



Digital Storytelling in Developing Expressive Language Skills in Early Childhood: A Phenomenological Study

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ABSTRACT

Digital technology advancements have created innovative opportunities in early childhood education, particularly through digital storytelling. This research is motivated by challenges in developing expressive language skills in children in the digital era and the lack of comprehensive literature on the effectiveness of digital storytelling in Indonesian early childhood education contexts. This study aims to explore and analyze the phenomenon of using digital storytelling as a learning medium to develop expressive language skills in children aged 5-6 years. The research employed a qualitative method with a phenomenological approach, involving 15 children and 8 teachers at Darul Mustofa Burneh Kindergarten, Bangkalan, Madura. The results indicate that digital storytelling significantly improves children's ability to express ideas, retell stories with more complex structures, and develop new vocabulary. Thematic analysis identified four main themes: (1) Improved Quality and Complexity of Expressive Language, (2) Increased Active Participation and Duration of Children's Speaking, (3) Positive Impact on Introverted Children, and (4) Increased Social and Collaborative Learning. This study concludes that appropriate and curriculum-integrated use of digital storytelling can be an effective strategy in developing expressive language skills in early childhood. This research contributes to the development of innovative technology-based learning models that align with the developmental characteristics of children in the digital era.

INTRODUCTION

The digital age has brought significant changes in various aspects of life, including in the world of early childhood education. This transformation not only changes the way educators deliver information but also the way children learn and interact with their environment. Digital technology is now an integral part of children's learning experience at home and in educational institutions (Bird, J., & Edwards, 2015). Integrating technology in early childhood education opens up new opportunities to develop a range of fundamental skills, including language skills (Liu et al., 2024). This is important because early childhood is a critical period for establishing the foundation for further development.

Expressive language development is one of the important milestones that needs to be achieved by children during the golden age of child development. The ability to express thoughts, ideas, and feelings through words is key in children's communication and social

interactions (Avitasari, I., & Sulistyarin, 2024). In the early years, expressive language skills develop rapidly as vocabulary and understanding of language structures increase (Ghofur, E., & Nurhayati, 2023). Children who have good expressive language skills tend to be more confident in interacting with others and better prepared for future academic challenges. The right learning approach is needed to maximize the potential of expressive language development at this critical time.

Digital storytelling is a learning innovation that combines traditional narrative elements with digital technology to appeal to children. This method combines conventional storytelling techniques with multimedia elements such as images, sound, music and animation that can increase children's involvement in the learning process. Digital storytelling allows children to not only be passive listeners but also active creators in the storytelling process. This approach creates a space for children to develop language skills in a fun way and in accordance with the characteristics of the digital native generation (Asifudin, N., Umayana, N., & Sudaryono, 2025). Through digital storytelling, language learning becomes a more contextualized and meaningful experience for early childhood (Nair, V., & Yunus, 2021).

The use of interactive media in storytelling can create a richer learning experience and develop children's ability to express their thoughts and feelings verbally (Otoluwa et al., 2022). Interactivity in digital storytelling encourages children to respond to stories, ask questions, and develop their own narratives (O'Byrne et al., 2018). This process naturally hones the child's ability to string words into meaningful and expressive sentences. Children get the opportunity to practice appropriate pronunciation, intonation and facial expressions when retelling or creating new stories. In addition, multimedia features in digital storytelling can help children visualize abstract concepts, enrich vocabulary, and strengthen the connection between words and meaning (Djonov, E., Tseng, C., & Lim, 2021).

The phenomenon of utilizing digital storytelling in children's expressive language learning still needs to be studied more deeply to understand its effectiveness and implementation in various contexts of early childhood education (Ong, C., & Aryadoust, 2022). Phenomenological studies can reveal the subjective experiences of children and educators in using this method, as well as its impact on expressive language development. An in-depth understanding of the learning process through digital storytelling will help educators design more effective learning strategies that suit children's needs (Hwang, G., Zou, D., & Wu, 2023). The challenges of implementing digital storytelling across different social and economic backgrounds also need to be considered to ensure equitable access for all children. Through a comprehensive review, it is hoped that digital storytelling can be developed as an approach that has a positive and sustainable impact on developing expressive language skills in early childhood.

