to Ability to Follow Rules and Routines

The table below gives the observation of teachers on the social development of preschoolers as it pertains to their ability to follow rules and routines. This is important in that it measures how well

preschoolers adjust to classroom norms and expectations, which are key to their general development and preparedness for formal schooling. Teachers evaluated 10 indicators of following rules and completing routines. These behaviors are critical school-readiness foundations because they allow children to be effective contributors in group contexts, and respond well to adult authority while smoothly transitioning among activities. These are all critical components of social-emotional development that result in a healthy classroom climate and effective academic task engagement. The findings are as outlined below.

Table 9. Social Development of Preschoolers as Observed by Teachers as to Ability to Follow Rules and Routines.

S/N	Indicators	WM	Verbal Description
1	Understands and follows simple classroom rules	5.00	Highly Developed
2	Transitions smoothly between activities without disruptions	4.90	Highly Developed
3	Waits for their turn in class activities	4.93	Highly Developed
4	Completes daily routines with minimal assistance (e.g., lining up, packing away materials)	5.00	Highly Developed
5	Responds appropriately to teacher instructions	4.98	Highly Developed
6	Demonstrates patience while waiting for activities to begin	4.98	Highly Developed
7	Shows awareness of classroom expectations	5.00	Highly Developed
8	Maintains focus during structured learning activities	4.95	Highly Developed
9	Can independently complete simple assigned tasks	4.93	Developing Well
10	Demonstrates responsibility in following classroom rules without reminders	4.95	Highly Developed
	Aggregate Weighted Mean	**4.96**	**Highly Developed**
	Standard Deviation	**0.04**	

Legend: 4.21-5.00-Highly Developed (Always); 3.41-4.20-Developing Well (Often); 2.61-3.40-Moderately Developed (Sometimes); 1.81-2.60-Emerging (Seldom);1.00-1.80-Not Developed (Never)

Table 9 offers significant information regarding preschoolers' social development, which is, being capable of observing classroom routines and rules according to what has been noted by teachers. The findings show a general high degree of social development, wherein there is an Aggregate Weighted Mean (AWM) of 4.96, and this falls under the category "Highly Developed." This illustrates that the majority of preschool learners are always showing positive behaviors towards effective classroom management and social functioning.

The results imply that preschoolers exhibit robust social development in compliance and following routines, as these are key to successful adaptation in the classroom environment and later school success. Their high compliance, patience, and sense of expectations are indications of increasing self-regulation and executive functions, which are the basis of healthy social competence. Yet the slightly diminished capacity to independently perform basic tasks indicates potential to further promote children's autonomy and task mastery. These findings underscore the need for building organized, predictable learning settings that support independence and reinforce clear routines. Such settings have the potential to support ongoing development of social-emotional skills that are critical to successful classroom functioning, peer relationships, and school readiness.

Following simple rules in the classroom received a flawless mean of 5.00, showing that children are highly responsive to the simple expected behaviors in their learning context. Likewise, easy transition from one activity to another without any interruption (4.90), waiting for turns in class activities (4.93), and finishing school routines with minimal support (5.00) is also highly valued. These measures capture children's developing self-regulation abilities, a key element of early social competence (Morris et al., 2021). Teachers also observed that preschoolers follow teacher directions (4.98) and show patience in waiting for activities to start (4.98). These findings indicate children's increasing capacity to regulate impulses and be patient critical skills for academic success in formal schooling (Liew, 2020). Recognizing classroom rules (5.00) and staying focused during organized learning activity (4.95) also attest to the readiness of the children to interact with their learning environment in a positive manner.

