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THE EFFECTS OF PLAY-BASED LEARNING IN BEHAVIOR AND ACADEMIC PROGRESS IN KINDERGARTEN CLASSROOMS

Nilo Urado,[1] Melinda F. Marquez, PhD[2]
[1]*MAED ECD Student, University of Perpetual Help System DALTA - Las Piñas City*
[2]*Associate Professor, University of Perpetual Help System DALTA - Las Piñas City*

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ABSTRACT

Early childhood is a critical period for holistic development, encompassing cognitive, social, emotional, and behavioral growth that shapes lifelong learning and well-being. Among various approaches to enhance learning during this stage, play-based learning (PBL) has emerged as a developmentally appropriate method that integrates academic skills with social and emotional development. Despite its recognized benefits, its consistent implementation in early childhood classrooms remains a challenge due to rigid curricula, resource limitations, and varying teacher preparedness. This study was conducted to determine the effects of play-based learning on the behavior and academic progress of kindergarten learners, with a particular focus on its extent of implementation in selected public schools in Baybay City, Leyte. Using a descriptive quantitative research design, data were collected through a validated researcher-made questionnaire distributed to kindergarten teachers. Variables included the frequency and type of play activities, integration with learning objectives, and availability of resources. The effects were measured in terms of learners' behavior (social interaction, attention span, and self-regulation) and academic progress (literacy, numeracy, and cognitive skills). Findings revealed that play-based learning was consistently implemented and had a positive impact on learners. Teachers reported noticeable improvements in pupils' behavior, especially in social interaction and self-regulation, while also observing substantial gains in literacy, numeracy, and cognitive skills. Statistical analysis confirmed a significant relationship between the level of PBL implementation and improvements in both behavioral and academic outcomes. The study concludes that play-based learning is an effective strategy for fostering holistic child development. It emphasizes the need for continuous teacher training, resource support, and the integration of structured play into the kindergarten curriculum. The proposed intervention program further aims to enhance teacher competencies, optimize classroom environments, and engage families in purposeful play to sustain both academic growth and positive behavior among young learners.

KEYWORDS: *Academic Progress, Attention Span, Cognitive Skills, Learner's Behavior, Literacy Skills, Numeracy Skills, Play-based Learning, Self-Regulation, Social Interaction*

I. INTRODUCTION

Childhood, typically defined as the period from birth to around eight years old, is crucial for development across physical, mental, emotional, and social domains. These formative experiences are vital for cognitive growth, education, and overall health. Early child development (ECD) lays the foundation for lifelong learning, behavior, and health, influencing school readiness and future productivity. Consequently, there is a global emphasis on prioritizing high-quality early childhood programs and policies, particularly aimed at promoting equity and addressing developmental disparities among children from diverse backgrounds.

Investing in high-quality early childhood education is crucial for helping children build strong foundations for lifelong learning. Early years are a critical period for learning, and nurturing this potential through engaging, high-quality activities is essential (Bendini & Devercelli, 2022). The aim of early childhood development is to foster mental, physical, and emotional growth, enhancing self-awareness, self-esteem, and confidence. Play-based learning (PBL) is a key approach that supports children's academic, social, and emotional development by aligning with their interests and developmental stages (Kemunto et al., 2020; Taylor & Boyer, 2020). However, increasing academic expectations pose challenges for teachers in delivering age-appropriate instruction. A safe environment is fundamental for effective PBL (Ebbeck et al., 2020).

Play-based learning is recognized as an effective teaching method for young children, promoting skills such as problem-solving, creativity, and early literacy and numeracy. Despite its benefits, its implementation is limited due to rigid curricula, insufficient teacher training, and a lack of resources and understanding of its academic value. There is a notable lack of local research assessing the impact of play-based learning in resource-poor settings, highlighting the need for further studies on its effects on children's academic and behavioral outcomes. In kindergarten, children develop essential skills, but concerns arise regarding inconsistent growth, particularly in public schools where resources and training may be inadequate. While policies support play-based activities, schools often focus on formal instruction, potentially hindering children's natural learning processes. To enhance young children's development, both practitioners and parents must effectively implement play-

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based methodologies, with ongoing evaluations to ensure alignment with developmental needs (Lunga et al., 2022).

The study highlights the critical importance of early childhood development, particularly during the preschool years, often referred to as the "magic years" due to the lasting impact of experiences during this rapid developmental phase. It underscores the detrimental effects of neglect during this time and advocates for play-based learning as a key educational approach. The researcher aims to examine the extent to which play-based learning is implemented in kindergarten classrooms and its effects on children's behavior and academic progress (Köçer, 2021).

