IJAMS
INTERNATIONAL JOURNAL OF ADVANCED MULTIDISCIPLINARY STUDIES
Volume V, Issue 5 May 2025, eISSN: 2799-0664

Management Of Instruction by Kindergarten Teachers Using the Game-Based Approach (GBA)

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Abstract — This study aimed to assess the extent to which kindergarten teachers manage instruction using the Game-Based Approach (GBA) in selected public schools under the Department of Education Schools District of Cuyapo, Nueva Ecija. Specifically, it sought to determine how various teacher-related factors such as age, civil status, teaching experience, educational attainment, specialization, and number of trainings attended influence the management of instruction using GBA.

An ex post facto One-Shot Case Study research design was employed. The respondents consisted of forty-seven (47) randomly selected kindergarten teachers from the district. Data was gathered using a researcher-developed questionnaire validated by experts and statistically treated to determine the extent of GBA implementation and the relationships between selected variables and instructional management.

Findings showed that the respondent kindergarten teachers were predominantly female, in their early 30s, married, had over six years of teaching experience, and held bachelor's degrees with ongoing or completed graduate studies in Early Childhood Education. Most had attended four or more relevant in-service training programs.

The grand overall weighted mean for the extent of instructional management using GBA was 4.406, interpreted as "Extensive." Among the profile variables, only "specialization" significantly influenced the extent of instructional management. Additionally, "age," "specialization," and "number of seminars and training attended" were found to have significant correlations with the extent to which teachers managed instruction using the GBA.

The study concludes that while the respondents demonstrate a commendable level of GBA implementation, there is still considerable room for enhancement. The findings underscore the importance of teacher specialization and ongoing professional development in improving GBA management.

It is recommended that kindergarten teachers be further encouraged and supported to pursue advanced degrees, especially in early childhood education. Scholarship grants and institutional recognition may serve as effective motivators. Continuous training programs should be provided to enhance instructional competencies. Further research should explore additional variables that may influence GBA implementation and be conducted in collaboration with academic institutions to support data-driven educational improvements.

Keywords — Game-Based Approach (GBA), Kindergarten Teachers (KTs), Extent of Management of Instruction,

I. Introduction

Republic Act No. 10157, known as the "Kindergarten Education Act of 2012," mandates kindergarten as the first compulsory level of formal education in the Philippines. As outlined in Section 2 of this Act, all five-year-old children must be provided with equal opportunities to undergo kindergarten education, ensuring they are developmentally prepared—physically, socially, emotionally, intellectually, and morally—for entry into basic education.

In recent years, Game-Based Learning (GBL) has emerged as a powerful instructional method in early childhood education. Learning through play has been shown to increase children's engagement, imagination, collaboration, and critical thinking. Educational games and playful activities foster developmental readiness and nurture foundational cognitive and socio-emotional skills essential during the early years of learning. However, the implementation of GBL is shaped by various factors, including teachers' training, school support, access to appropriate materials, and institutional perception of play as a legitimate learning strategy.

While numerous studies (e.g., Alotaibi, 2024; Fadhli et al., 2023; Papadakis, 2022) support the effectiveness of GBL in developing cognitive, linguistic, and interpersonal competencies in young children, other research highlights persistent implementation challenges. These include a lack of technological tools, limited teacher preparedness, unclear academic goals, and inconsistent administrative backing. Some educators embrace games as essential to holistic child development, while others regard them as supplemental rather than integral to instruction.

Educational theories such as Vygotsky's Sociocultural Theory, Piaget's Constructivist Learning Theory, Kolb's Experiential Learning Cycle, and Gardner's Multiple Intelligences Theory underscore the value of interactive, hands-on, and differentiated learning experiences—core components of GBL. These frameworks emphasize the teacher's role in scaffolding, designing, managing, and evaluating game-based learning within the classroom to ensure that it addresses developmental and academic outcomes.

Globally and locally, digital innovations such as interactive storytelling, movement-based learning, and mobile applications are transforming how young learners interact with content. GBL aligns with the Sustainable Development Goals (SDGs), particularly SDG 4 (Quality Education), by promoting inclusive, equitable, and engaging educational practices. However, despite national policies and the availability of supportive frameworks, a gap remains between policy and classroom-level practice in Philippine kindergarten settings.

In response, this study seeks to examine the extent to which game-based learning strategies are implemented and managed by kindergarten teachers in selected schools under the Schools Division Office of Nueva Ecija—specifically within the Cuyapo West and East Districts—for the academic year 2024–2025. It aims to explore how teachers plan, deliver, and assess game-based instruction and to identify the enabling and limiting factors affecting this approach.

