

Integrating the play-based instruction into curriculum: its level on effectiveness in kindergarten education in 3T's public schools

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Abstract: Integrating play-based instruction in early childhood education enhances cognitive, social, and emotional development. This study examines its implementation in the Tampakan, Tantaran, and Tupi Districts, aiming to improve kindergarten literacy and numeracy through engaging learning activities. Despite its potential, challenges such as inadequate resources and teacher training hinder its effectiveness. Utilizing a total population sampling of 65 public kindergarten teachers, the study employed a demographic checklist and a Likert scale survey, analyzed through statistical methods, including Pearson's correlation coefficient. Findings reveal positive perceptions of play-based instruction, with training ($M=4.21$, $SD=0.66$) rated highest and resource availability ($M=3.83$, $SD=0.80$) lowest. Play-based methods significantly impact emotional development ($M=4.42$, $SD=0.65$) and student engagement ($M=4.41$, $SD=0.57$). A moderate positive correlation ($r=0.629$, $p=0.000$) between integration and effectiveness underscores its benefits. These results highlight the need for targeted professional development to enhance the successful adoption of play-based learning in early childhood education.

Keywords: Management, Leadership, administration, Instructional supervision, Positive culture

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INTRODUCTION

Integrating play-based instruction into the curriculum offers an innovative method of teaching young children. Emphasizing play as a crucial component of overall development. In school districts of Tampakan, Tantaran, and Tupi, Division of South Cotabato, this method aims to boost literacy and numeracy skills in kindergarten through engaging activities. Play-based instruction taps into children's natural curiosity, enhancing their cognitive, social, and emotional skills. While this approach presents challenges, such as aligning activities with educational standards and ensuring adequate resources and training, its successful implementation can significantly improve student engagement and learning outcomes.

Integrating play-based instruction into the curriculum has become a transformative approach in early childhood education, emphasizing play for holistic development across cognitive, social, and emotional domains. Scholars like David Elkind (2021) and Sue C. Wortham (2019) have highlighted its benefits in enhancing literacy and numeracy while fostering curiosity and enthusiasm for learning. Internationally, this approach presents both challenges and opportunities. In Finland, for example, play-based instruction is successfully woven into the curriculum, enhancing student learning engagement and outcomes (Kumpulainen & Lipponen, 2019). In contrast, the United States faces challenges in aligning play-based activities with educational standards and ensuring sufficient teacher training (Ginsburg, 2021).

Integrating play-based instruction into the curriculum marks a significant shift in early childhood education in the Philippines, focusing on holistic development through engaging activities. This method enhances cognitive, social, and emotional growth by leveraging children's natural curiosity and enthusiasm for learning. Research by Elkind (2020) and Almon (2022) highlights its potential to improve literacy and numeracy skills. In the Philippines, integrating play-based instruction presents unique challenges and opportunities. While schools in the National Capital Region, such as the Philippine Science High School System, have seen success

(Santos, 2020), rural areas like Batanes often face difficulties with limited resources and inadequate teacher training (De Guzman & Pineda, 2019).

This integration presents significant opportunities and challenges in the specific context of the Public elementary school in the Municipality of Tampakan, Tandingan, and Tupi, within the Division of South Cotabato. While the district's schools, such as those in the central and nearby barangays, are working towards implementing play-based methods, they face resource limitations, teacher training, and curriculum alignment obstacles. Play-based integration used by kindergarten teachers in Tampakan, Tandingan, and Tupi were puzzle, role play, and match/sorting which offer valuable insights, but adapting these strategies to the local context of Tampakan, Tandingan, and Tupi requires addressing unique regional challenges (De Guzman & Pineda, 2019).

While existing literature covers the benefits and challenges of play-based instruction globally, there is a research gap regarding its application in rural areas like Tampakan, Tandingan, and Tupi, Tandingan of Division of South Cotabato. Current studies often overlook the unique challenges faced in resource-constrained environments, such as limited resources, uneven teacher training, and curriculum alignment. This gap highlights the need for research focused on adapting play-based methods to rural settings, which could provide valuable insights and models for successful implementation in similar contexts.

This study examines the integration of play-based instruction in kindergarten education within the Tampakan, Tandingan, and Tupi districts highlighting both its successes and challenges. The approach enhances student engagement and learning outcomes by supporting cognitive, social, and emotional development through play. By adapting play-based methods to the specific needs of these rural areas, the study offers a model for implementation in resource-limited settings. It emphasizes the necessity for targeted professional development to equip educators with effective play-based instructional strategies and provides solutions to challenges such as limited resources and varying levels of teacher training.