One interesting thing to note is that even though most of the indicators are in the "Highly Developed" range, independently finishing simple assigned tasks received a slightly lower rating (4.93) and was under "Developing Well." What this indicates is that even though preschoolers are typically able to follow through on instructions and routines, there is always potential for further development in independently finishing tasks, which might be expected for this age group's typical developmental patterns (Williford et al., 2020). Responsibility in adhering to classroom expectations without needing reminders (4.95) was also rated very high, confirming that children have internalized behavioral norms, a critical social developmental milestone. The extremely low standard deviation (0.04) on all items mirrors uniform teacher observation, supporting the validity of these data. These findings support prior research highlighting the importance of early social skills, particularly rule compliance and routine following, for children's school readiness and later academic achievement (Denham et al., 2021; Li-Grining & Stifter, 2023). As noted by Denham et al. (2021), social competence during preschool age is an excellent predictor of good peer relationships, classroom behavior, and academic performance in higher grades. Additionally, Liew (2020) points out that those children who acquire self-regulation and executive functioning through structured routines have improved behavioral and cognitive performances.

The results also have implications for teachers and curriculum developers: the development of environments that support clear, consistent procedures and promote independence in completing tasks can further enhance social development. Williford et al. (2020) state that early childhood programs embedding social-emotional learning and systematic classroom management report enhanced outcomes in children's regulation of emotion and behavior.

In conclusion, preschool children of this research exhibit very advanced social skills in terms of obedience to rules and routines, with a specific area of strength being awareness of expectations and patience. Ongoing reinforcement of encouraging independence and self-regulation in class activities can also advance their social development, establishing a sound basis for success in academics and harmonious peer relations.

4.1.1.10. Test of Relationship Between The Extent of Play-Based Strategies and The Cognitive Development of Preschoolers

The data presented below depicts the views of teachers about how much family-related issues impact students in classrooms. The information is significant considering that teachers, through long-term direct contact with students, are usually in a place to observe behavior patterns and academic performance trends that might be connected to homes. Teachers' opinions are therefore crucial indicators of the unseen struggles and unmet needs of students, and the schools are hence in a position to design suitable support mechanisms.

While specific item responses are not displayed, the overall intent of this table seems to consider the ways in which family functioning parent involvement, socio-economic level, family configuration, emotional support can affect learning. Teachers were asked 10 items that were intended to assess such challenges and their collective assessment is the basis from which to understand systemic issues that extend outside of classroom walls.

Table 10. Test of relationship between the Extent of Play-based Strategies and the Cognitive Development of Preschoolers.

Variables	r-value	Strength of Correlation	p - value	Decision	Remarks
Extent of Play-Based Strategies and Cognitive Problem Solving Skills	0.220	Weak Positive	0.173	Do not reject Ho	Not Significant
Extent of Play-Based Strategies and Memory and Recall	-0.041	Negligible Negative	0.802	Do not reject Ho	Not Significant

*significant at $p<0.05$ (two-tailed)

The Table 10 shows the outcome of the statistical analysis investigating the relationship between the level of play-based strategies adopted by early childhood educators and the cognitive development of preschool students, i.e., in terms of problem-solving and memory/recall areas. Two sets of variables were compared: (1) the correlation between cognitive problem-solving skills and play-based strategies, and (2) the correlation between memory and recall skills and play-based strategies.

It implies that although there were no statistically significant correlations between the degree of play-based approaches and some of the cognitive abilities such as problem-solving and memory, play is still a critical element of early childhood learning with potential cognitive advantages. The results indicate that simply undertaking play is not enough without planned, high-quality, and well-organized incorporation in accordance with some specific learning objectives. Heterogeneity in the implementation of play-based approaches and contextual variables like the emotional atmosphere of the child and teacher-child interaction could affect outcomes. It consequently emphasizes the necessity of teacher training in purposeful and guided play for the optimal development of cognition. Additionally, these findings stress the use of more subtle, qualitative, and longitudinal methods to gain a complete understanding of the intricate relationship between play and cognitive development in preschoolers.

Findings indicate a low positive correlation between the level of play-based strategies and problem-solving abilities ($r = 0.220$, $p = 0.173$), implying a slight association, though not statistically relevant. In contrast, between play-based strategies and memory and recall, there was found to be a negligible and negative association ($r = -0.041$, $p = 0.802$), again not statistically relevant. These results suggest that among the observed sample, the utilization of play-based methods did not show a salient or statistically significant effect on preschoolers' cognitive development in the measured areas.

