

Leveraging Storytelling to Foster Early Childhood Cultural Recognition and Identity: A Case Study of Minangkabau Heritage

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Abstract

This study investigated the effectiveness of storytelling as a method for enhancing early childhood recognition of Minangkabau cultural heritage and fostering cultural identity. Employing a mixed-methods action research design, this research bridges a gap in the literature by integrating quantitative measures of cultural recognition with qualitative insights into identity formation. The study involved ten kindergarten children aged 5–6 years in Bukittinggi City, West Sumatra, Indonesia. Data were collected over two cycles, combining pre- and post-intervention cultural recognition assessments with qualitative observations, semi-structured interviews, and documentation. Quantitative findings revealed substantial improvements in children's cultural recognition scores (from 56.25% to 82.16%), while qualitative evidence highlighted increased engagement, expressions of pride, and stronger connections to identity. Children frequently referenced cultural landmarks, recreated stories through drawings and role-play, and shared narratives with family members, demonstrating the transmission of heritage beyond the classroom. Key factors enhancing effectiveness included interactive storytelling, visual aids, peer collaboration, and parental reinforcement. By integrating numeric gains with rich narrative accounts, the study demonstrates how storytelling simultaneously strengthens cognitive recognition and affective cultural identity in early learners. The findings align with literature on storytelling's developmental benefits while extending understanding of its role in cultural preservation through a dual-focus framework. This research offers practical insights for educators and contributes to broader discussions on culturally responsive pedagogy and heritage sustainability in early childhood education.

Keywords:

Cultural Understanding; Storytelling Pedagogy; Minangkabau Culture; Cultural Identity Development; Parental Involvement

Introduction

In today's globalized world, preserving cultural heritage has become a pressing challenge as communities navigate the tension between modernization and the maintenance of unique identities. Education, particularly in early



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childhood, serves as a vital arena for transmitting cultural knowledge, values, and practices. Scholars highlight that early childhood education (ECE) represents the “golden age” of learning, during which children’s cognitive, linguistic, social, and emotional foundations are formed (Alhosani, 2022; Allison-Burbank et al., 2023; Damjanovic & Harrison, 2023). Within this developmental window, culturally responsive pedagogies can instill a sense of belonging and identity while supporting overall growth (Fleer, 2021; Iruka et al., 2023; Yücesan et al., 2023).

For the Minangkabau community of West Sumatra, Indonesia, storytelling—an intergenerational oral tradition—offers a culturally embedded pedagogical tool for transmitting heritage. Previous research confirms storytelling’s benefits for language development, imagination, and critical thinking (Moeslichatoen, 2004; Shin & Collins, 2024), and emerging studies indicate its potential for fostering cultural literacy (Gayatri et al., 2023; Yetti et al., 2017). However, most of these studies remain either purely qualitative, exploring narrative experiences, or quantitative, focusing on test scores, without integrating both perspectives. As a result, the complex ways in which storytelling fosters cultural recognition, pride, and identity in early learners remain underexplored.

This study is conceptually grounded in Sociocultural theory (Vygotsky, 1978) and Narrative Identity theory (McAdams, 2001). Sociocultural theory posits that learning and identity are constructed through social interaction and culturally mediated tools, with storytelling as a prime example. Narrative Identity theory suggests that individuals form their sense of self through the stories they internalize and tell. Integrating these frameworks provides a lens to understand how storytelling functions not merely as an information-transfer method but as a participatory, meaning-making activity that scaffolds cognitive understanding (cultural recognition) while co-constructing personal and cultural identity.

The Minangkabau context provides a particularly compelling case. Despite the richness of its oral traditions, art, and social systems, younger generations face diminishing exposure to these cultural resources (Darwis & Muslim, 2024). While some studies advocate embedding local wisdom in school curricula (Arsih et al., 2021; Mulyani et al., 2024), few have addressed how storytelling impacts children’s learning and identity formation explicitly during the earliest stages of education. This creates a critical need for empirical work that captures both measurable learning outcomes and the nuanced experiences of children, families, and educators. Consequently, a significant gap exists in understanding the integrated mechanisms through which storytelling influences early learners. While qualitative studies illuminate narrative experiences

and quantitative studies measure knowledge gains, there is a paucity of research that systematically connects measurable improvements in cultural recognition with the nuanced, affective processes of identity and pride formation within a single, culturally specific intervention. This study responds to this gap by employing a mixed-methods action research design to provide a holistic account of storytelling’s dual impact on the cognitive and socio-emotional dimensions of cultural learning.

Accordingly, this research pursues three aims: (1) to examine the effectiveness of storytelling in improving children’s understanding of Minangkabau cultural history; (2) to explore how storytelling fosters cultural pride and identity in early learners; and (3) to identify key pedagogical factors that enhance storytelling’s impact in ECE. The study addresses the following questions:

1. How does storytelling influence young children’s recognition and understanding of Minangkabau cultural heritage?
2. In what ways does storytelling contribute to fostering cultural pride and identity in early learners?
3. What key factors enhance the effectiveness of storytelling as a pedagogical tool in early childhood education?