Statement of the Problem

This study aims to evaluate the level of integration and effectiveness of play-based instruction into the curriculum, its challenges, and success in kindergarten education in Tampakan, Tandingan, and Tupi District. In particular, this study sought to answer the following questions:

- 1.) What is the demographic profile of kindergarten teachers in terms of:
 - 1.1.) gender;
 - 1.2.) age;
 - 1.3.) length of service; and
 - 1.4.) educational attainment?
- 2.) To what level of integration of play-based instruction into the curriculum affected kindergarten education in terms of:
 - 2.1.) teacher training;
 - 2.2.) resources availability; and
 - 2.3.) implementation strategies;
- 3.) To what level of effectiveness of play-based instruction influence various aspects of kindergarten education challenges and success in terms of:
 - 3.1.) student engagement;
 - 3.2.) social-emotional development; and
 - 3.3.) academic performance;
- 4.) Is there a significant relationship between the level of integration of play-based instruction in the curriculum and its level of effectiveness in kindergarten education challenges and success in 3T's public elementary schools?
- 5.) Is there a significant influence between the level of integration and effectiveness of play-based instruction in the demographic profile of kindergarten teachers?

METHODOLOGY

Research Design

A descriptive-correlational research design is appropriate for evaluating the level of integration and effectiveness of play-based instruction into the kindergarten curriculum because it allows for the examination of relationships between variables without manipulating them. This design focuses on describing the current state of play-based instruction while exploring how various factors, such as teacher training, resource availability, and implementation strategies, relate to its effectiveness (Creswell & Creswell, 2018).

By identifying correlations, the researcher can assess whether the degree of integration of play-based learning influences student engagement, social-emotional development, or academic performance. Furthermore, the descriptive aspect provides a detailed account of the challenges and successes encountered during implementation. This design is ideal for educational settings where variables are naturally occurring, making it useful for understanding complex interactions in real-world contexts like kindergarten classrooms (Fink, 2020).

Respondents and locale of the study

The selection of Tampakan, Tantaran, and Tupi Districts as the research locales for this study is strategic and significant. These areas provide a representative sample of kindergarten education settings where play-based instruction is implemented, allowing for a comprehensive evaluation of its integration and effectiveness. By focusing on these districts, the study can identify specific challenges and successes unique to these communities, contributing valuable insights to the broader context of early childhood education (Bartolome & Mamat, 2020).

The respondents for evaluating the level of integration and effectiveness of play-based instruction in kindergarten education in Tampakan, Tantaran, and Tupi Districts were 65 kindergarten teachers. Kindergarten teachers are the primary respondents, as they could provide valuable insights into the daily application of play-based instruction, the challenges they encounter, and its impact on student learning. This approach aligns with the findings of Diwara (2024), who emphasized the significance of teachers as respondents in implementing play-based approaches in kindergarten settings.

Research instrument

A research-made survey questionnaire was used to assess how well play-based instruction is integrated and its effectiveness in kindergarten education in Tampakan, Tantaran, and Tupi Districts mainly because it focuses on collecting numerical data. This method allows researchers to gather information from kindergarten teachers. According to Boyer (2020), using a survey questionnaire it can measure opinions about how effective play-based instruction is, how well it fits into the curriculum, and what challenges teachers face when using it. This quantitative approach makes it easier to analyze the data and spot patterns and trends in the responses. The organized structure of the survey helps ensure that the data is consistent, making it simpler to compare results and draw accurate conclusions. In the end, the survey questionnaire provided a strong basis for understanding the impact of play-based learning in kindergarten, helping to develop informed suggestions for improving teaching practices in the area.

Statistical treatment of data

Frequency Distribution and Percentage were used to determine the demographic profile of the kindergarten teachers such as gender, age, length of service, and educational attainment.

Mean and Standard Deviation were used to assess the level of integration and effectiveness of play-based instruction into the curriculum affected by kindergarten education/

Pearson's correlation coefficient was used to determine if there is a significant relationship between integration and effectiveness of play-based aspects of kindergarten

education challenges and success. It also answers the hypotheses 4 and 5.

RESULTS AND DISCUSSION

Profile of respondents in terms of gender

The data reveals that all 65 kindergarten teachers surveyed in the Tampakan, Tantaran, and Tupi Districts are female, resulting in a 100% female representation. This indicates a complete absence of male teachers within this sample. This finding is consistent with national trends; as of 2022, 87.85% of primary education teachers in the Philippines were female. The feminization of the teaching profession is a well-documented phenomenon in the Philippines, with women comprising a significant majority of educators, particularly in early childhood and primary education.