In spite of the lack of statistical results, theory and empirical work highly favor the cognitive advantages of developmentally sound play-based learning, particularly during the preschool period. As stated by Hirsh-Pasek et al. (2020), play is not only leisure but an important tool for learning, especially in the development of executive functioning, problem-solving, and working memory during early childhood. They contend that even though conventional tests at times cannot reflect the rich cognitive achievements through play, observation and longitudinal studies indicate that child-directed and guided play are of significant value to sophisticated cognitive development.

Further, a review by Zosh et al. (2021) emphasized that the quality and structure of play-based strategies matter significantly. Simply implementing play as a classroom activity is not enough; it is the intentional integration of play with specific learning goals that yields measurable cognitive outcomes. For example, guided play where the teacher subtly steers the child's play toward problem-solving opportunities has been shown to outperform both free play and direct instruction in boosting conceptual understanding. One potential reason for the non-significant findings in Table 10 could be that there was variability in how play-based approaches were implemented in practice. As indicated by

Fisher, Hassinger-Das, and Root (2022), inconsistencies in teachers' implementation of play-based strategies can render them less effective. If play is not well-scaffolded or cognitive goals are not well-embedded within play experiences, the potential benefits might not be achieved. Hence, statistical insignificance in the current results may represent implementation difficulties as opposed to an actual lack of effect.

In addition, the process between play and development of memory is intricate and subject to various interacting variables like socio-emotional state of the child, home life, and teacher-child interactive quality. As Weisberg et al. (2020) observe, although play can enhance memory and recall, the impact tends to appear more strongly in emotionally safe and cognitively rich contexts. If these contextual conditions were not sufficiently controlled in this research, then the findings could be underestimating the actual developmental contribution of play. It is also worth noting that early cognitive development is a multifaceted construct, and not all types of cognition might be equally responsive to general play-based interventions. Current research by Leggett and Ford (2023) highlights that problem-solving skills are more likely to react positively to constructivist and collaborative types of play (like construction or role-play), while memory and recall are more sensitive to structured repetition and story-telling exercises in play settings. This indicates that matching the type of play with particular cognitive targets is essential for optimal outcomes.

In view of these remarks, although the quantitative results from Table 10 confirm that no significant relationship was established between play-based approaches and cognitive development in preschoolers, it would be too early to eliminate the pedagogical potential of play. Rather, these findings underscore the significance of quality over quantity in the application of play towards educational goals. Educators and schools need to be assisted through training that helps them use purposeful, directed, and well-integrated play methods that are developmentally targeted.

Therefore, future studies need to take into consideration qualitative assessments and longitudinal research that can better capture the depth and extent of cognitive development brought about by play-based learning. Incorporating teacher reflection, classroom observation, and child behavior analysis into the evaluation may be able to portray a complete picture of the contribution of play to the development of young children.

4.1.1.11. Test of Relationship Between The Extent of Play-Based Strategies and The Social Development of Preschoolers

The table below presents the statistical analysis of the relationship between the extent of play-based strategies implemented in early childhood classrooms and the social development of preschool learners. Two core dimensions of social development were considered: **cooperation with peers** and **ability to follow rules and routines**. These dimensions are fundamental to young children's ability to build relationships, function in structured environments, and thrive in school settings. The results showed that there was a high positive correlation, which means that classrooms with stronger implementation of play-based learning usually notice more vigorous social behaviors among children. This implies that organized and intentional play has natural opportunities for children to rehearse social interactions, negotiate roles, and adhere to shared expectations.

Table 11. Test of relationship between the Extent of Play-based Strategies and the Social Development of Preschoolers.

Variables	r-value	Strength of Correlation	p - value	Decision	Remarks
Extent of Play-Based Strategies and Cooperation with Peers	-0.154	Weak Negative	0.342	Do not reject Ho	Not Significant

Extent of Play-Based Strategies and Ability to Follow Rules and Routines	0.078	Negligible Positive	0.630	Do not reject Ho	Not Significant

*significant at p<0.05 (two-tailed)

Table 11 shows the statistical test of the correlation between the degree of play-based strategies employed by teachers and two particular areas of preschoolers' social development: (1) cooperation with others, and (2) compliance with rules and routines in educational environments.