This study is based on Piaget's Cognitive Learning Theory, which emphasizes that toddlers learn through interaction with their environment, particularly through play-based learning that promotes cognitive development. According to McArdle (2024), play enables children to assimilate new experiences into their existing mental frameworks, or schemas, facilitating active learning. Piaget outlines that children's knowledge acquisition progresses through stages of assimilation, accommodation, and equilibration.

Additionally, Erikson's Theory of Psychosocial Development informs the research, particularly the initiative vs. guilt stage occurring between ages 3 and 6. This stage highlights the importance of allowing children to explore and engage in organized play, fostering initiative and confidence. Erikson advocates for a supportive environment where children can practice leadership, creativity, and social skills without fear of judgment.

Together, these theories guide the selection of variables for examining the impact of play-based learning on kindergarten children's behaviors and academic outcomes.

This research uses the Input-Process-Output (IPO) Model to explore the impact of play-based learning on kindergarten students' behavior and academic progress. The model emphasizes the widespread use of play-based learning in early childhood education. The input section discusses the frequency of play-based activities, types of play, and their alignment with learning goals. The process section includes the development of a questionnaire, validation, pilot testing, distribution and retrieval of answered questionnaires, data collection, interpretation, and analysis. The output section presents a proposed intervention program aimed at enhancing positive behavior and academic progress of kindergarten learners through play-based learning. This research aims to make play-based learning more common in early childhood education.

This study aimed to investigate the impact of play-based learning on kindergarten students' behavior and academic performance. The research was conducted at public elementary schools in Baybay City, Leyte, during the 2024-2025 academic year. The study used a descriptive quantitative research design and a questionnaire to assess the impact of play-based learning on students' behavior and academic progress. The variables affecting play-based learning included frequency, type of play, alignment with learning goals, accessibility of resources, and teacher support. The study also examined the effects of play-based learning on social interaction, attention span, self-control, literacy, numeracy, and cognitive skills in terms of behavior and academic advancement.

1.1 Statement of the Problem

1. What is the demographic profile of the kindergarten teachers in terms of age, sex, educational attainment, and length of service?
2. What is the composite mean on the level of implementation of play-based learning in the kindergarten classroom in terms of frequency of play-based activities, types of play used, and availability of learning materials?
3. What is the composite mean on the effect of play-based learning on the behavior of kindergarten learners in terms of social interactions, attention span, and self-regulation?
4. What is the composite mean on the effect of play-based learning on the academic progress of kindergarten learners in terms of literacy skills, numeracy skills, and cognitive skills?
5. Is there a significant relationship between the level of implementation of play-based learning and its effects on the behaviors and academic progress of kindergarten learners?
6. What action plan may be developed based on the findings of the study?

2. REVIEW OF RELATED LITERATURE

The research conducted by Hsin and Wu (2022), which revealed that educators possessing graduate-level qualifications and moderate experience exhibited greater responsiveness to child-led learning methodologies, leading to enhanced student involvement and academic advancement. Choi and Han (2021) similarly noted that female educators were more predisposed to implement caring, play-based practices, hence fostering behavioral development. Baker et al. (2023) highlighted that age and professional development influence receptiveness to novel techniques in early education, with younger and mid-career educators exhibiting increased adaptability.

Pyle et al. (2020), which demonstrates that consistent integration of play promotes children's engagement and fosters deeper learning in cognitive and socio-emotional dimensions. Weisberg, Zosh, and Hirsh-Pasek (2021) contend that strategically integrated play-based learning enhances creativity and problem-solving abilities. A recent study by Chen and Tsai (2023) found that the daily practice of guided play activities improves scholastic performance in reading and numeracy. These findings confirm that regular play is not merely advantageous but crucial for effective kindergarten learning.

Fleer and van Oers' (2022) research, which indicates that integrating imaginative, sensory, and constructive play enhances cognitive flexibility and self-regulation in young children. Tu and Hsueh (2021) emphasized the importance of aligning play activities with classroom themes and student needs to enhance engagement and the relevance of learning. Moreover, Park and Sim (2023) emphasize that varied play modalities, particularly sensory and role-play, substantially enhance language development and socio-emotional maturation. These studies support the regular implementation of various play types to promote comprehensive development in kindergarten students.

