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Improving reading comprehension using digital stories for Filipino students: A literature review

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ABSTRACT

This study investigates the use of digital storytelling as a tool to enhance reading comprehension among Filipino learners in the early grades. Despite the cultural richness of storytelling in the Philippines, many Grade 1 and 2 students struggle with understanding Filipino texts, even when they can read fluently. Observations and previous studies reveal that comprehension gaps are common, often worsened by limited vocabulary, low parental involvement, and the challenges of modular learning during the pandemic. Rooted in the need to make reading more meaningful and engaging, this study explores how digital storytelling—combining visuals, audio, and narration—can bridge traditional narrative practices with modern learning preferences. Grounded in both observation and literature, the research aims to assess the impact of multimedia-based storytelling on students' comprehension and engagement. The findings are expected to provide insights into how technology can support inclusive and culturally relevant reading instruction in Filipino classrooms.

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Introduction

Reading comprehension is a foundational skill that underpins a learner's ability to succeed across all academic subjects. In the Philippine context, however, improving reading comprehension has remained a persistent challenge. National and international assessments have consistently shown that many Filipino learners struggle to understand, interpret, and critically engage with texts. The 2019 Programme for International Student Assessment (PISA) ranked the Philippines among the lowest in reading literacy, with a large proportion of 15-year-old students unable to reach minimum proficiency levels (OECD, 2019). Locally, the Department of Education's Early Language, Literacy, and Numeracy Assessment

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(ELLNA) has echoed these concerns, revealing that a significant number of Grade 3 learners demonstrate only basic or below-basic comprehension skills (DepEd, 2020).

In response to these concerns, the Department of Education (DepEd) has launched several initiatives aimed at improving literacy, including Every *Child a Reader Program* (ECARP), which promotes reading proficiency for all Filipino children, and the *Mother Tongue-Based Multilingual Education* (MTB-MLE) policy under DepEd Order No. 16, s. 2012, which mandates the use of learners' first language during the early years of schooling. These programs are designed to strengthen foundational literacy skills while promoting culturally relevant and accessible learning. However, despite these efforts, significant gaps remain, especially in the integration of technology-based strategies that resonate with the digital-native generation of learners.

One promising yet underutilized approach is digital storytelling—the integration of narrative with multimedia elements such as images, music, animations, and recorded narration to create an interactive and immersive learning experience. International research has demonstrated the benefits of digital storytelling for enhancing motivation, engagement, and comprehension (Robin, 2016; Yang & Wu, 2012). By appealing to multiple senses and modes of learning, it enables students to visualize concepts, connect ideas, and develop deeper understanding. In addition, digital storytelling aligns with 21st-century learning competencies outlined in the K to 12 Basic Education Curriculum, which emphasizes critical thinking, creativity, collaboration, and communication skills.

However, in the Philippine setting, most literacy interventions continue to rely heavily on traditional strategies such as phonics instruction, guided reading, and oral storytelling (Alberta & Segumpan, 2023; Abisado, 2024). While effective in certain contexts, these methods often fail to fully engage today's learners, who are accustomed to multimedia-rich environments outside of school. A limited number of Philippine-based studies have explored digital storytelling in classrooms, and even fewer have examined its impact specifically on reading comprehension in the early grades. Existing research often focuses on English language acquisition (Buenrostro & Menez, 2022) rather than comprehension in Filipino or in the learner's mother tongue—an oversight that runs counter to the goals of MTB-MLE, which recognizes the importance of grounding literacy instruction in the child's first language.

This reveals several critical gaps in the current literature and practice. First, there is a shortage of Philippine-based, theoretically grounded research on digital storytelling for reading comprehension. International studies often apply frameworks such as Piaget's Theory of Cognitive Development, which underscores the importance of concrete visual supports for learners in the preoperational and concrete operational stages, and Vygotsky's Sociocultural Theory, which highlights the role of scaffolding and collaborative learning. Yet, very few local studies explicitly adapt these theories to design and implement digital storytelling in ways that reflect the sociocultural realities of Filipino classrooms.

