**Enhancing Reading Literacy of** **Kindergarten through Interactive Learning Materials at San Vicente Elementary School**

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ABSTRACT

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| This study evaluated the effectiveness of interactive learning materials in enhancing reading literacy among kindergarten pupils at San Vicente Elementary School. It compared the early reading literacy levels of a control group and an experimental group before and after an intervention using interactive materials.  Thirty-six pupils were purposively selected and divided into two groups: Section Calla (experimental) and Section Lily (control). A quasi-experimental design was employed, using pre- and post-tests based on a 25-item standardized assessment tool aligned with the Kindergarten Curriculum. The test measured five competencies: letter name and sound identification, matching upper and lower case letters, rhyming, and syllable counting.  Both groups initially showed a "Consistent" level of reading literacy, with the experimental group slightly ahead in some areas. After using educational apps and interactive activities, the experimental group showed greater improvement, particularly in phonological awareness.  Statistical analysis (t = -2.64, p = 0.013) indicated a significant difference in post-test scores, confirming the positive impact of the interactive materials. The findings suggest that integrating interactive tools can significantly boost foundational literacy. The study recommends incorporating such materials into the kindergarten curriculum, providing teacher training, and developing interventions for areas like rhyming, where learners showed early difficulty. |

*Keywords:Reading literacy,Kindergarten,Interactive Learning Materials,Early Childhood Education,San Vicente Elementary School*

1. INTRODUCTION

In the contemporary educational landscape, enhancing early literacy skills is crucial for the academic success of young learners. Reading literacy serves as a foundational skill that influences not only academic achievement but also lifelong learning and personal development. As children enter kindergarten, they are at a critical juncture where their engagement with language and literacy can significantly shape their future reading abilities.

Traditional instructional methods often fail to captivate young learners, highlighting the need for innovative pedagogical approaches that foster engagement and cater to diverse learning styles. Research indicates that children who develop strong reading skills in their early years are more likely to excel in school and beyond, making early literacy a critical focus for educators and policymakers alike Snow, C. E., Burns, M. S., & Griffin, P. (1998).

Kindergarten represents a pivotal stage in this developmental journey, where children transition from informal exposure to language to structured literacy instruction. However, traditional teaching methods often struggle to engage young learners effectively, highlighting the need for innovative pedagogical approaches that foster engagement and cater to diverse learning styles. Interactive learning materials have emerged as a promising strategy to enhance reading literacy among kindergarten pupils.

These materials encompass a range of resources, including interactive storybooks, digital applications, and hands-on activities that encourage active participation and collaboration.

The interactive nature of these resources transforms the reading experience into an engaging and enjoyable process, which is essential for young learners who thrive in dynamic environments. Research has demonstrated that interactive book reading activities can significantly improve reading fluency and comprehension skills in elementary students Çetinkaya, F. C., Ateş, S., & Yıldırım, K. (2019). For instance, a study involving 705 students found that interactive book reading led to significant improvements in both reading fluency and comprehension Lestari, G. P., Kosasih, A., & Somad, M. A. (2023). Moreover, the integration of technology into interactive learning has proven beneficial in promoting literacy skills.

A systematic review highlighted the positive effects of children's interactive reading apps on emergent literacy skills, emphasizing that well-designed applications can effectively enhance children's learning outcomes Hsiao, Y. P., & Chen, Y. J. (2023). Digital Play-Based Learning Enhances Reading Skills a study conducted by Mondragon (2021) explored the impact of digital play-based learning packages on kindergarten learners' reading and counting skills. The pre-experimental design revealed significant improvements in students' reading abilities, highlighting the potential of integrating digital tools to make learning more engaging and effective Hsiao, Y. P., & Chen, Y. J. (2023).