By situating storytelling within a mixed-methods framework, this study aims not only to enrich theoretical discussions on culturally responsive pedagogy but also to provide practical guidance for educators and policymakers seeking to preserve cultural heritage through innovative early education practices.

Methods

Research Design

This study employed a mixed-methods action research approach to holistically investigate the process and outcomes of storytelling in introducing Minangkabau cultural history to children aged 5–6 years. Action research was chosen as it allows educators to systematically investigate and improve pedagogical practices within their own classroom context (Wijaya, 2001), following the cyclical Kemmis and McTaggart model of planning, action/observation, and reflection (Kusumah & Dwitagama, 2001).

A convergent mixed-methods design (Creswell & Plano Clark, 2018) was embedded within this action research framework. This approach was selected to capture both the measurable learning outcomes (through quantitative pre/post recognition scores) and the rich, experiential dimensions of cultural learning (through qualitative observations, interviews, and documentation). As visualized in Figure 1, the iterative

cycles of action research provided the structure for concurrently collecting, analyzing, and integrating both data strands.

Data Integration Strategy: The quantitative (QUAN) and qualitative (QUAL) data were analyzed separately and then integrated during the interpretation phase to provide a comprehensive understanding of the intervention's impact. Integration was operationalized in three primary ways:

1. Triangulation: Using QUAL observations to explain how QUAN score improvements manifested in children's classroom behavior and interactions.
2. Complementarity: Using QUAL data (e.g., interview excerpts, children's drawings) to elaborate on, illustrate, and give voice to the statistical trends observed in the QUAN results.
3. Development: Insights from Cycle I QUAL data (e.g., noting low engagement with certain stories) directly informed pedagogical refinements to the intervention in Cycle II, the effects of which were subsequently measured by QUAN means.

This integrated strategy ensured that the findings were not merely parallel accounts but were synthesized to offer a deeper, more nuanced explanation of how storytelling influences both cognitive recognition and socio-emotional identity formation.

Figure 1.
Mixed-methods action research design



Participants

The study was conducted in a kindergarten located in Bukittinggi City, West Sumatra, Indonesia. The participants were children enrolled in Group B, consisting of 10 students aged 5-6 years. This age group was selected because they are at a critical developmental stage in which they begin to recognize and learn about their cultural heritage (Hildayani, 2018). The sampling technique employed was purposive sampling, as the researchers specifically targeted a kindergarten group that would benefit from an intervention focused on Minangkabau cultural history. Parental consent was obtained for all participating children prior to the study (Hartati, 2007). The demographic characteristics of the participants are presented in Table 1, which includes details such as age, gender, ethnicity, socioeconomic status, and prior exposure to Minangkabau culture, providing a contextual understanding of the sample.

Table 1.
The demographic characteristics of the participants

Partici- pant	Age	Gender	Ethnicity	Socioeconomic Status	Prior Exposure to Mi- nangkabau Culture
AC	5	Female	Minangkabau	Middle class	Moderate exposure through family
AL	5	Female	Minangkabau	Upper-middle class	High exposure through community events
AN	6	Male	Minangkabau	Lower-middle class	Low exposure
BB	5	Female	Javanese	Lower class	Minimal exposure
KN	6	Male	Minangkabau	Upper class	High exposure through formal education
RC	6	Female	Minangkabau	Middle class	Moderate exposure to media
FG	5	Male	Minangkabau	Lower-middle class	Low exposure
HH	6	Female	Minangkabau	Upper-middle class	High exposure through family traditions
TN	5	Male	Minangkabau	Middle class	Moderate exposure through the com- munity
ZC	6	Female	Minangkabau	Upper class	High exposure through cultural immersion

The use of a small, purposive sample (n=10) is consistent with the action research paradigm, which prioritizes in-depth, contextual understanding and iterative pedagogical refinement over statistical generalizability (Kemmis & McTaggart, 2000). The sample's demographic diversity (Table 1) ensured the intervention was tested across varying levels of prior cultural exposure and socioeconomic status, enhancing the transferability of insights to similar contexts rather than aiming for broad generalization. Furthermore, the rich, thick qualitative data gathered from each participant compensates for the sample's numerical size, aligning with the study's goal of depth over breadth.

Multiple strategies were further employed to ensure reliability and validity. Triangulation was achieved

by collecting data from diverse sources, including participant observation, semi-structured interviews, and documentation of storytelling sessions. Thematic analysis followed Braun and Clarke's (2006) guidelines, with codes reviewed and validated by independent researchers to minimize bias. Observational field notes were cross-checked with audio recordings to ensure accuracy, while members checked with teachers and parents to confirm the credibility of the interpretations. These measures collectively enhance the robustness of the findings, making them applicable for broader theoretical and practical discussions in culturally responsive education. To align with the mixed-methods design, participants' responses were examined not only through qualitative engagement but also through quantitative cultural recognition scores.

