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Jagad: Visualizing Wayang Krucil Wiloso through the Damarwulan Narrative in an Illustrated Book for Young Audiences

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Abstract. *Wayang Krucil Wiloso is a traditional performing art from Malang whose visibility among younger generations has declined. This study designs an illustrated book that adapts the Damarwulan narrative as an introductory cultural medium for audiences aged 15–25 years and examines how it is perceived. The Stanford d.school Design Thinking framework guided the process, drawing on interviews with two cultural informants, field observation, research with young participants, and literature study. The resulting 64-page book introduces Arunika, a fictional contemporary protagonist who mediates between Gen-Z visual culture and the historical narrative, and develops Damarwulan and Anjasmara by preserving, modifying, or abandoning specific features of the Wayang Krucil Wiloso puppets. One media expert and one subject-matter expert assessed feasibility, with mean scores of 80.7% and 79.7% (both feasible), and 34 respondents aged 15–25 gave an overall rating of 85.5% in a small-scale trial. These scores indicate perceived feasibility, comprehension, and acceptance; they do not measure learning outcomes. The lowest expert ratings concerned cultural value (73%) and narrative structure (76%), pointing to the need for deeper cultural exposition and pacing. The study contributes a documented logic of cultural translation for wayang-based illustration and a proxy-character strategy for young readers. Future research should test learning effects with a pre-test and post-test design and a larger sample.*

Keywords: *Illustrated book; Damarwulan; Wayang Krucil Wiloso; cultural translation; Gen-Z*

INTRODUCTION

Wayang is a profound Indonesian cultural heritage imbued with philosophical, educational, and historical values. Among its regional variants, Wayang Krucil Wiloso is a distinctive traditional art form rooted in Malang Regency, East Java. Unlike other typologies, Wayang Krucil is crafted from flat wood with leather arms, a structural choice that facilitates fluid movement during performance. Wayang Krucil Wiloso adopts relatively minimalist design elements, such as simplified accessories and garment decorations, which distinguish it from the more intricate Wayang Kulit (Arizal, 2025). Preliminary historical data indicate that Wayang Krucil emerged during the reign of Pangeran Pekik in Surabaya in the 16th century; Pangeran Pekik was a local ruler mandated by Sultan Agung of Mataram to govern the Giri Kedaton region in 1635 (Irawanto, 2018).

In the past, Wayang Krucil performances were frequently held to accompany village purification ceremonies (*bersih desa*), anniversaries of Malang Regency, and communal celebrations. With rapid modernization, however, these performances have become exceedingly rare. Compared with the national popularity of Wayang Kulit and Wayang Golek, Wayang Krucil has experienced a marked decline in both public recognition and performance frequency, and it is considered at risk of disappearing without revitalization efforts (Arizal, 2021) . Based on

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primary interviews with local practitioners, this decline is attributed to several factors, including the lack of puppeteer (*dalang*) regeneration, inadequate documentation, and limited promotional strategies, which together distance younger generations from the art form.

The narratives typically performed in Wayang Krucil Wiloso fall into two main categories: the Islamic-themed *Menak* stories and Majapahit epics, such as the Raden Panji tales or local legends like *Damarwulan*. The Damarwulan saga is arguably one of the most popular local folktales, rich in themes of heroism, wisdom, and loyalty. It is documented in the *Serat Damarwulan*, with the oldest manuscripts dating back to the seventeenth century (Fiona Kerlogue, 2022) , and it chronicles the journey of a humble youth who, through intellect, struggle, and dedication, becomes King of Majapahit. The manuscript tradition carries Islamic undertones transformed from Hindu-Buddhist wayang tales (Lutfi, 2020) an adaptation process consistent with the role of wayang as a medium for spreading Islam in the archipelago (Sumawinata, Suryana, & Subakti, 2022). The narrative's conflicts, political intrigue, and moral lessons make it a viable candidate for adaptation into contemporary media, and thus an opportunity to connect a relevant epic with a fading art form. (Hikmawan & Handriyotopo, 2025) note that wayang, batik, masks, and other performing arts are being applied in contemporary contexts through interdisciplinary collaboration, technology integration, and educational-participatory approaches.

Among contemporary educational formats such as infographics, documentary videos, encyclopedias, and comics, illustrated books offer an advantage in conveying cultural messages by combining detailed visual art with narrative continuity. Illustrations in a book go beyond decoration: they act as a visual language that clarifies and enriches the text and enables readers to imagine characters, settings, and atmospheres (Aswan, 2019) . This format is relevant to younger readers, whose media habits lean toward concise, visually immersive experiences(Sutanto, 2023)

This study therefore aims to design an illustrated book that adapts the Damarwulan narrative, using the visual identity of Wayang Krucil Wiloso, as an introductory medium for audiences aged 15–25 years, and to examine how the resulting book is perceived by experts and by young readers. Two questions guide the study. First, how can visual characteristics of Wayang Krucil Wiloso be translated into character and world design for a contemporary illustrated book, and what is preserved, modified, or abandoned in that translation? Second, how do media and subject-matter experts and young readers perceive the feasibility, comprehensibility, and appeal of the resulting book? The study contributes (a) a documented design rationale for translating a regional wayang tradition into a contemporary illustrative language, and (b) the use of a fictional Gen-Z proxy character, Arunika, as a narrative and visual mediator between present-day visual culture and a historical epic. The study does not evaluate learning outcomes: it reports perceived feasibility, comprehension, interest, and acceptance, and does not test learning gains or compare

the book with other media. The remainder of the paper reviews related work and the conceptual framework, describes the Design Thinking method and the evaluation instruments, reports the design outcomes and feasibility results, and then discusses the findings, limitations, and directions for future research.

