MIKAILALSYS
Journal of Multidisciplinary Sciences

e-ISSN : 2987-2286
p-ISSN : 2987-3924

Index: Harvard, Boston, Sydney, Copernicus, Sinta 4, Scilit, Semantic, Google, etc

https://doi.org/10.58578/mikailalsys.v4i3.11977

Designing a Pop-up Book on the Diversity of Skin Tones in the Indonesian Archipelago as an Educational Medium for Self-Acceptance among Phase A Elementary School Children

Fatia Zahratul Aini & Rinanda Purba
Universitas Negeri Medan, Indonesia
fatiaaini150@gmail.com; rinanda@unimed.ac.id

Article Info:

Submitted:	Revised:	Accepted:	Published:
Jul 24, 2026	Aug 21, 2026	Sep 2, 2026	Sep 7, 2026

Abstract

Children's visual media predominantly portray lighter skin tones, limiting children's exposure to skin-tone diversity and potentially shaping how they perceive and accept themselves and others. This study aimed to design *Beda Warna, Satu Ceria*, a pop-up book that introduces the diversity of skin tones in Indonesia and supports self-acceptance among Phase A elementary school children. The study employed practice-based and practice-led research within a descriptive qualitative approach, comprising four stages: pre-design, design, realization, and presentation. Participants were Phase A elementary school children selected through purposive and saturated sampling. Data were collected through observation, literature review, expert validation, user evaluation, and interviews, and were analyzed using qualitative description and descriptive statistics. The resulting pop-up book comprised three series—*Aku Istimewa*, *Warna untuk Sahabat*, and *Bermain Bersama*—featuring four characters with diverse skin tones and incorporating V-Fold, Pull-Tab, Lift-the-Flap, and Box-Fold techniques. The product was classified as highly feasible, with media expert validation scores ranging from 92.63% to 96.84%, subject-matter expert scores

Mikailalsys is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License

from 94.12% to 98.82%, and user evaluation scores from 88.89% to 91.26%. These findings demonstrate that the developed pop-up book is highly feasible as an educational medium for introducing skin-tone diversity and supporting self-acceptance among Phase A children. The study contributes an inclusive and interactive visual learning resource that elementary educators can use to foster children's recognition and acceptance of physical diversity.

Keywords: Educational Media; Phase A Children; Pop-Up Book; Self-Acceptance; Skin-Tone Diversity

INTRODUCTION

Arts education serves not only as a means of developing children's creativity but also as a visual medium that helps children understand themselves, their surroundings, and various forms of diversity (McClure et al., 2017). During the early stages of development, children learn through various visual experiences obtained from storybooks, illustrations, films, animations, and other media (Son & Butcher, 2024). Visual representations that children encounter repeatedly can shape the ways in which they perceive themselves and others. Therefore, visual media play an important role in developing children's understanding of the differences that exist in their surrounding environment (Ghozalli, 2020; Arningsih & Octavia, 2025).

One form of diversity that needs to be introduced to children from an early age is skin-tone diversity. Skin tone represents a natural biological variation influenced by genetic factors and the environments in which human beings develop (Suryani, 2020). Such differences do not constitute measures of a person's worth, abilities, or social status; rather, they are part of human diversity that should be respected. An understanding of skin-tone diversity is important to instill from an early age so that children can accept themselves while also respecting others regardless of physical differences (Crutchfield et al., 2022; Saraswati, 2017).

However, in social reality, skin tone is still frequently used as a basis for unequal judgments. There is a tendency for lighter skin tones to be perceived as more attractive, more beautiful, or socially more valuable than darker skin tones. This phenomenon is known as *colorism*. According to L. Ayu Saraswati (2017) in *Putih: Warna Kulit, Ras, dan Kecantikan di Indonesia Tradisional*, the phenomenon of *colorism* in Indonesia developed during the postcolonial period following Dutch colonial rule. This perception was subsequently

reinforced through media, advertising, and various visual representations that indirectly constructed the perception that lighter skin is the standard of beauty and an ideal image.

The phenomenon of *colorism* is also reflected in the visual media consumed by children. As one of the primary forms of visual media, children's storybooks still frequently portray main characters with light skin tones, whereas representations of characters with more diverse skin tones remain relatively limited. This condition is further supported by the author's observations at Gramedia bookstores in Medan, which indicated that most children's storybooks remain dominated by main characters with light skin tones. Consequently, children have access to relatively limited visual references concerning skin-tone diversity, resulting in an imbalanced representation of such diversity (Crutchfield et al., 2022; Wulandari et al., 2024).

These findings are consistent with the study by Crutchfield et al., (2022) which demonstrated that children can develop preferences regarding skin tone based on the visual exposure they receive from an early age. When children are continuously exposed to imbalanced representations, they may develop biased perceptions toward certain skin tones. This condition not only affects how children perceive others but may also influence their self-acceptance and self-confidence.

In response to this condition, the development of educational media that presents skin-tone diversity in an equitable and child-friendly manner is necessary. The researcher argues that visual media should not merely function as an illustration or entertainment tool, but also serve as a means of constructing children's understanding of identity, difference, and self-acceptance. For Phase A children, these messages need to be presented through concrete, simple, engaging, and interactive experiences that correspond to their developmental characteristics. Therefore, an educational medium that combines representative visual characters with an interactive storytelling experience is considered relevant to address the issue of limited skin-tone representation in children's media.

