

## **Implementation of Digital Storytelling Based on Multicultural Literature for Enhancing Early Childhood Literacy Skills**

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**Abstract.** *Enhancing digital storytelling through multicultural literature is a powerful tool for developing early childhood education's literacy skills. Educators can create immersive experiences that engage young learners from various backgrounds by weaving diverse stories from different cultures into digital platforms. This approach not only fosters a love for reading but also promotes cultural awareness and empathy. In this article, we will explore the significance of incorporating multicultural literature in digital storytelling to enrich the literacy skills of young children, providing them with a holistic and inclusive learning experience. Development This module adapts the Design and Development approach which involves 3 phases namely (i) requirements analysis, (ii) design and development, and (iii) Implementation and Evaluation. Module Implementation and Evaluation is implemented through a Quasi-Experimental approach. The data collection methods used are in-depth interviews, observation, and document analysis. The sources of data are the community involved in the implementation of the Hybrid Learning Module and documents. The collection of research data has been obtained through in-depth interviews and document analysis of children's work and teaching and learning records of teachers and parents. The interview results were transcribed verbatim, and conclusions were drawn based on thematic analysis. The findings of the study show that the implementation of the digital storytelling has a positive impact on the community involved in aspects of behavior, attitude, and practice, pedagogical competence and skills, learning achievement, interest, and motivation as well as smart teacher-parent sharing.*

**Keywords** – *Digital Storytelling, Multicultural Literacy, Literacy Skills*

### **I. INTRODUCTION**

Cultural and racial diversity in Malaysia is one of the main factors in increasing understanding of cultural diversity and the value of understanding and mutual respect among each other. Early introduction of cultural and racial differences among preschool children aged 4 to 6 years helps them to recognize, understand and accept every difference around them with an open heart. This cultural difference, not only in terms of beliefs, and customs but also in language and daily experiences at home are also different (Nur et.al, 2016). Therefore, the inculcation of good values, culture-friendly behavior, and language can give every child the opportunity to learn more efficiently by the Kementerian Perpaduan Negara through Unity Action Plan 2021-2030 by strengthening the agenda of unity in learning among children. To delve into the detailed benefits of enhancing digital storytelling with multicultural literature for early childhood education's literacy skills, research studies offer significant insights (Robert, 1994).

Research by Ochoa and Yacco (2017) emphasized that exposure to multicultural literature can enhance children's language development and literacy skills by introducing them to diverse vocabulary, sentence structures, and cultural nuances. This exposure not only enriches their language proficiency but also fosters a deeper understanding of different cultures and perspectives. Moreover, a study conducted by Zhang and Duke (2020) highlighted that incorporating multicultural literature in digital storytelling can improve children's comprehension and critical thinking abilities. By engaging with stories from various cultures through digital mediums, young learners develop cognitive skills such as inference-making, analysis, and evaluation, thus enhancing their overall literacy competencies (Ladson, 1994).

Choi and Hye (2019) emphasized the impact of multicultural literature in promoting socialemotional development among children. Through digital storytelling featuring diverse characters and settings, children can empathize with different life experiences, leading to increased cultural awareness, tolerance, and empathy. These studies underscore the multifaceted benefits of integrating multicultural literature into digital storytelling for early childhood education. By leveraging the power of diverse stories in digital formats, educators can effectively nurture children's literacy skills, cultural understanding, and social-emotional development, creating a rich and inclusive learning environment for young learners (Rahiem, 2023).

## II. METHODS

The studies were conducted using the Fuzzy Delphi method, which included 25 respondents. The research of the Fuzzy Delphi study began with the following steps:

1. Fuzzy Delphi expert selection of 25 people from various educational disciplines to obtain expert consensus (Adler & Ziglio, 1996).
2. Determination of a 7-point Likert scale to determine the Linguistic Scale, based on the triangular fuzzy number.