These digital tools often incorporate multimedia elements—such as animations, sound effects, and interactive features—that provide contextual cues to aid comprehension. Such enhancements not only make reading more appealing but also support diverse learning preferences among young children Piasta, S. B., et al. (2020). [6]. The role of social interaction in literacy development cannot be overlooked either. I

Interactive learning environments encourage collaboration among peers, allowing children to share ideas and insights during reading activities. Research indicates that peer interactions during literacy tasks can lead to improved vocabulary acquisition and narrative skills Rojas-Cortez, S., et al. (2019).Additionally, hands-on materials used during narrative literacy activities have shown significant positive effects on story comprehension among preschool students, further underscoring the importance of interactive methods McGee, L., et al. (2020). Furthermore, studies have explored various interactive reading models that incorporate different strategies to enhance language skills.

For instance, research has shown that traditional interactive reading models significantly improve early childhood language skills by focusing on semantics and word repetition [8]. These models encourage children to engage with texts actively through dialogue and open-ended questions, which can lead to improved language proficiency [9]. This study aims to evaluate the effects of interactive learning materials on enhancing Kiuru, N., et al. (2017). early reading literacy among kindergarten pupils. Early reading literacy covers the competencies of kindergarten pupils along identifying letter names and letter-sounds, matching uppercase and lower case letters, identifying the beginning sound of a given word, distinguishing words that rhyme, and, counting syllables in a given word stice, L. M., & Kaderavek, J. D. (2002) [10]. Performance in the early reading literacy are categorized as beginning, developing or consistent. Learners in the beginning level rarely demonstrates the expected competency, developing learners sometimes demonstrates the competency, and consistent learners always demonstrate the expected competency Salcedo, L. (2020).

Contextualized Interactive Videos Improve Reading Comprehension Redondo and Catapang (2024) examined the use of the "Bahay Kubo" contextualized interactive video application to enhance reading skills among daycare pupils in Manila. The study found that the application significantly improved reading performance, emphasizing the importance of culturally relevant and interactive resources in early literacy education Omaga, R., & Alieto, T. (2019).

Teacher perceptions on play in literacy instruction explored filipino early childhood educators' perspectives on using play as a medium for delivering literacy instruction. The study revealed that teachers recognize the significance of various play types—such as active, exploratory, manipulative, music, and dramatic play—in advancing literacy development. Semilla, M., De Guzman, R., & Cruz, J. (2023). Developed e-learning materials in the mother tongue to improve early reading instruction.

The quasi-experimental study demonstrated that these materials significantly enhanced learners' phonics and word recognition skills, emphasizing the effectiveness of culturally and linguistically appropriate resources in early literacy education U.S. Agency for International Development (USAID). (2021, June USAID and DepEd Collaboration on Interactive Reading Materials The collaboration between the U.S. Agency for International Development (USAID) and the Department of Education (DepEd) led to the development of over 200 interactive e-books and educational videos in 10 local languages. These resources, aligned with the DepEd curriculum, are freely accessible through DepEd Commons, aiming to make learning more accessible and engaging for students across the Philippines.

The challenges in reading literacy especially in kindergarten is that lack of access to resources many schools, especially in rural or underfunded areas, lack quality reading materials, technology, or interactive tools that support early literacy, limited teacher training some educators may not be trained in developmentally appropriate practices for teaching literacy to young children, particularly using modern, interactive materials, language barriers in multilingual countries like the Philippines.

Students may struggle with reading in a second or third language, which can hinder comprehension and motivation, low home literacy environment many children come from homes where reading is not modeled or encouraged, and parents may not have the literacy skills themselves to support early learning.

Learning disabilities or developmental delays undiagnosed learning needs can make early literacy acquisition more difficult without targeted support and lack of engagement traditional, text-heavy approaches often fail to capture young children's attention and do not cater to their natural learning styles, which are more sensory and play-based.

The proponent of this research study is a Kindergarten teacher handling two sessions and is looking for a teaching strategy which could effectively enhance the early reading literacy of kindergarten pupils. The researcher wants to improve early literacy outcomes researching the effectiveness of interactive learning materials can lead to strategies that significantly improve how children acquire reading skills at the most critical stage of development; and to bridge educational gaps that may help address disparities in access to quality education particularly in San Vicente Elementary School.

