



Reflective Pedagogy with Narrative and Visual Media for Enhancing Body Safety Awareness in Socioeconomically Marginalized Preschools

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Abstract

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Child sexual abuse continues to disproportionately affect children from socioeconomically marginalized communities, where access to body safety education remains limited. This study aims to evaluate the effectiveness of narrative and visual media animated videos, educational posters, picture storybooks, and illustrated flashcards within a reflective pedagogical framework to enhance preschoolers' understanding of body safety. Employing a sequential mixed-methods design, the research was conducted in three under-resourced early childhood education centers, involving 116 children and six classroom teachers. Quantitative data were collected through pre- and post-tests, while qualitative insights were gathered via observations, interviews, and document analysis. Findings reveal that all four media significantly improved children's conceptual understanding, with animated videos showing the greatest score gains and posters yielding the highest post-test averages. Qualitative analysis identified distinct pedagogical mechanisms: animated videos supported dual coding processes and emotional resonance; storybooks fostered narrative engagement but required guided mediation; posters encouraged peer interaction and contextual understanding; and flashcards, while accessible, relied heavily on teacher scaffolding and offered limited sustained engagement. Teachers played a critical role in adapting media to classroom realities, particularly in resource-limited contexts. This study underscores the pedagogical value of integrating multimodal media in early childhood body safety education, especially when mediated through reflective teaching. It highlights the need for structured curriculum inclusion, targeted teacher training, and future innovations in multimodal learning. The findings contribute to a growing call for inclusive, developmentally appropriate, and context-sensitive approaches to protective education in marginalized settings.

Keywords:

child protection, marginalized communities, multimodal media, narrative pedagogy, reflective teaching

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INTRODUCTION

Child sexual abuse (CSA) remains a pervasive global issue with significant consequences for children's physical, emotional, and psychological well-being. Research consistently indicates that children from socioeconomically marginalized communities are particularly vulnerable to sexual exploitation, often lacking access to protective education and residing in environments with limited adult supervision



and inadequate early caregiving systems (Broer et al., 2019; Cockerill et al., 2021; Cuvalo & Wekerle, 2024; DeGue et al., 2014). In this context, early childhood education (ECE) functions not only as a vehicle for cognitive development but also as a critical space to instill foundational concepts of body safety, personal boundaries, and autonomy (Adikusuma et al., 2025; Goldfarb & Lieberman, 2021; Muftah, 2023; Ridgway et al., 2016).

Body safety education has been shown to effectively reduce children's vulnerability to abuse (Anwar et al., 2025; Rahiem, 2021). It provides essential knowledge that helps children recognize unsafe situations in their daily lives (Beautemps et al., 2024; Hasiana, 2024). Moreover, it equips them with the skills to respond appropriately and practice protective behaviors when they encounter risks (Ismiulya et al., 2022). However, in practice, body safety programs are often absent from formal ECE curricula, particularly in schools with limited resources (Fauziyah et al., 2024). Cultural barriers remain one of the main obstacles to the integration of such programs (Hernandez, 2022). In addition, the lack of trained educators and insufficient pedagogical tools further hinder the implementation of body safety education in early childhood settings (Ferragut et al., 2023; Kusuma et al., 2024). Even when implemented, body safety programs often rely heavily on didactic teaching approaches (Huynh et al., 2021). These programs also depend on static instructional materials that limit the effectiveness of learning (Ndlovu et al., 2023). As a result, they fail to adequately meet the developmental needs and diverse learning preferences of young children (Ortiz, 2023).

These gaps underscore the need to explore developmentally appropriate and context-responsive pedagogical strategies. Recent educational research highlights the potential of multimodal media including animated videos, posters, picture storybooks, and illustrated flashcards as effective tools for enhancing children's understanding of sensitive topics through visual-verbal integration and emotional engagement (Clark & Paivio, 1987; Mayer, 2009; Ridha et al., 2022). This approach aligns with Dual Coding Theory, which posits that learners process information more effectively when it is delivered through both visual and verbal channels (Clark & Paivio, 1987; Johnson, 2021), and with Narrative Pedagogy, which emphasizes learning through stories, reflection, and co-construction of meaning (Dickelmann, 2001; Goldfarb & Lieberman, 2021; Kurian, 2024).

Despite growing support for narrative and visual media, few studies have systematically compared their effectiveness in early childhood settings within socioeconomically disadvantaged contexts. Most existing research focuses on a single media type or lacks a guiding framework based on Reflective Pedagogy—a model that emphasizes teacher facilitation, child participation, and dialogic reflection in meaning-making (Brookfield, 2017; Mezirow, 1997; Schon & DeSanctis, 1986). The absence of empirically tested, theory-driven approaches in real classroom environments constitutes a significant research gap. Moreover, limited evidence exists on how such media function under conditions of infrastructural scarcity, or how teachers act as learning facilitators using reflective strategies (Cockerill et al., 2021; Hernandez, 2022; Schuh et al., 2025).

This study addresses these gaps by systematically evaluating the effectiveness of four types of educational media animated videos, educational posters, picture storybooks, and illustrated cards in improving preschool children's

understanding of body safety within marginalized communities. Uniquely, the study situates all four media within the framework of Reflective Pedagogy, allowing for analysis not only of learning outcomes but also of emotional engagement, process dynamics, and teacher facilitation. Data collection included classroom observations, teacher interviews, and instructional document analysis to triangulate quantitative findings with qualitative insights and present a holistic view of media-pedagogy interactions in complex educational environments (Huynh et al., 2021; Lisnawati et al., 2024; Rahiem, 2021).

The novelty of this study lies in its mixed-methods approach, integrating theoretical analysis with empirical classroom data in resource-limited contexts. By emphasizing multimodal engagement, teacher scaffolding, and child reflection, the research provides new insights into the optimal use of narrative and visual media for early childhood protective education. In contrast to prior studies that often examined a single medium or lacked a guiding framework, this study systematically compares four types of media—animated videos, posters, storybooks, and flashcards—within Reflective Pedagogy, highlighting not only their effectiveness but also the mechanisms of engagement and teacher mediation. Furthermore, it contributes to the literature by incorporating a social justice perspective, acknowledging the cultural and structural challenges faced by under-resourced schools (Beier et al., 2024; Cuvalo & Wekerle, 2024; Su et al., 2024).

