

"AKU DALAM LINGKARAN AMAN": POP-UP BOOK DESIGN FOR PREVENTING SEXUAL VIOLENCE AGAINST CHILDREN

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Abstract. Child sexual abuse is a global issue that has serious impacts on children's physical, psychological, and social development. In Indonesia, sexual violence is the most dominant form of violence experienced by children, highlighting the urgent need for early prevention efforts. One approach that can be implemented is through educational media that aligns with children's developmental stages. This study aims to design a pop-up book as an educational medium to raise early childhood awareness of body boundaries, the concepts of safe and unsafe touch, and basic self-protection skills. This study employs a design-based approach by integrating visual communication elements such as illustration, color, composition, and interactive pop-up mechanisms. Data were collected through literature review and interviews with early childhood educators to determine appropriate visual and educational strategies. The result of this study is the design of a pop-up book titled "*Aku dalam Lingkaran Aman*", intended for children aged 4–6 years. The book incorporates cartoon-style illustrations with the use of bright colors and simple yet communicative visual compositions. In addition, the design is supported by interactive mechanisms such as lift-the-flap, movement pop-up, and rotating pop-up, which enhance the delivery of content in a visual and concrete manner. Each page is sequentially designed to convey concepts of body awareness, safe touch, responses to unsafe situations, and the concept of a "safe circle" as a form of child protection.

Keywords: pop-up book, illustrations, book design, interactive learning, early childhood, sexual abuse prevention

1. Introduction

Sexual violence against children is a serious problem occurring in countries around the world and has become a global concern in the fields of health, social welfare, and child rights protection. This phenomenon not only affects children's safety but can also have long-term consequences for the physical and psychological health, as well as the social development, of the victims. A global analysis covering more than 200 countries estimates that by 2023, approximately 18.9% of girls and 14.8% of boys will have experienced sexual violence before the age of 18. These data indicate that sexual violence against children is a widespread phenomenon occurring across diverse communities worldwide (Cagney et al., 2025). This phenomenon is also reflected in the national context of Indonesia. Violence against children remains a serious issue requiring attention from various stakeholders. Based on data from the Online Information System for the Protection of Women and Children (SIMFONI-PPA) for the year 2025, managed by the Kementrian Pemberdayaan Perempuan dan Perlindungan Anak Republik Indonesia (KemenPPPA), among the various forms of violence, sexual violence is recorded as the most common type of violence experienced by children. Data on the SIMFONI-PPA summary page shows that the number of victims of sexual violence reached 12,338 cases, far higher than other forms of violence such as psychological violence (5,366

cases) and physical abuse (5,130 cases). This was followed by other forms of abuse, such as neglect (1,382 cases), exploitation (312 cases), and human trafficking (184 cases). This comparison shows that sexual abuse is the most prevalent form of abuse experienced by children in Indonesia.

Given the complexity of these issues, prevention efforts must begin at an early age through educational approaches appropriate to the child's developmental stage. The 2018 guidelines from the World Health Organization (WHO) on comprehensive sexuality education emphasize that approaches to sexuality education and self-protection must be age-appropriate. Montclair State University (2020) also states that sex education should be provided from an early age using an approach appropriate to the child's development, focusing on body awareness, personal boundaries, and understanding safe and unsafe touch. This approach aims to build children's awareness and self-protection skills from an early age through simple, safe, and non-anxiety-inducing communication.

However, the implementation of early childhood sex education still faces various challenges. A systematic literature review by Djunaidi et al. (2025) shows that parents often struggle to provide sex education to their children due to a lack of knowledge, limited access to contextually relevant educational materials, and communication barriers between parents and children. Basic awareness of body parts serves as the primary foundation for children to recognize which areas are private and how to properly protect them (Wassenaar, 2024). At an early age, specifically between 4 and 6 years old, children also begin actively interacting with a broader social environment, such as preschool, so they need to be equipped with basic self-protection skills appropriate to their cognitive abilities. Children aged 4–6 are also in the preoperational stage according to Jean Piaget's developmental theory, where their learning process relies heavily on concrete and symbolic experiences through visuals, play, and simple narratives (Marinda, 2020). At this stage, their ability to grasp concepts is still limited, so a learning approach based on images and visuals will be far easier to understand than a purely verbal approach.

In interviews with several educators, they explained that the materials presented to the children still rely on videos, songs, and games they have sourced from the internet. In the learning process, media that can capture students' attention is necessary to boost their motivation and interest in learning. Effective learning materials must be designed with visual aspects such as size, shape, and color in mind, so that they are engaging and help students understand the presented material (Hafifah et al., 2023).