Limited visual representation of diversity affects not only how children perceive others but also how they perceive themselves. Children who rarely see characters with skin tones similar to their own may feel underrepresented and perceive certain skin tones as superior to the one they possess. Such conditions may affect the development of *self-acceptance* in children. Therefore, providing visual media that represent skin-tone diversity equally is

important as an effort to help children recognize, accept, and appreciate their own identities from an early age (Crutchfield et al., 2022; Saraswati, 2017).

This issue is particularly important to address among Phase A elementary school children (Grades I–II). Based on the Learning Outcomes of the Merdeka Curriculum (Kemendikbudristek, 2022), learners at this phase begin to recognize their identities, understand diversity within their surrounding environments, and develop attitudes of mutual respect in everyday life. At this developmental stage, children also tend to understand concepts more readily through concrete, engaging, and visually stimulating experiences. Therefore, introducing skin-tone diversity during Phase A is necessary to enable children to develop attitudes of self-acceptance and respect for differences from an early age (Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi Republik Indonesia, 2022; Kusumawati et al., 2023).

Nevertheless, there are still limited interactive visual media specifically designed to represent skin-tone diversity equitably while simultaneously relating it to self-acceptance among Phase A elementary school children. Appropriate visual media can help children understand the concept of diversity more concretely while fostering positive attitudes toward differences (Arningsih & Octavia, 2025; Wulandari et al., 2024).

One medium considered suitable for addressing this need is the *Pop-Up Book*. A *Pop-Up Book* is a three-dimensional learning medium that provides an interactive reading experience, thereby increasing children's attention, engagement, and interest in learning. These characteristics are consistent with the learning needs of Phase A children, who still rely heavily on visual experiences and direct interaction to understand concepts. Through illustrations that represent the diversity of skin tones across the Indonesian archipelago in a balanced manner, the *Pop-Up Book* is expected to help children recognize their identities, accept their own skin tones, and appreciate the diversity of skin tones among others (D. A. D. & Ardiansyah, 2019; Viana & Harahap, 2025).

Previous studies highlight the importance of visual representation in shaping children's understanding of identity and diversity. Adukia et al., (2023) found that lighter-skinned characters remain more frequently represented in children's books, indicating unequal opportunities for children with different skin tones to see themselves in visual media. Similarly, De Bruijn et al., (2021) emphasized that children's books play an important role in representing ethnic diversity and communicating social and cultural messages to young

readers. In educational contexts, Crutchfield et al., (2022) reported that colorism can influence students' academic, social, and emotional experiences, highlighting the need for educational practices that recognize and address skin-tone bias. Meanwhile, studies on educational media demonstrate the potential of Pop-Up Books as interactive learning media. Fadhilah et al., (2022) found that multimedia-based Pop-Up Books were highly feasible and effective in supporting thematic learning, while Febriani, (2022) reported high feasibility and positive student responses to game-based Pop-Up Books. Collectively, these findings support the use of inclusive visual representation and interactive Pop-Up media to communicate diversity and support meaningful learning experiences for children.

The novelty of this study lies in the integration of equitable skin-tone representation, self-acceptance education, and interactive Pop-Up mechanisms into a single visual learning medium designed specifically for Phase A elementary school children. The development is grounded in the view that visual representation can function as a form of communication that helps children recognize themselves and understand differences in their social environment. In addition, the use of an interactive Pop-Up Book is based on the learning characteristics of Phase A children, who benefit from concrete and visually stimulating experiences. The combination of simple cartoon illustrations, diverse character representations, progressive storytelling, and interactive mechanisms such as V-Fold, Pull-Tab, Lift the Flap, and Box Fold is therefore expected to provide a more engaging learning experience while conveying messages of self-acceptance and respect for diversity.

Based on the identified issue and research gap, this study focuses on the design and development of a Pop-Up Book that represents skin-tone diversity in the Indonesian archipelago as an educational medium for Phase A elementary school children. The study aims to design the "*Beda Warna*, *Satu Ceria*" Pop-Up Book, integrate messages of self-acceptance and appreciation of differences into its storytelling, and evaluate its feasibility based on media expert validation, subject-matter expert validation, and user responses. Through this approach, the study seeks to provide an inclusive, interactive, and developmentally appropriate visual medium for introducing skin-tone diversity and supporting self-acceptance among young learners.

METHODS

This study employed a practice-based/practice-led research method with a descriptive qualitative approach, positioning creative practice as an integral part of the research process (Hendriyana, 2022; Candy & Edmonds, 2018). The study focused on developing the *Pop-Up Book Beda Warna, Satu Ceria* as an educational medium to promote self-acceptance and awareness of skin color diversity among Phase A elementary school children. The creative process consisted of four stages: pre-design, design, realization, and presentation (Hendriyana, 2022). These stages included identifying *colorism* issues, developing the story, characters, visual concepts and *storyboards*, designing V-Fold, Pull-Tab, Lift the Flap, and Box Fold mechanisms, producing the artwork, and presenting the final product.

Participants consisted of 21 first-grade students of Class I-A at SD IT Iqro' Stabat Baru, selected through purposive and saturated sampling. Media and subject-matter experts validated the artwork, while teachers or accompanying adults participated in interviews. Data were collected through observation, literature review, expert validation, user evaluation, and semi-structured interviews. Expert validation used a five-point Likert scale, while user evaluation employed a Guttman scale (Yes = 1; No = 0) with emoticons to facilitate children's responses (Yulianto, 2019).