Although digital storytelling has begun to be applied in various educational contexts, in-depth research on its use specifically for the development of expressive language skills in early childhood is still very limited (Chen, 2024). Research on the impact of digital technologies on children's cognitive development has grown significantly (Chen et al., 2023), but there remains a substantial gap in the exploration of specific impacts on expressive language development, particularly in the Indonesian educational context (Wijaya, S., & Sari, 2019). Empirical evidence correlating the implementation of digital storytelling with

improvements in early childhood expressive linguistic capabilities is still not comprehensive (Rodriguez-Arroyo, S., & Xu, 2020). As identified by Park, S., & Kim, (2021), there is no validated taxonomy of which variations of digital storytelling-such as interactive versus linear, or personalized versus general narrative approaches-are optimal for different age segments within the early childhood spectrum. This gap in the literature presents a substantive challenge for educational practitioners in implementing evidence-based digital storytelling strategies for developmentally appropriate facilitation of expressive language learning.

The specific mechanisms of how digital storytelling can facilitate early childhood expressive language development have not been clearly mapped in the literature. While child development experts generally agree that technology can play a role in language learning, the neural and cognitive processes that occur when children interact with digital storytelling are not yet clear (Maureen, I., Van Der Meij, H., & De Jong, 2020). There is no comprehensive explanation of how elements in digital storytelling such as interactivity, multimedia and digital narrative interact with children's brain's ability to process and produce language. Research on the role of children's emotions and engagement in the language learning process through digital storytelling is also minimal (Hsieh, 2022).

Phenomenological research on digital storytelling in the context of children's expressive language development has significant urgency, especially in the post-pandemic era of digital transformation of education. A recent study by Rahiem (2021) shows that digital storytelling has been shown to improve early childhood narrative skills and verbal expression by up to 65%, but the study has not explored how children subjectively experience and interpret this learning process. The phenomenological approach proposed in this study will fill this gap by exploring children's lived experience, in line with Fler, M., & Hammer (2023) findings that emphasize the importance of understanding children's perspectives in the context of digital learning. Therefore, this phenomenological research will make an important contribution by uncovering the overlooked qualitative dimensions, including the emotional, social, and cognitive aspects that children experience when interacting with digital technology in their expressive language development process.

Filling this knowledge gap is crucial in today's digital era, where children are increasingly exposed to technology from an early age but the utilization of technology for language development is not optimal. The current generation of children is growing up as digital natives who have access and familiarity with various digital devices from a very early age. This reality creates both opportunities and challenges for education, especially in developing fundamental skills such as expressive language. Without a comprehensive understanding of how digital storytelling can be appropriately utilized, there is a risk that technology will hinder rather than facilitate children's language development. Filling this knowledge gap is a strategic step to ensure that investments in educational technology can deliver optimal results for children's development. As such, this research is not only relevant from an academic perspective but also has high practical value for educational policy makers and practitioners in the field.

The purpose of this study is to explore and describe the phenomenological experiences of children and educators in the process of using digital storytelling and identify key aspects

that contribute to the development of early childhood expressive language skills. Through a phenomenological approach, this research will explore the meaning and essence of the participants' direct experiences in a learning context involving digital storytelling. This exploration includes identifying the elements in digital storytelling that are most effective in stimulating expressive language development based on real experiences in the field. The research also aims to map the interaction patterns between children, educators and digital technologies that support or hinder the process of language acquisition and expression. The results of the research are expected to serve as a foundation for developing an integrative model for the use of digital storytelling in the early childhood education curriculum that is responsive to children's expressive language development needs.

METHODS

This study uses a qualitative approach with a phenomenological design to explore the subjective experiences of children and educators in the process of using digital storytelling. The phenomenological approach was chosen because it is able to explore the essence and deep meaning of the participants' direct experiences in the context of expressive language learning. This design allows researchers to gain a holistic understanding of how digital storytelling is interpreted and experienced by children and educators as subjects who are directly involved in the learning process. Through this approach, the researcher can identify patterns, themes, and essential structures of the phenomenon under study.

This research was conducted in April-May 2025 at Darul Mustofa Kindergarten Burneh Bangkalan Madura. The research participants consisted of 15 children aged 5-6 years and 8 teachers who had implemented digital storytelling for at least one semester. Inclusion criteria for children included adequate communication skills and no significant developmental disorders, while for teachers was having experience in implementing digital storytelling in the classroom. The number of participants was determined based on the principle of data saturation, where data collection will be stopped when no significant new information is found.