LITERATURE REVIEW

Discussion of the revitalization of traditional arts has largely centered on digital archiving and textual documentation, with less attention to media adaptation that appeals visually to younger audiences. (Arizal, 2021), in an ethnophotographic study, emphasized the urgency of documenting Wayang Krucil given its gradual marginalization from the public entertainment sphere. Irawanto, (2018) positioned Wayang Krucil as a foundational element of the cultural ideology and identity of East Javanese communities. Aesthetically, the form and proportions of the puppets exhibit a design principle akin to *wabi-sabi*, finding beauty in simplicity and imperfection, which reflects the sociological character of the local agrarian society (Arizal, 2025). Rahayuning Dyah & Audryadmaja, (2024) add that wayang krucil is regarded in some regions as sacred, particularly during maintenance and cleansing rituals, which constrains the space available for exploring the art form.

Illustrated books have been reported as useful conduits for translating traditional values into contemporary formats. Fatihah Rahmi, Isa Pramana Koesoemadinata, & Rahman, (2025) argued that a design thinking approach is relevant for educational books aimed at specific audiences because its iterative process supports an immersive experience that links textual information to visual representation.Aswan(2019) and Sutanto (2023) noted that dynamic color palettes and trend-adapted visual styles can attract young readers. (Davina Mauliani, Mudjiati, & Kherid, 2021) reported that a pop-up picture book with digital illustration and expressive character design stimulated reading interest and supported cultural transmission. (Aisyah & Rinjani, 2023) and (Suprianingsih, Desipriani, & Atika, 2023) similarly link illustration to engaging reading.

Contemporary visual adaptation of wayang has been studied from several directions. (Akbar, Sunarmi, Sarwanto, & Sunardi, 2024) analyzed how traditional puppet attributes are kept and adjusted when wayang is fused with comic, superhero, and anime characters. (Jakti, Rizky, Galing, & Kartikasari, 2025) applied Gestalt principles to simplify Pandawa characters for younger audiences while retaining key visual elements for recognizability and cultural meaning, and (Selviawati, 2023) examined wayang characters reinterpreted in a cyberpunk digital art aesthetic. These studies concentrate on puppet creation, single-character simplification, or stand-alone digital artworks, and mostly address wayang kulit. Regarding the Damarwulan saga itself, (Lutfi, 2020) showed that the *Serat Damarwulan* manuscript changes the surface symbols of

wayang figures while the structure of the characters stays largely the same, and (Saputra et al., 2025) describe a hybrid adaptation of Damarwulan that combines local wisdom and modern aesthetics. The narrative contains dramatic conflict, political maneuvering, and a heroic arc, which suggests suitability for adaptation; its appeal to readers aged 15–25 has not been established empirically, and it is examined here. The literature thus offers no study that links the visual identity of Wayang Krucil Wiloso with the Damarwulan narrative in an illustrated book built through a user-centered process, and none that uses a contemporary proxy character to mediate between the two. This is the gap addressed in this study.

A. Conceptual Framework: Cultural Translation in Visual Adaptation

Adaptation is not a copy but a process of repetition with variation, in which a source is reinterpreted for a new audience and medium. (Lutfi, 2020) distinction between the changeable surface structure of symbols and the stable structure of a character is useful here, as is the idea that simplification can retain recognizability and cultural meaning (Jakti et al., 2025)). For a visual tradition such as wayang, this implies decisions about which formal properties carry identity and which can be reworked. This study organizes those decisions into three operations: *preservation* (cues kept so that the figure remains recognizable as its source), *modification* (cues kept in intent but reconstructed in a new visual language), and *abandonment* (conventions deliberately dropped because they obstruct the new reading situation). Two evaluative concepts are kept separate throughout. *Adaptation fidelity* refers to the consistency of characters, events, and identity markers with the source narrative and puppet references, as judged by the subject-matter expert. *Cultural-meaning preservation* refers to whether the visual language (costume, ornament, gesture, proportion) still signifies what it signified in the source. A book can score highly on the first and still weaken the second, so the two are analyzed separately in the Results and Discussion.

METHODS

A. Research Design

This study follows a design-based approach that is primarily qualitative and uses the Design Thinking framework of the Stanford d.school. This user-centered approach was selected because it facilitates the development of creative, flexible solutions that are highly relevant to the target audience's needs and preferences (Yulius et al., 2022), which comprises five stages: Empathize, Define, Ideate, Prototype, and Test. The framework was selected because it supports flexible, user-centered solutions that respond to the needs and preferences of a target audience. The Test stage adds a descriptive quantitative component, in which questionnaire responses are converted into feasibility percentages. Qualitative data were collected through participatory

observation and in-depth interviews, with attention to minimizing cultural bias in interpretation. Data collection involved participatory observation and in-depth interviews to minimize cultural bias during data interpretation (Harahap, 2020)

B. Empathize: Target-Audience and Cultural Research

The Empathize stage had two strands. The first concerned the target audience (youth aged 15–25) and addressed their psychological needs, visual preferences, and cultural perceptions. The empathy research involved 34 participants aged 15–25 (21 high-school and 13 university students). They were recruited through social media using purposive sampling, and data were collected through questionnaire lasting 2 weeks. The data addressed psychological needs, visual preferences, and cultural perceptions through prior exposure to wayang, preferred illustration styles, reading and media habits. The Results of this strand that shaped the design brief were preferred styles, knowledge and attitudes toward traditional art, reading preferences]. The second strand gathered primary data on the art form through in-depth interviews with two informants (Mrs. Suprapti, representing the Mbah Saniyem family who care for the puppets, and Mr. Jain, the principal *dalang*), direct observation in Wiloso Village, and literature study to obtain contextual depth.