Second, there is a clear equity gap in terms of technological access and teacher readiness. While some urban and private schools are equipped with tablets, projectors, and high-speed internet, many rural and underserved schools face shortages in devices, unstable connectivity, and limited access to teacher training in digital content creation (Jaca et al., 2021). Without addressing these disparities, the

transformative potential of digital storytelling risks being confined to privileged educational contexts, leaving behind learners in marginalized areas who might benefit the most from such engaging approaches.

Third, many digital storytelling initiatives in the Philippines are short-term or small-scale, often implemented as isolated classroom projects without systematic integration into the curriculum or long-term evaluation. This lack of scalability and sustained monitoring makes it difficult to determine the long-term impact of digital storytelling on comprehension outcomes, as well as its adaptability across subjects, grade levels, and linguistic contexts.

The urgency to address these gaps is further amplified by broader educational trends in Southeast Asia, where countries such as Singapore and Malaysia are increasingly embedding digital media literacy and multimodal learning into their curricula. These nations recognize that technology-enhanced storytelling is not just a novelty but a pedagogical necessity for developing critical, creative, and culturally competent learners in the 21st century. For the Philippines to remain competitive and responsive to the needs of its learners, it must also explore and adopt context-appropriate, research-based strategies such as digital storytelling.

Given these gaps, the present study seeks to investigate the potential of digital storytelling as an instructional approach for enhancing reading comprehension among grade school learners in the Philippines. By grounding the research in well-established learning theories and situating it within the realities of local classrooms, this study aims to generate practical, evidence-based recommendations for integrating digital storytelling into literacy instruction. Furthermore, it aspires to contribute to national efforts in achieving literacy equity by proposing strategies that are inclusive, scalable, and adaptable to both urban and rural educational contexts.

Ultimately, this research is motivated by the belief that reading comprehension is not merely about decoding words but about making meaning, connecting ideas, and engaging with stories in ways that resonate with learners' experiences. Digital storytelling, when thoughtfully designed and equitably implemented, offers a powerful way to achieve these goals bringing together the timeless human tradition of storytelling with the boundless possibilities of modern technology.

The Philippine Department of Education (DepEd) has long recognized reading comprehension as a critical area of concern. In 2018, DepEd issued DepEd Memorandum No. 173, s. 2019 (Every Child a Reader Program or ECARP), which aimed to ensure that every child can read with comprehension by the end of Grade 3. Under ECARP, schools are tasked to conduct reading assessments and implement targeted interventions for struggling readers. Yet despite these efforts, large-scale assessments like the National Achievement Test (NAT) and the results of Phil-IRI (Philippine Informal Reading Inventory) continue to reflect a significant proportion of learners performing below the expected comprehension level (Department of Education, 2019). This indicates that while policies and programs are in place, there is still a pressing need for more innovative and responsive strategies in reading instruction.

Technological and social shifts have also influenced reading habits. The increasing exposure of children to fast-paced, visually rich digital content has shortened attention spans and altered the way they process information (Talisic, 2017). Many learners now gravitate toward interactive and multimedia experiences rather than traditional print reading, raising questions about how educators can bridge these preferences with effective literacy instruction. The onset of the COVID-19 pandemic intensified these challenges. With the abrupt shift to remote and modular learning, many young learners were deprived of face-to-face instruction, scaffolding, and immediate feedback all essential to reading development (Gardner & Pier, 2022). Printed self-learning modules often provided little opportunity for interactive comprehension activities, and the lack of teacher guidance in real-time created gaps that were difficult to address.

In the Philippine context, these conditions underscore the importance of aligning reading instruction with the realities of today's learners. The DepEd Learning Recovery and Continuity Plan (LRCP), launched in response to pandemic learning losses, emphasizes the need for flexible, technology-integrated approaches to literacy. This is consistent with Vygotsky's Sociocultural Theory, which highlights the role of mediated tools including digital media in scaffolding learners' cognitive development through interaction and guided participation (Vygotsky, 1978). Similarly, Piaget's Theory of Cognitive Development suggests that in the concrete operational stage (ages 7–11), learners benefit from visual aids, narratives, and hands-on experiences to make abstract concepts more concrete (Piaget, 1970). Digital storytelling, with its combination of text, images, voice narration, and sometimes music, aligns closely with these developmental needs.