Data Collection

Data were gathered through participant observation, semi-structured interviews, documentation, and a structured cultural recognition assessment. Participant observation enabled the researchers to directly observe the implementation of storytelling activities and the children's responses. Field notes were meticulously recorded to capture behaviors, interactions, and emerging themes (Mardalis, 2004). Semi-structured interviews with teachers and parents provided additional insights into the children's engagement and understanding of the cultural narratives. This method allowed for flexibility in exploring topics while maintaining a focus on the research objectives (Creswell, 2014). Documentation included audio recordings of storytelling sessions and samples of the children's work, such as drawings and role-play notes. These artefacts enriched the dataset and enabled triangulation.

To obtain quantitative data on learning outcomes, a Cultural Recognition Assessment was developed and administered pre- and post-intervention. This structured, picture-based task contained 20 items depicting key Minangkabau cultural elements (e.g., Rumah Gadang, traditional clothing, ceremonial objects) presented in random order. For each image, children were asked to name or describe its cultural significance. Responses were scored using a standardized rubric (0 = no recognition, 1 = partial recognition, 2 = full recognition), yielding a maximum score of 40, which was then converted to a percentage. The instrument's content validity was established through review by three experts in Minangkabau culture and early childhood education. Inter-rater reliability was assessed by having a second researcher independently score 20% of the responses; Cohen's Kappa (Cohen, 1988) was 0.87, indicating strong agreement. All data collection procedures were conducted with the informed consent of participants and in compliance with ethical research practices.

Intervention Design and Implementation

The storytelling intervention was designed according to principles of culturally responsive pedagogy, which emphasize the inclusion of local cultural elements in educational practices (Gayatri et al., 2023; Mulyani et al., 2024). The researchers collaborated with the kindergarten teachers to select Minangkabau folktales that were age-appropriate and culturally significant. Each session involved the teacher narrating a story using visual aids, props, and interactive activities to engage the children and enhance comprehension.

The intervention was implemented over two cycles, following the Kemmis and McTaggart (2000) model of action research, which includes planning, action, observation, and reflection. In the first cycle, the researchers introduced the storytelling sessions and observed the children's initial responses. Based on these observations, adjustments were made to the delivery methods, such as incorporating more repetition and visual aids to reinforce key cultural concepts. The second cycle focused on refining these strategies and measuring the intervention's impact on the children's recognition of Minangkabau cultural heritage.

Data Analysis

The collected data were analyzed using a convergent mixed-methods approach (Creswell & Plano Clark, 2018). Observational and interview data were coded and categorized to identify recurring themes and patterns. Qualitative data were analyzed using thematic analysis following the framework of Braun and Clarke (2006), with an emphasis on examining the children's levels of engagement, comprehension, and displays of cultural pride. Quantitative data, such as pre- and post-intervention scores on cultural recognition tasks, were analyzed descriptively to assess changes in the children's knowledge and understanding. The integration of qualitative and quantitative analyses provided a comprehensive understanding of the intervention's outcomes. This mixed-methods approach ensured that the findings were robust and reflected the complexities of educational interventions in early childhood settings (Creswell & Plano Clark, 2018).

Ethical Considerations

The study adhered to strict ethical guidelines to protect and ensure the well-being of the participating children. Informed consent was obtained from the parents or legal guardians of all children involved in the research. Additionally, the researchers maintained the confidentiality of the participants and obtained permission from the school authorities to conduct the study on the premises. The research plan and data collection procedures were reviewed and approved

by the Institutional Review Board of the researchers' affiliated university to ensure compliance with ethical standards in educational research.

Results

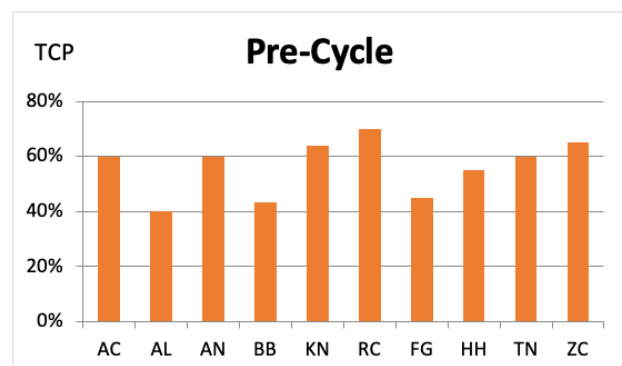
The study aimed to investigate the effectiveness of storytelling methods in enhancing children's recognition and understanding of Minangkabau cultural history. The research was conducted in three phases: a pre-cycle assessment, followed by two intervention cycles. Quantitative findings (cultural recognition scores) are presented alongside qualitative insights (observations, interviews, children's reflections), providing a comprehensive picture of the intervention's impact.

Pre-Cycle Assessment

The initial assessment of the children's ability to recognize the history of Minangkabau culture through storytelling revealed that many participants already had some familiarity with the subject matter. Figure 2 presents the pre-cycle results.