C. Define, Ideate, and Prototype

The accumulated data were analyzed to formulate the core problem. The analysis indicated that declining youth interest was not attributable to the quality of the epics but to the lack of a medium that uses contemporary aesthetic standards and communication styles. Based on the results of the literature review and questionnaires, it was found that the preferred visual style among young people is the manga style. Many respondents were not familiar with wayang krucil, despite living in the same area where the tradition is practiced. Regarding reading materials, young people tended to prefer content dominated by engaging images with fantasy themes. Interviews also revealed that spectators were predominantly older individuals and that performances were limited to the annual *bersih desa* ritual, while the puppets were otherwise kept in a cabinet to preserve their sacred status.



Figure 2. Color palette used for the worlds of Arunika and Damarwulan. Source: Author (2025)

Based on these findings, the selected concept was an illustrated book that retells the Damarwulan saga through a fictional contemporary protagonist, Arunika, who accidentally enters the world of Damarwulan and serves as a relatable character for Generation Z readers. The book was designed as a printed publication, considering the findings of Salwa et al. (2025), who reported that adolescent readers value the tactile experience and reading comfort offered by physical books. To establish a consistent visual identity, a color palette was developed to distinguish the worlds of Arunika and Damarwulan, as presented in Figure 2.

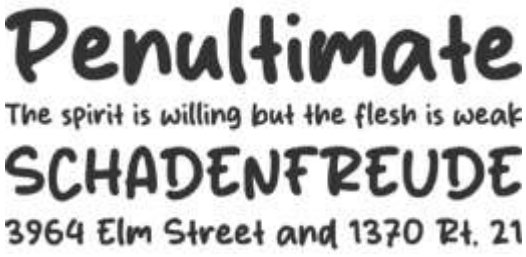


Figure 3. Typeface Chicken Finger. Source: Author (2025)

Typography was also considered an essential component of the book's visual identity. The Chicken Finger typeface was selected as part of the typographic design to support the overall illustration concept, as shown in Figure 3.

The design process consisted of three main stages: pre-production, production, and post-production. Pre-production included scriptwriting, storyboarding, and layout planning. Production involved digital illustration and infographic design using Clip Studio Paint, Adobe Photoshop, and Adobe Illustrator, while post-production included editing, proofreading, and final layout adjustments. During the visual development stage, preliminary sketches were created to establish the setting and atmosphere of the Damarwulan world. The sketch-stage world-building process is illustrated in Figure 4.

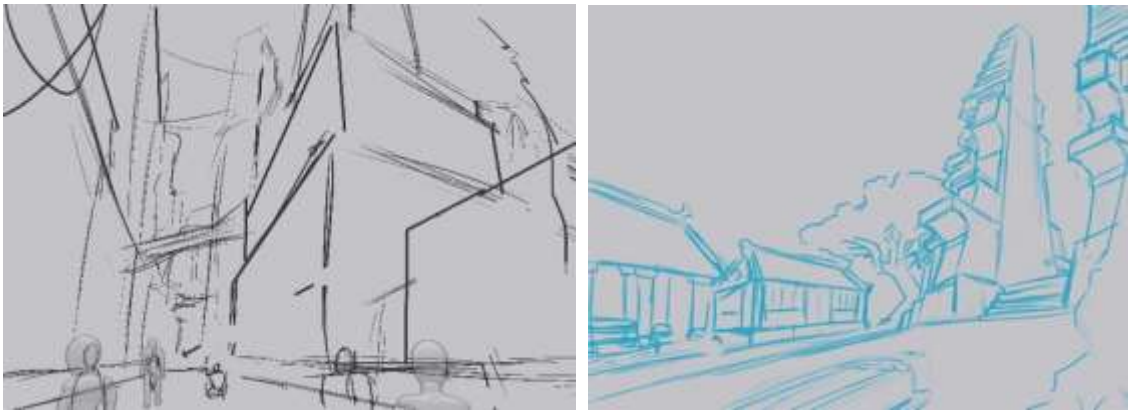


Figure 4. Sketch-stage world building of the Damarwulan setting. Source: Author (2025)

In addition to developing the visual setting, the book's layout was planned to organize narrative text and illustration blocks within a coherent reading structure. The layout schema, which presents the arrangement of narration and illustration elements, is shown in Figure 5.



Figure 5. Layout schema of the book: narration and illustration blocks. Source: Author (2025)

Character design followed a three-step comparison procedure. First, photographs of the relevant puppets, particularly Damarwulan and Anjasmara, were collected as visual references and placed alongside their respective character sheets. Second, each visible puppet feature was classified as preserved, modified, or abandoned according to the established design framework. Third, the characters were reconstructed using plastic anatomy, prioritizing structural logic, believable weight, and flexibility for narrative illustration. The resulting character designs of Damarwulan and Anjasmara, accompanied by photographs of their corresponding puppets, are presented in Figure 6.