Philippine-based studies have begun to explore the educational potential of digital media in reading instruction. Alerta and Segumpan (2023) found that guided reading modules paired with digital stories improved both comprehension and engagement among elementary learners. Mendoza (2022) reported that multimedia-enhanced storytelling not only increased comprehension scores but also motivated learners to read more frequently, especially in Filipino. These findings are consistent with the DepEd EdTech Unit's initiatives promoting the use of interactive e-learning materials and localized digital stories through platforms such as DepEd Commons and the DepEd Learning Management System.

By embedding storytelling in a digital format, teachers can provide learners with multimodal cues that support meaning-making visuals to clarify unfamiliar words, voice intonation to model phrasing, and interactive elements to sustain attention. This approach also addresses DepEd's Sulong EduKalidad campaign, which calls for innovation in teaching strategies to raise the quality of basic education. Through culturally relevant stories in Filipino and other local languages, digital storytelling has the potential to bridge comprehension gaps while preserving learners' connection to their linguistic and cultural heritage.

Statement of the problem

Reading comprehension is a cornerstone of academic achievement, enabling learners to understand, interpret, and apply knowledge across all subject areas. In the Philippines, however, national and international assessments such as the *Philippine Informal Reading Inventory (Phil-IRI)* and the

Programme for International Student Assessment (PISA)—have revealed alarming trends: many Filipino learners, particularly in the elementary grades, struggle with reading comprehension, often falling behind expected proficiency levels. Recognizing the urgency of this issue, the Department of Education (DepEd) has implemented initiatives such as Every *Child a Reader Program (ECRP)* and *Bawat Bata Bumabasa (3Bs)* to promote early literacy. Despite these efforts, the gap between expected and actual comprehension skills persists, particularly in classrooms with limited resources, large class sizes, and insufficient access to engaging reading materials.

In response to these challenges, educators and researchers are turning to innovative pedagogical approaches that integrate technology with traditional teaching strategies. One promising method is digital storytelling, which combines the narrative power of storytelling with multimedia elements such as images, audio, and video. This approach has been shown in international studies to improve learner engagement, motivation, and comprehension by providing multisensory experiences that cater to diverse learning styles. Yet, within the Philippine context, especially at the grade school level, research on the integration of digital storytelling into reading instruction remains scarce. The need to explore its potential becomes even more pressing given the country's push toward technology-enhanced learning and the emphasis on culturally responsive education under the K to 12 curriculum and the Mother Tongue-Based Multilingual Education (MTB-MLE) policy.

Addressing this research gap requires examining not only the technical aspects of creating digital stories but also the pedagogical processes, teacher roles, contextual challenges, and cultural considerations that shape their effectiveness. This study, therefore, investigated the use of digital storytelling as an instructional tool for enhancing reading comprehension among grade school learners in the Philippines.

Specifically, it addressed the following research questions:

1. **What are digital stories?**
2. **What is the use of storytelling as catalyst for reading comprehension?**
3. **What is the role of teacher in enhancing learning?**
4. **What are the contextual barriers in story telling?**
5. **What is the relevance of culturally grounded story telling?**
6. **What is the effect of storytelling?**

Research methodology

Reading comprehension remains a foundational skill in early education, yet many Filipino learners continue to struggle with mastering it due to a range of cognitive, instructional, and contextual challenges. The country's low performance in the Programme for International Student Assessment (PISA) 2018 (OECD, 2019) underscores the urgency for innovative approaches in literacy instruction. One such strategy gaining traction is digital storytelling, which blends narrative with multimedia elements to foster comprehension, engagement, and learner autonomy.

This chapter presents an integrated synthesis of the review of related literature, thematic analysis of 37 peer-reviewed studies, and findings from Philippine-based research. Interpreted through Media Theory, Piaget's Theory of Cognitive Development, and Vygotsky's Sociocultural Theory, the analysis reveals five key themes: the impact of multimedia on comprehension, the role of teacher scaffolding, the influence of contextual factors, the cultural relevance of stories, and the enhancement of motivation and learner autonomy.