Data were analyzed using descriptive qualitative analysis and descriptive statistics. Qualitative data were identified, described, and interpreted, while validation and user-evaluation results were calculated as percentages and categorized into five feasibility levels: very infeasible (0–20%), infeasible (21–40%), moderately feasible (41–60%), feasible (61–80%), and highly feasible (81–100%). Interview findings were analyzed descriptively to identify children's responses, experiences, and understanding of the medium and its messages.

RESULTS

1. Results of the Observation of Children's Storybook Media



Figure 1. Documentation of the Observation at Gramedia Gajahmada Medan

The results of observations of children's storybook media at Gramedia Gajah Mada Medan based on figure 1 indicated that the books examined generally exhibited visual characteristics consisting of cartoon-style illustrations, simplified character forms, communicative facial expressions, and the use of bright colors. Although these visual characteristics were attractive and appropriate to children's characteristics, the representation of skin color among the characters tended to be dominated by lighter skin tones. Skin color diversity was not yet optimally presented as part of the representation of Indonesian children. These findings provided the basis for the design of the *Pop-Up Book Beda Warna, Satu Ceria* by introducing four main characters, namely Ayu, Bima, Nara, and Raka, who have diverse skin tones and distinct physical characteristics and are presented equitably. The results of this observation were subsequently used as considerations in determining the character concepts, illustration styles, color palette, and visual presentation of the medium to enhance representativeness and support the introduction of skin color diversity to Phase A children.

2. Results of Character Design

The character design process for the *Pop-Up Book Beda Warna, Satu Ceria* resulted in four main characters, namely Ayu, Bima, Nara, and Raka, who were designed to positively and equitably represent the diversity of Indonesian children's skin tones. Each character was designed with differences in skin tone, physical features, facial expressions, and personality traits that were adapted to their respective roles in the story. Differences in skin tone were not used to distinguish the status or value of each character, but solely to represent diversity. All characters employ a cartoon illustration style with simple forms, communicative

expressions, and proportions adapted to the characteristics of Phase A children, making them easy to recognize and understand.

Visually, Bima was designed with a dark brown skin tone and characterized as friendly, active, playful, and highly curious based on figure 2.

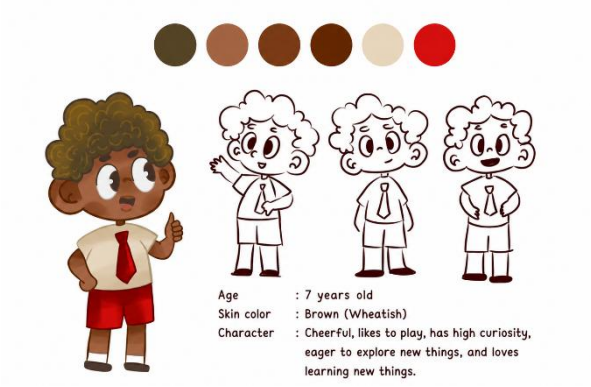


Figure 2. Bima Character Design

Baded on figure 2, Bima plays an important role in Series 1, *Aku Istimewa*, as he undergoes a process of recognizing differences in skin color before developing an understanding of and acceptance of himself. Ayu was designed with a medium-brown skin tone and serves as one of the representations of skin color diversity throughout the story. Meanwhile, Nara and Raka were also designed with distinct visual characteristics and skin tones, enabling the four characters to present diversity in a balanced manner.

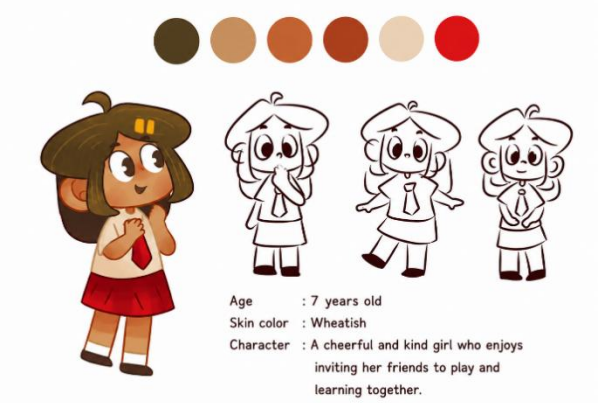


Figure 3. Ayu Character Design

Fugure 3, Ayu employs a cartoon illustration style characterized by simple forms and easily recognizable proportions, with her hairstyle serving as a distinctive identifying feature. The color palette is applied to the skin, hair, uniform, and supporting elements, with careful consideration given to visual harmony and readability for Phase A children. Ayu's design

complements the visual diversity of the characters while emphasizing that differences in skin color are an integral part of each individual's uniqueness.