These could be done by identifying practical and affordable solutions that teachers can implement, fostering lifelong learning and building strong reading skills at the kindergarten level. These competencies improve performance across all learning areas and help build a strong foundation for lifelong learning.

They also foster personal and community motivation to support children in overcoming literacy barriers, making my research both meaningful and locally impactful through the use of interactive learning strategies. This study explored how interactive learning materials can effectively improve early reading literacy outcomes among kindergarten pupils at San Vicente Elementary School.

2. Statement of the problem

This study aimed to assess the effectiveness of interactive learning materials in enhancing reading literacy among kindergarten pupils at San Vicente Elementary School It sought to answer the following questions:

1. What is the level of the early reading literacy of the control and experimental groups in the pre-test?

2. What is the level of the early reading literacy of the control and experimental groups in the post-test?

3. Is there a significant difference in the early literacy level between the control and

experimental groups after the use of interactive learning materials?

**2.1 HYPOTHESIS**

There is no significant difference between the post-test scores of the experimental and control groups in reading literacy.

3. methodology

**3.1 Research Design**

This research utilized quasi-experimental design with two groups: a control group and an experimental group. This design allows for the comparison of outcomes between groups receiving different interventions while controlling for other variables.

**3.2 Locale of the Study**

The study was conducted at San Vicente Elementary School (SVES). San Vicente Elementary School was situated at the foot of the hill northeast of San Pablo District. San Vicente Elementary School was classified as a medium-sized school. It was a complete elementary school that offered Kindergarten to Grade 6 classes.

3.3 **Participants of the Study**

The participants of the study are the 36 kindergarten pupils of San Vicente Elementary School. The pupils are divided into two sections: Section Calla consists of 18 pupils is the experimental group, and section Lily with18 learners is control group. These pupils were chosen to represent a typical group of kindergarten learners, and their engagement with interactive learning materials is central to understanding how these materials can influence reading literacy development at an early age.

**3.4 Research Design**

The research utilized pre-test and post-test. Items in the tests are directly lifted from the sections of reading and literacy, language and communication of the standardized assessment tool used in kindergarten curriculum. Competencies include letter names recognition, letter-sound correspondence, rhyming words identification and print awareness (upper and lower case letters). Each competency has five items.

**3.5 Data Gathering Procedures**

To conduct the study, the researcher first sought permission from the appropriate school authorities. Once approval was granted, the data gathering procedure was implemented in several key steps.

The participants of the study were drawn from two existing kindergarten sections. Section Calla was assigned as the experimental group, which received reading instruction using interactive learning materials. Meanwhile, Section Lily served as the control group and followed the traditional approach to reading instruction without the use of any interactive or multimedia resources. Both groups consisted of a comparable number of pupils and exhibited similar classroom profiles to ensure fairness and validity in evaluating the intervention’s effectiveness.

At the beginning of the quarter, a pre-test was administered to both groups to assess the pupils’ initial reading literacy levels. The pre-test consisted of 25 items adapted from a standardized kindergarten assessment tool. It focused on four key reading competencies: Letter Name Recognition, Letter-Sound Correspondence, Rhyming Words Identification, and Print Awareness (including both uppercase and lowercase letters), with each competency represented by five items.

Following the pre-test, the experimental group (Section Calla) received instruction using a variety of interactive learning materials during their daily reading sessions. These materials included alphabet sound flashcards, a letter name bingo game, rhyming word picture puzzles, alphabet tracing mats, phonics songs and videos, and story-based big books. These tools were consistently integrated into lessons throughout the quarter to support and enhance pupils’ reading development.

In contrast, the control group (Section Lily) continued their reading instruction using conventional teaching strategies, such as oral reading, letter drills, and printed worksheets, without the inclusion of interactive or multimedia materials. Despite the difference in instructional methods, both groups followed the same set of learning competencies and adhered to a similar instructional schedule.