Results and discussion

Digital storytelling as a catalyst for comprehension

Literature indicates that many Filipino tutees begin with low to average comprehension levels (Abisado, 2024; Alerta & Segumpan, 2023). Studies found that traditional, print-based methods often fail to sustain learner interest or cater to diverse cognitive needs. In contrast, digital storytelling—featuring visuals, narration, sound effects, and interactivity—enhanced learners' ability to recall information, identify key ideas, sequence events, and infer meaning (Cantago et al., 2023).

Data from interventions such as the READIFY program in Laguna as reported by Arellano (2025) showed a notable shift from instructional to independent reading levels after digital storytelling was integrated into instruction. Similarly, graphic storytelling in Iloilo yielded significant gains in literal, inferential, and evaluative comprehension among Grade 1-2 learners.

These outcomes are consistent with Media Theory, which posits that learning improves when multiple sensory modalities are activated. For Filipino learners who are culturally attuned to oral and visual communication, digital storytelling bridges the gap between traditional learning environments and modern engagement methods. From Piaget's perspective, sensory-rich and visually supported stories align with the concrete operational stage, where learners benefit from hands-on and perceptual experiences that help build schemas and logical reasoning as noted by Badillo (2025).

The role of teacher scaffolding in enhancing learning

Findings strongly suggest that digital storytelling's effectiveness is amplified when implemented alongside teacher-facilitated strategies. Literature by Manuguid and Espinosa (2022) and Reyes and Labindao (2021) highlights that guided discussions, pre-listening tasks, and structured reflection significantly improve comprehension, particularly for struggling readers.

Empirical data from Mindanao (Alerta & Segumpan, 2023) show that comprehension gains were most evident when digital storytelling was part of interactive instruction. Teachers who used localized questioning, story mapping, and collaborative activities empowered learners to participate more deeply in meaning-making processes.

These results are grounded in Vygotsky's Zone of Proximal Development (ZPD), as demonstrated by Arellano (2025) where learners achieve higher cognitive performance when supported by a knowledgeable other. Through repeated social interaction and guided mediation, learners internalize comprehension strategies, shifting from dependence to independence.

Contextual barriers and the digital divide

The effectiveness of digital storytelling is not universal. While urban schools supported by ICT programs reported consistent gains, rural and under-resourced regions such as upland Luzon and Eastern Visayas faced systemic barriers including lack of digital devices, poor internet connectivity, and minimal teacher training in ICT integration (Mendoza, 2022; Abisado, 2024).

This digital divide reflects Media Theory's warning that without access to the tools necessary for multimedia learning, the benefits of digital storytelling are inaccessible. From Vygotsky's expanded theory of mediated learning, the absence of such tools denies learners access to the cultural and cognitive resources needed for development. As a result, learners in disadvantaged settings risk falling further behind their peers, reinforcing literacy gaps.

Raihan et al. (2025) identify four key dimensions—digital literacy, affordability, content relevance, and infrastructure access to shape the digital divide in the Philippines. Their findings reveal that limited broadband and costly devices restrict rural learners' access to digital stories, while teachers' lack of training in digital pedagogy further impedes integration. This disparity is echoed by Espinosa et al. (2025), who emphasize that geographic and socioeconomic barriers hinder ICT adoption in Philippine schools. The IEEE CTU report (2023) reinforces these concerns, noting that unequal access to technology perpetuates educational and social inequities. Together, these studies underscore the need for targeted interventions such as infrastructure investment, professional development, and culturally relevant content to ensure digital storytelling can equitably enhance reading comprehension across Filipino learners.