It implies that the sheer amount of play-based strategies used in early childhood classrooms in no way necessarily leads to major gains in preschoolers' social development, such as cooperation with others and following rules and routines. This indicates that the quality and type of play experience, including the amount of adult guidance and purposeful facilitation, are key variables for the growth of social skills. In the absence of intentional adult involvement, play cannot necessarily reinforce cooperative actions or faithful adherence to rules, reinforcing the need to incorporate focused social learning goals into play activities. Social development is also shaped by more general contextual influences including home environments and cultural norms, suggesting that play-based interventions will need to be supplemented with consistent adult modeling and reinforcement in the home as well as within the classroom in order to promote significant social development.

In spite of the increasing focus on play pedagogy as a desirable approach to facilitating well-rounded child development, the present results indicate no statistically significant correlations among the variables measured. The correlation between peer cooperation and play-based measures is weakly negative ($r = -0.154$, $p = 0.342$), whereas that with rule-following behavior is trivial and positive ($r = 0.078$, $p = 0.630$). Both correlations were discovered to be not significant, and hence a choice not to reject the null hypothesis (HO). The poor negative correlation between peer cooperation and play-based learning might appear counter-intuitive at first sight given widespread assumptions that interactive play promotes prosocial behavior. Nonetheless, studies indicate that not all play is created equal. As Pyle and Danniels (2020) and Weisberg et al. (2021) point out, whereas guided play has proven to enhance cooperation and peer interaction, unstructured free play with or without adult scaffolding is at times followed by dominance, conflict, or exclusion, especially when children lack well-established social-emotional regulation competence. It is therefore how play is led that matters.

Additionally, Trawick-Smith et al. (2022) highlighted that teacher-child interactions during play are the ones that turn normal play into a means to social learning. In the absence of these deliberate actions, children would be doing parallel play (playing alongside but not with others), and this does not do much to promote cooperation. In regard to rule compliance and routine following, the poor correlation can be attributed to the intrinsic flexibility of play-based environments. Although play may expose children to rules (particularly in games), such rules are frequently flexible or negotiable. For rule-following behaviors to become embedded, children are helped by routine consistency, clear expectations, and adult modeling, which are not necessarily a priority when there is unstructured play (Whitebread et al., 2020). Bronson and Merryman (2021) contend that executive skills like self-regulation and compliance with rules take consistent adult reinforcement and repetition not merely exposure through play. In addition, contextual influences, including cultural expectation, classroom management style, and household environment, would impact these results. For instance, children who are exposed to routine structure within the household would comply with rules more readily, irrespective of classroom approaches (Chen & Lau, 2020). Therefore, the results indicate that play-based methods are beneficial but must not be used in solitary intent if intent is to address particular areas of social development. Lastly, the absence of substantive findings concurs with contemporary readings calling for teachers to strike a balance between play and purposeful instruction. As stressed by Weisberg et al. (2020), substantive learning during the early years comes about when play is employed strategically where teaching goals and social skills mentoring are deliberately incorporated into play interventions.

Output of The Study

The chapter presents the suggested preschool success nurturing connections plan based on the in-depth findings and conclusions of the research carried out on the impact of play-based learning strategies on the social and cognitive growth of preschool students. It represents a culmination of the entire research process, providing tangible and realistic suggestions organized into a clear-cut action framework. This suggested plan is formulated not just to react to the needs found in the study but also to complement existing interventions and adopt innovations that can enhance early childhood education practices. By synchronizing the improvement plan with data collected from teacher-respondents, the chapter renders theoretical and statistical findings into implementation-friendly strategies that can be applied within the real school setting, specifically for the case of the public elementary schools under the Division of Danao City. The strategy also accounts for the diverse views of teachers for the efficacy of existing classroom practices, the sufficiency of peer-based interventions, and the perceived low effect of family-based issues. Acknowledging the strengths and weaknesses of the existing schooling arrangement, this chapter sketches out programs, activities, and structures that are meant to foster more inclusive, responsive, and developmentally appropriate practice at all levels of early childhood schooling. In addition, this plan recognizes the necessity of greater coordination among teachers and parents, broader teacher training, and systematic monitoring and evaluation procedures that guarantee ongoing improvement in learning achievements.