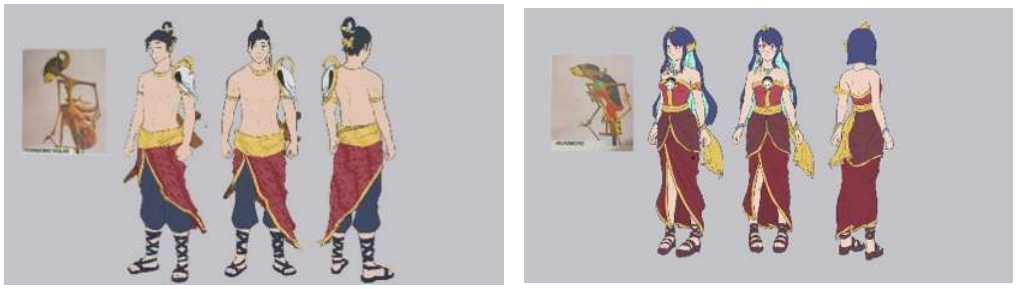


Figure 6. Character design sheets of Damarwulan (left) and Anjasmara (right), shown with photographs of the corresponding puppets. Source: Author (2025)

The development of Arunika as the contemporary protagonist was also an important part of the character design process. Two character design variants were produced to explore her visual representation within the illustrated narrative. These alternatives are presented in Figure 7.

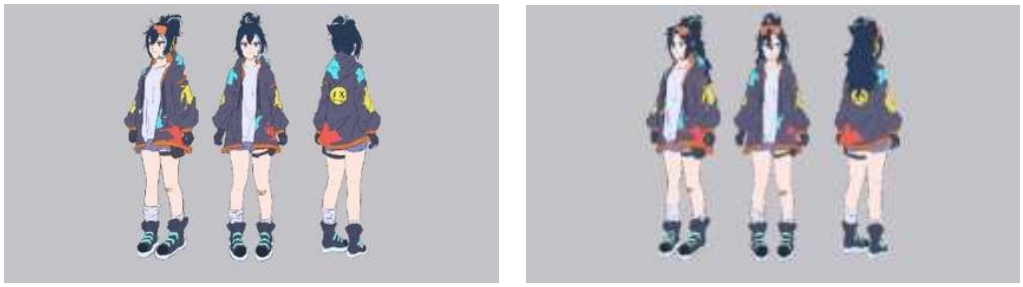


Figure 7. Character design sheets of Arunika (two variants)
Source: Author (2025)

Finally, the visual development process included background color exploration to distinguish the different narrative environments. The color development of Batavia and the Damarwulan world is presented in Figure 8, illustrating the visual treatment of the two settings.

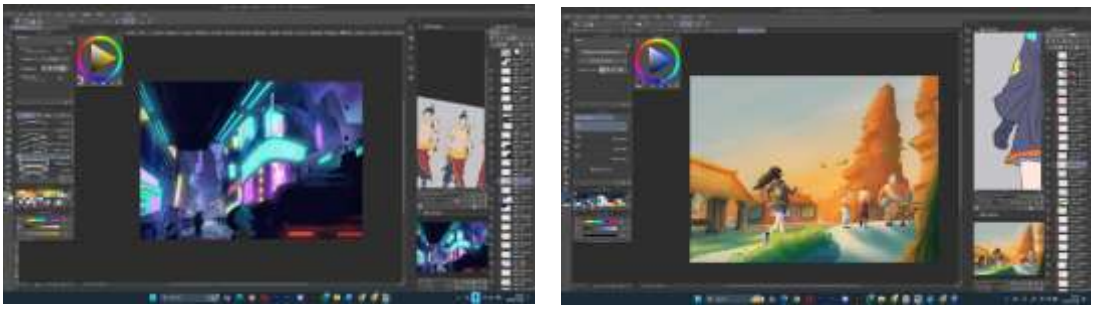


Figure 8. Color development of the background and world building (Batavia, left; Damarwulan, right)
Source: Author (2025)

D. Test: Instruments, Scoring, and Interpretation

The final prototype was assessed for feasibility by two experts and by members of the target audience. The study did not include pre-test and post-test learning measures or a comparison group. Table 1 describes the instruments. Expert items were scored on a Likert 1–5 scale, and audience items used Likert 1–5 response options and categorical items.

Table 1. Evaluation instruments

Instrument	Respondents	Variables
Media expert questionnaire	1 media expert (illustrator)	Visual quality; aesthetics; technical execution
Subject-matter expert questionnaire	1 expert (wayang krucil researcher,)	Narrative structure; adaptation fidelity; cultural value and appropriateness
Audience questionnaire	participants aged Age : 15–25	Prior knowledge; comprehension; interest; illustration quality; infographic appeal; recommendation; overall rating

Scores were calculated as follows. For each expert variable v with k items, the feasibility percentage is $P(v) = [\Sigma x / (k \times s_max)] \times 100$, where Σx is the sum of item scores obtained from the expert and s_max is the highest possible score per item. Because each expert instrument was completed by one expert, the denominator is $k \times$ s_max. The mean feasibility score of an instrument is the unweighted mean of its three variable percentages. Percentages were interpreted as follows: 85–100% very feasible, 70–84% feasible, 55–69% fairly feasible, and below 55% not feasible (Joshi, Kale, Chandel, & Pal, 2015). Because the expert instruments were not piloted and reliability coefficients were not computed, the expert results are treated as expert validation of feasibility and not as evidence of instrument reliability. The audience trial involved 34 respondents recruited using purposive sampling through schools and campus communities]. Eligibility criteria were: (a) aged 15–25 years; (b) currently a high-school or university student; (c) able to read Indonesian; and (d) geographically a resident of Malang.