Social and cultural factors also influence the effectiveness of digital storytelling. In multilingual rural communities, the absence of locally relevant and culturally grounded content can reduce comprehension and engagement, as children may find it difficult to relate to stories that do not reflect their lived experiences (UNESCO, 2022). Furthermore, invisible barriers—such as overly complex user interfaces, poor platform design, and inaccessible formats that exclude learners with disabilities—can silently prevent equitable participation (Rappler, 2023). These intersecting barriers, if left unaddressed, risk deepening existing inequities in literacy development. Addressing them requires comprehensive strategies, including investment in school-based ICT resources, embedding digital literacy training within the curriculum, and designing accessible, culturally resonant story content. Only through such targeted interventions can digital storytelling fulfill its promise as an effective tool for improving reading comprehension among Philippine grade school learners.

Cultural relevance and learner identity

Multiple studies emphasize the importance of culturally grounded storytelling. Research by Manuguid and Espinosa (2022), Villanueva (2022), and CLSU (2023) found that learners comprehended stories better when the content reflected Filipino values, local settings, and familiar moral dilemmas. Tutees responded positively to narratives that incorporated elements such as *pakikisama*, *bayanihan*, and *utang na loob*.

From the lens of Vygotsky's Sociocultural Theory, culture is the context through which learning occurs. When digital stories reflect learners' linguistic and cultural realities, they become mediational tools that transmit values, foster emotional connection, and strengthen identity formation. In multilingual regions, vernacular digital stories further promote inclusivity and comprehension by bridging language barriers.

The incorporation of cultural relevance in digital storytelling not only enhances reading comprehension but also strengthens the learner's sense of identity and belonging. Filipino students, particularly at the grade school level, benefit significantly when instructional content reflects their lived experiences, cultural heritage, and native languages. This relevance fosters stronger emotional connections to the material, thereby increasing engagement and retention. Literature suggests that culturally relevant texts, which draw upon students' prior knowledge, cultural backgrounds, and experiences, promote deeper comprehension and academic achievement, especially when paired with interactive and collaborative approaches such as literature circles (de Guzman, 2020). In digital contexts, localized media such as video e-books rooted in Filipino culture have been found to enhance both cognitive outcomes and emotional resonance, contributing to the reinforcement of cultural identity among young learners (Carpio, 2022).

Digital storytelling serves as a powerful vehicle for cultural affirmation and identity construction, particularly in multilingual and multicultural learning environments. When learners create and share stories embedded with elements of their cultural heritage and community experiences, they reinforce their sense of self and belonging while engaging in meaningful literacy practices (Lotherington & Chow, 2006). In the Philippine context, initiatives such as the University of the Philippines' UTEMP project have demonstrated how digital storytelling can honor indigenous voices by incorporating oral histories from Infilling elders and indigenous artists, thereby preserving cultural narratives and reducing marginalization (Cruz, 2019).

Furthermore, culturally responsive pedagogy does not only cultivate cultural pride but also improves comprehension by making reading materials personally meaningful. Embedding Filipino traditions, values, and indigenous languages into digital stories activates students' background knowledge, which in turn facilitates deeper cognitive processing and comprehension (Gay, 2018). For example, digital storytelling projects that incorporate Baybayin scripts and narratives rooted in pre-colonial Filipino heritage have been shown to promote cultural identity formation, appreciation for indigenous knowledge systems, and enhanced digital literacy skills among learners (David & Salvador, 2023).

These observations align with broader cultural preservation initiatives in Philippine education, such as the Schools of Living Traditions program, which uses community-based, culturally grounded instruction to transmit indigenous practices and arts to younger generations (National Commission for Culture and the Arts [NCCA], 2021). When such traditions are integrated into digital storytelling through visual, oral, and narrative modes, they foster both cultural continuity and meaningful engagement in literacy learning, allowing digital storytelling to function not merely as a technological innovation but as a bridge between heritage and modern pedagogy (Banks, 2016).

Digital storytelling has been consistently documented as a powerful catalyst for enhancing learner motivation and engagement in literacy instruction. Across Philippine and international contexts, learners describe digital storytelling as "fun," "exciting," and "easy to follow," suggesting a strong positive affective response toward the medium (Gonzales & Limjap, 2022; Cantago et al., 2023). This emotional response is not incidental—it stems from the multimodal nature of digital stories, which integrate visual animations, synchronized narration, sound effects, interactive hotspots, and flexible playback controls. These features shift the reading process from a linear, text-heavy activity to an interactive, multi-sensory learning experience that appeals to diverse learning styles (Robin, 2016; Alismail, 2015).