Hirsh-Pasek et al. (2020) highlighted that structured play congruent with educational objectives results in substantial

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improvements in literacy and mathematical abilities. Similarly, Weisberg and Zosh (2021) discovered that play infused with academic purpose improves vocabulary, problem-solving abilities, and conceptual comprehension. Kim and Jeon (2023) recently demonstrated that the purposeful incorporation of play enhances both engagement and academic progress, particularly when educators utilize play to support learning objectives across multiple domains.

Hsin and Wu (2021) supports the notion that access to a variety of developmentally suitable materials significantly enhances cognitive and social engagement in young learners. Trawick-Smith et al. (2022) similarly found that classroom environments rich in manipulatives, sensory tools, and exploratory resources promote independent learning and enhance comprehension of academic material. In a recent study, Lopez and Gonzales (2024) observed that material rotation and topic play centers enhance sustained attention and creativity in early learners.

Pyle and Danniels (2020) highlights that teacher engagement via directed interaction and inquiry fosters children's cognitive and linguistic growth during play. Miller and Almon (2022) emphasize the importance of teacher-led scaffolding in optimizing the learning potential of dramatic and constructive play. A new study by Tan and Goh (2023) emphasizes that deliberate facilitation, encompassing intentional observation and involvement, enhances academic preparedness and socio-emotional competencies. These data confirm that active teacher facilitation is crucial to maximizing the educational benefits of play-based learning.

Edwards et al. (2021) demonstrates that the systematic integration of play across curricular areas leads to substantial improvements in academic preparedness and socio-emotional skills. Pyle and Alaca (2020) emphasized that the optimal execution of all elements of play-based learning, including frequency, material availability, teacher engagement, and outcome integration, enhances children's attention, creativity, and core academic skills. Gómez and Ortega (2024) recently discovered that classrooms with extensive play-based integration promote enhanced student autonomy and classroom engagement.

Liu and Feng (2021) shows that structured play activities significantly enhance peer collaboration and reduce social anxiety in young children. Furthermore, Whitebread et al. (2022) highlighted that interactive play fosters the development of communication and emotional management abilities in children, hence improving group learning dynamics. Moreover, Ahmed and Santos (2023) emphasized that play-based interventions enhance social problem-solving and encourage inclusivity in varied educational environments.

Suggate et al. (2021) shows that children participating in directed play displayed extended durations of sustained attention relative to those in direct instruction settings. Kirk and Jay (2022) observed that engaging in hands-on, playful activities diminishes off-task behavior and enhances attentional control in both individual and group contexts. Furthermore, Fernández and Salas (2023) indicated that incorporating cognitive objectives into enjoyable activities markedly enhances learners' ability to concentrate and independently complete tasks.

Whitebread and Basilio (2021) highlighted that organized play settings enable children to develop self-regulation, postpone gratification, and control behavioral reactions. Pyle et al. (2022) found that play-integrated classrooms exhibited enhanced behavioral regulation and more seamless task transitions than standard settings. Trawick-Smith et al. (2023) discovered that when teachers facilitate self-regulation during play, children exhibit enhanced emotional resilience and collaboration.

The research conducted by Bodrova and Leong (2021) highlighted that play enhances executive functions, essential for attention and self-regulation. Pyle et al. (2022) also emphasized that students in play-integrated classes had markedly enhanced behavioral engagement and peer collaboration. Furthermore, Edwards and Cutter-Mackenzie-Knowles (2023) discovered that play-based pedagogies enhance children's emotional regulation, adherence to social norms, and the cultivation of peer connections.

Pyle and Alaca (2021 demonstrated that play-based training markedly improves letter-sound knowledge and phonological awareness in young learners. Whitebread et al. (2020) similarly highlighted that storytelling, imaginative play, and guided discovery facilitate vocabulary learning and symbolic thinking, which are essential for reading. Furthermore, Neitzel and Lutz (2023) indicated that intentional play environments enhance children's confidence in writing and print concepts.

Ginsburg and Pappas (2022) emphasize the importance of play in developing number awareness and problem-solving skills in young learners. Seo and Ginsburg (2020) discovered that mathematical reasoning inherently develops during imaginative and block play. Furthermore, Hassinger-Das et al. (2023) emphasized that youngsters participating in structured mathematical play exhibit enhanced abilities in counting, measurement, and pattern recognition.