Through investigating teacher readiness, school resources, and institutional support, this study endeavors to offer actionable insights that can bridge the gap between GBL theory and practice. It also aims to provide evidence-based recommendations to inform policy, improve teacher training programs, and enhance instructional quality. Ultimately, the research supports the broader goal of delivering child-centered, developmentally appropriate education aligned with 21st-century learning standards.

Statement of the Problem

This study investigated the extent to which kindergarten teachers (KTs) employed a game-based approach in instruction management in the School District of the Municipality of Cuyapo, Nueva Ecija, during the 2024-2025 school year.

Specifically, this study sought to answer the following specific problems:

1. What is the profile of kindergarten teachers (KTs) in terms of;
    a. age,
    b. sex,
    c. civil status,
    d. specialization,
    e. length of service,
    f. highest educational attainment, and
    g. number of seminars and training attended related to classroom management and pedagogy?
2. What is the extent of management by the respondent-KTs using the game-based approach (GBA) along the following areas:
    a. planning,
    b. implementation; and
    c. evaluation?
3. Is there a mean difference in the extent of management of instruction by the respondent-KTs using the game-based approach (GBA) across their profile variables?
4. Is there a significant relationship between the extent of management of instruction by the respondent-KTs using the game-based approach (GBA) and their profile variables?

5. Based on the results of the study, what enhancement training program could be developed, proposed and implemented for improving the management of instruction of KTs in the use of the game-based approach?

Literature Review

The growing interest in Game-Based Learning (GBL) in early childhood education is grounded in its ability to enhance cognitive, social, emotional, and physical development among young learners. Play and games are not merely recreational; they are powerful pedagogical tools that allow children to explore concepts, interact meaningfully, and construct knowledge through engaging, developmentally appropriate experiences.

Theoretical Foundations of Game-Based Learning

Game-Based Learning (GBL) is grounded in key educational theories. Vygotsky's Sociocultural Theory emphasizes guided interaction within the Zone of Proximal Development, where teachers scaffold gameplay to support learning (Hoose, 2020; Papadakis, 2022). Piaget's Constructivist Theory aligns with hands-on exploration, making GBL effective for symbolic and cognitive development in young learners (Fleer, 2020; Sheridan et al., 2021). Kolb's Experiential Learning Theory supports active participation and reflection—core features of GBL—enabling learners to build meaningful understanding through experience (Papadakis et al., 2020; Martinez & Roberts, 2021).

Gardner's Multiple Intelligences Theory supports GBL's inclusive nature, suggesting that children with different learning styles (e.g., visual, kinesthetic, interpersonal) benefit from diversified activities embedded in games (Papadakis et al., 2020). These theories collectively support the role of games as rich educational tools in early childhood classrooms.

Benefits of GBL in Kindergarten

Several studies affirm the academic and developmental benefits of GBL. Alotaibi (2024) found that preschoolers who engaged in game-based activities demonstrated improved motivation, critical thinking, and collaboration skills. Likewise, Aloizou et al. (2024) showed that movement-based math games promoted both physical coordination and academic mastery, suggesting these activities can be seamlessly embedded into daily lessons.

Giannakoulas et al. (2023) emphasized how educational games enhance computational thinking in early grades, while Manditereza (2024) found that combining GBL with mobile learning fostered emotional well-being and interactive learning in young children. These findings suggest that GBL can simultaneously address academic goals and socio-emotional development.

Fadhli et al. (2023) added that GBL enhances children's digital literacy and problem-solving abilities, especially when games are aligned with multimedia content. Göle et al. (2024)

further supported this by demonstrating that digital game programs significantly enhance phonological awareness—a critical precursor to reading proficiency.

Challenges in Implementing Game-Based Learning

Despite its advantages, several barriers hinder the consistent and effective use of GBL in early childhood settings. Yaman et al. (2022) pointed out issues such as inadequate educational games, lack of teacher training, and limited administrative support. These barriers lead to inconsistent implementation across schools.

Bubikova-Moan et al. (2023), in their review of 62 studies across 24 countries, found that while early childhood educators acknowledged the importance of play, they often struggled to balance academic requirements with play-based strategies. Teachers were also unsure how to incorporate games without compromising curriculum goals.

In the Philippine context, Santos et al. (2024) explored teacher perceptions of play-based learning in Zambales and discovered that resource constraints and lack of institutional support limited the effective use of games. Similarly, Formilleza et al. (2020) highlighted that although there is growing awareness of play's value, implementation in Filipino schools is still affected by systemic challenges such as training gaps and limited materials.

Importance of Teacher Training and Management

Effective game-based learning relies on the competence and readiness of teachers. Sirakaya et al. (2020) found that classrooms with well-managed GBL strategies yielded higher student achievement and engagement. This underscores the importance of teacher training in not only using educational games but also managing them in a way that aligns with learning objectives.