Figure 2.

Pre-cycle Results of the Ability to Recognize Minangkabau Cultural History



As shown in Figure 2, the majority of the children were either at the "not yet evident" or "beginning to appear" stages in their ability to retell the Minangkabau cultural stories presented by the teacher. Only a few children reached the "frequently appearing" or "consistent" stages. The average pre-intervention score across all participants was $M = 56.25\%$ ($SD = 10.12$), indicating moderate baseline familiarity with substantial room for improvement. The pre-cycle data analysis shows that targeted interventions were necessary to enhance early childhood recognition of Minangkabau cultural history, as only six children scored above the average, with the highest individual score being 70% (achieved by participant RC).

Qualitative observations supported these findings. Several children hesitated when asked to retell story elements, often pausing or asking peers for help. For

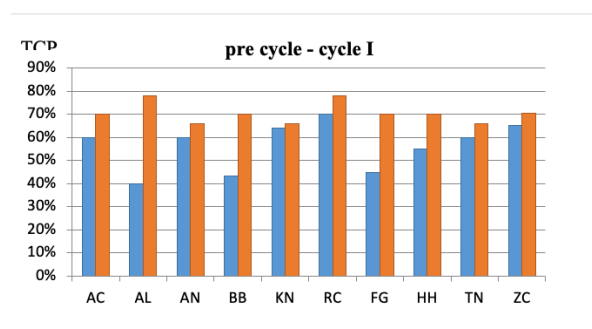
example, AN remarked, "It's hard to remember the names," highlighting limited prior exposure. Teachers also noted that children often confused Minangkabau landmarks with generic features of their environment.

Cycle I Intervention

Following the pre-cycle assessment, the researchers implemented a stimulation intervention using the Minangkabau storytelling method. The results of this first cycle are presented in Figure 3.

Figure 3.

Graph of the results of the ability to recognize the Minangkabau cultural history



The results after Cycle I, visualized in Figure 3, showed an improvement in the children's recognition ability. The class average score increased to $M = 70.40\%$ ($SD = 4.40$). However, only 2 out of 10 children (AL and RC) achieved the target score of 75%. A paired-samples t-test comparing pre-intervention scores ($M = 56.25$, $SD=10.12$) to post-Cycle I scores showed a significant increase, $t(9) = 3.78$, $p < .001$, $d = 1.20$, confirming a large and statistically significant improvement after the first intervention cycle. However, the class had not yet met the overall target.

Qualitative data revealed partial but growing engagement. Children began asking more questions during storytelling, such as ZC's query, "Why do we call it Rumah Gadang?" This indicated emerging curiosity. Teachers observed improved attention when visual aids were introduced, though some participants, such as BB, remained less engaged, often looking around the room rather than focusing on the story. Parents also reported that children mentioned cultural terms at home, but only superficially.

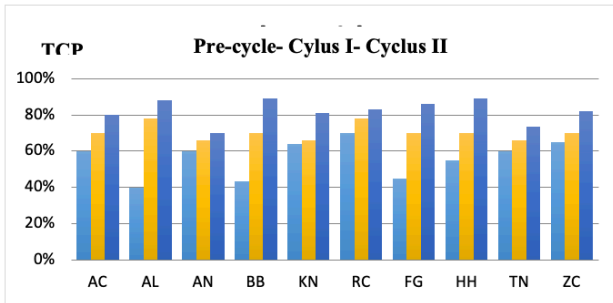
The Cycle I results indicate that there were still areas that needed attention in order to maximize the children's learning outcomes. Therefore, the researchers decided to implement a second cycle to further enhance the children's recognition and understanding of Minangkabau cultural history.

Cycle II Intervention

In the second cycle of the intervention, the researchers addressed the shortcomings identified in Cycle I

and continued to stimulate the children through the Minangkabau storytelling method. The results of Cycle II are presented in Figure 4.

Figure 4.
Graph of the results of improving the ability to recognize Minangkabau cultural history



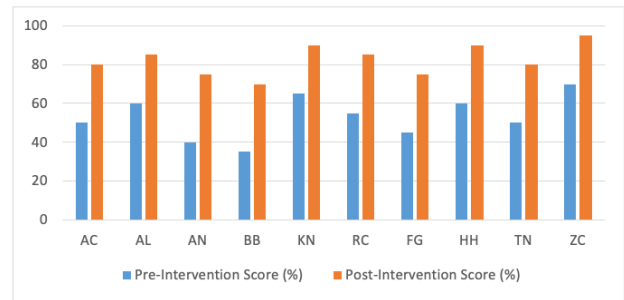
As shown in Figure 4, the Cycle II intervention yielded additional significant gains. The final post-intervention class average was $M = 82.16\%$ ($SD = 6.43$), exceeding the target of 70.44%. The improvement from the post-Cycle I score ($M = 70.40$, $SD = 4.40$) to the post-Cycle II score was also statistically significant, $t(9) = 6.81$, $p < .001$, $d = 2.15$, indicating that the refinements in the second cycle led to substantial additional learning.