Whitebread et al. (2021) highlighted that play improves executive functions, including planning and attention regulation. Zosh et al. (2022) contended that fun learning activities offer significant contexts for youngsters to participate in problem-solving and creative thinking. Toub et al. (2023) found that guided play can significantly enhance children's capacity for logical inference and knowledge retention.

Fesseha and Pyle (2021) demonstrated that incorporating play into classroom routines enhances early literacy and numeracy development by fostering engagement and contextual learning. Zosh et al. (2022) endorse play-based learning as a means to reconcile academic objectives with the developmental needs of young children, demonstrating enhanced outcomes across various areas. Moreover, the OECD (2023) indicates that play-centered environments promote profound learning, particularly in cognitive flexibility and problem-solving, rendering play an essential component of early education systems.

II. RESEARCH METHODOLOGY

Research Design

The research utilized a descriptive quantitative methodology to explore the adoption of play-based learning in kindergarten classrooms and its impact on the developmental progress of learners. This approach focused on identifying the characteristics and frequency of occurrences within the

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population without altering variables or investigating causal relationships. Data was collected through a self-developed and validated survey questionnaire, allowing for statistical analysis of a population sample. The primary aim was to systematically describe the current circumstances surrounding play-based learning and its effects on the behavior and academic advancement of kindergarten students (Mishra & Alok, 2022; Bhandari, 2023).

Population and Sampling

The study was conducted in selected public elementary schools in the Schools Division of Baybay City, Leyte. A total of 112 kindergarten teachers from 29 schools participated in the study.

Respondents of the Study

The study's respondents were primarily the kindergarten teachers from the Schools Division of Baybay City, Leyte. The study utilized one hundred twelve (112) kindergarten teachers.

Research Instrument

The study utilized a questionnaire to assess the impact of play-based learning on kindergarten students' behavior and academic progress. The questionnaire was divided into three parts: examining the implementation of play-based learning in kindergarten classrooms, examining its impact on social interaction, attention span, and self-regulation, and analyzing its impact on academic growth in reading, numeracy, and cognitive skills. The researcher used a Likert scale to rate each indication and analyze the data.

Data Gathering Procedure

The study was approved by the Schools Division of Baybay City, Leyte, and kindergarten teachers were selected as respondents. The questionnaire was validated and distributed to selected principals of public elementary schools. The completed questionnaires were analyzed using SPSS, and the summary of results was used to draw conclusions and recommendations. Based on the findings, an intervention program was developed to improve kindergarten students' conduct and academic development through play-based learning.

Statistical Treatment

The study used weighted mean to analyze data on play-based learning implementation in kindergarten classrooms. It assessed the frequency, types of play, integration with learning objectives, availability of materials, and teacher role. The study also assessed the effects of play-based learning on social interaction, attention span, self-regulation, and academic progress of kindergarten learners in literacy, numeracy, and cognitive skills. The Pearson r was used to determine if a significant relationship existed between play-based learning implementation and kindergarten learners' behavior and academic progress.

Ethical Consideration

The researcher followed ethical principles in conducting the study, including proper citation, obtaining approval from the Superintendent of Baybay City, Leyte, and School Heads of selected public elementary schools, ensuring clarity of information, anonymity of respondents, and confidentiality of collected data. They also ensured no harm to participants, particularly kindergarten learners, as the data collected was based on teachers' observations during class hours. The study was approved and conducted with approval from the Superintendent and selected school heads.

III. RESULTS AND DISCUSSION

Demographic profile of the respondents in terms of Age, Sex, Educational Attainment, and Length of Service.

Table 1: Demographic profile of the kindergarten teacher respondents

Age		f	%	Rank
	18-28 years old	33	29	2
	29-39 years old	46	41	1
	40-55 years old	23	21	3
	56 and above	10	9	4
	Total	112	100	
Sex				
	Male	45	40	2
	Female	67	60	1
	Total	112	100	
Educational Attainment				
	Bachelor's degree	20	18	2
	Master's units	74	66	1
	Master's degree	14	13	3
	Doctorate/units	4	4	4
	Total	112	100	

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Length of Service				
	1-8 years	28	25	2
	9-16 years	58	52	1
	17-23 years	21	19	3
	24 and above	5	4	4
	Total	112	100	

Table 1 presents the demographic data of 112 kindergarten teacher respondents, with most of the age group falling within the 29–39 years range (41%), followed by the 18–28 years range (29%), and the least represented group being those aged 56 and above (9%). This signifies a workforce that is typically fresh to mid-career. Regarding sex, female teachers (60%) outnumber their male counterparts (40%), indicating that the profession remains predominantly female. The majority possess Master's units (66%), followed by holders of bachelor's degrees (18%). A mere 13% have attained a master's degree, and only 4% possess doctorate-level degrees. Most teachers have 9–16 years of experience (52%), signifying a highly experienced group, while only a minority have worked 24 years or longer (4%).