This finding implies the feminization of the teaching profession, especially in early childhood education, can limit the diversity of role models available to young children, potentially reinforcing traditional gender stereotypes. The lack of male teachers may affect male students' engagement and learning experiences, as having teachers of the same gender has been linked to positive educational outcomes. For instance, male educators can provide different approaches to play and interactions, modeling behaviors that challenge traditional male stereotypes. Moreover, male teachers can serve as positive role models, especially for children lacking male figures at home, helping both boys and girls construct new ideas of masculinity. Therefore, increasing male representation in early childhood education could offer diverse perspectives and interactions, benefiting children's development and challenging societal gender norms.

Supporting studies highlight this trend. A UNESCO (2022) report noted that globally, women constitute 94% of pre-primary teachers. Similarly, in the Philippines, research indicates that 87.54% of teachers are female. These statistics align with the 100% female representation found in this study, emphasizing the global and national patterns of gender disparity in early childhood education.

Profile of respondents in terms of age

The data indicates that the age distribution of the 65 kindergarten teachers in the Tampakan, Tantaran, and Tupi Districts is as follows: 26% are aged 25-30, 26% are 31-35, 25% are 36-40, 20% are 41-45, and 3% are 46-50. Notably, there are no teachers in the age brackets of 51-55, 56-60, or 61-65. The highest representation is in the 25-35 age range, collectively accounting for 52% of the teachers, while the lowest is in the 46-50 bracket with 3%.

This age distribution implies a predominantly young teaching workforce, with over half of the teachers being 35 years old or younger. The absence of teachers above 50 may indicate recent hiring trends favoring younger educators or early retirement among older staff. A younger teaching cohort can bring innovative approaches and adaptability to new educational methodologies, such as play-based learning. However, the lack of older, more experienced teachers could result in a shortage of mentorship opportunities for less experienced staff, potentially impacting the overall quality of education.

Supporting studies highlight the significance of teacher age in educational settings. For instance, a report by The Guardian (2024) revealed that UK primary schools have some of the largest class sizes among industrialized countries, with an average of 27 students per class. This situation is exacerbated by a younger and less experienced teaching workforce, leading to retention issues and impacting the quality of education. Additionally, a study by Yin et al. (2023) in Hong Kong found that teachers' self-efficacy and collaboration among staff were crucial for

the successful implementation of play-based learning, emphasizing the need for supportive organizational environments to enhance teaching practices. These findings underscore the importance of a balanced age distribution and supportive work environment in maintaining educational quality and effectively implementing innovative teaching methods.

Profile of respondents in terms of length of service

The data indicates that the majority of public kindergarten teacher respondents have between 1 to 5 years of service, accounting for 60% of the sample. This is followed by those with 6 to 10 years (14%), 11 to 15 years (13%), 16 to 20 years (5%), 21 to 25 years (7%), and 26 to 30 years (1%). The predominance of teachers in the early stages of their careers suggests a relatively inexperienced workforce. Conversely, the low percentages in the higher service brackets indicate fewer veteran teachers, which could impact the mentorship opportunities available for novice educators.

The implications of this distribution are significant for educational planning and teacher development programs. A workforce with a high proportion of early-career teachers may require targeted support to enhance their teaching effectiveness and retention rates. Implementing comprehensive induction programs and ongoing professional development can help these teachers develop essential skills and adapt to classroom challenges. Additionally, the scarcity of experienced teachers may necessitate alternative mentorship models, such as peer mentoring or external coaching, to ensure that less experienced teachers receive adequate guidance. Addressing these needs is crucial for maintaining teaching quality and promoting student achievement.

Supporting studies reinforce these observations. A study by Bacus et al. (2024) found that beginning teachers' performance is influenced by factors such as socioeconomic status, grade point average, and length of service, highlighting the need for tailored support for novice educators. Similarly, research by Ninal (2015) indicated that kindergarten teachers with less experience may require additional support to enhance their instructional competencies and positively impact student development. Furthermore, a study by Jaca and Lopez-Baroman (2021) emphasized the challenges faced by kindergarten teachers in implementing the curriculum, underscoring the importance of adequate training and resources. These studies collectively suggest that the experience level of teachers plays a critical role in their effectiveness and the quality of education delivered.

Profile of respondents in terms of educational attainment

The data indicated explains that the majority of kindergarten teachers in the Tampakan, Tantaran, and Tupi Districts hold advanced educational qualifications. Specifically, 49% (32 teachers) have earned units toward a master's degree, and an additional 15% (10 teachers) have completed a master's degree. Conversely, a smaller segment of the teaching cohort possesses doctoral-level qualifications, with 3% (2 teachers) having attained a Doctor of Education degree. Notably, none of the respondents have pursued doctoral units or a Doctor of Philosophy degree. The remaining 32% (21 teachers) hold a bachelor's degree as their highest educational attainment.