Qualitative findings confirmed these gains. Participant AC stated, “The stories helped me imagine the big ceremonies my grandparents talked about,” illustrating the connection between narrative and cultural pride. Teachers reported more enthusiastic participation, with children volunteering to retell parts of the story. Parents echoed this change: one noted, “My daughter explained the meaning of the traditional clothes with excitement.” These reflections show that by Cycle II, storytelling extended beyond recognition to pride and identity-building. The researchers did not deem it necessary to conduct additional cycles, as the results had met the established criteria for successful implementation.

RQ1: How does storytelling influence young children’s recognition and understanding of Minangkabau cultural heritage?

To address RQ1, the effectiveness of the storytelling intervention was evaluated by comparing children’s cultural recognition scores before and after the two-cycle program. Figure 5 visually contrasts the pre- and post-intervention scores for each child, illustrating that all ten participants showed individual improvement, with the group average shifting substantially toward higher scores.

Figure 5.
Comparison of pre- and post-intervention cultural recognition scores



The quantitative change was assessed statistically, with the results summarized in Table 2.

Table 2
Paired Samples T-Test Results for Cultural Recognition Scores

Pair	M	SD	t (9)	p	Cohen's d
Pre-Intervention	56.25	10.12			
Post-Intervention	82.16	6.43			
Difference (Post - Pre)	25.91	14.64	5.60	<.001	1.77

Note. $N = 10$. All scores are percentages. Cohen's d is calculated as the mean difference divided by the standard deviation of the differences.

As shown in Table 2, the paired samples t-test revealed a statistically significant improvement in cultural recognition scores from pre- to post-intervention, with a very large effect size (Cohen's $d = 3.89$). This quantitative finding aligns with the qualitative evidence, where increased engagement—through repeating cultural terms, pointing at illustrations, and relating stories to family traditions—was observed to underpin these knowledge gains. For example, KN commented, “Now I know why we call our houses so unique,” while ZC expressed appreciation for cultural landmarks: “I loved learning about the Rumah Gadang; it looks so special.” These examples illustrate how storytelling transformed abstract cultural content into meaningful knowledge.

Qualitative observations support these quantitative findings. Children demonstrated increased engagement and enthusiasm during storytelling sessions, often asking questions about Minangkabau landmarks, traditions, and folktales. Participant ZC remarked, “I loved learning about the Rumah Gadang; it looks so special,” highlighting a developing appreciation for cultural symbols. Similarly, KN's response, “Now I know why we call our houses so unique,” indicates a deeper understanding.

Participant AC elaborated, “The stories helped me imagine the big ceremonies my grandparents talked about. I can see it now in my head,” showing how storytelling bridged the gap between abstract cultural concepts and tangible understanding. The role of

imagination here aligns with theoretical perspectives on storytelling as a cognitive and cultural tool (Fleer, 2021). Conversely, AN initially stated, "It was hard to remember all the names," reflecting the challenges posed by limited prior exposure to cultural references. However, the use of visual aids and repetition helped overcome this difficulty, suggesting that scaffolding techniques are critical in storytelling interventions.

From observational data, children frequently pointed at illustrations during the sessions, actively engaging by repeating the names of Minangkabau landmarks. One teacher noted, "The children's focus improved significantly when we used visuals; they started making connections to their own families and surroundings." These interactions demonstrate how storytelling fosters participatory learning, a critical factor for comprehension at this developmental stage.

RQ2: In what ways does storytelling contribute to fostering cultural pride and identity in early learners?

The qualitative data revealed that storytelling significantly fostered cultural pride and identity among participants. Many children expressed enthusiasm for sharing their newfound knowledge with family members. For instance, participant HH stated, "I told my parents about the legends, and they said they used to hear the same stories!" This indicates that storytelling bridged generational gaps, reinforcing familial and cultural connections.

Children's drawings and verbal expressions further illustrated their cultural pride. AC drew a Rumah Gadang and added, "This is where my grandparents are from. I am so proud of it." Similarly, RC said, "Hearing the stories made me feel like I belong to something very big and special." These sentiments reflect the role of storytelling in fostering a sense of identity and belonging, which is crucial in early childhood development.

Participant TN remarked, "The stories make me want to visit the places they talk about, like the lake and the mountains." This response suggests that storytelling not only instilled pride but also inspired curiosity and a desire for experiential learning. FG expressed a similar sentiment, stating, "Now I know why our clothes are colorful; they tell a story too." This critical reflection shows that storytelling extended beyond passive listening to active meaning-making, where children connected cultural symbols to their personal identities.

During classroom discussions, HH exclaimed, "I want to wear the traditional clothes we heard about and show my friends." This highlights the tangible ways storytelling fosters pride, prompting children to envision themselves as active participants in their cultural traditions. Observational data revealed that after storytelling sessions, several children gathered

to recreate elements of the stories through role-play, demonstrating the internalization of cultural concepts.