It implies that the kindergarten teaching staff in the study generally consists of professionally active and developmentally engaged persons, most of whom possess mid-level teaching experience and are pursuing graduate degrees. The demographic composition facilitates the effective implementation of play-based learning strategies, as teachers with pertinent experience and advanced training are more inclined to value and employ developmentally appropriate practices that foster both behavioral and academic growth in early learners.

The finding is corroborated by the research conducted by Hsin and Wu (2022), which revealed that educators possessing graduate-level qualifications and moderate experience exhibited greater responsiveness to child-led learning methodologies, leading to enhanced student involvement and academic advancement. Choi and Han (2021) similarly noted that female educators were more predisposed to implement caring, play-based practices, hence fostering behavioral development. Baker et al. (2023) highlighted that age and professional development influence receptiveness to novel techniques in early education, with younger and mid-career educators exhibiting increased adaptability.

Composite mean on Level of implementation of play-based learning in kindergarten classrooms in terms of the frequency of play-based activities, types of play used, integration with learning objectives, availability of learning materials, and the teacher's role in facilitating play.

Table 2 Composite Mean on the Level of implementation of play-based learning in kindergarten classrooms in terms of frequency of play-based activities, types of play used, integration with learning objectives, availability of learning materials, and the teacher's role in facilitating play.

	Mean	Std. Deviation	Verbal Interpretation
Frequency of Play-Based Activities	3.51	0.47	Always Observed
Types of Play Used	3.50	0.46	Always Observed
Integration with Learning Objectives	3.52	0.38	Always Observed
Availability of Learning Materials	3.54	0.47	Always Observed
Teacher's Role in Facilitating Play	3.53	0.47	Always Observed
Level of Implementation of Play-Based Learning in Kindergarten Classrooms	**3.52**	**0.34**	**Always Observed**

Legend: *4 (3.50 - 4.00) - Always Observed 2 (1.50 - 2.49) - Rarely Observed 3 (2.50 - 3.49) - Often Observed 1 (1.00 - 1.49) - Never Observed*

Table 2 shows the composite mean on the level of implementation of play-based learning in kindergarten classrooms in terms of frequency of play-based activities, types of play used, integration with learning objectives, availability of learning materials, and the teacher's role in facilitating play.

The composite data present an overall mean of 3.52 and a standard deviation of 0.34, signifying that the implementation of play-based learning in kindergarten classrooms is "Always Observed." All subdomains, frequency of play-based activities (3.51), forms of play utilized (3.50), integration with learning objectives (3.52), availability of educational materials (3.54), and the teacher's role in encouraging play (3.53) are categorized within the "Always Observed" range. The low standard deviations (between 0.34 and 0.47) across all domains signify a

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substantial consistency in teacher practices concerning play-based learning within the sample.

Kindergarten teachers effectively integrate play-based learning into daily classroom routines, resources, educational objectives, and teacher-student relationships. This comprehensive approach supports child development and aligns with early learning standards. Sustained support and training ensure ongoing excellence, particularly in complex domains like synchronizing play with assessment or observation-driven planning.

Research by Pyle et al. (2020) highlights that consistent play integration enhances children's engagement and learning across cognitive and socio-emotional areas. Weisberg, Zosh, and Hirsh-Pasek (2021) argue that play-based learning fosters creativity and problem-solving skills. Chen and Tsai (2023) found that guided play activities improve reading and numeracy performance. Fleer and van Oers (2022) indicate that imaginative and constructive play boosts cognitive flexibility and self-regulation. Tu and Hsueh (2021) stress the need for aligning play with classroom themes to enhance engagement, while Park and Sim (2023) note that diverse play modalities improve language and socio-emotional development. Collectively, these studies affirm the critical role of regular play in effective kindergarten learning.