The study is guided by the following research question: To what extent are different types of narrative and visual media animated videos, posters, storybooks, and illustrated flashcards effective in enhancing preschool children's understanding of body safety within a reflective pedagogy framework? By addressing this question, the study provides a comprehensive understanding of the effectiveness of four types of educational media within reflective pedagogy to support body safety education in marginalized communities. The findings not only offer empirical evidence through a mixed-methods design but also highlight children's engagement and teachers' mediation as dimensions of effectiveness, leading to practical recommendations for curriculum development, teacher training, and educational interventions in resource-limited contexts.

METHODS

Research Design and Approach

This study employed a sequential mixed-methods approach, beginning with a quasi-experimental quantitative study followed by a qualitative phase. The quantitative component aimed to measure the effectiveness of four types of educational media—animated videos, educational posters, picture storybooks, and illustrated flashcards—in improving young children's understanding of body safety. The qualitative component explored the pedagogical processes, including teacher facilitation, children's engagement, and contextual challenges during media implementation. This design aligns with (Creswell & Plano Clark, 2017) framework, which emphasizes the integration of quantitative outcome evaluation with qualitative insights to offer a holistic understanding of educational interventions.

Research Setting and Participants

The study was conducted in three early childhood education centers (PAUD) located in socioeconomically marginalized communities in Gowa Regency, South Sulawesi Province, Indonesia. To maintain confidentiality, the schools are referred to as School A, School B, and School C throughout the manuscript. The interventions were implemented over five consecutive days for each group, with additional qualitative data collection (observations and teacher interviews) carried out over two days at each school. These sites were purposively selected based on three criteria: limited infrastructure, absence of formal body safety content in the curriculum, and institutional willingness to participate in a structured intervention program. Participants in the quantitative phase consisted of 116 children aged 5–6 years, grouped into four treatment categories, each receiving a different media-based intervention. Group allocation was conducted purposively based on school assignment rather than randomization, in line with the constraints of field-based quasi-experimental designs. In the qualitative phase, six classroom teachers (two per school) participated as key informants, along with three researchers who conducted observations, interviews, and document analysis.

Instruments and Data Collection Techniques

Quantitative Instruments

To assess conceptual understanding of body safety, a picture-based multiple-choice test was developed, comprising 15 items with a maximum score of 30. The test included items targeting knowledge of private body parts, appropriate and inappropriate touch, and basic protective behaviors. The instrument was validated through expert review and a pilot test involving a comparable sample, which confirmed that the instrument demonstrated acceptable validity and reliability (Cronbach’s alpha > 0.70). A pre-test and post-test design was used within each group, spanning five consecutive days of intervention. Each group received one type of media intervention during 30–45 minute sessions per day. Teachers who facilitated the sessions received prior guidance to ensure consistency. Table 1 presents the distribution of groups and intervention details.

Table 1. Intervention Media, Participant Distribution, and School Context

Media Type	Number of Children	School	Duration	Activities Involved
Animated Videos	30	School A	5 days	Watching videos, discussion, reflection
Educational Posters	28	School B	5 days	Poster analysis, role-play, discussion
Picture Storybooks	28	School C	5 days	Story reading, guided questioning
Illustrated Cards	30	School A	5 days	Card interaction, concept repetition

Qualitative Data Collection

Qualitative data were collected concurrently during the intervention period. Classroom observations were conducted for each session to document children's behavioral responses and instructional dynamics. Document analysis included reviewing lesson plans (RPPH), teaching journals, and student worksheets to assess

integration of body safety content. In addition, semi-structured interviews were conducted with classroom teachers over two days at each school, focusing on their experiences using the media, their reflections on children's engagement, and contextual factors that shaped learning. Interviews were audio-recorded and transcribed for analysis.

Data Analysis Techniques

Quantitative Analysis

Data were analyzed using paired-samples t-tests to assess within-group pre-test and post-test differences for each media condition. Normality was tested using the Shapiro-Wilk test. If assumptions of normality were violated (as in the case of groups with $N < 30$, such as the poster and storybook groups), Wilcoxon Signed-Rank Tests were employed instead. All groups showed statistically significant improvements ($p < 0.05$), supporting the hypothesis that the media interventions had positive impacts. To compare post-test scores across the four independent groups, a one-way ANOVA was conducted when assumptions of normality and homogeneity of variances were met. In cases where these assumptions were not satisfied, the Kruskal-Wallis test served as a non-parametric alternative. This cross-group analysis revealed significant differences in effectiveness among the media types, with the highest post-test mean observed in the poster group ($M = 27.14$) and the greatest score gain observed in the video animation group ($\Delta = 10.46$).

Qualitative Analysis

Qualitative data were analyzed using the thematic analysis framework developed by Braun and Clarke (2006). Transcripts and field notes were coded deductively based on three guiding theoretical frameworks: Dual Coding Theory (Clark & Paivio, 1987), Narrative Pedagogy (Diekelmann, 2001), and Reflective Pedagogy (Brookfield, 2017; Mezirow, 1997; Schon & DeSanctis, 1986). Codes were then refined inductively as patterns emerged from the data. Triangulation was implemented across data sources (observations, interviews, documents) and among researchers to ensure credibility and confirmability. A process of inter-coder comparison was conducted among the three researchers to strengthen the reliability of interpretations. Additionally, member checking was used by returning synthesized summaries to participating teachers for verification.

Ethical Considerations

This study adhered to ethical guidelines for research with children. Prior to the research, the team submitted an official research permit letter, which was formally accepted by the participating schools. After the study was completed, each school also issued a confirmation letter stating that the research and data collection activities had been carried out in their institutions. Informed consent was obtained from all parents or guardians, and all child data were anonymized using coded identifiers. Learning activities were carefully designed to be age-appropriate and non-threatening, consistent with child protection principles and cultural sensitivity. The intervention content deliberately avoided explicit depictions and was presented in developmentally appropriate language. Researchers maintained a non-intrusive role during class sessions, ensuring that teachers led the instruction. Any indication

of discomfort among children was immediately addressed through teacher guidance or necessary session adjustments. This comprehensive ethical procedure, combined with methodological rigor, ensured alignment between the research design, data collection strategy, and analytic techniques. By integrating robust quantitative comparisons with rich qualitative insights, the study offers a holistic evaluation of multimodal media effectiveness in supporting early childhood body safety education, particularly within resource-constrained contexts.