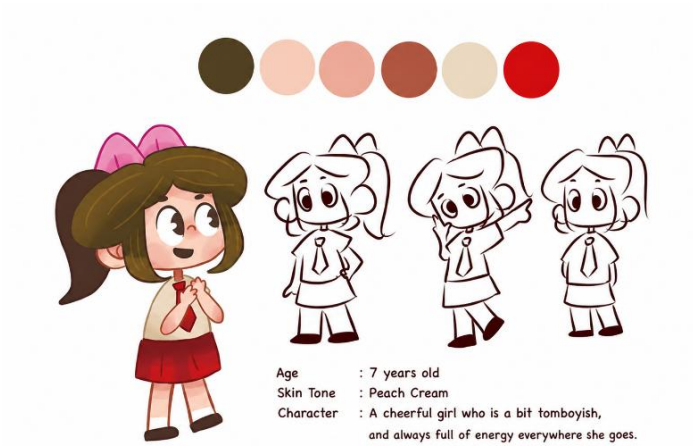


Figure 4. Nara Character Design

Based on Figure 4, Nara was designed as a cheerful, caring, and respectful character who values her friends, as reflected in her cheerful expression, open gestures, and friendly appearance. The cartoon illustration style, characterized by simple forms, communicative expressions, and distinctive hair features, serves as Nara's visual identity. A harmonious peach-cream color palette is applied to her skin, hair, uniform, and supporting elements to ensure that the character is easily recognizable by Phase A children. Nara's presence enriches the variation in skin tones while emphasizing that physical differences are part of each individual's uniqueness without diminishing equality in friendship.

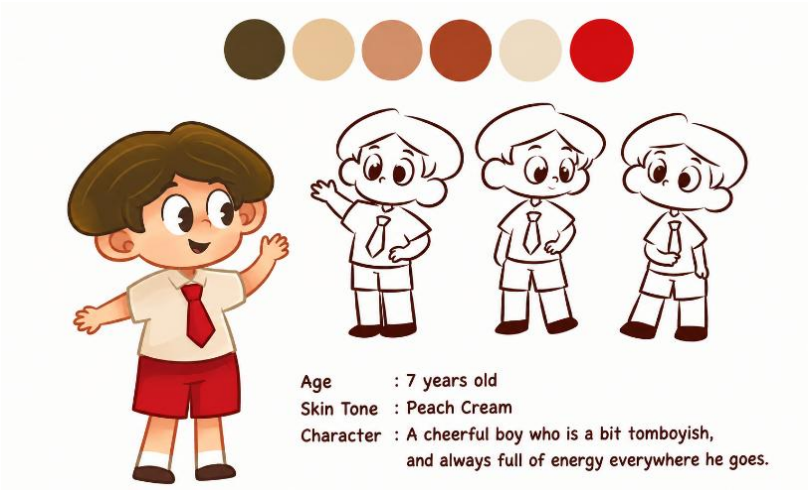


Figure 5. Raka Character Design

Based on Figure 5, Raka was designed as a friendly, confident, and sociable character, represented through his cheerful expression, open gestures, and active participation in group

activities. The cartoon illustration style, characterized by simple forms, clear lines, communicative expressions, and distinctive hair and appearance, makes him easily recognizable to Phase A children. The harmonious color palette applied to his light brownish-yellow skin tone, hair, uniform, and supporting elements reinforces Raka's visual identity. His presence complements the diversity of characters in the *Pop-Up Book Beda Warna, Satu Ceria* while emphasizing that differences in skin color are a natural and integral part of diversity.

The four character designs were subsequently applied consistently throughout all series of the *Pop-Up Book*, including their illustrations, facial expressions, clothing, and interactions with one another. The four characters were introduced at the beginning of the story so that children could recognize the visual characteristics of each character before following the storyline. These design outcomes subsequently served as the foundation for storyboard development, digitization, coloring, and the realization of the *Pop-Up Book* medium. Overall, the resulting characters function not only as visual elements but also as a medium for representing skin color diversity while supporting the delivery of messages concerning self-acceptance, appreciation of differences, and togetherness to Phase A children.

3. Results of Pop-Up Book Development

The final product developed in this study was the "Beda Warna, Satu Ceria" Pop-Up Book, which consists of three story series, as follows:

Table 1. Children's Storybook Series by Title and Main Message

Series	Title	Message Focus
Series 1	Aku Istimewa	Self-acceptance
Series 2	Warna untuk Sahabat	Appreciation of differences
Series 3	Bermain Bersama	Applying attitudes of mutual respect

The three series convey the messages progressively based on table 1, beginning with recognizing and accepting oneself, followed by understanding differences, and ultimately applying attitudes of appreciation and respect for differences in everyday life.

Series 1 – *Aku Istimewa*, the story centers on Bima, who becomes aware of differences in skin color between himself and his friends. Through an analogy involving flowers of various colors, Bima comes to understand that differences are something beautiful and ultimately develops acceptance of himself.

Series 2 – *Warna untuk Sahabat*, the story focuses on a drawing activity conducted together in the classroom. The children create drawings depicting different skin tones and learn that every child has unique characteristics that should be appreciated and respected.

Series 3 – *Bermain Bersama*, the story depicts activities involving play and cooperation without differentiating between children based on skin color. The main message conveyed is that differences should not be a barrier to friendship and cooperation.