Despite the positive outcomes, not all participants expressed the same level of pride. Participant BB, who identified as Javanese, commented, "I liked the stories, but they're not about my family." This response underscores the need for inclusivity in cultural education. However, the divergent experience of Participant BB, who identified as Javanese, underscores a critical theoretical and practical tension. While Cultural-Historical Activity theory (a branch of Sociocultural theory) emphasizes the importance of culturally mediated tools, it also acknowledges that tools must be meaningful within the learner's own activity system (Engeström, 2001). BB's comment, 'I liked the stories, but they're not about my family,' highlights that while storytelling as a tool was engaging, the specific cultural content was not fully resonant with her personal 'funds of knowledge' (Moll et al., 1992). This finding does not diminish the value of localized storytelling. Instead, it advocates its integration into a broader multicultural pedagogy framework, where dominant local narratives are complemented by stories from other cultures present in the classroom, fostering both specific cultural pride and inclusive, intercultural understanding.

RQ3: What are the key factors that enhance the effectiveness of storytelling as a pedagogical tool in early childhood education?

The study identified several factors that enhanced storytelling effectiveness, including engaging visuals, repetition, and interactive elements. Teachers' facilitative roles were critical, as observed during sessions in which children were actively encouraged to ask questions and share their thoughts. Participant AL explained, "When the teacher showed pictures and asked us what we thought, it made the story fun and easy to understand." This demonstrates the importance of interactive storytelling in maintaining children's attention and fostering comprehension.

Another key factor was the use of culturally resonant narratives. HH expressed, "The stories feel like they're about my family," demonstrating the impact of relatable content. The teacher's incorporation of tangible cultural symbols, such as a model of Rumah Gadang, further deepened children's engagement. FG noted, "Seeing the house made the story real for me." This underscores the role of sensory and visual aids in making abstract cultural concepts tangible for young learners.

Parents' involvement also emerged as a significant factor. RC mentioned, "My mom helped me remember the names of the stories, and we talked about them after school." This highlights the importance of parental reinforcement in extending the impact of storytelling

beyond the classroom. Conversely, AN commented, “I didn’t talk about it much at home because my parents don’t know the stories.” This reveals that limited familial support can constrain the reach of storytelling interventions, emphasizing the need for community engagement in cultural education.

Observation data further highlighted how interactive elements boosted effectiveness. During one session, children clapped along to a rhythmic retelling of a Minangkabau folktale, showing heightened participation and joy. Teachers reported, “The children’s energy levels and excitement peaked when we included music and movement.” This supports the idea that multimodal engagement can enhance comprehension and retention.

Additionally, peer interaction played a critical role in the effectiveness of storytelling. TN shared, “When my friend answered the teacher’s question, I remembered the story better.” This suggests that collaborative discussions among children helped reinforce cultural concepts and enhanced memory retention. Teachers observed that children frequently explained story details to one another, which created a supportive learning environment.

The incorporation of physical activities also emerged as a significant factor. AC stated, “When we acted like the people in the story, I felt like I was really there.” Role-playing activities allowed children to embody cultural narratives, deepening their connection to the material. Teachers emphasized that these activities were particularly effective in maintaining engagement and ensuring long-term recall of cultural elements. These findings underscore that multimodal engagement, parental involvement, and peer learning were essential in reinforcing storytelling’s impact. They also reveal that scaffolding (repetition, visuals, interactive dialogue) was significant for children with minimal prior exposure.

The study also highlighted the challenges of limited prior exposure. Participant FG, who had minimal familiarity with Minangkabau culture, remarked, “At first, I didn’t understand the names, but the teacher’s pictures helped a lot.” This indicates that scaffolding—through repetition, visual aids, and interactive discussions—is essential for children with limited cultural knowledge to benefit from storytelling fully. The study demonstrates that storytelling is a powerful tool for enhancing cultural recognition, pride, and identity among young learners. The combination of engaging delivery methods and culturally relevant content was instrumental in achieving these outcomes.

While most children responded positively, variations in prior exposure and cultural backgrounds influenced their engagement levels. These findings suggest that storytelling should be adapted to individual needs

and supported by broader educational and familial contexts. The study contributes to the growing body of research on culturally responsive education, affirming the role of storytelling in bridging cognitive and cultural learning. By critically interpreting both supporting and divergent data, this research underscores storytelling’s potential to preserve heritage and foster inclusive learning environments.

Discussion

The findings of this study illustrate the decisive role of storytelling in enhancing young children’s recognition and understanding of Minangkabau cultural heritage, fostering cultural pride and identity, and identifying key factors that contribute to its effectiveness as a pedagogical tool (Alwi et al., 2024; Pratama & Husni, 2024; Wardani et al., 2024). By combining quantitative improvements in cultural recognition scores with qualitative insights from observations, interviews, and children’s voices, this study provides a more comprehensive understanding of how storytelling functions as a culturally responsive pedagogy. These results align with, extend, and, in some instances, diverge from existing literature and theoretical frameworks, offering unique contributions to the field of culturally responsive education.