RESULTS & DISCUSSION

Quantitative and Qualitative Results

This section presents the quantitative analysis results from the study, which evaluated the effectiveness of four types of narrative and visual media in improving preschool children's understanding of body safety and the prevention of sexual violence in socioeconomically marginalized preschools. The study employed a quasi-experimental design with pre-test and post-test measurements for four intervention groups: animated videos, educational posters, picture storybooks, and illustrated flashcards.

Pre-test and Post-test Scores by Media Type

All four media interventions resulted in statistically significant improvements in children's understanding of body safety. Table 2 presents descriptive statistics, including the average pre-test and post-test scores, score differences, percentage increases, and significance values for each group. The maximum score possible in this test was 30.

Table 2. Pre-test and Post-test Scores

Media Type	N	Pre-test	Post-test	Δ Score	% Increase	Significance (p)
Animated Videos	30	10.57	21.03	10.46	98.9%	0.000
Educational Posters	28	19.50	27.14	7.64	39.2%	0.000
Picture Storybooks	28	18.79	20.36	1.57	8.4%	0.004
Illustrated Flashcards	30	10.67	17.93	7.26	68.1%	0.000

It is important to note that groups such as the Educational Posters and Picture Storybooks had relatively high initial scores, which likely limited the room for improvement due to the ceiling effect. In contrast, the Animated Video and Illustrated Flashcard groups started with lower scores, allowing for a larger quantitative increase. This context is crucial when interpreting the relative effectiveness of each type of media.

Distribution and Variation in Scores

Figure 1 presents a bar chart comparing the average pre-test and post-test scores for each media group. All groups showed significant improvements. The Animated Video group exhibited the highest increase from baseline, while the Poster group achieved the highest average post-test score. This reflects differences in baseline scores and ceiling effects between the groups.

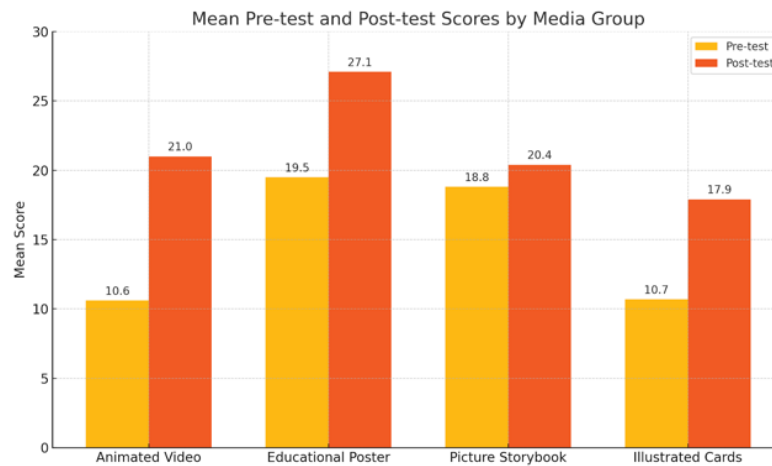


Figure 1. Average Pre-test and Post-test Scores for Each Media Group

Comparison of Post-test Scores Across Media Types

Although all groups showed significant improvements, there were differences in the magnitude of the post-test scores. The Educational Poster group recorded the highest average post-test score (27.14), followed by the Animated Video group (21.03), the Picture Storybook group (20.36), and the Illustrated Flashcard group (17.93). An independent t-test (or Wilcoxon test, depending on data normality assumptions) indicated that these differences were statistically significant ($p < 0.05$). However, the Animated Video group showed the largest increase from pre-test to post-test ($\Delta = 10.46$), indicating the strongest conceptual impact.

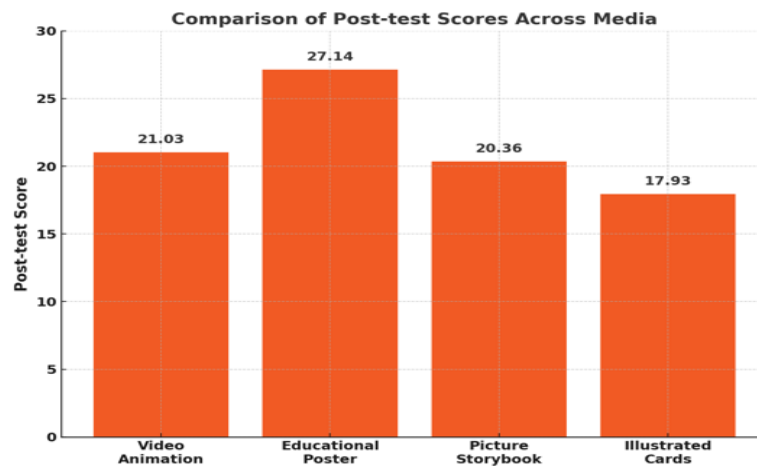


Figure 2. Comparison of Post-test Scores Across Media Types

Score Change from Pre-test to Post-test

Figure 3 presents a line graph illustrating the score progression from pre-test to post-test for each media group. The steepest slope, reflecting the largest learning increase, is observed in the Animated Video group, followed by the Illustrated Flashcard group, the Educational Poster group, and the Picture Storybook group.

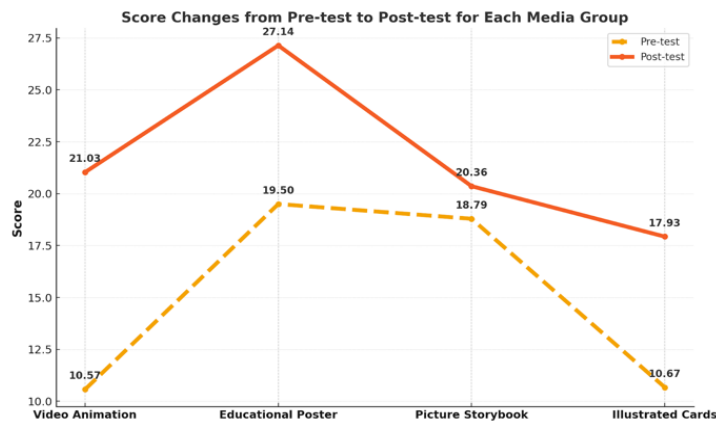


Figure 3. Score Change from Pre-test to Post-test for Each Media Group

Relative Contribution of Each Media to Overall Improvement

Figure 4 displays a pie chart illustrating the relative contribution of each type of media to the total score improvement across all groups. This calculation is based on the total absolute improvement achieved by each group. The Animated Video group contributed the largest share (39%), followed by the Illustrated Flashcard group (27%), the Educational Poster group (22%), and the Picture Storybook group (12%).