The prevalence of advanced degrees among these educators implies a strong commitment to professional development and a recognition of the importance of higher education in enhancing teaching effectiveness. Teachers with advanced qualifications often bring a deeper understanding of educational theories and practices, which can positively influence student outcomes. However, the limited number of educators with doctoral qualifications may indicate potential areas for

further academic advancement and specialized research within the district's educational framework.

Supporting studies underscore the positive correlation between teachers' educational attainment and their teaching competencies. For instance, a study by Gallego and Caingcoy (2020) revealed that kindergarten teachers with higher educational qualifications demonstrated elevated levels of competencies in areas such as content knowledge, pedagogy, and curriculum planning. Additionally, a study by Masongsong et al. (2023) examined the relationship between teachers' training in inclusive education and their sense of efficacy. The findings revealed that teachers with higher levels of training exhibited greater self-efficacy in student engagement, instructional strategies, and classroom management. This underscores the importance of advanced training in enhancing teaching effectiveness. Furthermore, research by Lengamen (2024) explored the influence of pedagogical content knowledge on teachers' technology proficiency. These findings align with the current data, suggesting that the advanced educational qualifications of teachers in the Tampakan, Tantangan, and Tupi Districts likely contribute to effective teaching practices and improved learner outcomes.

Integration of play-based instruction in terms of training

The data reflects a high level of integration of play-based instruction within the curriculum, particularly concerning teacher training. The highest mean score ($M = 4.29$, $SD = 0.57$) corresponds to the statement, "I have received comprehensive training on implementing play-based instruction in the curriculum," indicating that teachers feel well-prepared in this instructional approach. Conversely, the statements "I feel confident in their ability to integrate play-based methods into daily lessons" and "Professional development opportunities related to play-based learning are regularly provided to teachers" both have the lowest mean scores ($M = 4.15$, $SD = 0.75$ and $M = 4.15$, $SD = 0.68$, respectively). Although these scores still fall within the "Agree" range, they suggest slightly less confidence and regularity in ongoing professional development compared to the initial comprehensive training received.

While initial training in play-based instruction equips educators with foundational skills, ongoing professional development is crucial to maintain and enhance their confidence and effectiveness in implementing these methods. Continuous professional development (CPD) ensures that teachers stay updated with evolving educational practices, enabling them to create more effective learning environments. Addressing gaps in support systems through CPD can lead to improved teaching practices and better student outcomes. Incorporating CPD fosters a culture of reflective practice among educators, encouraging them to continuously analyze and improve their teaching methods, which is essential for the successful implementation of play-based instruction. Therefore, investing in CPD is vital for maintaining and enhancing teachers' confidence and effectiveness in implementing play-based instructional strategies, ultimately benefiting both educators and students.

Recent studies highlight challenges in implementing play-based learning due to limited ongoing professional development and resource constraints. For instance, Acevedo (2022) found that while kindergarten teachers employed both structured and unstructured play-based activities, there was a lack of continuous professional development to deepen their understanding and application of these practices. Similarly, Diwara (2024) identified challenges such as insufficient resources and large class sizes hindering the effective implementation of play-based learning, despite teachers recognizing its benefits. These findings underscore the necessity for ongoing professional development and adequate support to effectively integrate play-based instruction in early childhood education. Addressing these challenges is crucial to ensure that educators are

well-equipped to provide high-quality, play-based learning experiences for young children. Without proper support and resources, the potential benefits of play-based learning may not be fully realized, potentially impacting children's overall development and readiness for future academic endeavors.

Integration of play-based instruction in terms of resources availability

Data shows the integration of play-based instruction in kindergarten education across the Tampakan, Tantangan, and Tupi Districts, focusing on resource availability. Among the indicators evaluated, the presence of adequate classroom space for various play-based activities received the highest ($M=3.95$, $SD = 0.85$), indicating strong agreement among respondents. Conversely, the inclusion of resources in the school library to aid in planning and executing play-based instruction had the lowest ($M=3.68$, $SD = 0.90$), though it still reflected agreement. The overall mean score across all indicators was

($M= 3.83$, $SD = 0.80$), suggesting a consensus on the availability of resources supporting play-based instruction. These findings highlight both strengths and areas for improvement in the current resource allocation for play-based learning.

The implications of these findings are multifaceted. While schools have effectively allocated classroom spaces conducive to play-based learning, the relatively lower score for library resources suggests a gap in supporting materials for educators. Enhancing library collections with materials that facilitate the planning and execution of play-based activities could provide educators with more comprehensive tools and references. This enrichment has the potential to improve the quality of play-based instruction, thereby contributing to more holistic child development. Addressing this gap is essential for aligning educational resources with the goals of play-based learning methodologies.