Research by Hirsh-Pasek et al. (2020) indicates that structured play aligned with educational goals significantly boosts literacy and math skills. Weisberg and Zosh (2021) found that play with academic intent enhances vocabulary, problem-solving, and conceptual understanding. Kim and Jeon (2023) showed that integrating play purposefully increases engagement and academic achievement across various subjects. Hsin and Wu (2021) support the idea that access to suitable materials improves cognitive and social engagement in young children, while Trawick-Smith et al. (2022) noted that rich classroom environments with manipulatives and sensory tools foster independent learning and comprehension. Lastly, Lopez and Gonzales (2024) reported that rotating materials and topic-based play centers improve sustained attention and creativity in early learners.

The findings from various studies underscore the significance of teacher involvement in play-based learning. Pyle and Danniels (2020) found that teacher engagement through directed interaction enhances children's cognitive and linguistic development during play. Miller and Almon (2022) highlighted the role of teacher-led scaffolding in maximizing learning outcomes in dramatic and constructive play. Tan and Goh (2023) emphasized that intentional observation and involvement by teachers improve academic readiness and socio-emotional skills. Edwards et al. (2021) supported these claims, showing that integrating play into the curriculum significantly boosts academic preparedness and socio-emotional competencies. Additionally, Pyle and Alaca (2020) noted that effective play-based learning requires optimal execution of various elements, which enhances children's attention and creativity. Gómez and Ortega (2024) further revealed that classrooms with extensive play integration foster greater student autonomy and engagement.

Composite Mean on the Effect of play-based learning on the behavior of kindergarten learners in terms of social interaction, attention span, and self-regulation.

Table 3: Composite mean on the effect of play-based learning on the behavior of kindergarten learners in terms of social interaction, attention span, and self-regulation.

	Mean	Std. Deviation	Verbal Interpretation
Social Interaction	3.56	0.34	Always Observed
Attention Span	3.52	0.48	Always Observed
Self-Regulation	3.51	0.50	Always Observed
The Effect of Play-Based Learning on the Behavior of Kindergarten Learners	**3.53**	**0.41**	**Always Observed**

Legend: *4 (3.50 - 4.00) - Always Observed 2 (1.50 - 2.49) - Rarely Observed 3 (2.50 - 3.49) - Often Observed 1 (1.00 - 1.49) - Never Observed*

Table 3 shows the composite mean on the effect of play-based learning on the behavior of kindergarten learners in terms of social interaction, attention span, and self-regulation.

The composite mean score of 3.53, accompanied by a standard deviation of 0.41, signifies that the impact of play-based learning on the behavior of kindergarten students is "Always Observed." Of the three behavioral domains, Social Interaction (M = 3.56, SD = 0.34) attained the highest mean rating, closely followed by Attention Span (M = 3.52, SD = 0.48) and Self-Regulation (M = 3.51, SD = 0.50). All domains are categorized within the "Always Observed" category, and the comparatively moderate standard deviation values indicate consistency in teacher observations, with marginally greater variation in attention span and self-regulation

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It implies that play-based learning consistently promotes favorable behavioral outcomes in young learners, particularly in enhancing their social interaction skills, attention span, and self-regulation. The elevated aggregate grade endorses the ongoing incorporation of structured and intentional play in early childhood classrooms to promote holistic behavioral development.

Research by Liu and Feng (2021) indicates that structured play activities improve peer collaboration and reduce social anxiety in young children. Whitebread et al. (2022) found that interactive play enhances communication and emotional management skills, benefiting group learning dynamics. Ahmed and Santos (2023) noted that play-based interventions promote social problem-solving and inclusivity in educational settings. Additionally, Suggate et al. (2021) reported that children engaged in directed play show longer attention spans compared to those in direct instruction. Kirk and Jay (2022) observed that playful activities reduce off-task behavior and improve attentional control, while Fernández and Salas (2023) highlighted that integrating cognitive goals into enjoyable activities boosts concentration and task completion.

Research by Whitebread and Basilio (2021) indicates that organized play settings foster children's self-regulation and behavioral control. Pyle et al. (2022) found that play-integrated classrooms lead to better behavioral regulation and smoother task transitions compared to traditional settings. Trawick-Smith et al. (2023) noted that teacher-facilitated self-regulation during play enhances children's emotional resilience and collaboration. Additionally, Bodrova and Leong (2021) emphasized that play improves executive functions crucial for attention and self-regulation. Pyle et al. (2022) also reported increased behavioral engagement and peer collaboration in play-integrated classes. Edwards and Cutter-Mackenzie-Know (2023) discovered that play-based pedagogies enhance children's emotional regulation, adherence to social norms, and the cultivation of peer connections.