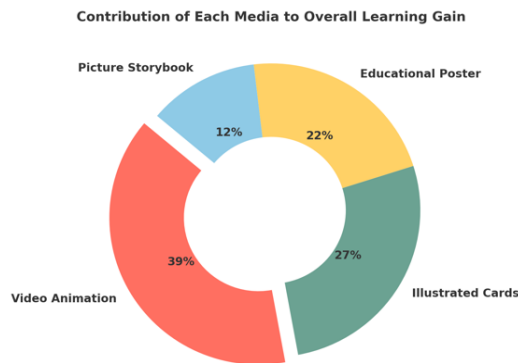


Figure 4. Pie Chart of the Relative Contribution of Each Media to Overall Score Improvement

Qualitative Results

This section presents the qualitative findings from the study, focusing on the experiences and insights gathered through classroom observations, teacher interviews, and document analysis. The study examined the effectiveness of four types of media—animated videos, educational posters, picture storybooks, and illustrated flashcards—in enhancing preschool children's understanding of body safety in socioeconomically marginalized settings. The results illustrate how each media type contributed to children's learning, highlighting both the strengths and challenges faced in implementing these resources in resource-constrained environments.

Animated Videos

The use of animated videos emerged as a powerful tool for teaching body safety concepts. Teachers in both schools reported that animated videos were effective in simplifying complex topics for young children. One teacher from School A remarked, "This video is very good; the children understand quickly, and I don't need to explain too much." Observational data confirmed this observation, with children spontaneously verbalizing phrases like "that's not okay to touch" during the screening, without any prompting from the teacher. This level of engagement suggests that the children were able to grasp key body safety concepts through the visual and narrative elements of the video. The animated format, combining both visual and auditory elements, appeared to align well with the cognitive and emotional capacities of preschoolers, enabling them to better understand and internalize the material.

In addition to conceptual understanding, animated videos also generated high levels of both verbal and non-verbal engagement from the children. In School A, the principal observed that the children were sitting attentively, showing excitement, and even mimicking the animated characters' expressions, such as saying "Don't touch, that's my private part." Teachers in School B reported similar levels of enthusiasm, with children actively responding during the video sessions. These observations suggest that the animated videos were successful in capturing children's attention and promoting active participation in the learning process.

Despite the effectiveness of the animated videos, teachers in the resource-constrained schools faced logistical challenges. A teacher from School A mentioned, "We have limited equipment, no LCD projector, so we had to borrow a laptop, and sometimes the electricity would go out." In spite of these limitations, teachers adapted by using gestures, repetition, and post-viewing discussions to reinforce the messages conveyed in the videos. These adaptations were observed in both schools, where teachers used body movement and repeated screenings to ensure that children fully understood the material. This adaptability highlights the importance of teacher creativity in overcoming infrastructure challenges and supporting children's learning.

Another significant finding was the absence of body safety content in the formal curriculum prior to the research intervention. Teachers in both schools acknowledged that body safety education was not part of their routine lesson plans. As one teacher in School A explained, "Body safety wasn't included in the RPPH (lesson plan) before; it was only when the researcher came that we specifically included it." This gap in the curriculum reinforces the need for external interventions to introduce and integrate important safety education topics, especially in schools with limited resources.

The role of teachers in facilitating the learning process was also crucial, particularly in managing the sociocultural challenges surrounding the children. In School A, one child reenacted an adult behavior by saying, "I saw my mom and dad doing that last night." This highlights the vulnerability of children in these environments and the critical role teachers play as protectors and confidants. Teachers noted that children often confided in them when they felt uncomfortable, suggesting that the trust between the teacher and child was essential in the success

of body safety education. This finding emphasizes the importance of establishing a safe, supportive learning environment where children can discuss sensitive topics.

Illustrated Flashcards

Illustrated flashcards were used in both schools to help children recognize private body parts, identify appropriate and inappropriate touch, and learn basic protective responses. Teachers observed a high level of initial interest when the flashcards were introduced, with children excited to observe and interact with the visuals. However, this initial engagement diminished quickly, and children's attention began to wane unless the flashcards were supplemented with other interactive methods. One teacher in School A noted, "The children get bored quickly, so I need to combine the flashcards with stories or other activities." This observation suggests that while flashcards were visually engaging, their static nature limited their ability to sustain children's attention over time.

Teachers also found that children needed extensive verbal explanation to interpret the images on the flashcards. In both schools, teachers reported that children did not respond spontaneously to the visuals unless prompted. One teacher from School A remarked, "Not all children respond spontaneously... I have to ask many questions before they respond." This reliance on teacher narration to facilitate understanding highlights the limitations of flashcards in fostering independent learning. The lack of interaction and emotional engagement with the material further limited its impact on children's comprehension.

Children's ability to grasp core body safety concepts was also found to be shallow when using flashcards alone. In School A, a teacher reflected, "It's difficult for them to understand unless I explain thoroughly." Classroom observations indicated that few children could independently articulate concepts such as recognizing unsafe touch. The flashcards were more effective as a review tool rather than an initial instruction method. This finding suggests that while flashcards can reinforce learning, they may not be sufficient on their own to introduce new concepts effectively. The emotional and imaginative resonance of the flashcards was also limited due to their static nature. Teachers in both schools observed that the children did not show strong emotional responses to the images, and there was little evidence of imaginative engagement or role-playing. One teacher from School A mentioned, "Since the images are static, I have to explain a lot... and this can be tiring." The lack of dynamic interaction with the flashcards meant that they failed to stimulate deep emotional or imaginative engagement, which is crucial for fostering long-term retention of body safety concepts.

To compensate for the limitations of the flashcards, teachers often integrated storytelling or interactive question-and-answer sessions into the lesson. One teacher in School A explained, "We combine the flashcards with short stories or Q&A sessions to get the children to respond." These adaptations led to increased participation and engagement, but they were applied inconsistently and required additional effort from the teachers. The lack of formal guidance in the lesson plans made these adaptations less sustainable, suggesting that the effectiveness of flashcards could be significantly improved if they were incorporated into a more structured and multimodal approach.

Educational Posters

Educational posters were used to help children identify key body safety concepts such as private body parts, appropriate versus inappropriate touch, and protective actions. Teachers emphasized the effectiveness of posters in simplifying complex concepts and making them more accessible to young children. One teacher noted, "The visual design of the posters made it easier for them to recognize and remember important messages about personal safety." Classroom observations confirmed this, as most children were able to verbally identify body parts and verbalize protective behaviors, such as shouting or running away in uncomfortable situations.