Interviews with teachers revealed a request that body visualizations used in learning be displayed in fullbody so that children can understand the body's structure comprehensively and recognize the boundaries of personal space more accurately. Additionally, this study aims to examine how visual elements, such as illustrations, colors, composition, and pop-up mechanisms and can support the effective delivery of educational messages. By integrating design and educational aspects, it is hoped that the resulting media can serve as an alternative solution for delivering sensitive material to young children in a safer and more communicative

manner. Furthermore, students will demonstrate the duration of their observation, exploratory activities driven by curiosity, understanding of the content, and communication skills during the process of observing the presented objects (Sari & Suryana, 2019).

Based on these issues, this study aims to design a pop-up book as an educational tool that can raise awareness among young children about the prevention of sexual violence. This design focuses not only on aesthetic aspects but also on educational functions that can help children recognize their bodily boundaries, understand the concepts of safe and unsafe touch, and develop basic self-protection skills. It is hoped that this effort will not only improve children's understanding of safe spaces and personal boundaries but also support the creation of an environment that is more responsive to child protection from an early age.

2. Results and Discussion

The book's content covers body awareness, understanding private body parts, and the difference between comfortable and uncomfortable touch, using a simple and non-vulgar approach. Children are also introduced to the concept of having the courage to say "no," removing themselves from unsafe situations, and reporting to a trusted adult through the concept of a "safe circle." Overall, this design emphasizes strengthening self-awareness, body boundaries, and self-protection skills, rather than biological sex education. A visual approach was chosen to create a learning experience that is safe, child-friendly, and easy to understand.

To produce appropriate materials, research and observations were conducted through data collection, interviews, and the implementation of educational media design. Interviews were conducted at three kindergartens in Semarang city: Bina Amal Kindergarten, Islam Permata 2 Kindergarten, and Bina Atmaja Kindergarten.

2.1 Interview Results and Needs Analysis

Observations and interviews were conducted at three research sites: Bina Amal Kindergarten, Islam Permata 2 Kindergarten, and Bina Atmaja Kindergarten. Bina Amal Kindergarten, Islam Permata 2 Kindergarten, and Bina Atmaja Kindergarten were selected based on differences in environmental characteristics and learning approaches relevant to the research objectives. Bina Amal Kindergarten and Islam Permata 2 Kindergarten are located in an urban area of Semarang that is relatively close to the city center, while Bina Atmaja Kindergarten is situated in a densely populated residential neighborhood within an urban village.

These differences in environmental characteristics were taken into account because the social and physical environments in which children grow up can influence their learning experiences, social interactions, and early childhood educational needs (Klaas, 2025). Furthermore, these differing environmental characteristics can also influence the teaching practices implemented by early childhood education institutions, as population density not only affects access to education but also impacts the quality of educational services received by students (Rinaldi & Arifin, 2024).

Apart from geographical aspects, the three schools demonstrate variations in their approaches to introducing the concepts of self-identity and body protection to children. Bina

Amal Kindergarten implements learning based on Islamic values and involves parental participation through the "Inspiration Class" program. When presenting material on body parts, the school adapts visual aids to align with the values upheld by the institution. Permata 2 Islamic Kindergarten uses an approach that integrates education.

The results of the observations indicate that the learning process generally utilizes audiovisual media such as animated videos and songs sourced from digital platforms, while there is limited use of specially designed print materials. Based on the results of the observations and interviews, data regarding the learning conditions and media needs at each school were obtained as follows:

No	Kindergarten	Number of Students	Media Used	Implementation of Materials	Needs/Feedback
1.	Bina Amal Kindergarten	73 students	Videos, songs from YouTube , and games	Already implemented through "Inspiration Class" and in collaboration with students' parents	Illustrations must be full-body (uncropped and complete)
2.	Islam Permata Kindergarten	90 students	Videos, songs from YouTube , and games	has already been taught through audiovisual media	There is a digital version to be distributed and used as teaching material; the book should not be too long (4–6 pages) and should not contain too much text
3.	Bina Atmaja Kindergarten	21 students	Videos, songs from YouTube , and games	This falls under the theme of "self" and has already been taught to the students	interactive/pop-up books, illustrations, and the use of bright, eye-catching colors.

Source : Author Documentation, 2026

Based on data collected from the three research sites, it can be concluded that all three kindergartens have incorporated body awareness materials into their curriculum as mandated by the Department of Education. However, the learning materials used are still predominantly external sources, such as videos and songs from digital platforms, which have not been

specifically designed to meet targeted learning needs. Additionally, several key needs were identified in the development of learning materials, namely the need for illustrations depicting the full body to align with learning indicators and avoid creating an inappropriate impression for children. Furthermore, there is a need for more flexible materials, such as digital versions to facilitate distribution, as well as interactive materials to enhance children's engagement in the learning process.

