

Use of Interactive Digital Materials in Teaching Literacy to Kindergarten Pupils of Nagbukel District

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Abstract: Early literacy development plays a vital role in shaping a child’s future academic success. While traditional teaching methods—such as printed books, flashcards, and storytelling—remain valuable, the growing use of interactive digital materials has begun to reshape early childhood education. Tools like digital storybooks, animated videos, and literacy games offer new ways to capture children’s attention and support learning.

This literature review brings together global and local studies that explore how these digital tools influence literacy skills, motivation, and engagement among kindergarten pupils. Guided by constructivist and socio-cultural learning theories, it highlights both the opportunities and challenges of using technology in the classroom, while emphasizing the importance of context—particularly in Philippine schools.

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I. INTRODUCTION

Kindergarten is a crucial stage where children begin to develop foundational literacy skills such as recognizing letters, understanding sounds, building vocabulary, and making sense of simple texts. Traditionally, these skills have been taught through hands-on and print-based methods. However, with the increasing presence of technology, classrooms are gradually incorporating interactive digital materials that provide richer and more engaging learning experiences.

These tools combine visuals, sounds, and interactivity, making lessons more appealing to young learners. Studies have shown that such approaches can improve motivation, participation, and understanding (Neumann, 2018; UNESCO, 2021). Still, the shift is not without challenges. Many schools struggle with limited resources, and teachers may not always feel fully prepared to use digital tools effectively (Ertmer & Ottenbreit-Leftwich, 2010).

In this light, this study aims to explore how interactive digital materials can support literacy development among

kindergarten pupils in Nagbukel District, while also considering the realities faced by teachers and schools.

II. LITERATURE REVIEW

➤ *Use of Technology in Early Childhood Education*

Technology has opened new possibilities for teaching young children, especially in making learning more interactive and meaningful. According to Neumann (2018), digital tools can support early reading development by engaging children in activities that stimulate both visual and auditory learning. UNESCO (2021) also highlights the growing importance of introducing digital literacy at an early age to prepare children for the demands of the modern world.

However, simply introducing technology is not enough—it must be used thoughtfully and appropriately to truly benefit young learners.

➤ *Interactive Digital Materials and Literacy Development*

Interactive digital materials, such as e-books, educational apps, and multimedia presentations, have been found to support

different aspects of literacy. Zucker, Moody, and McKenna (2009) explain that features like narration and animation can help children better understand stories. Similarly, Burnett (2010) notes that digital storybooks can improve vocabulary and listening skills, while Wohlwend (2015) shows how digital play encourages children to explore language in creative ways.

At the same time, some researchers caution that too many interactive features may distract learners rather than help them. This highlights the importance of selecting materials that are both engaging and educational.

➤ *Teachers' Experiences Using Digital Materials*

Teachers play a central role in making digital learning effective. While many educators recognize the potential of technology to make lessons more engaging, they often face challenges such as limited training and lack of resources. Ertmer and Ottenbreit-Leftwich (2010) emphasize that a teacher's readiness and confidence are key factors in successful technology integration.

In the Philippine setting, Ramos (2021) points out that well-designed and validated instructional materials can improve teaching outcomes. Likewise, De Castro and Eguia (2022) stress the importance of ensuring that digital materials are reliable and suitable for classroom use.

➤ *Pupils' Engagement Through Digital Materials*

One of the most noticeable benefits of digital tools is their ability to capture children's interest. Couse and Chen (2010) found that young learners using tablets were more engaged and focused during literacy activities. Gambrell (2009) also highlights that motivation plays a big role in reading development, and multimedia tools can make learning more enjoyable.

Local research supports these findings. Torres (2022) reports that Filipino pupils who used digital and inquiry-based learning materials performed better in literacy tasks compared to those who relied on traditional methods. This suggests that when used properly, digital tools can make a meaningful difference in student learning.

III. METHODOLOGY

This study will use a quasi-experimental pretest–posttest design to examine the effectiveness of interactive digital materials. Kindergarten pupils will be divided into two groups: one group will use digital tools, while the other will continue with traditional teaching methods.

Their literacy skills—such as letter recognition, phonemic awareness, vocabulary, and reading comprehension—will be assessed using tests developed and validated by early childhood education experts. The data gathered will be analyzed using statistical tools, including mean, percentage, and paired sample t-tests, to determine whether there are significant improvements in learning outcomes.

IV. FINDINGS/RESULTS

Based on previous studies, it is expected that:

- Pupils who use interactive digital materials will show improvement in literacy skills, especially in vocabulary and letter recognition.
- Learners will become more motivated and actively involved in classroom activities.
- Teachers will gain access to more creative and effective teaching strategies, although some challenges may remain.
- Pupils exposed to digital tools will perform better in posttest assessments compared to those taught using traditional methods.

V. DISCUSSION

The studies reviewed suggest that interactive digital materials can enhance literacy learning by making it more engaging and interactive. From a theoretical perspective, this aligns with the idea that children learn best through active participation (Piaget, 1952) and through guided support from others (Vygotsky, 1978).

However, the successful use of digital tools depends on several factors, including teacher preparedness, availability of resources, and the quality of the materials used. Technology alone cannot guarantee better learning—it must be integrated thoughtfully into teaching practices.

VI. CONCLUSION

Interactive digital materials offer promising ways to support early literacy development by making learning more engaging and meaningful for young children. While research shows positive results, their effectiveness depends largely on how they are used in real classroom settings.

For schools in the Philippines, especially in areas like Nagbukel District, it is important to consider local challenges such as limited resources and training. This study aims to contribute to a better understanding of how digital tools can be used effectively in these contexts.

Future research may explore the long-term impact of digital learning and identify practical ways to expand its use across different educational settings.

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