RESULTS

A. The Final Product

The outcome of this research is a physical illustrated book entitled *Lakon Ing Pakeliran JAGAD: Adaptasi Kisah Damarwulan Wayang Krucil Wiloso* (The Play in the *JAGAD* Shadow Screen: An Adaptation of the Damarwulan Tale of Wayang Krucil Wiloso). The book has 64 pages, including a five-page infographic section on the historical and technical facts of Wayang Krucil Wiloso. It is printed in a 30 × 22.5 cm landscape format on 210 gsm art paper with a hardcover and matte lamination.



Figure 9. Synopsis page (left) and front cover (right) of *Lakon Ing Pakeliran JAGAD.* Source: Author (2025)

The front cover, titled *Lakon Ing Pakeliran JAGAD: Buku Adaptasi Kisah Damarwulan Wayang Krucil Wiloso*, uses a wayang silhouette concept: a glowing, pointed outline frames a single standing figure on a green field. Revisions focused on typography, notably the added subtitle.



Figure 10. Pages 1–2 (prologue in Batavia). Source: Author (2025)

Pages 1 and 2 form the prologue, which presents the background of Arunika's world in the city of Batavia in 2025. The illustrations convey an overview of a futuristic cityscape lit by neon. Page 2 was revised to adjust contrast after media-expert feedback.



Figure 11. Pages 15–16 (Arunika enters the world of Damarwulan). Source: Author (2025)

Pages 15 and 16 introduce one of the book's first conflicts, in which Arunika becomes trapped in the world of Damarwulan. The spread also introduces Damarwulan, the second main character, and establishes an initial depiction of his realm.

B. Cultural Translation of Wayang Krucil Wiloso Characters

Figures 6 and 7 show the character sheets in front, side, and back views. In Figure 6, a photograph of the corresponding puppet sits beside each redesigned figure, which makes the transformation inspectable. Table 3 classifies the visible features of each character as preserved, modified, or abandoned, following the framework in the Literature Review. The classification is based on side-by-side comparison of the puppet photographs with the final character sheets.

Table 3. Cultural translation of character features

Character	Preserved	Modified	Abandoned
Damarwulan	Topknot (*gelung*) with gold accent; bare upper body with minimal jewelry; red-maroon *kain* with a broad gold sash; red–gold color pairing	Flat profile reconstructed as a volumetric three-view figure with plastic anatomy; elongated limbs and bowed head normalized to natural proportion; dark trousers and lace-up sandals added for readable movement; face given open eyes and neutral expression	Strict profile view; extreme limb elongation; frozen stylized facial profile
Anjasmara	Red garment with gold trim and a trailing gold sash; small gold crown ornament and jewelry; red–gold color pairing	Garment rebuilt as a bodice and wrapped *kain* with a side slit that follows a natural silhouette; hair rendered long, loose, and deep blue with teal highlights; contemporary illustrative treatment of the face	Profile pose; angular headdress profile and rigid garment planes of the puppet
Arunika	No puppet counterpart; positioned deliberately outside the wayang canon	Designed from contemporary visual culture: oversized dark jacket with neon cyan and orange accents, ponytail and goggles, shorts, socks, and boots; anime-influenced face	All Javanese costume references, so that she remains legible as an outsider to the Damarwulan world

Damarwulan Character

In the reference puppet, Damarwulan puppet of Wiloso has a original name is *Mbah Tandur*, the figure is shown in strict profile with an elongated torso, thin extended arms, a bowed head, a gold-accented topknot, and a red and yellow lower garment whose cloth flares away from the body. The redesigned figure keeps the topknot, the sparse ornamentation of the upper body, the red *kain*, and the golden sash. Recognition therefore rests on a small set of identity cues, namely a hair form, a color pair, and a garment structure, and not on the puppet's overall outline. What changes is the construction. The flat profile becomes a volumetric figure that can turn, stand, and gesture inside a scene, and the proportions are normalized so that the body can be drawn consistently across pages. The face is given open eyes and a neutral expression, which allows emotional acting that a wooden profile cannot provide.



Figure 12. (Damarwulan puppet and Damarwulan Character). Source: Author (2025)

Anjasmara Character

The puppet reference shows an angular profile, a dark head mass, and a red garment with gold line work and a small green accent. The redesign retains the red and gold garment logic, the trailing sash, and the crown ornament, and it reconstructs the garment as a bodice and wrapped skirt. Two choices deserve scrutiny. The long loose hair with teal highlights reflects contemporary character design, and it introduces a cool accent that also appears in Arunika's neon palette, so it can be read as a deliberate visual rhyme between the two worlds.



Figure 13. (Original Anjasmara puppet and Anjasmara Character). Source: Author (2025)

The bodice and silhouette follow a naturalistic reading of the body that the puppet does not have. These changes serve legibility for the target audience, but they are also the points where cultural meaning is most exposed to loss (its discuss in Discussion section). Across the two historical characters, the same rule applies: identity cues are preserved at the level of hair, color, sash, and ornament; construction is translated from flat profile to volume; and conventions that would obstruct facial expression and movement are abandoned. Because Wayang Krucil Wiloso already uses simplified accessories and garment decoration (Arizal, 2025) , reduced ornament is consistent with the tradition's own minimalism. The conversion from profile to volume is the larger intervention, since it removes the flatness that defines wayang as a visual form.