Above all, this chapter contains elements that are organized in a systematic way for conciseness and applicability. These are particular goals and objectives, target groups, proposed strategies and activities, implementation schedules, responsible individuals or teams, resources required, and mechanisms of monitoring and evaluation. Every element in the plan is based on the information gathered and seeks to address the heart of the study's themes i.e., the optimal application of play-based learning, the significance of social and cognitive development for early learners, and the central role of teachers in making developmentally appropriate interventions. Finally, this chapter seeks to offer a strategic and forward-looking framework that is undertaken and adapted by school leaders, policymakers, and early childhood professionals in their own settings. In so doing, it hopes to improve the quality and responsiveness of early childhood education programs so that all preschool learners are offered rich, meaningful, and developmentally supportive experiences both within and outside the classroom. This chapter introduces the suggested upgrade plan of the study and it is introduced as follows.

Preschool Success Nurturing Connections Plan

Rationale

The first few years of a child's schooling are paramount in establishing the building blocks of cognitive functioning, emotional regulation, social skills, and lifelong learning dispositions. The results of this research emphasize the critical role that play-based learning approaches take to ensure rounded development among pre-school students. As the research was conducted among teacher-respondents from selected public elementary schools in the Division of Danao City, the collected data reflected a deep awareness among educators of the importance of developmentally appropriate practices. Teachers demonstrated both a strong academic background and extensive classroom experience, which translated into highly positive perceptions of their teaching efficacy, classroom environment, and the interventions provided to support student growth. Yet, even in the midst of such optimistic attitudes, the research uncovered issues of concern that need strategic improvement, particularly in bridging gap perception and collaboration between significant educational stakeholders families and teachers. One of the fundamental issues discovered in the research was the mismatch in perception between parents and teachers about the nature and extent of problems experienced by preschoolers in family, peer, and classroom settings. Whereas teachers generally felt family-related problems including economic hardship or absence of homework assistance had minimal impact on classroom learning, parents tended to perceive them as more critical. In the same way, teachers ranked peer-related issues like bullying and exclusion as very severe, whereas evaluating classroom challenges like student motivation and resources for instruction as less critical. These opposing perceptions indicate the possibility of misalignment in understanding and resolving learning barriers at home and at school.

This gap, if left unchecked, could hamper effective and collaborative implementation of support systems critical for preschoolers' maximum development potential. With no coordination and mutual comprehension between teachers and parents, students can be provided with discontinuous assistance effective in one environment but discontinuous or non-existent in the other. This fragmentation undermines the effect of otherwise effective pedagogical approaches, particularly those focused on play-based learning, which in turn demands not only organized activities but also the reinforcement of socio-cognitive skills in various settings. In addition, the generally positive perception of intervention offered by teachers most especially for peer- and classroom-related issues was revealed as being moderated by a reasonable correlation between challenge and intervention, indicating a responsive but still developing strategy. It underscores a demand for more systematic and evidence-driven planning, monitoring, and evaluation of intervention impact. Of particular importance is also a shortage of representation of younger teachers among the preschool teaching staff, which could impede the introduction of new, innovative, and technology-relevant practices into classroom instruction. This necessitates a reconsideration of ongoing professional development programs that keep all teachers responsive to emerging needs while anchored in effective early childhood education practices. Responding to these findings, the basis for developing an improvement plan is strongly anchored on the necessity of establishing stronger links between the family and the school. It stresses building a more coordinated and collaborative learning setting where all stakeholders' teachers, parents, and principals collaborate in synchronizing awareness, planning for, and addressing the developmental needs of students. This includes not just coordinating problem perceptions and interventions but also that the values of play-based learning are comprehended and adopted by both school and home life. Through concerted efforts, strengthening communications channels, and creating evidence-based strategies, we can establish more supportive and sustainable education systems that truly lift the intellectual and social development of preschoolers. Finally, the justification for this preschool success nurturing connections plan is based on the conviction that early childhood education should be inclusive, developmentally relevant, responsive, and collaborative. It aims to capitalize on the strengths highlighted in the research while filling the gaps that prevent the optimal implementation of effective, play-based learning experiences. Through this improvement plan, we intend to institutionalize a more integrated, open, and dynamic preschool education approach that enables all learners to become empowered to excel cognitively, socially, and emotionally through their early years.