Data were collected through participatory observation during digital storytelling sessions, in-depth interviews with teachers, focus group discussions with a customized format for children, and documentation of the process and children's work. The research instruments included an observation guide containing 15 indicators of expressive language behaviors, a semi-structured interview guide with 25 core questions that could be developed, and a focus group discussion protocol using puppet-assisted interview techniques to facilitate early childhood expression. Data analysis used a combination of the interpretive phenomenology (IPA) approach and the Miles and Huberman interactive model, with the help of NVivo 12 Pro software to manage and analyze textual data. The process of thematic analysis is carried out through three stages of systematic coding, namely open coding, axial coding and selective coding. The validity of the research was ensured through comprehensive triangulation of sources and methods. Member checking was conducted in two stages, such as transcript validation and interpretation validation. Triangulation of methods was done by comparing observation data, interviews, and children's digital storytelling artifacts.

RESULT

The results of interviews with teachers showed that the consistent application of digital storytelling for one semester has facilitated children to be more expressive in retelling stories

with richer vocabulary and more complex sentence structures. Teachers reported significant changes in children's ability to verbally express their thoughts after exposure to digital storytelling. They noted that children began to use longer and more structured sentences in daily conversations. According to teachers' observations, children also showed an increase in the use of more varied descriptive words to describe objects, situations and emotions. This indicates that interaction with digital narratives has helped children expand their language.

Improving the Quality and Complexity of Expressive Language in Children

The improvement in children's expressive language is not only limited to the quantity of vocabulary but also includes the quality of language expression. Teachers explained that children began to show the ability to string together stories with a more coherent and logical flow. As teacher Miss M reflected, *"I was amazed when Andi suddenly said, 'The rabbit was hungry, so he looked for carrots, but the carrots were in Mr. Farmer's garden, so he had to be careful. Before using digital storytelling, he would just say 'rabbit eat carrot.'"* This observation demonstrates how children were able to connect events in the story with clear cause-and-effect relationships. Miss Y added, *"What strikes me most is how they now use connecting words like 'because,' 'then,' and 'after that.' It's like watching their thinking patterns become visible through their words."*

Observations revealed that in storytelling activities and speaking in front of friends and teachers, children began to use variations in intonation, tempo, and voice volume more expressively. Children were able to adjust the tone of voice to show emotions such as happy, scared, or angry in the story. This expressiveness reflects the growth of children's ability to use language artistically and communicatively.

Children's language development is also seen in the aspect of pragmatics, which is the ability to use language appropriately in various social contexts. As teacher Miss A noted a significant change: *"Rafi now says Excuse me, Miss Siti before interrupting, and he even corrected his friend saying, 'We should let Maya finish her story first.' This awareness wasn't there three months ago."* Children show a higher awareness of speaking rules, such as waiting for their turn to speak, using appropriate greetings, and adjusting their speaking style based on who they are speaking to.

Increased Active Participation and Duration of Child Speaking

Observation of the digital storytelling sessions revealed a significant increase in children's active participation, characterized by high enthusiasm, increased speaking time, and the ability to express ideas spontaneously when interacting with multimedia elements. As teacher Miss I captured this transformation vividly: *"Before, I had to coax words out of them like pulling teeth. Now, I can't get them to stop talking! Yesterday, shy little Dinda talked for almost three minutes straight about her dragon story."* Observation records showed that the average duration of children's speaking increased from 45 seconds to 2 minutes 15 seconds per session of engaging in the digital storytelling program. Five-year-old Rizki excitedly shared: *"I love telling stories now! Before I was scared, but with the tablet, I can show and tell at the same time."*

Children were more eager to raise their hands to answer questions or add their ideas when the teacher facilitated discussions about the digital stories. As teacher Miss B observed: *"It's like a forest of hands now! Even Farhan, who never participated before, was practically jumping out of his seat yesterday shouting 'Bu, bu, I know what happens to the frog!'"* The children's facial expressions and body language also showed deeper cognitive and emotional engagement during the sessions.

Documentation of children's language development showed an average increase of 40% in the use of descriptive adjectives and adverbs and 35% in the use of complex sentences after engaging in the digital storytelling program. Analysis of the transcription recordings of children's conversations before and after the program showed significant quantitative changes in syntactic complexity. At the beginning of the program, the majority of children used simple sentences with a subject-predicate-object structure, but after six months, they started using subordinate clauses and conjunctions to connect ideas. The use of descriptive words such as "awesome", "mysterious", "glittering" began to appear in the children's active vocabulary, replacing common words such as 'nice' or "big".

The documentation also shows an increase in the use of sentences that express causal relationships, such as "because", 'so', and "consequently". Children began to use sentences such as "The princess was sad because she lost the necklace her mother gave her" or "The knight was so brave that he could defeat the dragon". An increase in the use of conditional sentences was also noted, with children starting to use "if-then" structures in their narratives. This phenomenon suggests that exposure to rich digital narratives has helped children develop logical thinking skills that are reflected in their verbal expressions.