4. Results of Pop-Up Technique Implementation

The application of Pop-Up techniques in this work was carried out as part of the realization process of the *Pop-Up Book*, ensuring that each page not only presented illustrations in a two-dimensional format but also provided an interactive and tangible reading experience for Phase A children. Based on the storyboard design, the techniques employed included V-Fold, Pull-Tab, Lift the Flap, and Box Fold. The application of each technique was adapted to the visual requirements and scenes within the story, allowing the mechanisms to support message delivery while enhancing the interactive appeal of each page. The implementation process began by cutting the mechanism patterns according to the type of technique designed, followed by folding and assembling the components to form the Pop-Up structure. Once the mechanisms had been constructed, character illustrations and supporting objects were attached to the designated sections. Each mechanism was subsequently inspected to ensure that the pages could be opened, pulled, and moved properly.



Figure 6. The V-Fold Technique

The V-Fold technique based on figure 6 was applied to sections requiring characters or illustrations to emerge in a three-dimensional form when the page was opened. This mechanism creates a more prominent visual effect and helps emphasize important scenes in the story. On several pages, the V-Fold mechanism was used to display characters more clearly, including in the closing section of the story, where all characters are presented together with joyful expressions. The use of this mechanism makes the characters appear to emerge from the surface of the page, thereby reinforcing the messages of self-acceptance and togetherness.



Figure 7. The Pull-Tab Technique

The Pull-Tab technique based on figure 7 was used in scenes requiring the movement of illustrations as a form of direct interaction with the reader. Through this mechanism, children can pull a specific section of the page to produce changes in the position or visual appearance of an illustration. One application of this mechanism was used to depict interactions among the characters, making them appear to observe and interact with one another. The Pull-Tab mechanism was also applied to a coloring scene to present a transformation of the image from a sketch into a colored illustration. This application provides children with a direct cause-and-effect experience, allowing them not only to observe the illustrations but also to participate in activating the story elements.

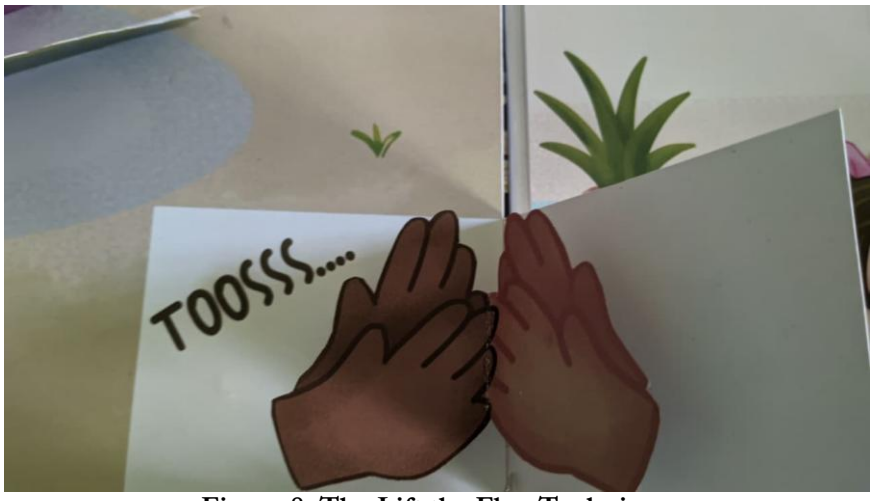


Figure 8. The Lift the Flap Technique

The Lift the Flap technique based on figure 8 was applied as a simple mechanism that allows children to open a specific section of the page to discover hidden information or visual elements. This technique was selected because it is easy for Phase A children to operate while also providing an element of surprise and stimulating curiosity during the reading process.



Figure 9. the Box Fold Technique

Meanwhile, the Box Fold technique based on figure 9 was used to construct three-dimensional elements that require a more stable structure and provide a sense of volume to the page. These two techniques complement the application of V-Fold and Pull-Tab, resulting in a variety of Pop-Up movements and forms that correspond to the requirements of each scene. The four mechanisms were implemented across all three series of the *Pop-Up Book*, namely *Aku Istimewa*, *Warna untuk Sahabat*, and *Bermain Bersama*.

5. Results of Coloring and Visualization

The coloring and visualization stage involved transforming the designed illustrations into finalized visuals ready for application in the *Pop-Up Book*. Coloring was applied to all illustrations across the three series using Clip Studio Paint on a Redmi Pad SE, with reference to the storyboard, particularly with regard to composition, character design, background, and layout. The process included the application of base colors, shading, highlights, and background details based on the predetermined color palette to establish visual consistency and harmony.

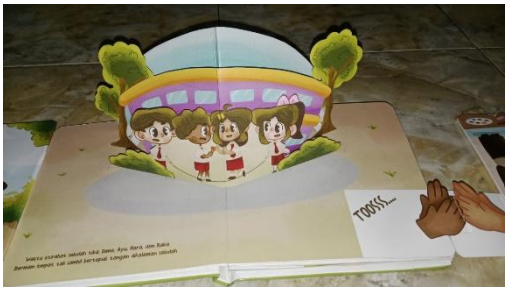


Figure 10. Aku Istimewa



Figure 11. Warna untuk Sahabat



Figure 12. Bermain Bersama

The character figure 10-12 visualizations were designed to represent physical and skin color diversity in an equitable manner. Bima was portrayed as a friendly, active, and curious child; Ayu as a cheerful and caring character; Nara as a caring child who values and respects her friends; and Raka as a friendly, confident, and sociable character. These characteristics were reinforced through facial expressions and gestures, thereby supporting the roles and messages conveyed throughout the stories.