Posters also facilitated peer interaction and curiosity. Teachers observed that children often pointed to the images on the posters, asked questions, and engaged in discussions with their peers. One teacher commented, "After looking at the poster images, the children became more proactive in asking questions about the pictures." These spontaneous interactions helped sustain children's engagement and fostered a sense of ownership in their learning process. However, teachers also faced challenges in designing posters that balanced simplicity with depth. As one teacher explained, "It's challenging to make the illustrations simple yet still informative enough for the children to understand." The difficulty in creating posters that conveyed both clear and detailed messages highlights the need for careful design to ensure the effectiveness of this media.

Teachers also employed informal assessment strategies, such as reflective observation and anecdotal notes, to gauge children's comprehension. One teacher shared, "I observe how the children respond to the images and whether they can relate them to real-life situations." This approach allowed teachers to adjust their instruction and reinforce key concepts, ensuring that the posters were used effectively to promote iterative learning. However, the lack of formal mechanisms to track behavioral outcomes was noted, which suggests the need for tools to capture more nuanced developments in children's understanding of body safety.

Picture Storybooks

Picture storybooks were another effective tool used to engage children emotionally while teaching body safety concepts. Teachers reported that children showed strong affective responses to the stories, with many requesting to hear the stories again. One teacher noted, "The children were very enthusiastic when the story was read to them... they even asked to hear it again the next day." This excitement was visible during classroom observations, where children eagerly participated in the storytelling sessions. Triangulation with lesson plans and classroom documentation confirmed that the narrative elements in the books supported emotional engagement and helped the children connect personally with the material.

However, sustaining attention during longer storytelling sessions proved to be challenging. Teachers noted that while many children were engaged, others struggled to maintain focus, and their attention waned as the stories progressed. As one teacher commented, "Some children still have difficulty focusing while listening to the story, so not everyone fully understands the story's content." This variation in participation suggested the need for differentiated strategies to support

children with varying attention spans. Teachers emphasized the importance of using dynamic storytelling techniques, including adjusting the tone of voice and incorporating pauses to keep children engaged.

Picture storybooks also served as an effective medium for introducing core protection concepts such as body autonomy, identifying safe versus unsafe touch, and understanding protective behaviors. Teachers observed that children were able to recognize private body parts, reject inappropriate touch, and suggest protective actions. However, some children still required additional guidance to fully grasp these concepts. As one teacher explained, "The children could name private body parts, reject inappropriate touch, and suggest protective actions, but they still needed support in recognizing inappropriate touch." This finding underscores the need for guided reinforcement when using picture storybooks to teach body safety. Despite the emotional engagement fostered by the stories, teachers faced challenges in maintaining children's attention during longer narratives. There were no established strategies in the curriculum to address this issue, suggesting the need for more interactive and dialogic approaches to storytelling.

Discussion

This study aimed to evaluate the effectiveness of integrating narrative and visual media in enhancing preschool children's understanding of body safety, particularly in socioeconomically marginalized settings. The results from both the quantitative and qualitative analyses underscore the role that multimedia can play in improving children's knowledge and engagement. This discussion interprets the findings in relation to the existing literature and provides insight into the pedagogical implications of the media interventions used.

Integrating Narrative and Visual Media in Early Childhood Body Safety Education

The integration of narrative and visual media was found to be crucial in enhancing preschool children's understanding of body safety (Anwar et al., 2025), especially in disadvantaged socio-economic contexts. The combination of animated videos, educational posters, picture storybooks, and illustrated flashcards significantly improved children's ability to understand and internalize key safety concepts. This finding aligns with prior research highlighting the benefits of multimodal approaches and narrative-rich media in early childhood education (Hariyati & Nurhafizah, 2023; Muftah, 2023; Rahiem, 2021; Ridgway et al., 2016; Ridha et al., 2022; Suryana & Hijriani, 2021; Triwiono & Estria, 2022).

From the perspective of Dual Coding Theory (Clark & Paivio, 1987), animated videos were particularly effective. These videos presented body safety concepts through both verbal and visual channels, enabling children to process and retain the information more effectively. (Mayer, 2009) also emphasizes that dual-channel learning enhances cognitive memory by simultaneously engaging both linguistic and non-verbal systems. Consistent with (Beautemps et al., 2024) and (Ridha et al., 2022), the use of synchronized animations with movement and narration maximized attention, contributing to the higher post-test scores observed in the video animation group ($\Delta = 10.46$, a 98.9% increase).

Educational posters and picture storybooks were effective in fostering visual engagement and peer interaction, with children actively participating and sustaining interest (Ortiz, 2023; Ridgway et al., 2016). The narrative elements of storybooks further promoted emotional connection, supporting Narrative Pedagogy's emphasis on storytelling for identity and empathy building (Diekelmann, 2001; Goldfarb & Lieberman, 2021; Rahiem, 2021). Such engagement allowed children to reflect on body safety in relation to their lived experiences, consistent with Reflective Pedagogy (Brookfield, 2017; Schon & DeSanctis, 1986).

Picture Storybooks: Narrative Affection and Conceptual Foundation

Although picture storybooks showed the lowest increase in post-test scores ($\Delta = 1.57$; 8.4% improvement), qualitative data highlighted the important role that emotional engagement and narrative affection played in laying the foundation for understanding body safety. The emotional resonance created through storytelling allowed children to connect their personal experiences with safety concepts. One teacher from School C noted, "The children were very excited when the story was read to them... they even asked to hear it again the next day." This excitement reflects how narrative elements in stories support emotional engagement, which aligns with Narrative Pedagogy principles (Diekelmann, 2001; Huynh et al., 2021; Ridgway et al., 2016). By engaging with the stories, children connected concepts like body autonomy and personal boundaries with their emotional experiences.

However, despite the high emotional engagement, not all children could maintain focus throughout longer story sessions, indicating that while emotional involvement was strong, conceptual understanding was limited without adequate scaffolding (Brookfield, 2017; Mezirow, 1997). Reflective Pedagogy's importance becomes evident here: the teacher's role in facilitating reflection and helping children critically interpret and connect narrative content to real-life situations was vital for reinforcing lessons on body safety (Goldfarb & Lieberman, 2021; Rahiem, 2021). Without this reflective interaction, children struggled to fully integrate the lessons on body safety.