Supporting these implications, several studies have highlighted the importance of adequate resources in implementing play-based learning. Mercy (2021) identified a lack of learning materials as a significant barrier to implementing play-based learning in early childhood classrooms. Similarly, Natividad and Capinpin (2024) emphasized that the availability of diverse play materials is crucial for the effective delivery of play-based instruction in kindergarten education. Additionally, the utilization of play-based instructional materials significantly enhances the readiness skills of kindergarten pupils (Salcedo, 2019).

Integration of play-based instruction in terms of implementation strategies

Data shows the integration of play-based instruction in kindergarten education across the Tampakan, Tantangan, and Tupi Districts, focusing on implementation strategies. Among the indicators, "Play-based instruction is systematically incorporated into the daily schedule" received the highest ($M=4.18$, $SD = 0.63$), indicating strong agreement among respondents. Conversely, "Parents are informed and engaged in the play-based instructional approaches used in the classroom" had the lowest ($M=4.03$, $SD = 0.63$), though it still reflected agreement. The overall mean score across all indicators was ($M=4.10$, $SD = 0.62$), suggesting a consensus on the effective implementation of play-based instructional strategies. These findings highlight both strengths and areas for improvement in current teaching practices.

The implications of these findings are multifaceted. The high agreement on the systematic incorporation of play-based instruction into daily schedules suggests that teachers recognize and prioritize its importance in early childhood education. However, the relatively lower score for

parental engagement indicates a potential area for enhancement. Increasing efforts to inform and involve parents in play-based instructional approaches could foster a more supportive learning environment and reinforce the benefits of such methods at home. Addressing this gap is essential for aligning educational practices with the holistic development goals of play-based learning methodologies.

Supporting these implications, several studies have highlighted the importance of effective implementation strategies in play-based learning. For instance, Acevedo (2022) found that while kindergarten teachers utilized both structured and unstructured play-based activities, there was a lack of administrative support and professional development to enhance these practices. Similarly, Schmidtke (2020) emphasized that leadership, professional learning, and collaboration significantly influence the successful implementation of guided play practices in kindergarten. Moreover, Geletu (2023) observed that play-based curricula often lacked developmental appropriateness and effective pedagogical practices, underscoring the need for systematic scaffolding and quality instruction. These studies underscore the necessity of comprehensive strategies, including parental engagement, to effectively integrate play-based instruction into early childhood education.

Summary results of integration of play-based instruction

Data presents the summary results of integrating play-based instruction across three key indicators: Training, Resource Availability, and Implementation Strategies. The Training indicator achieved the highest ($M=4.21$, $SD=0.66$), indicating a strong agreement among respondents regarding the adequacy and effectiveness of training provided for play-based instruction. This suggests that educators feel well-prepared and confident in implementing play-based methodologies.

Conversely, Resource Availability recorded the lowest ($M=3.83$, $SD=.80$) though still within the 'Agree' range. This lower mean suggests that, while resources are generally available, there may be concerns about their sufficiency or accessibility, potentially hindering optimal implementation. Implementation Strategies had a ($M=4.10$, $SD=0.62$), reflecting a positive perception of the strategies employed in integrating play-based instruction. The overall mean ($M=4.10$, $SD= 0.69$), indicates a general agreement on the successful integration of play-based instruction.

The results imply that while educators are well-trained and effective strategies are in place for play-based instruction, the availability of resources remains a relative concern. Adequate resources are crucial for the successful implementation of play-based learning, as they provide the necessary tools and materials to facilitate engaging and effective educational experiences. Insufficient resources can limit the variety and quality of play-based activities, potentially impacting student engagement and learning outcomes. Therefore, addressing resource availability is essential to fully realize the benefits of play-based instruction and ensure that educators can implement these strategies effectively.

Supporting studies reinforce these findings. A study by Obijiofor et al. (2024) highlighted the significance of comprehensive training programs in enhancing educators' understanding and skills in implementing play-based learning, leading to improved cognitive and social development outcomes for children. Similarly, research by Pem and Sakulwongs (2023) demonstrated that play-based learning significantly improved students' learning achievements and attitudes toward subjects like science. Additionally, Mercy (2021) identified that while teachers recognize the value of play-based learning, challenges such as lack of resources and large class sizes impede its effective implementation. These studies underscore the importance of

adequate training, strategic implementation, and resource availability in the successful integration of play-based instruction.

Effectiveness of play-based instruction in terms of student engagement

The study results assessed the effectiveness of play-based instruction on student engagement in kindergarten education across the Tampakan, Tantaran, and Tupi Districts. The findings indicate that the highest-rated indicator was "play-based learning encourages students to explore and ask questions," with a mean score of 4.46 and a standard deviation of 0.53, signifying strong agreement among respondents. Conversely, the indicators "students actively participate during the play-based learning session," "play-based instruction has increased students' enthusiasm for attending school," and "students demonstrate sustained attention during play-based activities" each received a mean score of 4.40, with standard deviations of 0.60, 0.55, and 0.52 respectively, representing the lowest scores among the indicators. Despite these variations, all indicators fall within the "agree" category, reflecting a positive perception of play-based instruction's impact on student engagement.