Skin color diversity was represented through several variations of skin tones that were applied equitably, without positioning any particular skin tone as more dominant or preferable. This approach supports the messages of self-acceptance and appreciation of differences while introducing the diversity of skin tones found across the Indonesian archipelago. Upon completion of the coloring process, the illustrations were reviewed to ensure consistency in color, character forms, and the completeness of visual elements before

being printed and assembled into the *Pop-Up Book*. Overall, the visualization process produced illustrations that were consistent, communicative, child-friendly, and ready to be applied across the three series, namely "Aku Istimewa," "Warna untuk Sahabat," and "Bermain Bersama."

6. Comparison of Pop-Up Book Validation and Evaluation Results

The comparison of the validation and evaluation results for the *Pop-Up Book* across the three story series is presented in Table 2.

Table 2. The comparison of the Validations

Series	Media Expert	Subject-Matter Expert	User Evaluation
Series 1	96.84%	98.82%	91.26%
Series 2	95.78%	95.29%	89.68%
Series 3	92.63%	94.12%	88.89%

Based on the recapitulation of the validation and evaluation results presented in Table 4.19, all three series of the *Pop-Up Book Beda Warna, Satu Ceria* received highly favorable assessments from the media expert, subject-matter expert, and users. In terms of the media aspect, Series 1 obtained the highest score of 96.84%, followed by Series 2 at 95.78% and Series 3 at 92.63%, indicating a very high level of feasibility in terms of the visual quality and *Pop-Up Book* mechanisms. Regarding the content aspect, Series 1 obtained 98.82%, Series 2 95.29%, and Series 3 94.12%, indicating that the content, character values, language, story presentation, and learning objectives were appropriate for Phase A children. Meanwhile, the user evaluation resulted in scores of 91.26% for Series 1, 89.68% for Series 2, and 88.89% for Series 3. Although these scores were lower than those provided by the experts, all three series nevertheless demonstrated highly positive user responses.

Overall, Series 1, "Aku Istimewa," received the highest ratings across all three aspects, with scores of 96.84% from the media expert, 98.82% from the subject-matter expert, and 91.26% from users. Series 2, "Warna untuk Sahabat," obtained scores of 95.78%, 95.29%, and 89.68%, respectively, whereas Series 3, "Bermain Bersama," obtained 92.63%, 94.12%, and 88.89%, respectively. These findings indicate that Series 1 achieved the most optimal assessment, whereas Series 3 obtained the lowest percentages while nevertheless remaining within the high assessment category.

Thus, all three *Pop-Up Book* series successfully fulfilled the design objectives in terms of visual quality, content, and user acceptance. The developed medium was able to integrate

illustrations, skin color diversity, interactive *Pop-Up* mechanisms, and stories appropriate to the characteristics of Phase A children. Therefore, the *Pop-Up Book Beda Warna, Satu Ceria* possesses not only aesthetic value but also serves as an educational medium for introducing skin color diversity and supporting the development of self-acceptance among children.

DISCUSSION

This practice-based research produced an educational medium in the form of the "Beda Warna, Satu Ceria" Pop-Up Book, which addresses skin color diversity across the Indonesian archipelago as a means of promoting self-acceptance among Phase A elementary school children. The creation process was conducted through the stages of pre-design, design, realization, and presentation, while taking into consideration issues related to skin color representation, children's developmental characteristics, and the need for visual media that are engaging, concrete, and interactive.

The primary strength of the work lies in its character design, which features four characters, namely Raka, Ayu, Bima, and Nara, representing variations in skin tones, including dark brown, light brownish-yellow, medium brown, and peach cream. The four characters are given equal status and roles, thereby presenting skin color diversity as a natural part of children's lives rather than as a basis for determining an individual's strengths or shortcomings. The simple, proportional, harmonious, and expressive cartoon illustration style was adapted to the concrete thinking characteristics of Phase A children and functions as a visual communication medium for facilitating their understanding of the characters, storyline, and messages concerning diversity.

In terms of mechanisms, the work employs V-Fold, Pull-Tab, Lift the Flap, and Box Fold techniques that encourage active child engagement through activities involving opening, pulling, and moving page elements. These mechanisms function not merely as decorative features but also as integral components of the storytelling strategy. The stories are organized into three series, namely "Aku Istimewa," "Warna untuk Sahabat," and "Bermain Bersama," which progressively convey messages of self-acceptance, appreciation of differences, and the application of mutual respect in everyday life.

The feasibility of the medium is demonstrated by the media expert validation results of 96.84% (Series 1), 95.78% (Series 2), and 92.63% (Series 3), while the subject-matter expert validation results were 98.82%, 95.29%, and 94.12%, respectively. All of these results were

classified as Highly Feasible. Evaluation involving 21 students likewise indicated a Highly Feasible category, with percentages of 91.26% for Series 1, 89.68% for Series 2, and 88.89% for Series 3, based on their interest in the illustrations, ease of operating the mechanisms, comprehension of the stories, and interaction during the reading process.

Series 1, "Aku Istimewa," obtained the highest results across all assessment groups, whereas Series 3 obtained the lowest percentage while nevertheless remaining within the Highly Feasible category. Interviews with teachers or accompanying adults further reinforced these findings, as reflected in the children's interest in the *Pop-Up* mechanisms, their ability to follow the storylines, and the emerging understanding that differences in skin color constitute part of diversity and should not be a reason for teasing, mocking, or degrading others.