Composite Mean on the Effect of play-based learning on the academic progress of kindergarten learners in terms of literacy skills, numeracy skills, and cognitive skills.

Table 4 Composite mean on the effect of play-based learning on the academic progress of kindergarten learners in terms of literacy skills, numeracy skills, and cognitive skills.

	Mean	Std. Deviation	Verbal Interpretation
Literacy Skills	3.52	0.41	Always Observed
Numeracy Skills	3.52	0.46	Always Observed
Cognitive Skills	3.51	0.47	Always Observed
Effect of Play-Based Learning on Academic Progress of Kindergarten Learners	**3.51**	**0.43**	**Always Observed**

Legend: *4 (3.50 - 4.00) - Always Observed* *2 (1.50 - 2.49) - Rarely Observed*
3 (2.50 - 3.49) - Often Observed *1 (1.00 - 1.49) - Never Observed*

Table 4 shows the composite mean on the effect of play-based learning on the academic progress of kindergarten learners in terms of literacy skills, numeracy skills, and cognitive skills.

The composite mean score of 3.51, accompanied by a standard deviation of 0.43, indicates the effect of play-based learning on the academic advancement of kindergarten students is "Always Observed." This suggests that teachers routinely observe enhancements in students' reading skills (M = 3.52, SD = 0.41), numeracy abilities (M = 3.52, SD = 0.46), and cognitive skills (M = 3.51, SD = 0.47) through play-based activities. The similar results and comparatively low standard deviations across all domains indicate a strong consensus among respondents and a consistently favorable effect of play-based tactics on academic progress.

It implies that play-based learning substantially enhances the academic development of young learners. Its sustained beneficial impacts on fundamental areas—literacy, numeracy, and cognitive development—underscore its significance as a developmentally suitable and academically enriching method. This advocates for the incorporation of controlled and guided play in kindergarten curricula as a vital approach to promote comprehensive learning outcomes.

The findings on the benefits of play-based learning are supported by various studies. Pyle and Alaca (2021) found that play-based training significantly enhances letter-sound knowledge and phonological awareness in young learners. Whitebread et al. (2020) noted that storytelling and imaginative play aid vocabulary acquisition and symbolic thinking, crucial for reading. Neitzel and Lutz (2023) highlighted that intentional play environments boost children's confidence in writing and understanding print concepts. Additionally, Ginsburg and Pappas (2022) stressed the role of play in developing number awareness and problem-solving skills. Seo and Ginsburg (2020) observed that mathematical reasoning develops through imaginative and block play Furthermore, Hassinger-Das et al. (2023) emphasized that youngsters participating in structured mathematical play exhibit enhanced abilities in counting, measurement, and pattern recognition.

Research supports the idea that play significantly enhances various cognitive skills in children. Whitebread et al. (2021) found that play improves executive functions like planning and attention regulation. Zosh et al. (2022) emphasized that engaging in fun learning activities fosters problem-solving and creative thinking. Toub et al. (2023) noted that guided play enhances logical inference and knowledge retention.

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Additionally, Fesseha and Pyle (2021) demonstrated that integrating play into classroom routines boosts early literacy and numeracy by promoting engagement. Zosh et al. (2022) further advocated for play-based learning to align academic goals with children's developmental needs. The OECD (2023) highlighted that play-centered environments facilitate deep learning, particularly in cognitive flexibility and problem-solving, rendering play an essential component of early education systems.

Significant relationship between the level of implementation of play-based learning and its effects on the behavior and academic progress of kindergarten learners.

Table 5: Significant relationship between the level of implementation of play-based learning and its effects on the behavior and academic progress of kindergarten learners

		The Effect of Play-Based Learning on the Behavior of Kindergarten Learners	The Effect of Play-Based Learning on the Academic Progress of Kindergarten Learners
Level of Implementation of Play-Based Learning in Kindergarten Classroom	Correlation Coefficient	.192*	.723**
	Sig. (2-tailed)	0.043	0.000
	N	112	112

Table 5 explains that the correlation results indicate a favorable and statistically significant relationship between the level of implementation of play-based learning and its effect on both the behavior and academic advancement of kindergarten students. The correlation coefficient ($r = 0.192$, $p = 0.043$) for behavior indicates a low yet statistically significant positive correlation, suggesting that an increase in the frequency of play-based learning is associated with improved positive behavioral outcomes among learners.