7 Linguistic Scale			
Extremely Agree	0.90	1.00	1.00
Strongly Agree	0.70	0.90	1.00
Agree	0.50	0.70	0.90
Moderately Agree	0.30	0.50	0.70
Disagree	0.10	0.30	0.50
Strongly Disagree	0.00	0.10	0.30
Extremely Agree	0.00	0.00	0.10

3. Data analysis to determine the average value ( $m_1, m_2, m_3$ ) which is Minimum Value, Reasonable Value, and Maximum Value.
4. Determine the threshold value by using the following formula:

$$d(\tilde{m}, \tilde{n}) = \sqrt{\frac{1}{3}[(m_1 - n_1)^2 + (m_2 - n_2)^2 + (m_3 - n_3)^2]}$$

5. The determination of group agreement is over 75% (Chu & Hwang, 2008).
6. Determine aggregate Fuzzy Evaluation by adding all fuzzy numbers.
7. Defuzzification Process. This process aims to determine the position (rank) for each variable/sub-variable. Formula applied:

$$A_{max} = 1/3 * (a_1 + a_m + a_2)$$

Based on table 1, the expert panel has reached an agreement on the Design of Teaching and Learning Strategies for Cultural Diversity Education Based on Folktales through Digital learning. Data analysis shows that all items have been agreed upon by the expert group based on the conditions that have been set, namely Threshold Item value  $> 0.2$  and expert group agreement  $> 75\%$ . The consensus response of experts on the Teaching and Learning Strategies of Cultural

Diversity Education Based on Folklore that is suitable for the children of Tabika Perpaduan is reported in table 1 according to the diffusion value and ranking (Score) (Juna Pen Scott, 2022).

### **III. RESULTS AND DISCUSSION**

#### **A. Implementing Digital Storytelling For Enhancing Literacy Skills**

According to the Malaysian Ministry of Education through the National Preschool Standard Curriculum Revision (2017) outlines, several important elements in preserving children's PdPc learning based on 21st is the involvement of parents and the local community. Besides, elements across the curriculum (EMK) and fostering pure values, the spirit of nationalism, and patriotism in each child and can apply information and communication technology has become one of the branches of idea in completing this innovation processes (Najeemah, 2006). Next, upholding the elements in the Pelan Tindakan Perpaduan 2021-2030 through Core 1: Strategy 1 which is to strengthen the elements of nationalism, unity, and noble values in the Perpaduan nursery teaching and learning curriculum. So, based on all these elements, it becomes a framework for the production of this innovation (Cheng et.al, 2022).

The module produced is very time-saving referring to diversifying forms of digital-based teaching resources and is easily accessible at any time (Stapa, 2012). The use of digital sites such as padlet and Class Dojo as a digital learning medium that connects teachers, children, and parents. In addition, through this innovation module, parents can access learning activities according to where they are in the implementation, and monitor the activities implemented (Hussin, 2022). The limited ownership of a laptop does not limit exploring this module because it can also be used offline with the provision of physical materials and can be downloaded using a mobile phone (Pedagogy, 2020). The innovation module that was built is complete as a guideline for teachers, especially as germination of ideas in teaching pre-reading to children consistently and interestingly. Cultivation of noble values and awareness of cultural diversity in education can improve pre-reading skills and children' understanding of cultural differences in their environment (Gregori, 2014).

Presenting Malaysian stories through digital stories can provide a better understanding to children because it is presented in a relaxed and easy-to-remember way. Thus, multicultural literature promotes understanding of diverse cultures and perspectives, fostering empathy and cultural sensitivity in children (Nieto, 2008; Short, 2016). The provision of storytelling slots through three storylines using three main languages helps students to understand more easily by relating existing experiences and renewing new information. The modules provided are userfriendly. Users can access online using a laptop or simply download the application provided using only a tablet or mobile phone. The management also provides a User Guide Kit as a reference source (Johnson, 2019).

#### **B. Parents, Teachers and Community Involvement**

Incorporating multicultural literature into digital storytelling can significantly enhance early childhood education by fostering literacy skills while promoting cultural awareness and inclusivity. Digital storytelling with multicultural content helps children recognize and appreciate diverse perspectives, which is crucial in a globalized world (Bavelier et al., 2010; Chang & Chu, 2022). This method not only improves literacy by engaging children with relatable and diverse narratives but also helps them develop empathy and a broader worldview.