Therefore, the primary strength of the "Beda Warna, Satu Ceria" Pop-Up Book lies in the integration of skin color diversity representation, children's illustration, progressive storytelling, and interactive Pop-Up mechanisms. The work not only produces an engaging visual medium but also integrates aesthetic and educational functions to support self-acceptance and appreciation of diversity among Phase A children.

The findings of this creative process reinforce previous research highlighting the importance of visual representation, developmentally appropriate illustrations, and interactive media. Crutchfield et al., (2022) demonstrated that skin color preferences can develop from an early age through social experiences and visual representations, providing a basis for the present work to incorporate diverse and equitable representations of skin tones. Meanwhile, Viana & Harahap, (2025) demonstrated that *Pop-Up Books* can enhance children's engagement and comprehension through their visual, interactive, and three-dimensional characteristics, as reflected in the children's interest in the *Pop-Up* mechanisms observed in the present study.

The findings concerning the use of simple illustrations, attractive colors, and expressive characters are also consistent with Arningsih & Octavia, (2025). In addition, the implementation of activities involving opening, pulling, and moving *Pop-Up* elements supports the principles of concrete and visual learning experiences proposed by Sulistyaningrum et al., (2025), as well as the active engagement emphasized by Jafnihirda et al., (2023). However, previous studies have generally examined social phenomena, general educational media, or digital media, whereas the present study integrates the representation

of skin color diversity across the Indonesian archipelago, children's illustrations, and paper-engineering interactivity within a single *Pop-Up Book* medium to support self-acceptance among Phase A children.

The findings of this study have implications for students, teachers, media developers, and Fine Arts Education. For students, the *Pop-Up Book "Beda Warna, Satu Ceria"* provides an alternative form of visual literacy for introducing skin color diversity in an equitable manner through engaging stories, illustrations, and interactive experiences. For teachers, the medium can support learning activities related to diversity, character education, and visual literacy through discussions of physical differences, self-acceptance, and attitudes of respect toward peers. For media developers and illustrators, the use of children's illustrations and V-Fold, Pull-Tab, Lift the Flap, and Box Fold techniques demonstrates that paper engineering can function as an integral component of the narrative rather than merely as a decorative element. For Fine Arts Education, this study demonstrates that the creation of visual media can integrate aesthetic considerations, theoretical foundations, user needs, expert validation, and user evaluation to produce an educational work that is also appropriate to the characteristics of its intended users.

Nevertheless, this study focuses on the design and feasibility of the medium and therefore cannot yet establish its long-term effectiveness in changing children's attitudes. Changes in students' attitudes were not directly measured in this study.

Although the *Pop-Up Book "Beda Warna, Satu Ceria"* was classified as Highly Feasible, this study has several limitations. First, the study focused on the design and feasibility of the medium and therefore did not experimentally measure changes in children's self-acceptance attitudes over the long term. The positive responses from students and teachers only indicate an initial level of understanding and acceptance of the medium. Second, the user evaluation involved 21 first-grade students from Class 1-A Ibnu Al Nafis at SD IT Iqro' Stabat Baru, and therefore the findings cannot yet be generalized to all Phase A children. Third, several *Pop-Up* mechanisms still require adult assistance to ensure proper operation and to prevent damage during repeated use. Fourth, the validators recommended improvements to the visual and interactive aspects, including the use of brighter colors, the addition of layers or mechanisms, and supplementary illustration elements. Fifth, the content aspect can still be strengthened, particularly regarding the message of accepting differences in Series 1,

consistency of terminology in Series 2, and the connection between play activities and skin color diversity in Series 3.

Based on these limitations, future research should conduct effectiveness testing using more rigorous and measurable research designs, involve more diverse groups of students, and examine the use of the medium over a longer period, accompanied by improvements in mechanism durability, variations in interactivity, and refinement of the visual and content components to optimize the medium for repeated use in learning contexts.

CONCLUSION

This study produced the "Beda Warna, Satu Ceria" Pop-Up Book as an educational medium for introducing skin color diversity across the Indonesian archipelago and promoting self-acceptance among Phase A elementary school children. The medium consists of three series with progressively structured messages, supported by cartoon illustrations and V-Fold, Pull-Tab, Lift the Flap, and Box Fold mechanisms. The results of media expert validation, subject-matter expert validation, and user evaluation indicated a Highly Feasible category, with user evaluation percentages of 91.26% for Series 1, 89.68% for Series 2, and 88.89% for Series 3.

This study contributes to the development of visual educational media that integrates representations of skin color diversity, self-acceptance values, and *paper-engineering* interactivity. The medium can serve as an alternative resource to support children's learning and visual literacy in introducing diversity in a positive manner. Future research is recommended to examine the effectiveness of the medium in producing measurable changes in children's understanding and attitudes, involve more diverse participant groups, and further develop the technical aspects and durability of the medium.