A synthesis of findings reveals that these affordances encourage learners to retell stories independently, make predictions, and self-correct comprehension errors—behaviors widely recognized as markers of developing metacognitive competence (Verdugo & Belmonte, 2007; Reinders & Wattana, 2014). The pedagogical significance of these behaviors aligns closely with Self-Determination Theory (Deci & Ryan, 2021), which emphasizes that intrinsic motivation flourishes when learners experience autonomy, competence, and relatedness. In digital storytelling, autonomy is promoted through learner control over pacing and navigation, competence is strengthened through scaffolded comprehension aids and multimodal cues, and relatedness is nurtured when stories resonate with learners' lived experiences, linguistic backgrounds, and cultural identities (Ryan & Deci, 2020; Smeda, Dakich, & Sharda, 2014).

From a sociocultural perspective, Vygotsky's (1978) concept of the Zone of Proximal Development and the notion of learner agency explain how repeated interactions with scaffolded narrative content enable learners to internalize higher-order comprehension strategies. For example, guided narration, highlighted vocabulary, embedded comprehension questions, and animated visual sequences serve as external supports that gradually fade as learners gain independence (Kervin & Mantei, 2016). Over time, this process fosters the transition from externally guided reading to self-regulated literacy behaviors such as predicting events, monitoring comprehension, and revisiting unclear segments (Aljaraideh, 2020).

Emotional engagement is equally central to the motivational impact of digital storytelling. Well-crafted digital stories use expressive voice acting, culturally familiar scenarios, music, and soundscapes to evoke empathy, curiosity, and personal connection with characters (Smeda et al., 2014; Ohler, 2013). Emotional resonance with the narrative increases attentional focus, promotes deeper cognitive processing, and supports long-term memory retention (Green, Brock, & Kaufman, 2004). For reluctant or struggling readers, emotional engagement serves as a gateway to sustained participation in reading activities, counteracting previous experiences of frustration or disengagement (Sadik, 2008).

Notably, motivation and emotional engagement are amplified when digital stories are culturally relevant and linguistically accessible. Research indicates that learners are more likely to sustain interest and exert cognitive effort when narratives reflect familiar social contexts, indigenous knowledge systems, or community values (Niemi, Harju, Vivitsou, & Multisilta, 2014; Tanti & Sari, 2021). This cultural connection not only reinforces relatedness but also strengthens learner identity, allowing students to see

themselves represented in the learning material—a factor linked to greater persistence and achievement in literacy tasks (Gay, 2010).

In sum, the motivational benefits of digital storytelling are multi-dimensional, encompassing cognitive autonomy, competence development, emotional connection, and cultural resonance. By providing learners with agency, meaningful challenge, and narratives that reflect their own identities, digital storytelling environments create optimal conditions for both academic and affective growth. These interrelated dimensions ultimately contribute to the sustained improvement of reading comprehension, making digital storytelling a potent pedagogical strategy for Philippine grade school learners and beyond.

Validity and instructional alignment

The impact of digital storytelling is strongly linked to the quality and validity of materials used. Philippine-based studies (Villanueva, 2022; Delos Santos & Santiago, 2021; Lizada, 2020) confirmed that stories aligned with the Most Essential Learning Competencies (MELCs) and validated by subject-matter experts produced better learning outcomes.

International research echoes these findings, underscoring that the instructional effectiveness of digital storytelling depends heavily on careful curricular integration and expert validation. Robin (2016) emphasizes that when stories are designed in coherence with established learning standards, they provide both cognitive and affective scaffolds that facilitate comprehension and retention. Similarly, Smeda, Dakich, and Sharda (2014) demonstrated that curriculum-aligned storytelling resources enhanced literacy skills more effectively than unstructured digital media, as they guided learners toward clear instructional goals.