The results imply that play-based instruction effectively fosters student engagement by promoting exploration and inquiry. The high mean scores across all indicators imply that such instructional methods not only encourage active participation but also enhance enthusiasm and sustained attention among kindergarten students. These outcomes highlight the potential of play-based learning to create a dynamic and interactive educational environment, which can lead to improved collaboration and overall learning experiences for young children.

Supporting these findings, a study by Padillo et al. (2024) demonstrated that play-based learning effectively developed literacy and numeracy skills among kindergarten learners during the COVID-19 pandemic. Similarly, research by Mercy (2021) revealed that kindergarten teachers recognize the benefits of play-based learning in promoting student engagement, despite challenges such as lack of resources and large class sizes. Furthermore, a six-week play-based learning intervention significantly improved preschool students' number mastery, underscoring the approach's efficacy in enhancing academic skills through increased engagement (Armon & Vu, 2024)

Effectiveness of play-based instruction in terms of social emotional development

The results show the effectiveness of play-based instruction on social-emotional development in kindergarten students across the Tampakan, Tantaran, and Tupi Districts. The findings, as presented in Table 11, indicate that the highest mean score ($M = 4.45$, $SD = 0.61$) was observed for the indicator "Students display greater self-confidence during play-based tasks," suggesting a strong agreement among respondents regarding this outcome. Conversely, the indicators "Play-based learning has enhanced students' ability to manage their emotions" and "Conflict resolution skills among students have improved through play-based learning" both had the lowest mean scores ($M = 4.40$, $SD = 0.71$ and $M = 4.40$, $SD = 0.60$, respectively), though these scores still reflect a positive agreement. Overall, the average mean score across all indicators was 4.42 ($SD = 0.65$), indicating a consensus on the benefits of play-based instruction for social-emotional development.

The implications of these results are significant for early childhood education. The high mean score for self-confidence suggests that integrating play-based instruction can effectively bolster children's self-assurance in learning environments. However, the relatively lower scores in emotional management and conflict resolution, despite being positive, highlight areas where play-based methods could be further enhanced or supplemented with targeted strategies. Educators might consider incorporating specific activities aimed at improving these skills within the play-based framework. This balanced approach can ensure a more comprehensive

development of social-emotional competencies among kindergarten students.

Supporting these findings, recent studies have demonstrated the efficacy of play-based learning in enhancing various aspects of children's development. Kausar et al. (2024) found a significant relationship between play-based learning strategies and improvements in cognitive, social, and emotional development in preschool children. Similarly, Diwara (2024) reported that teachers observed notable benefits in implementing play-based approaches, particularly in fostering holistic child development and individualized instruction. Additionally, research by Sjamsir et al. (2023) highlighted that project-based learning, a form of play-based instruction, effectively enhances social-emotional skills in young children. These studies collectively reinforce the positive impact of play-based instruction observed in the current research.

Effectiveness of play-based instruction in terms of social academic performance

Data shows the results on the effectiveness of play-based instruction in terms of social academic performance. The indicator "Play-based instruction has positively impacted students' literacy skills" received the highest mean score of 4.53 with a standard deviation of 0.61, indicating strong agreement among respondents regarding the positive effect of play-based instruction on literacy. Conversely, the indicator "There is an improvement in problem-solving abilities due to play-based learning" had the lowest mean score of 4.35 with a standard deviation of 0.71, though it still reflects agreement on the benefits of play-based learning for problem-solving skills. The relatively higher standard deviation for problem-solving suggests more variability in responses compared to literacy skills. Overall, all indicators yielded mean scores above 4.0, demonstrating a consensus that play-based instruction positively influences various aspects of academic performance.

The consistently high mean scores across all indicators imply that integrating play-based instruction can effectively enhance students' academic performance, particularly in literacy and numeracy. The slightly lower mean for problem-solving abilities suggests that while play-based learning is beneficial, there may be room to further tailor these activities to strengthen problem-solving skills. Educators might consider incorporating more targeted play-based strategies to address this area. The positive outcomes associated with play-based learning support its continued and expanded use in educational settings. These findings encourage educators to adopt and refine play-based instructional methods to maximize student engagement and learning outcomes.

Recent research supports the effectiveness of play-based learning in enhancing academic performance. A study by Muhawenimana and Ngabonziza (2024) investigated the effects of play-based learning on student performance in Science and Elementary Technology and English language subjects in Rwandan primary schools. The study concluded that play-based learning played an important role in learner performance through play-based activities. Similarly, an action research project by Armon and Vu (2024) implemented a six-week play-based learning intervention aimed at improving preschool students' number fluency.