2.2 Design Concept

The visual design process was also carried out digitally using Clip Studio Paint Ver. 3.0 software, with equipment including an Infinix Inbook 2 laptop and a HUION Kamvas 13 pen display. A spread is an illustration that spans two pages at once, the left and right pages when the book is open and the purpose of this type of page is to highlight a single key scene, encouraging children to spend more time observing the visuals (Ghozalli, 2020). The book is designed in a square format measuring 40 cm × 20 cm (when opened flat), creating a balanced visual composition with a 1:1 aspect ratio on each page. It consists of one cover spread and four content spreads, for a total of eight pages.

The illustrations are drawn in a cartoonish style, using bright, high-contrast colors such as red, yellow, and blue, with the aim of capturing children's attention and helping them focus on the book's content. On the other hand, pastel colors are also used to convey a sense of softness, safety, and comfort, particularly when presenting sensitive material. (Wulandari et al., 2024).

According to Muh. Yusuf et al. (2023) pop-up books possess visual appeal that can increase students' interest in reading in a faster and more enjoyable way. This medium can serve as a stimulus that encourages and motivates children to read, as the visual elements used stimulate the imagination and spark various ideas in students' minds. The design of this pop-up book focuses on developing visual educational media aimed at raising awareness among young children regarding the prevention of sexual violence. The book's content covers body awareness, understanding private body parts, and the difference between comfortable and uncomfortable touch. The material is presented using a simple, non-vulgar approach and is tailored to the developmental characteristics of young children.

2.2.1 Cover

The cover design for the book "Aku Dalam Lingkaran Aman" was created as a visual representation of the central concept it explores: the existence of a safe environment for children. In the book by Ghozalli (2020) titled "Panduan Mengilustrasi dan Mendesain Cerita Anak Untuk Tenaga Profesional" it is stated that visual illustrations play a role equal to that of text; in some cases, they can even be the dominant element in conveying meaning. This element symbolically depicts the concept of a "safe circle", the presence of trusted individuals who play a role in protecting children.



Figure 2. Book Cover

Source: Author Documentation, 2026

The typography for the book title uses a handwritten style with rounded characters that lack sharp angles. This choice was based on visual psychology, as rounded shapes tend to evoke feelings of safety, friendliness, and non-intimidation, making them well-suited to the “safe circle” theme. Conversely, overly sharp shapes are avoided because they can create a tense or uncomfortable impression. Additionally, the handwritten style was chosen because it conveys a personal, expressive, and playful feel. Similarly, its simple and uncomplicated form is considered more child-friendly. (Bessemans, 2016).

2.2.2 Spread1 : Body Awareness and Personal Boundaries

The first spread serves as an introductory stage to help children understand the concepts of the body and personal boundaries. The left-hand page features the two main characters with friendly expressions and open gestures, accompanied by an invitation to explore the body through simple sentences. For children aged 1–5, this plays a crucial role in shaping their understanding of social relationships and personal safety. Introducing these concepts can help children recognize personal boundaries, develop emotional intelligence, and reduce the risk of inappropriate touching or coercion (Meaningful Beginnings, 2025). This approach aims to create a relaxed and non-intimidating learning environment, so that children feel comfortable absorbing the material.

On the right-hand page, an illustration of the two characters standing is displayed in a simple, centered composition. This element features an interactive lift-the-flap mechanism, which allows children to open a specific part of the illustration. When that section is lifted, children are introduced to the concept of private body parts that need to be protected.



Figure 3. Illustration of spread 1
Source : Author Documentation, 2026

The information presented focuses on the understanding that certain parts of the body are private and should not be seen or touched by others. The presentation is visual and symbolic, without showing explicit details, so that it remains appropriate for young children. In addition, the follow-up section includes an educational message in simple text that emphasizes that the body belongs to oneself and must be protected.

2.2.3 Spread 2: Safe Touch

The second spread focuses on introducing the concept of safe touch as a continuation of the discussion on bodily boundaries from the previous section. According to Schwartz (2026), teaching children to distinguish between different types of touch, namely, safe and unsafe touch is an important aspect of child education. Safe touch can be understood as a form of physical interaction, such as a hug or holding hands, that provides a sense of comfort, safety, and self-worth to the child. The illustrations on this spread also depict several positive interactions, such as hugs from parents, affection from grandparents, medical examinations by healthcare providers or doctors accompanied by parents, and simple social interactions like high-fives with

friends. These situations were selected based on contexts commonly encountered by children, helping them distinguish between safe and acceptable touch.



Figure 4. Illustration of *spread 2*
Source : Author Documentation, 2026

This spread employs a twist-and-pop-up mechanism, in which paper elements rise when the page is opened, simultaneously revealing four interactive scenes in three dimensions such as folds, rolls, slides, tabs, or rotations and using techniques including floating layers, V-folds, multiple layers, and hinged mechanisms (Fadillah et al., 2016). This mechanism is designed to provide a surprise effect while increasing children's engagement through a more realistic visual experience. With the elements appearing directly, children can more easily observe and connect the concept of safe touch with concrete situations.