Teachers and Media: A Symbiotic Relationship in Reflective Pedagogy

A significant finding of this study was the critical role teachers play as facilitators in mediating children's interactions with media. Reflective teaching practices were essential to ensure that children not only engaged with the content but also reflected on it critically. According to Reflective Pedagogy (Schon & DeSanctis, 1986), teachers must act as mediators, helping children interpret and apply lessons from media to real-life situations (Brookfield, 2017; Mezirow, 1997). In this study, the teacher's role in mediating content through storytelling, questioning, and adjusting responses—was vital in helping children connect the media to their lived experiences (Clark & Paivio, 1987).

Teachers also played a significant role in scaffolding children's learning by guiding them through post-viewing discussions, allowing them to reflect on sensitive topics like inappropriate touch. This was in line with Narrative Pedagogy, where teachers act as mediators who help children link story-based experiences to real-life situations (Diekelmann, 2001; Ridgway et al., 2016). However, the reflective role of teachers was not always formally integrated into the curriculum,

which indicates a need for more structured support for reflective practices, as recommended by (Brookfield, 2017). Structured support would ensure that teachers can consistently apply these strategies in various classroom settings, enhancing the overall effectiveness of media-based interventions.

Addressing Gaps and Inclusion in Marginalized Contexts

The research was conducted in socioeconomically marginalized preschools, where structural inequalities often hinder access to quality education. The use of multimodal media interventions proved to be an effective tool in bridging this gap, providing accessible and visually rich resources that did not require high literacy levels or complex infrastructure (Hamilton & Harper, 2024; Lim & Tan-Chia, 2022; OECD, 2025; Su et al., 2024). Animated videos, in particular, emerged as a transformative medium that not only engaged children but also included them, providing opportunities for those with limited exposure to formal learning to understand and apply body safety concepts effectively (Muftah, 2023; Ridha et al., 2022).

Reflective Pedagogy (Schon & DeSanctis, 1986) also played a key role in creating an inclusive learning environment. Teachers' ability to adapt content based on students' needs and the challenges posed by limited resources demonstrated that learning can be inclusive and equitable when pedagogical strategies are tailored to the local context (Cockerill et al., 2021; Hernandez, 2022). As found by (Ridha et al., 2022; Triwiono & Estria, 2022), animation media provided an inclusive learning experience that accommodated diverse learning needs, making body safety education accessible even in resource-limited settings.

Limitations of Static Media and the Role of Teacher Scaffolding

Although static media like flashcards and posters showed some effectiveness, the study revealed their limitations in terms of engagement and conceptual understanding. Flashcards, for instance, were effective for basic recognition tasks, such as identifying body parts, but were insufficient for promoting deeper understanding of more complex concepts like recognizing inappropriate touch or protective actions. As observed in this study, children's attention to flashcards tended to fade quickly without narrative support or additional interaction. One teacher commented, "Since they are just static images, I have to explain a lot... and this can be tiring" (Interview, Teacher Izz, School A). This indicates that static media alone are not enough to facilitate deep learning without active involvement from teachers.

Reflective Pedagogy (Schon & DeSanctis, 1986) emphasizes the need for effective scaffolding by teachers to maximize learning through static media. Teachers must guide, prompt, and engage children in reflective dialogue to help them connect the images with real-world meaning. This finding supports previous research indicating that static visual media, when not accompanied by verbal facilitation, can increase cognitive load without facilitating deeper understanding (Huynh et al., 2021; Mayer & Moreno, 1998; Paas et al., 2003).

Pedagogical Implications and Future Directions

The study highlights the importance of integrating multimodal media into the early childhood curriculum, particularly in marginalized socio-economic contexts. Although animated videos, educational posters, and picture storybooks have proven effective in improving children's understanding of body safety, their implementation in classrooms is often ad-hoc and reliant on teacher expertise. Therefore, several pedagogical implications arise for enhancing the sustainability and effectiveness of these interventions.

First, a more structured curriculum is necessary. This study demonstrates that while various educational media were used, body safety content was not systematically integrated into the formal curriculum. This gap must be addressed by incorporating body safety concepts into foundational curricula that cover self-identity, social-emotional regulation, and self-regulation. A more comprehensive and structured curriculum would significantly enhance learning outcomes and ensure that children not only understand body safety concepts but can also apply protective behaviors in real-life situations. Such integration should be guided by literature supporting the need for structural changes in education systems (Adikusuma et al., 2025; Chen et al., 2024; Lim & Tan-Chia, 2022; OECD, 2025).

Second, teacher training focused on reflective pedagogy is crucial. The study emphasizes the pivotal role of teachers in facilitating media-based learning in the classroom. However, there is a lack of teacher training in reflective and narrative pedagogy, which should be addressed through professional development programs. These programs should teach teachers how to adapt their approaches to meet the individual needs of students and deepen reflection in teaching practices. This will enable teachers to more effectively facilitate media-based learning, connecting it to children's real-life experiences and offering opportunities for deep reflection on body safety (Brookfield, 2017; Mezirow, 1997; Schon & DeSanctis, 1986).

Research Limitations

While this study provides valuable insights into the effectiveness of media in early childhood body safety education, it has several limitations. First, the research was conducted in a small sample of socioeconomically marginalized preschools, limiting the generalizability of the findings to other contexts or age groups, as highlighted by (Broer et al., 2019; Muftah, 2023).

Second, the study did not include long-term follow-up, a significant limitation. Although pre-test and post-test measurements showed substantial improvements in children's understanding, there was no subsequent measurement to assess whether the changes in knowledge were sustained over time. (Ridgway et al., 2016) argue that measuring long-term effects is essential for understanding the lasting impact of educational interventions. Finally, the study did not examine individual differences in responses to media, such as variations based on age, gender, or prior experiences. Points out, these individual factors are crucial for understanding how children engage with media and how specific media can be more effective in different contexts (Wekerle, 2024). Future studies should consider these variables to better tailor interventions. These limitations highlight the need for further research considering individual variability and long-term effects to better

understand the impact of media in early childhood body safety education across diverse socio-economic contexts.