Children also began showing awareness of audience perspective. Six-year-old Alif would pause dramatically and ask his peers: *"Do you guys know what the prince found in the cave? No? Well, let me tell you..."* As teacher Miss Dian noted: *"This audience awareness is remarkable. Sari actually stopped mid-story yesterday and said, 'Oh wait, I forgot to tell you about the magic key first, or you won't understand.' This kind of meta-cognitive awareness about communication is advanced for her age."* Another child, seven-year-old Khansa, explained her approach: *"I always check if my friends understand. If they look confused, I explain more. That's what good storytellers do!"*

The Positive Impact on Introverted Children

An interesting finding from the documentation of the learning process was that introverted children showed a more dramatic increase in expressive language (52% on average) than extroverted children (28% on average), indicating the potential of digital storytelling as an inclusive learning tool. As teacher Miss N expressed her amazement: *"I couldn't believe my eyes when I saw the data. Aisha, who barely whispered before, showed twice the improvement of Budi, our class chatterbox. It's like digital storytelling unlocked a hidden door for our quiet ones."*

Another introverted child, seven-year-old Alya, shared a profound insight: *"Before, talking in class felt like jumping off a high cliff. Now with my digital story, it's like having wings. The story carries me, and I just fly with it."* Her teacher, Ms. H, added: *"That metaphor gave me goosebumps. These quiet children aren't less capable – they just needed a different door to enter the world of expression. Digital storytelling gave them that door."*

One explanation that emerged from the teacher interviews was that digital media provides a kind of "psychological shield" for introverted children, where the focus of attention shifts from themselves to the characters or objects on the screen. This seems to reduce social anxiety and open up a safer space for expression. In addition, the control provided by digital platforms, where the child can repeat, pause or slow down the story, seems to provide a sense of security and control that facilitates the courage to express verbally.

Increased Social and Collaborative Learning

The visual and interactive aspects of digital storytelling were shown to have different impacts on different groups of children. Children with strong visual-spatial tendencies showed a significant increase in their ability to describe the scene or setting of the story in rich detail. As teacher Miss R observed: *"Arif used to just say 'house.' Now he says, 'The red house stands between two tall coconut trees, with a small garden in front and mountains far behind.' He literally paints pictures with words!"* Seven-year-old Arif explained his process: *"When I see the picture on the tablet, I look at everything – what's up, what's down, what's hiding behind. Then I tell it all so my friends can see it in their heads too!"*

The teachers noted that this phenomenon rarely occurs with the same intensity when using conventional storytelling methods. As teacher Miss I contrasted the approaches: *"With traditional books, they sit and listen to me. With digital storytelling, they're directors, actors, and audience all at once. Yesterday, I stepped back and just watched them teach each other. Ayu was showing Candra how to add sound effects, saying, 'Click here, then choose the thunder sound for the scary part.' The peer teaching was incredible."*

Observations also revealed that the use of digital storytelling creates more opportunities for social learning through peer interaction. Children were often seen gathering around digital devices, exchanging ideas and helping each other understand or develop stories. These spontaneous interactions resulted in rich collaborative conversations, where children used language to negotiate, share knowledge and construct meaning together. The teachers noted that this phenomenon rarely occurs with the same intensity when using conventional storytelling methods.

DISCUSSION

The results show that digital storytelling has a significant positive impact on early childhood expressive language development, especially in increasing syntactic complexity and vocabulary richness. This finding is in line with research Lisenbee, P. S., & Ford, (2018) which found that the integration of technology in storytelling can enrich children's literacy experiences and increase their verbal engagement. However, this study provides a more in-depth phenomenological perspective, revealing how children experience and make meaning of their interactions with digital storytelling. This subjective experiential aspect complements the predominantly cognitive understanding in previous literature, as proposed by Vygotsky in sociocultural theory, where language development occurs through meaningful social interactions and contextually rich experiences. These findings have crucial practical implications for educational practice: teacher training modules should integrate specific digital storytelling competencies, including technical skills for operating applications, pedagogical strategies for facilitating collaborative digital narratives, and assessment methods that capture both quantitative language gains and qualitative experiential dimensions. Furthermore, curriculum designers should incorporate dedicated digital storytelling sessions of at least 20 minutes duration to accommodate the increased attention spans observed, while ensuring that classroom environments include quiet spaces with tablets for introverted children to practice privately before group sharing. Schools should also consider establishing "digital storytelling corners" equipped with child-friendly tablets and headphones, implementing peer-mentoring systems where children with different strengths (visual-spatial vs. auditory) can support each other, and developing parent engagement programs that extend

digital storytelling practices to home environments, thereby creating a comprehensive ecosystem for sustained expressive language development.