Arunika as a Mediating Character



Figure 14. (Character of Arunika). Source: Author (2025)

Arunika is the only character without a wayang source. Her role is to provide the contemporary reader with a point of entry, and the design includes four mechanisms that prevent her from displacing the historical material. First, she is the focalizing character. The meeting with Damarwulan on pages 15–16 (Figure 11) is framed from her position, with her head in the lower foreground and Damarwulan standing in the sunlit centre-right, so the reader first encounters the historical figure through the eyes of a newcomer and then the frame gives him greater salience than her. Second, her visual vocabulary is confined to her own body and her own world.

The warm, naturalistic environment of Damarwulan is not rendered in neon, so the historical setting keeps its own identity. Third, Arunika has no puppet counterpart and is absent from the infographic section, where the original wayang forms and the historical characters are the subject. Fourth, the story is intended to leave the events of the Damarwulan epic unchanged [AUTHOR: confirm that Arunika does not alter the plot of the epic]. In this design Arunika therefore operates as a lens through which the epic is seen, and not as a replacement for its protagonist. Her face follows an iconic, simplified convention, which is consistent with the observation that such characters invite identification (McCloud, 1993).

C. The Visual System of the Book

Composition and hierarchy

The layout schema (Figure 5) uses two arrangements: a spread with a narration column on one side and a full-height illustration on the other, and a spread with two narration blocks above a wide illustration. In the printed pages (Figures 10 and 11), illustration dominates and text is placed in low-detail zones of the image: a sky band in the balcony scene on page 2, a quiet area of the street scene on page 1, and a bright sky and foliage area beside Damarwulan on page 16. Primary salience is given to the focal character or the environmental focal point through scale, contrast, and placement, and text is secondary. The media expert's comment on foreground–background separation on page 2 led to a contrast adjustment, which is a hierarchy correction and not a styliztic change. Running text uses a light, geometric sans-serif (Figure 3), set in white on dark night scenes and in dark tones on light daytime scenes, so that the text color follows the lighting of the page. The infographic section uses a rough, brush-like display face in cream for headings ("Tahukah kamu?", "Wayang Krucil Wiloso") and dark brown text on parchment, which separates informational content from narrative text through typeface and color as well as layout. The media expert recommended refining font size and spacing, so legibility of small text blocks remains the main typographic risk.

Color systems

The palette (Figure 2) is organized into two groups: a cool, high-chroma group (indigo, orchid, cyan) for Arunika's Batavia, and a warm group of greens, yellow, orange, and sky blue for the Damarwulan world. Color development (Figure 8) shows each world being painted as a separate lighting scheme (artificial night light versus natural daylight). The cover combines both: a cyan glow, associated with Arunika's world, surrounds a figure standing on a green field associated with the Damarwulan world.

Narrative pacing

The book opens with two prologue pages in Batavia, establishes Arunika's situation, and moves to the first conflict on pages 15–16, when she becomes trapped in the world of Damarwulan. Damarwulan therefore appears after about a quarter of the book (15 of 64 pages). This pacing gives readers time to settle with the proxy, but it also leaves less space for the conflict and emotional depth of the historical narrative, which the subject-matter expert asked to be deepened.

Silhouette and visual continuity

The three main characters can be told apart by silhouette alone. Arunika has a broad, top-heavy shape created by the oversized jacket, narrowing to boots with strong contrast and a head accent made by the ponytail and goggles. Damarwulan and Anjasmara have narrow, vertical shapes with diagonal drapery and a trailing sash. This reinforces the separation of the two worlds. Continuity is maintained through consistent turnaround sheets (Figures 6 and 7), a repeating logo at the corner of infographic pages, and a stable color logic within each world.

D. Differentiating the Contemporary and Historical Narrative Spaces

Table 4 summarizes how the two visual systems are separated. Readers can recognize the transition through several cues at once; no single cue carries it. Page 15 is the transitional page: Arunika lies on grass in her dark, neon-accented outfit, surrounded by warm greens and daylight, so that her body is a color outlier inside the historical world. This visual mismatch marks the crossing.

Table 4. Comparison of the Arunika (Batavia) and Damarwulan visual systems

Dimension	Arunika's Batavia (Figures 10, 8 left)	Damarwulan's world (Figures 11, 8 right)	Cue for the reader
Light and time	Night; artificial neon light	Daylight; natural light	Lighting source
Palette	Indigo, violet, cyan, magenta; high chroma, high contrast	Greens, yellow, orange, sky blue; warmer, softer contrast	Color temperature
Environment	Dense vertical skyline, window grid, signage	Tree, foliage, temple-like gate; organic and horizontal	Geometry of the setting
Costume	Jacket, shorts, boots, goggles	*Kain*, sash, topknot, crown ornament	Costume vocabulary
Text	White on dark	Dark on light	Text color

E. The Infographic Section and Its Integration with the Narrative

The infographic section (Figure 12) opens with information on how the book was made, from character designs derived from Wayang Krucil Wiloso to the narrative of Damarwulan adapted from manuscripts performed in Wayang Krucil Wiloso shows. It then explains Wayang Krucil Wiloso and its contemporary condition, and ends with short biographies of Anjasmara, Damarwulan, and Menakjingga, shown with character close-ups and the corresponding original wayang forms. After media-expert feedback, one page was added to broaden coverage of Wayang Krucil Wiloso.

The section is connected to the narrative system in three ways. First, its antique-document aesthetic (a parchment ground, ink-splatter marks, a brush-like display face) is assigned to the world of Damarwulan, and it avoids Arunika's neon system, so information is delivered in the visual language of the historical world and does not suggest a switch to a textbook. Second, the address "Tahukah kamu?" ("Did you know?") keeps the colloquial, second-person register of the story, and the logo remains at the page corner as a continuous brand marker.