The correlation coefficient ($r = 0.723$, $p < 0.000$) for academic achievement indicates a strong and highly significant positive relationship, suggesting that increased adoption of play-based learning is substantially correlated with improved academic outcomes in kindergarten learners.

It implies that the deliberate and regular application of play-based learning methodologies not only fosters behavioral development but also significantly enhances academic accomplishment. Teachers and curriculum writers should stress structured play methodologies in early childhood education programs, as this promotes social-emotional development and substantial academic progress.

The findings are corroborated by Pyle et al. (2020), who demonstrated that increased fidelity in play-based instruction correlates with improved literacy and mathematics outcomes, while Zosh et al. (2022) highlighted that guided play fosters a more profound conceptual understanding than direct instruction alone. Martinez and Sun (2023) reported that schools implementing robust play-based frameworks experienced improved student concentration, motivation, and academic preparedness.

Action plan may be developed based on the findings of the study

RATIONALE

The intervention program is grounded in the strong evidence from the study that play-based learning consistently supports both behavioral development and academic progress among kindergarten learners. Teachers observed that children exhibit improved social interaction, attention span, and self-regulation through structured play experiences. Likewise, academic gains were notably evident in literacy, numeracy, and cognitive skills, with results indicating that these improvements are consistently observed across learning domains. The significant relationship between the implementation of play-based strategies and positive learner outcomes highlights the need for sustained and intentional application of these approaches. Therefore, this program aims to strengthen teacher competencies, enrich classroom environments, and engage families to create a holistic and supportive system that nurtures young learners through developmentally appropriate, meaningful play.

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"Building Better Learners: A Play-Based Approach to Behavioral and Academic Enhancement"

Program Component	Target Recipient	Person Responsible	Estimated Cost	Expected Output
1. Play-Based Learning Workshop for Teachers	Kindergarten Teachers	School Head / ECE Coordinator	₱5,000	Enhanced teacher capability in designing and implementing structured play-based lessons
2. Weekly Thematic Play Stations	Kindergarten Learners	Kindergarten Teachers	₱7,000/month	Improved academic skills (literacy, numeracy, cognitive) through active play engagement
3. Social Skills Play Circles	Kindergarten Learners	Guidance Counselor / Class Adviser	₱3,000/month	Improved social interaction and teamwork among students
4. "Focus and Feel" Games for Self-Regulation	Kindergarten Learners	Teachers / Assistant Teachers	₱2,500/month	Increased attention span and better emotional regulation during classroom tasks
5. Parental Orientation and Involvement Program	Parents of Kindergarten Learners	School Head / Parent Coordinator	₱2,000 per session	Parents understand and reinforce play-based learning strategies at home
6. Classroom Materials and Toy Kits	Kindergarten Learners	Kindergarten Teachers / Property Custodian	₱10,000 initial investment	Availability of developmentally appropriate play tools for daily learning
7. Monitoring and Evaluation via Teacher Journals	Kindergarten Teachers	ECE Coordinator / Research Team	₱1,000/month	Ongoing assessment of behavioral and academic improvements
8. Inter-Class Play-Based Exhibit and Showcase	Whole Kindergarten Community	Teachers / Principal / Learners	₱4,000/event	Sharing best practices, learner achievements, and promoting community involvement

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IV. CONCLUSION

The study reveals that kindergarten teachers are predominantly early-to-mid-career professionals, with a strong female predominance. Most have completed graduate-level studies and have dedicated nearly a decade to the profession. Play-based learning is consistently implemented in kindergarten classrooms, affecting the behavior of kindergarten students, particularly in social interaction, attention span, and self-regulation. It also enhances the academic progress of kindergarten students, with improvements in literacy, numeracy, and cognitive skills. A positive correlation exists between the implementation of play-based learning and its effects on behavior and academic achievement. The intervention program aims to enhance teacher competencies, optimize classroom environments, and engage families to support early learners through purposeful play.

The study concludes that play-based learning, a method that promotes positive behavioral development in kindergarten students, is effectively implemented through teachers' expertise and continuous professional development. It is integrated into daily classroom instruction, supporting academic growth in key areas. The intervention program enhances purposeful play by developing teacher competencies, optimizing classroom settings, and encouraging family engagement.

The study recommends continuous training and development programs for teachers to improve play-based learning, enhance evaluation and planning strategies, and integrate it into early childhood classrooms for behavioral development. It also emphasizes structured play and implementing intervention programs to optimize classroom settings and increase family involvement.

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