At the end of the quarter, a post-test—using the same 25-item assessment as the pre-test—was administered to both groups. This allowed the researcher to measure any improvements in the pupils’ reading literacy and to evaluate the effectiveness of the interactive learning materials used with the experimental group.

**3.6 Statistical Analysis**

Table 1.The results of pre-test and post-test of the experimental and control group was tabulated, analyzed and interpreted.

The following rubric was used in interpreting the test results

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Competencies | Competency  interpretation | Item Tested | Score | Reading Literacy Level | Descriptive Interpretation |
| Identifying Letter Names | Recognizes a few letters but needs more practice. | 5 | 4-5 | Consistent | Recognizes most or all letter names correctly and confidently |
| 2-3 | Developing | Recognizes some letters but makes occasional errors; needs more practice. |
| 0-1 | Beginning | Struggles to identify letters; needs significant support and reinforcement. |
| Identifying Letter Sounds | Struggles with letter sounds. Needs more support. | 5 | 4-5 | Consistent | Identifies most or all letter sounds accurately. |
| 2-3 | Developing | Recognizes some letter sounds but with occasional mistakes; needs more support. |
| 0-1 | Beginning | Has difficulty identifying letter sounds; requires intensive assistance. |
| Matching Upper/Lower Case | Performs well in matching cases. | 5 | 4-5 | Consistent | Matches big and small letters correctly. |
| 2-3 | Developing | Matches some letters but still makes a few mistakes. |
| 0-1 | Beginning | Finds it hard to match big and small letters; needs more help. |
| Distinguishing Rhymes | Can rhyme some words, but occasionally makes mistakes. | 5 | 4-5 | Consistent | Can tell which words rhyme most of the time. |
| 2-3 | Developing | Knows some rhyming words but still makes mistakes. |
| 0-1 | Beginning | Has a hard time knowing which words rhyme; needs more help |
| Counting Syllables | Good understanding of syllable counting. | 5 | 4-5 | Consistent | Counts syllables in words correctly most of the time. |
| 2-3 | Developing | Can count syllables but makes some mistakes. |
| 0-1 | Beginning | Has trouble counting syllables; needs more support. |
| Total | 25 | | | | |

4. result and discussion

**4.1 Table 2: Pre-Test Early Reading Literacy Levels of the Control and Experimental Groups**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ***Early Reading Literacy Competencies*** | ***Control Group*** | | | ***Experimental Group*** | | |
| ***Mean*** | ***Reading Literacy Level*** | ***SD*** | ***Mean*** | ***Reading Literacy Level*** | ***SD*** |
| 1. Identifying Letter Names | 3.89 | Developing | 0.83 | 4.33 | Consistent | 1.03 |
| 1. Identifying Letter Sounds | 3.89 | Developing | 0.83 | 4.28 | Consistent | 0.46 |
| 1. Matching Upper/Lower Case | 4.06 | Consistent | 0.94 | 4.56 | Consistent | 0.62 |
| 1. Distinguishing Rhymes | 2.78 | Developing | 0.81 | 3.06 | Developing | 1.39 |
| 1. Counting Syllables | 3.39 | Developing | 0.78 | 4.33 | Consistent | 1.24 |
| ***OVERALL MEAN*** | **4.31** | **Consistent** | **0.84** | **4.11** | **Consistent** | **0.95** |

Based on the pre-test results on Table 1, the control and experimental groups at San Vicente Elementary School both demonstrated "Consistent" overall reading literacy levels, with the control group slightly higher at 4.31 compared to the experimental group's 4.11. In specific competencies, the experimental group showed stronger performance in identifying letter names (4.33) and counting syllables (4.33), both indicating good understanding, while the control group scored lower in these areas (3.89 and 3.39 respectively), suggesting the need for more practice. However, both groups struggled with distinguishing rhymes, scoring 2.78 and 3.06, which indicates difficulty in this area. These findings imply that while the experimental group already shows promising skills in key early reading domains even before the intervention, both groups would benefit from targeted instruction in phonological awareness, particularly rhyming, to further enhance foundational literacy skills. These results aligned in the study of [2], which highlighted that interactive book reading activities significantly improve foundational reading skills, particularly in areas like letter recognition and phonological awareness. Their findings support the idea that early exposure to interactive literacy tools helps children engage more deeply with reading tasks, leading to measurable progress in early literacy competencies.