REFERENCES

Adukia, A., Eble, A., Harrison, E., Runesha, H. B., & Szasz, T. (2023). What we teach about race and gender: Representation in images and text of children's books. *The Quarterly Journal of Economics, 138*(4), 2225–2285. https://doi.org/10.1093/qje/qjad028

Arjuna D, D., & Ardiansyah, B. F. (2019). Analisis Teknik dan Perkembangan Buku Pop-Up. *Narada: Jurnal Desain dan Seni, 6*(1), 129–144. https://doi.org/10.22441/narada.2019.v6.i1.007

Arningsih, A. W., & Octavia, E. R. (2025). Perancangan Buku Ilustrasi Perkembangan Sosial-Emosional pada Anak Usia Dini. *SNADES, 6*(1), 204–211. https://snades.upnjatim.ac.id/eprosiding/index.php/snades/article/view/59

Candy, L., & Edmonds, E. (2018). Practice-based research in the creative arts: Foundations and futures from the front line. *Leonardo, 51*(1), 63–69. https://doi.org/10.1162/leon_a_01471

Crutchfield, J., Keyes, L., Williams, M., & Eugene, D. R. (2022). A scoping review of colorism in schools: Academic, social, and emotional experiences of students of color. *Social Sciences, 11*(1), Article 15. https://doi.org/10.3390/socsci11010015

de Bruijn, Y., Emmen, R. A. G., & Mesman, J. (2021). Ethnic diversity in children's books in the Netherlands. *Early Childhood Education Journal, 49*(3), 413–423. https://doi.org/10.1007/s10643-020-01080-2

Fadhilah, N., Sutopo, Y., & Sunarso, A. (2022). Pengembangan Media Pop-Up Book Berbasis Multimedia terhadap Hasil Belajar Tematik Siswa Kelas IV Sekolah Dasar. *JIKAP PGSD: Jurnal Ilmiah Ilmu Kependidikan, 6*(2), 331–338. https://ojs.unm.ac.id/JIKAP/article/view/33054

Febriani, F. (2022). Pengembangan Media Pop-Up Book Berbasis Permainan pada Pembelajaran Tematik di Sekolah Dasar. *EDUSTUDENT: Jurnal Ilmiah Pendidikan dan Pembelajaran, 1*(2), 121–127. https://doi.org/10.26858/edustudent.v1i2.30319

Ghozalli, E. (2020). *Panduan Mengilustrasi dan Mendesain Cerita Anak untuk Tenaga Profesional*. Badan Pengembangan dan Pembinaan Bahasa. https://repositori.kemendikdasmen.go.id/32807/

Jafnihirda, L., Suparmi, Ambiyar, Rizal, F., & Pratiwi, K. E. (2023). Efektivitas Perancangan Media Pembelajaran Interaktif E-Modul. *Innovative: Journal of Social Science Research, 3*(1), 227–239. https://j-innovative.org/index.php/innovative/article/view/2734

Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi Republik Indonesia. (2022). *Capaian Pembelajaran Kurikulum Merdeka Belajar Fase A*.

Kusumawati, R., Reza, M., Widayanti, M. D., & Rahmaningrum, A. (2023). Meningkatkan Kemampuan Mengenal Warna Anak Usia Dini melalui Permainan Colour Cotton Bud. *PAUD Teratai, 12*(1). https://ejournal.unesa.ac.id/index.php/paud-teratai/article/view/67394

McClure, M., Tarr, P., Thompson, C. M., & Eckhoff, A. (2017). Defining quality in visual art education for young children: Building on the position statement of the Early Childhood Art Educators. *Arts Education Policy Review, 118*(3), 154–163. https://doi.org/10.1080/10632913.2016.1245167

Saraswati, L. A. (2017). *Putih: Warna Kulit, Ras, dan Kecantikan di Indonesia Transnasional*. Marjin Kiri. https://marjinkiri.id/buku/putih-warna-kulit-ras-dan-kecantikan-di-indonesia-transnasional

Son, S.-H. C., & Butcher, K. R. (2024). Effects of varied multimedia animations in digital storybooks: A randomised controlled trial with preschoolers. *Journal of Research in Reading, 47*(3), 249–268. https://doi.org/10.1111/1467-9817.12452

Sulistyaningrum, C. F., Widharyanto, B., & Rahardi, R. K. (2025). Analisis Kebutuhan Pengembangan Buku Cerita Bergambar Berbasis Multimodalitas dengan Pendekatan Permainan Bahasa Anak Usia Dini. *Stilistika: Jurnal Pendidikan Bahasa dan Sastra, 18*(1), 43–54. https://doi.org/10.30651/st.v18i1.24640

Suryani, A. (2020). Faktor-Faktor yang Memengaruhi Pigmentasi Manusia. *Cermin Dunia Kedokteran, 47*(9), 682–685. https://doi.org/10.55175/cdk.v47i9.564

Viana, D. L., & Harahap, J. Y. (2025). Pengembangan Media Pop-Up Book untuk Anak Usia Dini di PAUD Nurul Iman Kec. Patumbak. *Al-Zayn: Jurnal Ilmu Sosial & Hukum, 3*(3), 2408–2416. https://ejournal.yayasanpendidikandzurriyatulquran.id/index.php/AlZayn/article/view/1771

Wulandari, D., Husna, I., Hasnan, H., Sukma, M. A., & Alfiana, S. (2024). Kecenderungan Gaya Perancangan Buku Ilustrasi Anak Tahun 2015–2021. *AKSA: Jurnal Desain Komunikasi Visual, 8*(1), 10–34. https://doi.org/10.37505/aksa.v8i1.179

Yulianto, A. (2019). *Penyusunan Skala Guttman untuk Pengukuran Psikologi*. Universitas Pembangunan Jaya.