CONCLUSION

This study demonstrates that the integration of narrative and visual media can effectively enhance preschool children's understanding of body safety in socioeconomically marginalized contexts. Animated videos, educational posters, picture storybooks, and illustrated flashcards all contributed positively, with multimodal approaches providing the most comprehensive benefits. Beyond these outcomes, the study advances early childhood education research by positioning four types of media within a Reflective Pedagogy framework. This approach reveals how multimodal engagement, teacher scaffolding, and child reflection interact in the classroom, thereby expanding previous literature that often examined only a single medium or lacked a clear pedagogical foundation. The findings also underscore the central role of teachers in adapting and mediating media-based learning. Professional development in reflective pedagogy is therefore crucial, and body safety education needs to be systematically integrated into formal early childhood curricula to ensure sustainable implementation, particularly in resource-limited schools. At the same time, several limitations must be acknowledged, including the relatively small sample size and the short-term focus of the evaluation. Future research should examine the long-term impacts of these interventions on behavioral change, investigate individual differences in children's responses, and explore the potential of interactive digital platforms to further enhance engagement and inclusivity. Overall, the study provides both empirical and practical evidence that reflective and multimodal media can serve as powerful tools for early childhood body safety education, especially in schools that operate under socioeconomically marginalized conditions.

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REFERENCES

- Adikusuma, M. P., Purnama, S., & Aulia, Z. (2025). *The Influence of Knowledge and Perception of Educators' Attitude in Early Childhood Sex Education in Yogyakarta*. 5(December), 133–150. <https://doi.org/10.14421/joyced.2025.51-12>
- Anwar, H., Yasir, N. R., Aida, N., Fatih, S. A., & Nirwana, R. (2025). *Sentuhan Aman Dan Tidak Aman: Psikoedukasi Pencegahan Kekerasan Seksual Anak Berbasis Prinsip AJEL*. *Gudang Jurnal Pengabdian Masyarakat*, 3(April), 72–78.
- Beautemps, J., Bresges, A., & Becker-Genschow, S. (2024). *Enhancing Learning Through Animated Video: An Eye-Tracking Methodology Approach*. *Journal of Science Education and Technology*, 34, 148–159. <https://doi.org/10.1007/s10956-024-10162-4>

- Beier, K. M., Nentzl, J., von Heyden, M., Fishere, M., & Amelung, T. (2024). Preventing Child Sexual Abuse and the Use of Child Sexual Abuse Materials: Following up on the German Prevention Project Dunkelfeld. *Journal of Prevention*, 45(6), 881–900. <https://doi.org/10.1007/s10935-024-00792-0>
- Broer, M., Bai, Y., & Fonseca, F. (2019). Socioeconomic inequality and educational outcomes: An introduction. In *IEA Research for Education* (Vol. 5, Issue September). https://doi.org/10.1007/978-3-030-11991-1_1
- Brookfield, S. D. (2017). *Becoming a critically reflective teacher* (2nd ed.). Jossey-Bass.
- Chen, D., Chen, Y., & Chi, J. (2024). Early childhood teachers amid China's curriculum reforms: from a literature review. *International Journal of Child Care and Education Policy*, 18(1). <https://doi.org/10.1186/s40723-024-00135-w>
- Clark, J. M., & Paivio, A. (1987). A dual coding perspective on encoding processes. In *Imagery and related mnemonic processes: Theories, individual differences, and applications* (pp. 5-33). New York, NY: Springer New York.
- Cockerill, M., Grieveson, T., Bingham, S., & Higgins, S. (2021). High achievement for socio-economically disadvantaged students: Example of an equitable education model in schools across five English districts. *International Journal of Educational Research Open*, 2(March), 100043. <https://doi.org/10.1016/j.ijedro.2021.100043>
- Creswell, J. W., & Plano Clark, V. L. (2017). Designing and Conducting Mixed Methods Research. In *Encyclopedia of Research Design*. <https://doi.org/10.4135/9781412961288.n245>
- Cuvalo, A., & Wekerle, C. (2024). From policy to research to policy: Introduction to special section on child welfare issues in Ontario, Canada. *Child Protection and Practice*, 1, 100019. <https://doi.org/https://doi.org/10.1016/j.chipro.2024.100019>
- DeGue, S., Valle, L. A., Holt, M. K., Massetti, G. M., Matjasko, J. L., & Tharp, A. T. (2014). A systematic review of primary prevention strategies for sexual violence perpetration. *Aggression and Violent Behavior*, 19(4), 346–362. <https://doi.org/10.1016/j.avb.2014.05.004>
- Diekelmann, N. (2001). Narrative Pedagogy: Heideggerian Hermeneutical Analyses of Lived Experiences of Students, Teachers, and Clinicians. *ANS. Advances in Nursing Science*, 23, 53–71. <https://doi.org/10.1097/00012272-200103000-00006>
- Fauziyah Syarifatul Huriyah, Siti Lulu Ulfiyah, Sopi Masturoh, & Syifa Faujiyah. (2024). Strategi Menghadapi Tantangan Dalam Memberikan Pendidikan Seks Pada Anak Usia Dini. *Jurnal Pendidikan Anak Usia Dini*, 2(1), 10. <https://doi.org/10.47134/paud.v2i1.874>
- Ferragut, M., Cerezo, M. V., Ortiz-Tallo, M., & Rodríguez-Fernandez, R. (2023). Effectiveness of child sexual abuse prevention programs on knowledge acquisition: A meta-analytical study. *Child Abuse and Neglect*, 146(October), 106489. <https://doi.org/10.1016/j.chiabu.2023.106489>
- Goldfarb, E. S., & Lieberman, L. D. (2021). Three Decades of Research: The Case for Comprehensive Sex Education. *Journal of Adolescent Health*, 68(1), 13–27. <https://doi.org/10.1016/j.jadohealth.2020.07.036>
- Hamilton, K., & Harper, J. C. (2024). Young adult's views on using a poster to learn about fertility: redesigning the fertility education poster. *Human Fertility*, 27(1). <https://doi.org/10.1080/14647273.2024.2345675>
- Hariyati, S. B., & Nurhafizah, N. (2023). Pengembangan Video Animasi terhadap Kecerdasan Interpersonal Anak Usia Dini. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 7(1), 1024–1034. <https://doi.org/10.31004/obsesi.v7i1.4033>
- Hasiana, I. (2024). Prevention of Sexual Violence at an Early Age: The Effectiveness of Educational Videos for Kindergarten Children. *Early Childhood Development Gazette*, 1(1), 12–20. <https://doi.org/10.61987/gazette.v1i1.380>