2.2.4 Spread 3 : Response to Unsafe Situations

Third spread focuses on identifying potentially unsafe situations and the responses children can take. The illustration shows two main characters who feel uncomfortable due to the presence of an unfamiliar adult. The illustration then shows several actions a child can take when facing an unsafe situation, such as having the courage to say “no,” shouting for help, moving away from the situation, and reporting it to a trusted adult (Cleveland Clinic, 2025). These actions are presented in the form of clear, communicative illustrations to make them easy for children to understand and remember.



Figure 5. Illustration of spread 3

Source : Author Documentation, 2026

2.2.5 Spread 4 : Safe Circle

The fourth spread serves as the concluding section, featuring the concept of the “circle of safety” as a visual representation of the child protection system. The illustration on this spread places the two main characters at the center of the composition, surrounded by figures of trusted adults arranged in a circular formation. Australian Childhood Foundation (2022) notes that the first layer surrounding the child features parents as the closest figures providing primary protection. In the next layer, there are figures of grandparents and medical personnel representing a broader support network. The right-hand page also includes a statement that the child is brave, safe, not alone, and protected by the safe circle around them. The use of this

affirmative statement aims to build self-confidence and reinforce the internalization of the concept of self-protection in children.



Figure 6. Illustration of *spread 4*

Sumber : Author Documentation, 2026

The circle serves as the central element because it symbolizes protection, wholeness, and safety. The circular composition also directs the viewer's focus toward the center, thereby emphasizing the child's position as the one being protected. The characters' expressions in the illustration are designed to be calm and warm, reinforcing a sense of safety and comfort. This spread uses a rotating pop-up mechanism, where the circular element rotates when the page is opened. This rotational movement creates an interactive experience that reinforces the meaning of the "circle" as something dynamic and ever-protective.

2.3 Implementation and Educational Application

After the design and production process was completed in May 2026, the pop-up book "Aku dalam Lingkaran Aman" was realized in physical form and distributed to several kindergartens that had previously participated in the interview and needs analysis stages, namely Bina Atmaja Kindergarten, Islam Permata 2 Kindergarten, and Bina Amal Kindergarten. A total of five books were printed using 360 gsm ivory paper and 190 gsm ivory paper, with a glossy cover and *perfect binding* finishing technique. All pop-up mechanisms, including *lift-the-flap*, *movement pop-up*, and *rotating pop-up*, functioned properly during use.

The socialization process was conducted directly by involving principals, teachers, and children at each kindergarten. During the activity, the author was introduced by the school representatives as the designer of the book, followed by an educational session using the pop-up book as a visual learning medium. Teachers and principals actively participated in introducing the content of the book, reading the narration, demonstrating the pop-up mechanisms, and conducting question-and-answer sessions with the children.

Based on the results, the visual elements and interactive mechanisms of the book received positive responses from the schools. The cartoon-style illustrations, bright color palette, and interactive pop-up mechanisms were considered effective in attracting children's attention and supporting the delivery of educational material in a more concrete and communicative way. All spreads in the book successfully drew the children's interest, especially the sections featuring movable and three dimensional elements. The schools considered the visual quality and construction of the book to be well-executed, so its use was recommended to be accompanied by teachers in order to prevent damage to the pop-up mechanisms when handled directly by children.

3. Conclusion

The design of the pop-up book "Aku Dalam Lingkaran Aman" demonstrates that a visual approach can be used to convey sensitive material to young children through a format that is communicative and aligned with their developmental characteristics. This design emphasizes the integration of visual communication elements, such as cartoon-style illustrations, the use of bright and contrasting colors, and simple, focused compositions, thereby creating a visual experience that is easily understood by children aged 4–6 years.

Overall, the implementation process showed that the pop-up book could function not only as a visual educational medium, but also as an interactive learning support tool within kindergarten educational environments. The involvement of teachers during the educational sessions also helped create a more guided and communicative learning atmosphere for children.

Incorporation of interactive mechanisms such as lift-the-flap, moving pop-ups, and rotating pop-ups reinforces the presentation of content in a more concrete and narrative form. Each spread is sequentially designed, progressing from body awareness, the concept of safe touch, responses to unsafe situations, to the visualization of the "safe circle" as a protective structure for children. This approach results in a systematic visual flow that connects the pages. This design demonstrates that pop-up books can be developed as a visual medium that not only serves as a means of conveying information but also as a form of design exploration that combines illustration, typography, color, and paper mechanics into a cohesive and structured visual whole.

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