In the Philippine context, Cruz and Magno (2022) reported that localized and curriculum-mapped digital stories, validated by reading specialists, resulted in higher comprehension test scores compared to generic reading materials. This effect was attributed to the seamless integration of key vocabulary, comprehension strategies, and cultural references within the storyline. Moreover, studies by De la Cruz et al. (2023) and Perez and Santos (2021) highlight that instructional alignment not only improves academic performance but also strengthens learner confidence, as students recognize a direct connection between classroom activities and assessment criteria.

From an instructional design perspective, the Alignment Theory (Anderson, 2002) supports the notion that learning materials—whether digital or print—are most effective when learning objectives, instructional activities, and assessments are in close correspondence. In digital storytelling, this alignment allows teachers to use narratives as both teaching tools and assessment instruments, fostering consistent reinforcement of skills. When stories are validated through expert review, they not only meet technical accuracy standards but also maintain age-appropriate language, cultural sensitivity, and thematic coherence (Sadik, 2008; Kervin & Mantei, 2016).

Furthermore, empirical evidence suggests that instructional alignment in storytelling is especially beneficial for struggling readers. Villanueva and Domingo (2023) observed that MELC-aligned, validated digital stories improved decoding, fluency, and comprehension scores among low-performing grade school learners in rural schools. This targeted improvement reinforces the principle that alignment

and validation function as quality assurance mechanisms, ensuring that digital storytelling serves as a deliberate instructional strategy rather than merely an entertaining activity (Niemi et al., 2014; Tanti & Sari, 2021).

Validated digital stories consistently scored high on developmental appropriateness, language clarity, cultural relevance, and instructional alignment. This alignment is not simply a matter of quality control but directly impacts how learners process and retain information. From Piaget's Cognitive Development Theory, the principle of matching materials to the learner's developmental stage is crucial; stories that align with a child's cognitive abilities allow for the construction of meaning through active engagement and schema building (Piaget, 1970; Lourenço, 2016). For instance, grade school learners in the concrete operational stage benefit most from narratives that use concrete examples, sequential events, and relatable contexts rather than abstract or metaphor-heavy content.

The findings from the reviewed literature, thematic analysis, and data from Philippine-based studies all point to one clear insight: digital storytelling is an effective tool for improving reading comprehension among grade school learners. By combining visuals, audio, and interactive elements, digital stories make reading more engaging and easier to understand, especially for young learners who are still developing their reading skills (Alcantara & Dela Cruz, 2021; Villanueva, 2022). These tools help learners remember key details, follow story events, and make deeper connections with the text (Robin, 2016; Gonzales & Limjap, 2022).

When guided by teachers through structured lessons, questions, and discussions, digital storytelling becomes even more powerful. Teachers play a key role in helping learners understand and reflect on stories (Abisado, 2024; Villanueva, 2022). This matches what Vygotsky's theory suggests that children learn best with support from adults or more knowledgeable peers, often referred to as the Zone of Proximal Development (Vygotsky, 1978; Daniels, 2016). Guided interactions help bridge the gap between what learners can do independently and what they can achieve with assistance, making digital storytelling both a collaborative and scaffolded learning experience (Mercer & Howe, 2012).

However, the impact of digital storytelling also depends on the learning environment. In well-equipped schools, learners benefit more from these tools due to consistent access to multimedia devices, stable internet connections, and technologically proficient teachers (Villanueva, 2022; Robin, 2016; Alismail, 2015). In contrast, schools in rural or low-resource areas face persistent challenges such as lack of devices, unstable or absent electricity, poor internet infrastructure, and limited teacher training in integrating digital tools (Alcantara & Dela Cruz, 2021; Cabigao, 2020). These constraints hinder the sustained use of digital stories, which rely on both hardware availability and teacher facilitation.

The disparity highlights the continuing digital divide, where differences in technological access and skills result in unequal learning opportunities (van Dijk, 2020; Warschauer, 2011). In the Philippine context, UNESCO (2020) and the Department of Education (DepEd, 2021) have both emphasized that technology integration must be accompanied by infrastructure investment, teacher professional development, and culturally relevant content to ensure inclusivity. Without addressing these systemic

gaps, digital storytelling risks becoming a privilege for urban learners rather than a universal literacy tool (Beaunoyer et al., 2020; Gikas & Grant, 2013).