Figure 12. Examples of infographic pages: "Tahukah kamu?" and "Wayang Krucil Wiloso". Source: Author (2025)

Third, the section is a discrete block, not interleaved with story spreads, so factual information does not interrupt the immersion of the story spreads. Original wayang imagery is integrated by placing the redrawn characters beside their source puppets. The media expert recommended a more systematic integration of original puppet photographs, which remains an area for improvement.

F. Expert Feasibility Assessment Results

Feasibility was assessed by two experts: Mr. Reza Lesmana, a professional freelance illustrator based in Malang (media expert), and Mr. Fariza Wahyu Arizal, S.Sn., M.Sn., a lecturer in Visual Communication Design (subject-matter expert). Tables 5 and 6 report the results. Each percentage is derived as described in the Methods, with k items per variable and one rater per instrument. The scores represent expert validation of feasibility. They are not reliability coefficients, since instrument reliability was not statistically examined.

Table 5. Media expert feasibility assessment

Variable	Items (k)	Score obtained	Maximum score (k × s_max)	Feasibility (%)	Category
Visual quality	3	12	15	80	Feasible
Aesthetics	4	14	20	70	Feasible
Technical execution	5	23	25	92	Very feasible
Mean media feasibility				**80.7**	**Feasible**

Table 6. Subject-matter expert feasibility assessment

Variable	Items (k)	Score obtained	Maximum score (k × s_max)	Feasibility (%)	Category
Narrative structure	5	19	25	76	Feasible
Adaptation fidelity	4	18	20	90	Very feasible
Cultural value and appropriateness	3	11	15	73	Feasible
Mean material feasibility				**79.7**	**Feasible**

Both instruments fall in the "feasible" category, with technical execution (92%) and adaptation fidelity (90%) in the "very feasible" category. The lowest values were aesthetics (70%)

and cultural value and appropriateness (73%). The experts gave minor feedback, mainly on layout and typography, before wider publication.

G. Audience Trial Results

The audience trial involved 34 respondents aged 15–25 from high-school and university backgrounds (Table 2). Table 7 reports the results as counts and percentages over N = 34, so every percentage can be reproduced as n / 34. Most respondents (79.4%) did know Wayang Krucil Wiloso and 88.8% has know the Damarwulan story after read the book. Comprehension was perceived as very easy by 84.7%, and the infographic pages were rated appealing or very appealing by 87.6%. Interest was lower than the other indicators: 79.4% were interested. Illustration quality was rated "very good" by 92.4%. Around 85.9% the audiences is very eager to recommend this book to others. These results describe perceived comprehension, interest, and acceptance. The overall rating was 85.5% ("very feasible"), calculated as described in the Methods.

Table 7. Audience trial results (N = 34)

No.	Assessment indicator	1	2	3	4	5	Max Score	Total Score	Item index (score ÷ max)
1	Knowledge of Wayang Krucil Wiloso from the book	-	-	1	33	0	170	135	79.4%
2	Knowledge of the Damarwulan story from the book	-	-	3	13	18	170	151	88.8%
3	Storyline comprehension	-	-	3	20	11	170	144	84.7%
4	Interest in learning about Wayang Krucil	-	-	10	15	9	170	135	79.4%
5	Quality of book illustrations	-	-	3	7	24	170	157	92.4%
6	Appeal of the infographic pages	-	-	3	15	16	170	149	87.6%
7	Book recommendation rate	-	-	3	18	13	170	146	85.9%
Highly Feasible							1190	1017	85.5%

DISCUSSION

This study aimed to develop an introductory illustrated book on Wayang Krucil Wiloso for audiences aged 15–25. Interviews indicated that public interest has stagnated since a short-lived promotional and that youth participation is often incidental. Adapting the Damarwulan narrative into an illustrated book grounded in anatomical and structural design principles was judged feasible by two experts and was received positively by 34 young readers. This is consistent with (Suprianingsih, Hermita, & Zaharani, 2026), who associate visual storytelling with reader engagement, with (Saputra et al.,2025), who describe a hybrid Damarwulan adaptation combining local wisdom and modern aesthetics, and with (Citraningrum, Masturoh, & Hima, 2022) and (Sutanto, 2023), who propose that combining traditional narrative with visual delivery can support engagement. These studies concern engagement and context, and the present data cannot confirm

effects on comprehension relative to text-only media, since no comparison was made. (Selviawati, 2023) cyberpunk wayang parallels Arunika's neon world, but as a stand-alone artwork and not as a frame for a historical narrative.

A. Arunika as a Mediator: Contributions and Risks

Arunika appears to be the most distinctive design decision of the book. Through the mechanisms described in the Results (focalization, a confined visual vocabulary, absence from the infographic section, and an unchanged epic), she gives contemporary readers a point of entry while the historical characters retain their own visual identity. The subject-matter expert's fidelity rating (90%) is compatible with this reading. Two cautions apply. First, the evidence is perceptual: the study did not test whether the proxy aids understanding or retention of the epic. Second, a proxy can change the weight of a text. Arunika's saturated palette and the quarter of the book given to her world mean that the historical material may be read as secondary. The lower scores for narrative structure (76%) and cultural value (73%), and the subject-matter expert's recommendation to deepen Damarwulan's conflict, are consistent with this risk. Future editions could shorten the prologue or give Arunika and Damarwulan more shared scenes.