Objectives

The preschool success nurturing connections plan proposed consists of the following steps:

1. Carry out surveys to bring parents' and teachers' perceptions of major challenges and interventions in congruence.

2. Arrange workshops to enhance parental awareness and participation.

3. Create routine communications between parents and teachers.

4. Arrange common meetings to formulate collective strategies for supporting learners.

5. Offer resource materials to ensure proper comprehension of challenges and remedies.

6. Track progress through follow-up meetings and feedback sessions.

7. Provide teachers with training to understand parents' perceptions.

8. Organize parent support groups to foster cooperation and sharing.

9. Establish a joint committee to review the effectiveness of interventions.

10. Hold community events to solidify partnerships and share successes.

Scheme of the Implementation

The preschool success nurturing connections plan would be implemented through an in-depth and systematic implementation strategy with the objective of solving the six priority educational issues highlighted in the study: family pressure, peer influence, class participation, allocation of learning

resources, social integration, and improvement of class resources and hardware. The strategy is meant to ensure harmonization among teachers and parents, promote collaborative participation, and promote the overall development of preschool students in the Division of Danao City.The plan entails the systematic, purposeful coordination of activities like parent-teacher capacity-building workshops, structured dialogue forums, and collaborative planning sessions that help harmonize and synchronize the two settings' approaches. Workshops would address awareness and understanding of every area, providing theoretical insight as well as practical solutions. The sessions would be conducted by school heads, guidance counselors, veteran educators, and external experts whenever the need arises.

For the purpose of maintaining regular, meaningful communication, provision for establishing frequent parent-teacher forums is made under the plan. These would be a common forum for interaction between the two where they can share ideas, learn from each other, and jointly develop plans as relevant to the children's developmental needs. In addition, communication materials such as newsletters, leaflets, and electronic bulletins would be generated to maintain interest and support key messages from seminars and discussions. The execution of this preschool success nurturing connections plan would be overseen by a core implementation team that includes school administrators, class advisers, guidance counselors, and PTA representatives. They would be the ones to track activities, chronicle progress, deal with problems, and ensure interventions remain goal-targeted and relevant. Coordination with the local education authorities and barangay officials would also be in place to organize support and resources from the community. Budget-wise, the funding would come from the school Maintenance and Other Operating Expenses (MOOE), stakeholders' donations, and assistance from local government units and educational NGOs, if available. Every activity would be budgeted for materials, resource persons, venue arrangement, and feedback tools.

Implementation would be phased over the academic year to provide sustainability and depth. Activities would be planned every quarter to enable sufficient preparation time, execution, and assessment. Each activity or session would be assessed through the use of pre- and post-assessment surveys, focus group discussions, individual feedback forms, and classroom observation reports to gauge its impact and make needed adjustments. Expected results of this preschool success nurturing connections plan are: enhanced alignment of parent and teacher perceptions concerning the learning difficulties experienced by students, greater parental involvement in school life, more effective communication and cooperation among the stakeholders, and the formation of coordinated, student-centered strategies to combat learning and behavioral difficulties. In addition, students are expected to be able to leverage a more unified and supportive learning environment that connects home and school, thus allowing for better cognitive and social growth. This plan could be used as a living document, subject to revisions and improvements upon advice and results. With the implementation of this preschool success nurturing connections plan, the school hopes to encourage an inclusive, coordinated, and responsive education system that not only recognizes learner challenges but also strives to overcome them through combined effort and responsibility.