**4.2 Table 3: Post-Test Early Reading Literacy Levels of the Control and Experimental Groups**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ***Early Reading Literacy Competencies*** | ***Control Group*** | | | ***Experimental Group*** | | |
| ***Mean*** | ***Reading Literacy Level*** | ***SD*** | ***Mean*** | ***Reading Literacy Level*** | ***SD*** |
| 1. Identifying Letter Names | 4.56 | Consistent | 0.51 | 5.00 | Consistent | 0.00 |
| 1. Identifying Letter Sounds | 4.50 | Consistent | 0.51 | 4.78 | Consistent | 0.43 |
| 1. Matching Upper/Lower Case | 4.50 | Consistent | 0.51 | 4.83 | Consistent | 0.38 |
| 1. Distinguishing Rhymes | 3.67 | Developing | 0.91 | 4.00 | Consistent | 0.00 |
| 1. Counting Syllables | 4.33 | Consistent | 0.59 | 4.89 | Consistent | 0.32 |
| ***OVERALL MEAN*** | **4.31** | **Consistent** | **0.61** | **4.70** | **Consistent** | **0.23** |

Based on the post-test results in Table 2, the experimental group who used interactive learning materials consistently outperformed the control group across all early reading literacy competencies. The experimental group achieved perfect or near-perfect mean scores in identifying letter names (5.00), letter sounds (4.78), matching upper/lowercase letters (4.83), distinguishing rhymes (4.00), and counting syllables (4.89), all falling within the “Consistent” reading literacy level. In comparison, the control group had slightly lower means, particularly in distinguishing rhymes (3.67), where their performance was on “Developing.” The overall mean of the experimental group was 4.70 with a lower standard deviation of 0.23, indicating both higher performance and more consistent outcomes among learners. These findings suggest that the use of interactive learning materials can significantly enhance kindergarten students’ early reading skills, particularly in phonological awareness and syllable recognition, thereby making them more prepared for subsequent reading development stages. These results aligned in the study of [6] through a meta-analysis, confirmed that the use of interactive books contributes meaningfully to the acquisition of foundational reading skills among young learners by supporting engagement, repetition, and multisensory reinforcement—all of which are critical during the early stages of reading acquisition.

**4.4 Table 4. Difference in Early Reading Literacy Level of Control and Experimental Groups Post-Intervention**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ***Mean Performances*** | ***Mean*** | ***SD*** | ***t-value*** | ***p-value*** | ***Decision at 0.05*** |
| Control Group | 4.31 | 0.61 | -2.64 | 0.013 | Reject Ho |
| Experimental Group | 4.70 | 0.23 |

The data in Table 3 reveals a significant difference in the post-intervention early reading literacy levels between the control group (mean of 4.31, standard deviation of 0.61) and the experimental group (mean of 4.70, standard deviation of 0.23), with a t-value of -2.64 and a p-value of 0.013. Since the p-value is less than the 0.05 level of significance, the null hypothesis is rejected, indicating that the use of interactive learning materials had a statistically significant positive impact on the reading literacy of kindergarten pupils at San Vicente Elementary School. This suggests that incorporating interactive learning resources can be an effective strategy in early childhood education to boost literacy skills and improve learning outcomes. These results aligned in the study of [22] demonstrated that interactive reading models were effective in improving language skills among early childhood learners, affirming the benefit of incorporating multimedia elements in foundational instruction.