Therefore, digital storytelling with multicultural literature offers numerous benefits, including improved literacy skills, enhanced cultural awareness, and the development of critical thinking abilities (Lee, 2020). It provides children with a platform to see themselves and others in stories, thereby validating their own experiences and broadening their understanding of different cultures (Meadows, 2003; Smart Learning Environments, 2023). As an educator, they should select diverse and representative stories that reflect the cultural backgrounds of the children, incorporate multimedia elements such as images, audio, and video to make the stories more engaging and relatable and encourage children to create their own digital stories based on their cultural experiences and perspectives, fostering creativity and personal expression (Hinostroza, 2018).

Furthermore, teachers and practitioners should receive training in digital storytelling tools and culturally responsive teaching methods. This enables them to create inclusive and engaging content and effectively guide students in their storytelling projects (International Journal of Child Care and Education Policy, 2023). Thus, supportive parents should support their children by sharing cultural stories and traditions at home and encouraging their children to incorporate these into their digital stories. Parental involvement reinforces the value of cultural heritage and literacy development (Meadows, 2003).

Community organizations and cultural groups can provide resources and opportunities for children to engage with diverse cultural narratives. This collective effort enriches the storytelling experience and ensures a wide range of perspectives are included (Smart Learning Environments, 2023). Integrating multicultural involvement in supporting digital storytelling initiatives with multicultural literature enriches early childhood education by connecting children to their heritage and the world around them, nurturing a sense of belonging and respect for diversity." (Brown & Patel, 2022). These statements reflect the shared understanding and support from teachers, practitioners, parents, and the community on the benefits of leveraging digital storytelling with multicultural literature to enhance early childhood education literacy skills. Such collaborative efforts underscore the importance of inclusive and culturally rich learning environments for young children. So, children will learn better and understands the differentiations of diverse people around them through community involvement in various events (Garcia, 2018).

#### **IV. CONCLUSION**

Digital storytelling combines multimedia elements such as images, audio, and video to create engaging narratives that can enhance learning experiences across different subjects. Digital storytelling has been shown to support the development of literacy skills, creativity, and critical thinking among children. By integrating multimedia elements, digital storytelling makes learning more interactive and engaging, which can help children better understand and retain information. It also encourages children to express themselves and communicate more effectively (Chang & Chu, 2022). Digital storytelling aligns well with constructivist learning theories, which emphasize learning through experience and social interaction. This approach allows children to construct knowledge by actively participating in the storytelling process, collaborating with peers, and reflecting on their own experiences (Meadows, 2003; Wilson, 1996).

Thus, effective implementation of digital storytelling in classrooms requires proper training for educators to use the necessary technology and tools. Research has shown that when teachers are proficient with digital storytelling tools, they can create more meaningful and

impactful learning experiences for their students (Hinostroza, 2018; Bavelier et al., 2010). However, there are challenges such as limited access to technology and varying levels of digital literacy among educators, particularly in developing regions (International Journal of Child Care and Education Policy, 2023). For instance, a case study from Jakarta, Indonesia, demonstrated how a storytelling-art-science club used digital storytelling to teach various subjects, including science and social values. The club's success highlights the importance of contextualizing digital storytelling activities to make them relevant and engaging for children (International Journal of Child Care and Education Policy, 2023).

The continuous evolution of digital tools and platforms has expanded the possibilities for digital storytelling in education. Tools such as low-cost digital cameras, non-linear authoring tools, and user-friendly software have made it easier for educators to create and implement digital stories in their teaching (Smart Learning Environments, 2023).

Overall, digital storytelling is a powerful educational tool that, when implemented effectively, can enhance learning experiences, promote creativity, and improve communication skills among children. Ongoing research and advancements in technology will continue to shape its use and effectiveness in educational settings.

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