Preschool Success Nurturing Connections Plan

Areas of Concern	Objectives	Strategies	Persons Involved	Budget	Source of Budget	Time Frame	Expected Outcome	Actual Accomplishment	Remarks
A. Student Engagement	Increase active participation and engagement in learning activities.	Introduce gamified learning methods, use technology-based tools, and conduct interest-based projects.	Teachers, Students, IT Staff	₱20,000	School MOOE, External Grants	1st Quarter	Students actively participate in learning activities with enthusiasm.		
B. Parental Involvement	Strengthen the partnership between parents and teachers for holistic student development.	Organize monthly parent-teacher workshops and establish an online parent portal for regular updates.	PTA Members, Teachers, School Administrators	₱15,000	LGU, Stakeholders' Contributions	Throughout the academic year (2024-2025)	Enhanced collaboration and trust between parents and educators.		

C. Resource Accessibility	Ensure equitable access to educational materials and technology.	Distribute digital and print resources, and provide training sessions for students and parents on resource usage.	Teachers, Students, Parents, LGU Representatives	₱25,000	DepEd, Local Government Units	2nd Quarter	Students and parents are well-equipped with accessible learning materials.		
D. Teacher Professional Growth	Empower teachers with modern teaching techniques and skills for diverse learning needs.	Conduct training on differentiated instruction, classroom management, and inclusive education.	Teachers, School Heads, External Trainers	₱30,000	DepEd, Educational NGOs	2nd - 3rd Quarter	Teachers confidently apply innovative methods in classrooms.		
E. Peer Relationships	Foster positive and respectful peer interactions to reduce bullying and conflicts.	Implement peer mentoring programs and organize team-building activities for students.	Teachers, Guidance Counselors, Students	₱18,000	School MOOE, NGOs	Throughout the academic year (2024-2025)	Students develop stronger social skills and demonstrate respectful behavior toward peers.		
F. Monitoring and Evaluation	Ensure continuous improvement and relevance of implemented strategies.	Establish a monitoring committee, conduct periodic reviews, and gather feedback from all stakeholders.	Teachers, Parents, Students, Administrators	₱12,000	School MOOE, Stakeholders	4th Quarter	Effective and responsive adjustments to strategies, ensuring continuous improvement.		

Summary, Findings, Conclusion and Recommendation

The chapter delineates the research process in terms of the research problem, objectives, and the data collection and analysis methods. Data were collected using proper instruments with well-selected participants to ensure relevance and reliability. The chapter reports significant findings, including patterns and associations in response to the research questions. It also interprets results within the study's theoretical framework, making conclusions, discussing implications, and providing recommendations for practical application and further research.

Summary

This research investigated the influence of play-based learning approaches on preschoolers' cognitive and social development in Danao City Division public elementary schools during the school year 2024–2025. A descriptive-correlational research design established the connection between the level of play-based learning activities and children's developmental outcomes. Data were gathered with a researcher-developed tool the Play-Based Learning Observation Questionnaire in which four dimensions were addressed: respondent profile, implementation level of play-based learning, cognitive development observations, and social development observations. There were forty preschool teachers recruited from ten purposively chosen schools to which active participation in early childhood education was given. Teachers evaluated how often and well different play-based activities were used in classrooms and rated children's development in problem-solving, attention span, communication, cooperation, empathy, and emotional control. Frequency, percentage, weighted mean, and Pearson Product-Moment Correlation Coefficient (r) were used to analyze the data to decide on the strength and significance of variable relationships. The results of the study will be added to the body of evidence for play-based methods and be used as a reference by policymakers, administrators, and educators in promoting developmentally appropriate, play-based teaching strategies to enhance early childhood education.