The results showed a significant increase in students' number mastery, highlighting the potential of play-based learning interventions for enhancing early childhood education. Additionally, a study by Pem and Sakulwongs (2023) applied play-based learning in a science subject for Grade 5 Bhutanese students. The outcome showed that play-based learning had helped students learn more effectively, as evidenced by a significant increase in post-test scores compared to pre-test scores. These studies collectively reinforce the positive impact of play-based instruction on various academic domains.

Summary results of effectiveness of play-based instruction

Data indicates that play-based instruction is perceived positively across various developmental indicators. Emotional Development received the highest ($M= 4.42$, $SD = 0.65$), suggesting that

participants agree on its significant enhancement through play-based methods. Student Engagement followed closely with a mean ($M=4.41$, $SD = 0.57$), highlighting active participation fostered by such instructional strategies. Academic Performance, while slightly lower, still holds a strong ($M=4.40$, $SD = 0.70$), indicating a positive impact on learning outcomes. The overall mean across these indicators is ($M= 4.40$, $SD = 0.64$), reflecting a consistent agreement on the effectiveness of play-based instruction in these areas.

These results imply that integrating play-based learning strategies can substantially benefit students' emotional well-being, engagement levels, and academic achievements. The high scores across all indicators suggest that such instructional approaches create a holistic learning environment, addressing both affective and cognitive domains. Educators might consider incorporating more play-based activities to promote emotional development and engagement, which could, in turn, enhance academic performance. The consistency in positive responses across different developmental areas underscores the versatility and effectiveness of play-based instruction. This holistic approach could lead to more well-rounded student development.

Recent studies further substantiate the positive outcomes associated with play-based instructional methods. Yang and Charubusp (2023) conducted a study in the Guangxi Zhuang Autonomous Region, China, demonstrating that play-based instruction significantly enhanced young learners' English vocabulary acquisition compared to traditional rote methods.

Similarly, Langton (2023) highlighted the academic benefits of play-based pedagogy in elementary education, noting improvements in emergent literacy and balanced literacy instruction. These studies align with previous findings, reinforcing the effectiveness of play-based instruction in promoting various aspects of student development.

Relationship between the level of integration of played-based instruction in the curriculum and its level of effectiveness

Data presents the relationship between the level of integration of play-based instruction in the curriculum and its effectiveness in addressing challenges and achieving success in 3T's public elementary school kindergarten education. The mean score for the level of integration is ($M= 4.05$, $SD = 0.49$), while the level of effectiveness is higher ($M=4.42$, $SD = 0.52$). The Pearson correlation coefficient (r) is 0.629, with a p -value of 0.000, indicating a moderate and statistically significant correlation between these variables. This suggests that higher integration of play-based instruction is associated with increased effectiveness in kindergarten education within this context.

These findings imply that incorporating play-based learning strategies into the kindergarten curriculum can enhance educational outcomes. The moderate positive correlation indicates that as educators integrate more play-based methods, the effectiveness of addressing educational challenges and achieving success improves. This underscores the importance of adopting developmentally appropriate practices that align with young children's natural learning processes. Educators and policymakers should consider promoting play-based instruction to foster better engagement and learning outcomes in early childhood education. Such integration may lead to more effective teaching strategies and improved student performance.

Supporting studies reinforce these conclusions. Aloizou et al. (2023) found that implementing movement-based games as a core curriculum tool improved academic achievement and cognitive development in kindergarten students, highlighting the benefits of integrating play into learning stations. Similarly, Boxberger (2023) observed that incorporating play-based learning strategies positively affected social-emotional behaviors and literacy skills in early childhood education, suggesting that play facilitates critical thinking and emotional growth. Additionally, facilitating kindergarten teachers' perceptions of play-based learning enhanced whole-child development, emphasizing the role of teacher attitudes in successful implementation (Yin et al., 2024)

Significant influence between the level of integration and effectiveness of play-based instruction in the demographic profile of kindergarten teachers

The analysis examines the significant influence between demographic variables of kindergarten teachers and the level of integration and effectiveness of play-based instruction. The variable "Highest Educational Attainment" has the lowest ($M=1.62$, $SD= 0.97$), indicating that most teachers possess a relatively uniform level of education, primarily bachelor's degrees with some pursuing further studies. In contrast, "Age" has the highest mean score of 34.83 with a standard deviation of 6.33, suggesting a diverse age range among the teachers surveyed. Both variables show significant chi-square values of 34.20 for age and 61.23 for educational attainment with p-values less than 0.05, indicating a statistically significant relationship between these demographic factors and the effectiveness of play-based instruction.