**5.CONCLUSION**

In conclusion, the study titled *“Enhancing Reading Literacy of Kindergarten through Interactive Learning Materials at San Vicente Elementary School”* demonstrated that the use of interactive learning materials significantly enhanced the reading literacy of kindergarten pupils. The comparable pre-test results between the control and experimental groups confirmed that both began at a similar level, ensuring the validity of the findings. The common difficulty in rhyming skills revealed the need for focused instruction in phonological awareness. Following the intervention, the experimental group showed statistically significant gains in key competencies such as letter name recognition, letter-sound correspondence, rhyming, and print awareness. These findings affirm the effectiveness of interactive learning materials in promoting foundational literacy skills, suggesting that their integration in early education can foster meaningful and lasting academic improvements.

6.

Consent (where ever applicable)

I affirm that the respondents voluntarily agreed to participate after being fully informed about the purpose, nature, and potential implications of the study. Their responses have been collected with utmost respect for their privacy and confidentially, in accordance with ethical research guidelines.

DISCLAIMER (ARTIFICIAL INTELLIGENGE)

I acknowledge that I have used copilot for only refining some the sections in the document.

Ethical approval (where ever applicable)

The study was conducted with the approval and in accordance with the standards of the elementary. No ethical approval was required, as the research followed all applicable ethical guidelines, ensuring respect for the respondents ‘privacy and confidentially.

References

Snow, C. E., Burns, M. S., & Griffin, P. (1998). Preventing reading difficulties in young children. National Academies Press.

Çetinkaya, F. C., Ateş, S., & Yıldırım, K. (2019). Effects of interactive book reading activities on improvement of elementary school students’ reading skills. *International Journal of Progressive Education, 15*(3), 180-192.

Lestari, G. P., Kosasih, A., & Somad, M. A. (2023). The effectiveness of interactive reading models in improving early childhood language skills. *International Journal of Learning Technology and Educational Research, 22*(9), 15-29.

Hsiao, Y. P., & Chen, Y. J. (2023). A systematic review on the effectiveness of children's interactive reading applications for promoting emergent literacy skills. *Journal of Educational Technology & Society, 26*(1), 1-20.

Hsiao, Y. P., & Chen, Y. J. (2023). A systematic review on the effectiveness of children's interactive reading applications for promoting emergent literacy skills. *Journal of Educational Technology & Society, 26*(1), 1-20.

Piasta, S. B., et al. (2020). The role of interactive books in the development of reading comprehension skills in young children: A meta-analysis. *Reading Research Quarterly, 55*(2), 123-145.

Rojas-Cortez, S., et al. (2019). The role of peer interaction in young children's vocabulary development: A review of the literature. *Early Childhood Research Quarterly, 48*, 1-13.

McGee, L., et al. (2020). Effects of using hands-on materials during narrative literacy activities on preschool students' story comprehension: A pilot study. *Early Childhood Education Journal, 48*(4), 457-467.

Kiuru, N., et al. (2017). The effectiveness of interactive reading models in early childhood education: A comprehensive review. *International Journal of Child-Computer Interaction, 14*, 1-10.

stice, L. M., & Kaderavek, J. D. (2002). Shared storybook reading: A context for language development. *Language, Speech, and Hearing Services in Schools, 33*(1), 30-37.

Salcedo, L. (2020). Play-based instructional materials in developing reading readiness skills among kindergarten pupils in Bato District, Camarines Sur. *Asian Journal of Education and Development, 8*(1), 45-52.

Omaga, R., & Alieto, T. (2019). Teaching literacy through play: Perspectives from Filipino early childhood teachers. *Journal of Early Childhood Education, 11*(4), 89-94.

Salcedo, L. (2020). Play-based instructional materials in developing reading readiness skills among kindergarten pupils in Bato District, Camarines Sur. *Asian Journal of Education and Development, 8*(1), 45-52.

Semilla, M., De Guzman, R., & Cruz, J. (2023). The effectiveness of e-learning materials in mother tongue for early reading instruction. *International Journal of Language and Teaching Education Research, 6*(2), 115-122.

U.S. Agency for International Development (USAID). (2021, June). USAID partners with DepEd to develop interactive reading materials for Filipino students. *USAID Philippines*. Retrieved from https://www-2021.usaid.gov/philippines/our-stories/june-2021-usaid-partners-deped-develop-interactive-reading-materials