Zosh et al. (2022) emphasized that educational games must be intentionally designed and facilitated to target specific developmental areas such as memory, attention, or language. Teachers play a critical role in curating games, providing scaffolding, and evaluating learning outcomes.

Kalogiannakis et al. (2023) stressed that professional development is vital. Teachers who receive training in GBL are more confident, innovative, and capable of adjusting lessons to meet learners' needs. This highlights the need for continuous support in the form of workshops, mentoring, and access to teaching resources.

Linking GBL to Sustainable Development Goals (SDGs)

GBL supports the realization of multiple United Nations Sustainable Development Goals (SDGs), particularly SDG 4 (Quality Education). By making learning equitable, inclusive, and engaging, GBL ensures young children develop the foundational skills they need for lifelong learning (Papadakis, 2022; Zosh et al., 2022).

Furthermore, SDG 5 (Gender Equality) and SDG 10 (Reduced Inequalities) are addressed when GBL environments are inclusive and accessible. Teachers can design games that encourage participation from all children, regardless of gender, ability, or socioeconomic background (Sirakaya et al., 2020). Additionally, using educational technology in GBL aligns with SDG 9 (Industry, Innovation, and Infrastructure) by fostering digital literacy in the early years.

Local and Cultural Relevance

Research conducted in other Southeast Asian countries like Indonesia has also shown promising results. Candra et al. (2024) found that educational games improved English proficiency among kindergarten learners, especially when games reflected their cultural context. Teacher-created digital games, as discussed by Tárraga-Sánchez et al. (2023), proved effective in both classroom and remote settings by individualizing learning and offering instant feedback.

In the Philippines, however, rural schools often lack the infrastructure or training required to fully embrace GBL, leading to uneven implementation. This gap points to the need for policy-to-practice alignment and localized solutions tailored to the specific needs of communities, such as those in Nueva Ecija.

II. Methodology

Research Design and Strategy

The researcher used the ex post facto design. According to Saleh (2022), an ex post facto design aims to determine a cause-and-effect relationship between an independent variable, which cannot be manipulated or controlled, and a dependent variable. Ex post facto one-shot case study research studies seek to identify the characteristic, trait, or past event that affects the dependent variable.

An ex post facto One-Shot Case Study design is a quasi-experimental study in which an independent variable is examined or determined to be present before the study and affects the dependent variables.

Population and Locale of the Study

The study had forty-seven (47) respondents, all of whom were kindergarten teachers from public schools across the entire Municipality of Cuyapo, Nueva Ecija. The present study employed the total enumeration sampling technique, as all qualified kindergarten teachers within the study locale were included as respondents.

Data Gathering Tools

A questionnaire checklist was used to gather the data needed for the study. It served as the principal instrument, providing information on the extent of instruction management by the respondent-KTs using the game-based approach (GBA) in the Division of Nueva Ecija.

The questionnaire had two parts:

The first part focused on the respondents' profiles in terms of their age, sex, civil status, specialization, length of service, highest educational attainment, and number of seminars and training sessions attended related to classroom management and pedagogy.

The second part measured how the respondent-KTs managed instruction using the game-based approach (GBA) in the Municipality of Cuyapo, Nueva Ecija, encompassing planning, implementation, and evaluation.

Data Gathering Procedure

A descriptive survey was conducted to analyze the collected data using the questionnaire. Permission was obtained from the Office of the Schools Division Superintendent (SDS), the Office of the District Supervisor, and the Office of the Principal in the public elementary schools of various districts to distribute the questionnaire and gather the necessary data.

Furthermore, the questionnaire checklist is shown to the Adviser and Panel members for comments and suggestions, serving as a basis for improving the final draft of the instrument.

After the questionnaire was simplified, improved, and refined, it underwent content validation. The experts determined the instrument's content validity, using the average weighted means to describe it.

III. Results and Discussion

The study revealed that the respondent kindergarten teachers are mostly married females in their early 30s, holding a bachelor’s degree with some graduate coursework in Early Childhood Education, and have over six years of teaching experience along with attendance in multiple relevant training sessions. The overall extent of instructional management using the Game-Based Approach (GBA) was rated as “extensive” with a grand weighted mean of 4.406. Among the factors studied, only the teachers’ specialization significantly influenced their level of instructional management with GBA. Additionally, age, specialization, and the number of seminars and trainings attended showed significant correlations with how the teachers managed instruction using the GBA.

IV. Conclusion

The respondent-KTs are in their prime time of productive work, and are basically qualified to be designated as kindergarten teachers, as to their age, experience, educational attainment, and specialization.

The extent of management of instruction by the respondent-KTs using the GBA has still plenty of room to level up from being "extensive" to "very extensive." The variable, "specialization" differentiated the extent of management of instruction by the respondent-KTs using the GBA. Only some, not all, independent variables are associated with the extent of management of instruction by the respondents using the GBA.

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