- Hernandez, A. (2022). Closing the Achievement Gap in the Classroom Through Culturally Relevant Pedagogy. *Journal of Education and Learning*, 11(2), 1. <https://doi.org/10.5539/jel.v11n2p1>
- Huynh, E., Nyhout, A., Ganea, P., & Chevalier, F. (2021). Designing narrative-focused role-playing games for visualization literacy in young children. *IEEE Transactions on Visualization and Computer Graphics*, 27(2), 924–934. <https://doi.org/10.1109/TVCG.2020.3030464>
- Ismiulya, F., Diana, R. R., Na'imah, N., Nurhayati, S., Sari, N., & Nurma, N. (2022). Analisis Pengenalan Edukasi Seks pada Anak Usia Dini. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 6(5), 4276–4286. <https://doi.org/10.31004/obsesi.v6i5.2582>
- Johnson, T. (2021). Effects of Static and Dynamic Visuals on the Learning of Science Concepts in the Secondary-School Classroom. Retrieved from <https://repository.usfca.edu/diss/594>
- Kurian, N. (2024). Building Inclusive, Multicultural Early Years Classrooms: Strategies for a Culturally Responsive Ethic of Care. *Early Childhood Education Journal*, 52(5), 863–878. <https://doi.org/10.1007/s10643-023-01456-0>
- Kusuma, T. C., Nurani, Y., & Wulan, D. S. (2024). Implementasi Pelaksanaan Kurikulum Merdeka dari Perspektif Pendidik Anak Usia Dini. *Murhum: Jurnal Pendidikan Anak Usia Dini*, 5(2), 1310–1321. <https://doi.org/10.37985/murhum.v5i2.769>
- Lim, F. V., & Tan-Chia, L. (2022). Advancing Multimodal Literacy Learning. In *Designing Learning for Multimodal Literacy* (Issue October 2022). <https://doi.org/10.4324/9781003258513-8>
- Lisnawati, R., Jannah, N. L., & Andika Sari, D. (2024). Independent Curriculum Policy in Early Childhood Education Units in Indonesia. *Jurnal Edusci*, 2(1), 14–22. <https://doi.org/10.62885/edusci.v2i1.457>
- Mayer, R. (2009). Multimedia Learning: Second Edition. In *Multimedia Learning, Second Edition*. <https://doi.org/10.1017/CBO9780511811678>
- Mayer, R., & Moreno, R. (1998). A Split-Attention Effect in Multimedia Learning: Evidence for Dual Processing Systems in Working Memory. *Journal of Educational Psychology*, 90, 312–320. <https://doi.org/10.1037/0022-0663.90.2.312>
- Mezirow, J. (1997). Transformative Learning: Theory to Practice. *New Directions for Adult and Continuing Education*, 1997(74), 5–12. <https://doi.org/https://doi.org/10.1002/ace.7401>
- Muftah, M. (2023). Implementing Animated Videos to Enhance Vocabulary Comprehension among Early Childhood EFL Learners. *Mextesol Journal*, 47(4). <https://doi.org/10.61871/mj.v47n4-9>
- Ndlovu, B., Okeke, C., Nhase, Z., Ugwuanyi, C., Okeke, C., & Ede, M. (2023). Impact of play-based learning on the development of children in mobile early childhood care and education centres. *International Journal of Research in Business and Social Science (2147- 4478)*, 12(3), 432–440. <https://doi.org/10.20525/ijrbs.v12i3.2358>
- OECD. (2025). *Reducing inequalities by investing in early childhood education and care: Korea*. OECD Publishing. <https://www.oecd.org/.../Korea-country-note-25Feb.pdf>
- Ortiz, C. D. (2023). Natural sciences in early childhood education: experience in using the academic poster. *Journal of Turkish Science Education*, 20(2), 241–251. <https://doi.org/10.36681/tused.2023.013>
- Paas, F., Tuovinen, J. E., Tabbers, H., & Van Gerven, P. W. M. (2003). Cognitive load measurement as a means to advance cognitive load theory. *Educational Psychologist*, 38(1), 63–71. https://doi.org/10.1207/S15326985EP3801_8
- Rahiem, M. D. H. (2021). Storytelling in early childhood education: Time to go digital. *International Journal of Child Care and Education Policy*, 15(1).

- <https://doi.org/10.1186/s40723-021-00081-x>
- Ridgway, A., Li, L., & Quiñones, G. (2016). Visual narrative methodology in educational research with babies: Triadic play in babies' room. *Video Journal of Education and Pedagogy*, 1(1), 0–18. <https://doi.org/10.1186/s40990-016-0005-0>
- Ridha, S. K., Bostanci, H. B., & Kurt, M. (2022). Using Animated Videos to Enhance Vocabulary Learning at the Noble Private Technical Institute (NPTI) in Northern Iraq/Erbil. *Sustainability (Switzerland)*, 14(12). <https://doi.org/10.3390/su14127002>
- Schon, D. A., & DeSanctis, V. (1986). The Reflective Practitioner: How Professionals Think in Action. *The Journal of Continuing Higher Education*, 34(3), 29–30. <https://doi.org/10.1080/07377366.1986.10401080>
- Schuh, T. L., Diviak, K. R., Coba-Rodriguez, S., Pela, E., Kinney, R., Berbaum, M. L., Klemas, A., Acharya, K., Martin, M., & Shah, R. (2025). Preschool and Me: Educational-clinical linkage to improve health equity for children with developmental delays and disabilities from historically marginalized communities. *Contemporary Clinical Trials Communications*, 43(August 2024), 101412. <https://doi.org/10.1016/j.conctc.2024.101412>
- Su, J., Zhong, Y., & Chen, X. (2024). Technology education in early childhood education: a systematic review. *Interactive Learning Environments*, 32(6), 2848–2861. <https://doi.org/10.1080/10494820.2022.2160470>
- Suryana, D., & Hijriani, A. (2021). Pengembangan Media Video Pembelajaran Tematik Anak Usia Dini 5-6 Tahun Berbasis Kearifan Lokal. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 6(2), 1077–1094. <https://doi.org/10.31004/obsesi.v6i2.1413>
- Triwiono, N., & Estria, S. R. (2022). The Effect of The Animation Video “Known and Protect Yourself” on Knowledge About Sexual Harassment in Children’s Elementary School 2 Cinyawang, Patimuan District. *Proceedings Series on Health & Medical Sciences*, 3, 134–137. <https://doi.org/10.30595/pshms.v3i.634>
- Wekerle, C. (2024). Considerations for child protection and practice: What is child protection now? *Child Protection and Practice*, 1(April), 100025. <https://doi.org/10.1016/j.chipro.2024.100025>