The significant relationship between teachers' age and educational attainment with the effectiveness of play-based instruction implies that these demographic factors may influence teaching practices. Younger teachers might be more adaptable and open to implementing innovative teaching methods, such as play-based learning, compared to their older counterparts. Similarly, teachers with higher educational qualifications may have a better understanding and appreciation of the benefits of play-based instruction, leading to more effective implementation. These findings suggest that professional development programs should consider these demographic factors to tailor training that enhances the adoption and effectiveness of play-based learning strategies among kindergarten teachers.

Recent studies support the findings of this analysis. Acevedo (2022) explored how kindergarten teachers implement play-based learning practices and curricula in kindergarten classrooms in a public elementary school in the Northeast United States. The study found that teachers' experiences and perspectives significantly influenced the implementation of play-based learning, aligning with the notion that demographic factors like age and educational attainment impact teaching practices. Similarly, a study by Yin et al. (2023) in Hong Kong revealed that teachers' beliefs and self-efficacy, which are often associated with their educational background and experience, were positively associated with the enactment of play-based learning. These studies corroborate the implication that demographic factors play a crucial role in the effective integration of play-based instruction in early childhood education.

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of the study, the following conclusions are drawn:

The findings highlight a young, predominantly female workforce with a growing focus on higher education. While many teachers are relatively inexperienced, the limited number of veteran educators may impact mentorship. Therefore, continuous training and support are essential to enhance teaching effectiveness in early childhood education.

It is concluded that the findings suggest that play-based instruction is effectively integrated, with educators feeling well-prepared and confident in its implementation. While training and strategies are positively received, some concerns remain about resource availability. Thus, there is strong agreement on its success in early childhood education.

Play-based instruction is well-integrated, with educators confident in its effectiveness. Training and strategies are well-received, though resource availability remains a concern. Therefore, it is recognized as a valuable approach in early childhood education.

The findings highlight a significant relationship between the integration of play-based instruction and its effectiveness in kindergarten education. Greater integration enhances its success in addressing challenges and improving learning outcomes. This reinforces the value of play-based methods in early childhood education. Consequently, the findings suggest that demographic factors, such as age and educational background, significantly influence the effectiveness of play-based instruction. A diverse age range among teachers and varying levels

of educational attainment contribute to its implementation. Understanding these factors can help improve teaching strategies and support systems.

In light of the preceding findings and conclusions, the following recommendations are:

To provide continuous professional development programs to strengthen the skills of inexperienced teachers. Mentorship programs should be established to connect novice educators with experienced mentors for guidance and support. Schools should also encourage further studies and specialized training to enhance teaching effectiveness. Additionally, resources and workshops on best practices in early childhood education should be made readily available. These initiatives will help ensure high-quality education and professional growth for kindergarten teachers.

It is recommended that while play-based instruction continues to be effectively integrated, efforts should be made to address concerns regarding resource availability. Providing additional materials, funding, and support can further enhance educators' ability to implement this approach successfully. Ongoing professional development and collaboration opportunities should also be encouraged to ensure educators remain confident and well-prepared. By strengthening these areas, the positive impact of play-based instruction in early childhood education can be sustained and further improved.

Play-based instruction is a well-integrated and effective approach, with educators demonstrating confidence in its benefits for early childhood learning. Training and strategies are positively received, reinforcing their importance in fostering engagement and development. However, resource availability remains a challenge that must be addressed to ensure consistent implementation. To enhance the effectiveness of play-based instruction, it is recommended that schools and educational institutions prioritize resource allocation, provide ongoing professional development, and explore creative solutions for material accessibility. Strengthening support systems and collaboration among educators can further maximize the impact of this valuable teaching method.

Given the strong relationship between play-based instruction and its effectiveness in kindergarten education, it is recommended that educators and policymakers prioritize the integration of play-based methods into early childhood curricula. By increasing the use of play-based learning strategies, schools can address various educational challenges and enhance overall learning outcomes for young children. This approach not only fosters cognitive and social development but also creates a more engaging and meaningful learning experience. Therefore, investments in teacher training, curriculum development, and classroom resources should emphasize play-based instruction to maximize its benefits and ensure long-term academic success.

To enhance the effectiveness of play-based instruction, it is essential to consider the demographic factors influencing its implementation. Schools and educational institutions should provide targeted professional development programs that cater to teachers of different age groups and educational backgrounds, ensuring they have the necessary skills and confidence to apply play-based methods effectively. Additionally, mentorship programs can be established, pairing experienced educators with newer teachers to foster knowledge-sharing and collaborative learning. Institutions should also conduct periodic assessments to understand how demographic variations impact instructional outcomes and tailor support systems accordingly. By recognizing and addressing these factors, educators can optimize play-based instruction to better engage students and improve learning outcomes.

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