B. Adaptation Fidelity and Visual Modernization

The score of 90% for adaptation fidelity should be read as a judgement that characters, events, and identity markers are consistent with the source narrative and puppet references. It does not establish that the new visual language preserves cultural meaning, and the two should not be equated. The character analysis shows why. Damarwulan retains the topknot, the red *kain*, and the golden sash, which are identity cues that make the character recognizable. At the same time, the puppet's profile view, extreme proportions, and fixed facial profile were replaced by naturalistic anatomy and an expressive face, so the gestural vocabulary through which wayang characters are normally read is no longer present.

Anjasmara retains a red and gold garment, a trailing sash, and a crown ornament, but her bodice, loose hair with teal highlights, and naturalistic silhouette follow contemporary illustration conventions. These choices improve legibility for young readers, but they move the figures toward a style in which the puppet's symbolic reading is no longer visible without explanation, which is a likely role of the infographic section. The cultural value score of 73%, the lowest of the subject-matter variables, is consistent with this tension, although costume, ornament, and gesture were not rated separately. Future evaluation could therefore add items on the preservation of meaning in costume, ornament, and gesture, rated by cultural practitioners.

C. Interpreting the Feasibility Results

In the media assessment, aesthetics (70%) was the lowest variable: the palette and typography were found to complement the narrative, but the expert recommended refining visual hierarchy (foreground–background separation) and typographic readability (font size and spacing). Technical execution reached 92%. The suggestions on foreground–background separation and on integrating original puppet photographs in the infographic section indicate where the next revision should focus.

In the subject-matter assessment, adaptation fidelity (90%) was the strongest variable, and the expert recommended deepening the conflict in Damarwulan's storyline and expanding the content on Wayang Krucil Wiloso. The audience score of 85.5% is higher than the expert means, but the two measure different things: experts judged the product against disciplinary criteria, and the audience reported its own impressions after reading. A lower expert rating on cultural value does not contradict a high rating from young readers; it indicates that acceptance and cultural depth should be evaluated separately. Interest (70.6%) was also lower than comprehension (91.2%), so the story was easy to follow but did not interest all respondents equally. Once the experts' revisions are made and learning value is tested, the book could serve as a supplementary introductory resource for local schools and the Mbah Saniyem family community.

LIMITATIONS

Several limitations should be noted. (1) The study evaluates perceived feasibility, comprehension, interest, and acceptance; with no pre-test and post-test, control group, or media comparison, it cannot support claims about learning effectiveness. (2) The sample of 34 respondents was selected by purposive sampling not at random, and is small, so the results cannot be generalized to all young readers. (3) Each expert instrument was completed by one expert, the questionnaires were not piloted, and neither reliability nor construct validity was statistically examined. (4) The audience data are self-reported and collected in a single session, so they may reflect social desirability and novelty. (5) Logistical difficulties in reaching informants, tight production timelines, and the rarity of live performances limited direct observation. (6) The visual analysis is interpretive and based on the authors' own design materials, without independent coders or practitioner ratings.

CONCLUSION

This study developed *Lakon Ing Pakeliran JAGAD*, a 64-page illustrated book that adapts the Damarwulan narrative using the visual identity of Wayang Krucil Wiloso, through a Design

Thinking process. Two experts rated the book as feasible (means of 80.7% for media and 79.7% for subject matter), and 34 respondents aged 15–25 gave an overall rating of 85.5% and found the story easy to follow. These results indicate perceived feasibility and acceptance, and they do not demonstrate learning effectiveness. The design documents a logic of cultural translation in which identity cues of the puppets are preserved, their construction is modified into volumetric figures, and profile-based conventions are abandoned, with the proxy character Arunika mediating between contemporary visual culture and the historical narrative. The lowest expert ratings, for cultural value (73%) and narrative structure (76%), show that cultural exposition and pacing need to be strengthened.

Future work should evaluate learning outcomes with a pre-test and post-test design and a larger, more diverse sample; test the instruments for reliability; examine with cultural practitioners whether costume, ornament, and gesture preserve their meaning; and explore extensions such as an augmented-reality board game, possibly supported by national grant schemes such as the Program Inovasi Seni Nusantara (PISN).

DATA AVAILABILITY STATEMENT

The data supporting the findings of this study are held by the authors and are available from the corresponding author upon reasonable request. The retained dataset comprises (i) the anonymized questionnaire responses of the 34 audience-trial respondents, (ii) the scoring sheets of the media expert and the subject-matter expert, and (iii) the full wording of all questionnaire items. Respondents were identified only by code, and no personal identifiers are included. Requests should state the purpose of use and will be answered within a reasonable period. The interview recordings and field notes with the cultural informants are not shared publicly, because they contain personal and culturally sensitive information, but a summary of the interview protocol can be provided on request. The illustrations and book design are the authors' original work and remain under the authors' copyright.

AI USAGE DECLARATION

During the revision of this manuscript, the authors used Claude (Anthropic) to assist with found the gap of research, restructuring of the text, and analyzing the quantitave result score. The authors reviewed, verified, and edited all AI-assisted text and take full responsibility for the content of the publication. Except for images and documentation materials that were produced by the researcher themselves

CREDIT AUTHOR CONTRIBUTION STATEMENT

Rahmat Kurniawan: Conceptualization, Methodology, supervisor (illustration and book design), and writing original draft. Mahendra Wibawa: Validation, review and editing. Bima Bramswista Putra: illustrator and field assistant

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