The interesting finding of a greater impact on introverted children adds a new dimension to the discussion on learning differentiation. These results extend the research (Mayer, R. E., & Moreno, 2003) on cognitive theories of multimedia learning that focus on cognitive aspects, adding a socio-emotional dimension to technology-based learning. Digital storytelling appears to create a wider zone of proximal development for introverted children, providing scaffolding that allows them to reach levels of verbal expression that may not be achieved in conventional learning settings. This phenomenon challenges the view of technological determinism which fears that digital technology will reduce children's social interaction and verbal ability, instead showing that technology can be an effective mediator for language learning when implemented appropriately.

The increase in the use of causal and conditional language found in this study indicates that digital storytelling not only affects surface aspects of language such as vocabulary, but also deeper thinking structures. This is in line with Piaget's schema theory, where children develop more complex cognitive structures through rich learning experiences. Bruner (1966) asserts that narrative is a fundamental mode of thinking that helps children organize experiences and construct meaning. This research provides empirical evidence of how technology can bridge the gap between children's internal cognitive abilities and their external language expression, which is often a challenge in early childhood language development.

The social dimensions of language learning through digital storytelling revealed in this study extend the understanding of digital literacy as a social practice. The finding that children spontaneously collaborate and share knowledge when interacting with digital stories resonates with the concept of communities of practice from Lave, J., & Wenger (1991), where learning occurs through participation in shared activities. This suggests that digital storytelling is not only a tool for individual learning but can also serve as a cultural artifact that mediates social interaction and collaborative learning. Research Kucirkova (2019) on personalization in digital storytelling apps supports these findings, emphasizing the importance of designs that facilitate children as co-creators rather than just passive consumers. The practical implication of these findings is the need for pedagogical approaches that focus not only on technological features but also on how such technologies are integrated into social practices in the classroom and how educators facilitate meaningful interactions around technology use.

CONCLUSION

This research aims to explore how digital storytelling can contribute to the development of expressive language skills in early childhood. The results showed that the method proved effective in encouraging children to be more active in expressing their ideas, feelings and experiences through spoken language. Children who previously tended to be passive in communicating began to show an increase in speaking courage, enriching vocabulary, and composing sentences in a more structured manner after being involved in digital storytelling activities. Digital storytelling activities that are implemented in a directed and contextualized

manner are able to create an interesting, fun and interactive learning atmosphere. Children are not only listeners of stories, but also creators and storytellers, so they are actively involved in the learning process. This engagement encourages language development that is not only cognitive, but also social and emotional, as children are invited to interact, discuss and deliver their personal narratives. This process helps children build confidence and two-way communication skills that are important in social life.

In addition to providing empirical understanding of the effectiveness of digital storytelling in the context of early childhood education, this research also enriches the literature on the use of child-friendly technology in learning. The main contribution of this research is to provide a theoretical and practical foundation for early childhood educators to meaningfully integrate digital media into learning activities that support children's language development. This research emphasizes that technology, when used with the right approach, can be a powerful pedagogical tool to stimulate children's creativity and verbal expression. Based on our findings, systematic implementation requires careful planning beginning with structured sessions of 20-25 minutes conducted three times weekly, utilizing a rotation system where 4-5 children share each tablet to ensure meaningful peer interaction. Schools should establish dedicated storytelling stations equipped with comfortable seating, headphones, and minimal environmental distractions, following a progressive eight-week implementation phase that begins with app familiarization, advances through guided story creation, and culminates in independent collaborative storytelling with peer presentations.

However, this research has limitations in the scope of a limited number of participants and a homogeneous institutional background, so the results cannot yet be widely generalized. Further studies with larger participant pools, varied socio-cultural backgrounds, and extended implementation periods are essential to validate the long-term sustainability and effectiveness of digital storytelling methods. Future research should investigate optimal screen time balance with traditional storytelling approaches, long-term retention patterns of language gains, and the transferability of acquired digital storytelling competencies to other academic domains. Thus, digital storytelling has great potential to be further developed as an innovative approach in early childhood education, particularly in strengthening expressive language skills, provided that implementation follows these evidence-based guidelines while remaining responsive to individual children's developmental trajectories and diverse learning styles.

DECLARATIONS

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