Also important is the cultural relevance of stories. Learners understand and enjoy reading more when the stories reflect Filipino values, language, and real-life experiences, as these elements help them connect personally with the text and process information more meaningfully (Gay, 2018; Ladson-Billings, 1995; Tuazon, 2021). Research shows that culturally grounded narratives improve not only comprehension but also learners' sense of identity and motivation to read, as they see themselves and their communities represented in the material (De la Cruz, 2020; Reyes & Estacio, 2019).

In conclusion, digital storytelling is not just a fun way to present stories—it is a valuable teaching strategy that helps learners read better, think deeper, and feel more connected to what they read (Robin, 2016; Alismail, 2015). To fully benefit from its potential, schools need proper tools, teacher training, and well-designed stories that reflect both the curriculum and the learners' culture (UNESCO, 2020; Villanueva, 2022). Without this cultural and contextual alignment, even the most innovative storytelling platforms may fail to engage students meaningfully and equitably (Gay, 2018; Ladson-Billings, 1995).

Conclusion

This study confirms that digital storytelling is a highly effective pedagogical tool for enhancing reading comprehension among grade school learners. By integrating multimedia elements such as images, narration, music, and animations, digital storytelling transforms traditional reading into an immersive and interactive experience. The findings revealed that learners engaged with digital stories demonstrated stronger recall of details, better sequencing of events, and deeper understanding of texts. Motivation to read increased noticeably, particularly when stories were relevant to learners' cultural backgrounds and aligned with the Most Essential Learning Competencies (MELCs).

Teacher facilitation emerged as a critical factor in maximizing these gains. Structured questioning, guided discussions, and scaffolding strategies ensured that students not only enjoyed the stories but also engaged in higher-order thinking. These benefits, however, were not evenly distributed. Schools with limited access to devices, poor internet connectivity, or insufficient teacher training struggled to integrate digital storytelling consistently. This underscores the importance of infrastructure, professional capacity, and institutional support in realizing the full potential of this approach.

Ultimately, the study highlights that digital storytelling is not simply a novel teaching method, but a culturally responsive and developmentally grounded instructional strategy that can bridge literacy gaps when implemented equitably. It aligns with Media Theory's emphasis on multimodal learning, Piaget's cognitive development principles, and Vygotsky's sociocultural perspective, making it a theoretically sound and practically relevant tool for Philippine classrooms. As the results of the study, the following are the recommendations:

Invest in teacher training and capacity building

Provide continuous professional development on designing and delivering digital storytelling lessons. Incorporate training on multimedia production, digital literacy, and integration strategies into both pre-service and in-service teacher education.

Improve technological infrastructure

Supply schools, particularly in rural and underserved areas, with digital devices, stable internet access, and multimedia creation software. Establish community-based digital learning hubs to extend access beyond the classroom.

Develop localized and multilingual digital content

Produce digital stories in learners' mother tongues and local dialects to support Mother Tongue-Based Multilingual Education (MTB-MLE). Collaborate with local authors, artists, and cultural bearers to ensure content reflects Filipino values, heritage, and real-life experiences.

Integrate digital storytelling into the curriculum

Embed digital storytelling into reading and language instruction across grade levels, with direct alignment to MELCs. Expand its application to other subjects such as Science, Araling Panlipunan, and Values Education to foster interdisciplinary learning.

Promote inclusive and accessible practices

Adapt digital stories for learners with special needs by using assistive technologies, clear visuals, and simplified narration. Engage parents, caregivers, and communities through collaborative storytelling projects that incorporate local narratives and traditions.

Strengthen policy and institutional support

Advocate for policies that formally recognize digital storytelling as a core strategy in literacy and language programs. Allocate funding for infrastructure, teacher training, and content development to sustain implementation.

Encourage further research

Explore the long-term effects of digital storytelling on literacy skills, critical thinking, and learner engagement.

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