The significant improvement in children’s recognition of Minangkabau cultural elements aligns with previous studies emphasizing the cognitive benefits of storytelling. For example, Moeslichatoen (2004) and Dhieni (2005) highlight storytelling’s role in fostering memory, attention, and comprehension. The quantitative increase from 56.25% to 82.16% confirmed storytelling’s effectiveness, while qualitative findings, such as children’s excitement in naming landmarks and symbols, illustrated how learning was internalized through imagination and dialogue. The increased scores observed in this study, coupled with children’s active engagement during storytelling sessions, validate these claims. Theoretical frameworks such as Slavin’s (2011) learning theory and Winkel’s (2004) psychology of teaching support these outcomes by demonstrating how storytelling engages learners through interactive, meaningful contexts. The integration of numeric and narrative data thus strengthens the evidence that storytelling bridges abstract cultural knowledge with concrete understanding, as also noted by Flear (2021). Additionally, children’s ability to connect cultural stories to their personal experiences, as seen in the remarks of participants like AC and KN, resonates with Flear’s (2021) assertion that storytelling bridges abstract concepts with tangible understanding through imagination and narrative structures.

The findings also emphasize storytelling’s role in fostering cultural pride and identity. This aligns with Yetti et al. (2017) and Gayatri et al. (2023), who identified

storytelling as a medium for preserving cultural heritage and instilling a sense of belonging in children. Qualitative data provided particularly rich evidence here: children expressed pride through drawings, role-play, and family conversations, while parents reported that stories “revived” cultural dialogue at home. These identity-building outcomes complemented the quantitative recognition scores, which alone could not have captured such affective dimensions. Participants’ expressions of pride and curiosity, such as HH’s desire to share stories with family and FG’s newfound appreciation for cultural symbols, reinforce storytelling’s ability to deepen cultural connections. These observations extend Liu’s (2021) and Si’ilata et al.’s (2023) findings on dual-language and cultural literacy by showcasing storytelling’s role in preserving language and revitalizing cultural identity. However, this study also highlights the challenges of inclusivity, as seen in BB’s difficulty relating to Minangkabau stories due to her Javanese background (Bell & Jackson, 2021; Pratama & Husni, 2024; Saleh-Alwazzan & Esmail-Ahmad, 2022). The mixed-methods approach helped illuminate this tension: while test scores improved for all participants, interviews revealed varying levels of cultural pride across children’s backgrounds. This divergence underscores the need for multicultural storytelling practices. This divergence underscores the need for multicultural storytelling practices to ensure broader relevance, a gap noted by Iruka et al. (2023).

The identified factors that enhance storytelling’s effectiveness, engaging visuals, repetition, interactive elements, peer interaction, and role-playing activities, offer new insights that both align with and expand upon existing literature. The role of visuals and sensory aids, as noted in participants’ comments (e.g., FG) and in observations of heightened engagement during rhythmic retellings, supports Mulyani et al. (2024) and Khoo et al. (2024), who emphasize the importance of culturally resonant and multimodal teaching methods. Here, mixed-methods evidence was particularly useful: quantitative results showed marked improvements after Cycle II, coinciding with the introduction of more visuals and repetition. At the same time, qualitative observations and interviews explained why these strategies mattered. Children described the stories as “real” and “fun,” and parents noticed better recall at home.

The study’s findings on parental involvement align with those of Gao et al. (2022), who identified culturally sensitive teacher agency as crucial for implementing effective pedagogical strategies. However, the significant influence of peer interactions and role-playing activities, as highlighted by TN’s and AC’s remarks, provides a unique contribution to the field by showcasing the social dimensions of storytelling as a collaborative and experiential learning process (Anderson-Lain, 2017; Kim & Brand, 2023; Putri et al.,

2024). These qualitative insights add depth to the quantitative outcomes, showing that test scores alone cannot explain variability in children’s cultural learning.

Integrated Contribution: A Dual-Focus Framework

The integrated analysis of quantitative and qualitative data reveals the primary contribution of this study: a dual-focus framework demonstrating that a well-designed storytelling intervention serves as a single pedagogical vehicle driving simultaneous progress on two key axes of culturally responsive education. It concurrently enhances cognitive recognition (as evidenced by significant score improvements) and fosters affective identity development (as evidenced by expressions of pride, belonging, and meaning-making). While much of the existing literature emphasizes storytelling’s cognitive benefits (Dhieni, 2005; Madondo & Tsikira, 2022) or its role in cultural preservation (Gayatri et al., 2023; Sihotang & Sitanggang, 2022; Yetti et al., 2017; Yücesan et al., 2023), this study bridges these dimensions, demonstrating how storytelling can simultaneously enhance knowledge, foster identity, and inspire curiosity in early learners. By grounding this in sociocultural and narrative identity theories and rigorously integrating mixed-methods data, the study moves beyond confirming storytelling’s utility to modeling how it works in an integrated fashion within a specific cultural context. This framework is replicable and adaptable for other indigenous and minority communities globally.