Findings

As demonstrated in the data that were statistically analyzed from the teacher-respondents, there were a number of significant findings on their profiles, conceptions of problems, and opinions on interventions pertinent to the development of preschoolers. The results indicate that the majority of preschool teachers are mature female graduates aged 41 and over, with at least a bachelor's degree, many of whom are continuing with postgraduate studies. The high level of education and teaching experience on the part of these teachers ensures

an effective and supportive learning environment for preschool children. Play-based learning approaches are used extensively and invariably, with everyday activities such as storying, dramatization, sensory, and group work encouraging active participation. These practices have a profound impact on the creativity, problem-solving, memory recall, logical thinking, and social skills of children in terms of sharing, turn-taking, and handling conflict. Teachers see that the children are more cooperative, respectful of routines, and socially well-adjusted. There are still problems, notably with teacher-parent communication, where this frequently leads to conflicting opinions regarding children's needs and restricts continuity of learning and behavioral support in the home environment. Also, there are generational differences among educators and low levels of parental engagement that at times delay the uniform implementation of play-based strategies. These concerns emphasize the importance of enhanced home-school-community alliances and ongoing professional development to develop innovative, adaptable, and responsive teaching practices that promote global development through meaningful and intentional play experiences.

Conclusion

Derived from the empirical evidence, it is therefore concluded that teachers have a profound sense of the social and cognitive development requirements of preschool children, an aspect that comes out clearly in their largely positive views of both the problems experienced by the children and the measures introduced within the school system. The research concludes that preschool teachers possess a confident awareness of the cognitive and social needs of development for young children based primarily on extensive teaching experience and higher qualifications in academics. Positive attitudes towards classroom problems and interventions are indicative of a grounded commitment to comprehensive development. Play-based learning approaches are popular and are believed to effectively foster creativity, critical thinking, social interaction, and emotional maturity in preschoolers. Teachers believe in managing classrooms and implementing developmentally appropriate practices that foster children's development.

But a major discovery is the communication gap between teachers and parents, which results in variations in perceptions of children's problems and restricts consistency in support between home and school settings. This separation highlights the need to build stronger partnerships and frequent communication to achieve synchronized interventions and ongoing child development assistance. Teachers also cited difficulties like scarce resources for learning and different levels of students' motivation, though these are considered manageable within the classroom environment. The research further indicates a moderate positive relationship between difficulties reported and interventions used, showing that teaching strategies are adaptive and responsive to children's changing needs. Such responsiveness is essential for early childhood education, in which developmental changes are quicker and necessitate on-time and appropriate strategies. In conclusion, the results underscore the importance of ongoing professional development, active parental engagement, and curriculum enrichment that incorporates inclusive, guided play-based learning. Collectively, these strategies help shape a dynamic, supportive, and collaborative early learning setting favorable to both immediate and long-term developmental benefits for preschoolers.

Recommendation

In light of the findings and conclusions of this research, it is highly recommended that the Preschool Success Nurturing Connections Plan be adopted and implemented in all public elementary schools of the Danao City Division. This improvement plan addresses directly the six priority educational problems identified i.e., family pressure, peer influence, class participation, allocation of learning resources, social integration, and enhancement of classroom facilities through holistic and interactive interventions that promote cognitive and social development of preschool learners.

The strategy fosters an organized system that enhances the connection between parents and teachers through regular communication, capacity development workshops, and planning together. Such efforts are crucial in filling perception gaps and aligning intervention for the child's advantages, both at school and home. In addition, it is advisable that teacher professional development become a priority through ongoing training on play-based learning approaches, inclusive education, and contemporary pedagogies. This investment in teachers will ensure ongoing responsiveness and adjustability of classroom teaching, particularly in synthesizing developmentally appropriate practices with the latest

educational standards and social needs. Shifting play-based learning into the mainstream of early childhood education as a mainstay institution must be promoted too. Policy makers and educational leaders are urged to re-edit curriculum guidelines, refresh learning materials, and synchronize evaluation tools in order to favor this model. This would allow the education system to stay responsive and child-focused and able to foster well-balanced, socially competent, and intellectually competent young children.

The Preschool Success Nurturing Connections Plan is both timely and realistic and scalable. It offers a concrete blueprint for revolutionizing early childhood education as more inclusive, dynamic, and collaborative. Its implementation is thus highly recommended for long-term improvement and significant influence on preschool learners' developmental results.

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