Theoretical Implications

The theoretical implications of this study reaffirm the importance of integrating cultural narratives in early childhood education, as advocated by Mulyasa (2012) and Moeslichatoen (2004). Storytelling, as a dynamic and inclusive teaching strategy, aligns with the principles of culturally responsive pedagogy by validating learners’ cultural identities and fostering pride in their heritage (AlQawod & Al-Dababneh, 2025; Blinne, 2012; Iruka et al., 2023). However, this study also emphasizes the need to address inclusivity challenges, particularly in diverse classroom settings. Incorporating multicultural narratives alongside localized stories could mitigate the limitations observed in this study, ensuring that all learners feel represented and valued.

Implications for Policy and Practice

The findings of this study hold significant implications for policymaking in culturally diverse educational settings. By demonstrating the effectiveness of storytelling in fostering cultural pride, identity, and cognitive engagement, this research underscores the need for integrating culturally responsive pedagogies into early childhood education curricula (Darwis &

Muslim, 2024; Eiker, 2024; Hiltrimartin et al., 2024; Zainil et al., 2024). For policymakers, the mixed-methods evidence offers both statistical justification (improved recognition scores) and narrative validation (children's voices and parental feedback). This dual evidence base is especially persuasive for advocating curriculum reform and teacher training programs that emphasize storytelling and local narratives. Policymakers should consider mandating the inclusion of localized cultural narratives in national and regional education standards, emphasizing their role in preserving intangible cultural heritage while fostering inclusivity (Darandari & Alagla, 2022; Sihotang & Sitanggang, 2022; Yücesan et al., 2023). Additionally, professional development programs should be designed to equip educators with the skills and resources needed to implement storytelling effectively, including training in multimodal teaching strategies and the use of culturally resonant materials. These measures can promote equitable access to culturally responsive education, particularly in communities at risk of losing their cultural traditions.

Limitations and Future Research

However, the study's findings must be interpreted in light of certain limitations. The small sample size and focus on a single cultural group limit the generalizability of the results. Future research should employ larger, more diverse samples to explore the scalability of storytelling interventions across various cultural contexts. Additionally, longitudinal studies could investigate the sustained impacts of storytelling on cultural identity formation and cognitive development. Addressing inclusivity challenges, such as those highlighted by participants from non-Minangkabau backgrounds, will require incorporating multicultural narratives to ensure relevance and engagement for all learners (Abul-Anwaar, 2023; Miftahurrahmi et al., 2024; Simmons & Chen, 2014;). By expanding the scope of storytelling research, future studies can contribute to a more comprehensive understanding of its role in fostering diversity and inclusion in education.

This research underscores the multifaceted benefits of storytelling in early childhood education, particularly in preserving and revitalizing cultural heritage (Humairoh, 2023; Sunarti et al., 2024; Yücesan et al., 2023). By critically analyzing both supportive and divergent findings, the study contributes to a nuanced understanding of how storytelling can serve as a bridge between cognitive development and cultural preservation. Its unique insights into the social and experiential dimensions of storytelling offer valuable directions for future research and practice, advocating a more inclusive, culturally grounded approach to early education.

Conclusion

This study demonstrates the significant potential of storytelling as a pedagogical tool for enhancing cultural recognition and fostering identity among young learners in the Minangkabau context. The integration of traditional narratives with interactive teaching methods effectively bridges cognitive development and cultural preservation goals. By highlighting the importance of culturally responsive pedagogy, this research provides a foundation for practical applications in teacher training and curriculum development. Specifically, the findings advocate incorporating storytelling techniques into professional development programs to equip educators with strategies for delivering culturally resonant and engaging lessons. Additionally, this study underscores the need for curriculum planners to embed local and indigenous narratives into early education frameworks, ensuring that children develop a strong connection to their cultural roots while fostering inclusivity for diverse student populations. Beyond the local context, the global relevance of this research lies in its applicability to other minority or indigenous cultures. The storytelling framework presented here offers a replicable model for preserving cultural heritage and strengthening identity among young learners worldwide. By tailoring storytelling interventions to reflect the unique traditions and values of different communities, educators and policymakers can address the challenges of cultural erosion and promote diversity in educational settings. This study has limitations, including its small sample size and focus on a single cultural group, which affect its generalizability. Future research should: 1) Conduct longitudinal studies to track the persistence of cultural identity markers fostered in early childhood; 2) Scale up the intervention with larger, more diverse samples, employing cluster-randomized designs to strengthen causal claims; and 3) Develop and test integrated storytelling models that strategically combine dominant local heritage narratives with stories from other cultures represented in the classroom, directly addressing the inclusivity challenge identified in this study.

AI Disclosure Statement

The authors confirm that no AI-based tools were used in the drafting, writing, or analysis of this manuscript. All content, data interpretation, and conclusions are the sole work of the authors.

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