

Illustrating Safety: The Role of Digital Media and AI in Designing Inclusive Protection Stories for children with Autism Spectrum Disorders

Pungki Siregar¹, Ika Anggun Camelia², Siti Mutmainah³, Kartika Herlina Candraning Shiam⁴, Awal Putra Suprianto⁵, Muchammad Bayu Tejo Sampurno⁶

Corresponding Email: pungkisiregar@unesa.ac.id

12345 Universitas Negeri Surabaya, Indonesia

6Universiti Pendidikan Sultan Idris, Malaysia

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ABSTRACT:

This study investigates the development of an inclusive children's storybook on self-protection through the integration of digital media and artificial intelligence (AI). The research employed a design-based approach combining AI-assisted creative development with small-group classroom testing. In the development phase, large language models and image-generation tools were used to generate narrative ideas, character concepts, and preliminary illustration sketches, which were subsequently refined through human illustration and pedagogical review. The testing phase involved an interactive read-aloud session with ten students with intellectual learning difficulties at a special education school in Indonesia. Data were collected through structured classroom observation focusing on student attention, verbal participation, non-verbal interaction with illustrations, emotional responses, and recognition of repeated narrative elements. The results indicate that the storybook was able to sustain student attention, encourage moderate levels of verbal participation, and generate generally positive emotional responses during storytelling activities. Students also demonstrated recognition of repeated narrative patterns, suggesting that simplified narrative structures and visual clarity may support engagement and comprehension among learners with diverse cognitive abilities. The findings highlight the potential of AI-assisted design workflows to accelerate the creation of inclusive educational materials while emphasising the continued importance of human oversight to ensure cultural sensitivity, accessibility, and pedagogical relevance..

Keywords: Artificial Intelligence, Digital Media, Inclusive Storytelling, Child Protection, Educational Media.

1. Introduction

Child safety education must be both accessible and engaging for all learners, including individuals with disabilities. Storybooks serve as effective pedagogical instruments by integrating

narrative and visual elements to elucidate complex social concerns. Illustrated storybooks regarding disability strengthen children's awareness of diversity and foster empathy towards those with impairments in inclusive

educational settings (Jaswandi & Kurniawati, 2023). Designing inclusive children's literature, particularly on sensitive topics such as self-protection, presents significant challenges. The narratives and illustrations produced by authors and illustrators must be significant and suitable for children of all cognitive and developmental levels. The visual accessibility of illustrations is essential in this process. Research indicates that children with Autism Spectrum Disorders or intellectual disabilities benefit from simplified visual settings that reduce cognitive overload. Research utilising eye-tracking and fMRI indicates that reducing background complexity enhances visual fixation and engagement among these learners (Lian et al., 2023). These findings indicate that inclusive storytelling necessitates meticulous narrative content and visual design. Consequently, early narrative development using simplified visual compositions, expressive characters, and cognitively accessible layouts can facilitate engagement and comprehension for children with diverse learning needs.

Recent advancements in artificial intelligence (AI) have unveiled creative possibilities for artistic work in digital media. Generative AI denotes systems that can autonomously generate content, ranging from images, text, and audio, that mimic human-produced outputs (Bansal et al., 2024; Laino et al., 2022). Progress in large language models (LLM) and image-generation technologies offers prospects to facilitate ideation and initial prototype in storytelling and illustration creation. Makridis et al. (2024) presented FairyLandAI, a GPT-based LLM specifically engineered for the creation of customised fantasy tales for children. The system blends narrative generation with DALL·E 3 to produce visually coherent characters, illustrating the synergy between language models and image-generating technologies in facilitating AI-driven storytelling and educative material development (Makridis et al., 2024). These advancements underscore the increasing capability of AI tools to aid authors and illustrators in examining narrative thoughts and visual ideas throughout the creative design phases.

This study investigates the implementation of an AI-assisted creative process in the creation of an inclusive children's storybook focused on self-protection themes. The study outlines a iterative methodology wherein AI-generated narratives and visual concepts are integrated with human-centered illustration and design enhancements to guarantee cultural sensitivity and accessibility. The study not only documents the design process but also incorporates a small-group classroom testing session with students who have intellectual learning challenges to evaluate the storybook's reception in an educational context. This study seeks to investigate how AI-assisted development, along with classroom observation, might enhance the creative process and facilitate the creation of inclusive narrative resources for children with varied learning requirements

2. Methodology

• Design:

This study employed a design-based research approach to investigate the development and early classroom use of an inclusive children's storybook on self-protection. Design-based research is particularly suitable for educational media development because it allows researchers to iteratively design learning materials while observing how they function in authentic learning contexts. The approach combines creative design processes with empirical observation in order to understand both how educational media are produced and how learners interact with them.

The research consisted of two main stages. The first stage focused on the development of the storybook using an AI-assisted creative workflow, which included narrative ideation using large language models, prompt-based visual sketch generation, and digital illustration refinement. The second stage involved small-group classroom testing, where the storybook was read aloud to students in order to observe their engagement with the narrative and visual elements.

• **Participants/Sample:** The classroom testing phase was conducted at SLB Negeri Gedangan, a special education school serving

students with learning and developmental difficulties. The testing involved ten students aged approximately ten years who were identified as slow learners. The reading session was facilitated by the lead researcher, who conducted the storytelling activity using an interactive read-aloud format. Another researcher served as an observer responsible for documenting student responses during the session.

• **Instruments:** Data were collected through structured classroom observation using a behavioral checklist designed to capture student engagement during the storytelling activity. The observation instrument included six indicators:

- attention to the story
- verbal participation
- non-verbal interaction with illustrations

- positive emotional expression
- negative emotional expression
- recognition of repeated story elements

Each indicator was scored using a four-point scale ranging from 0 to 3, where 0 indicated no response and 3 indicated consistent engagement. In addition to the numerical scores, the observer recorded qualitative field notes describing students' reactions, participation patterns, and notable behaviors observed during the session.

Procedure: The storybook development followed an iterative design workflow integrating AI-generated content with human illustration and pedagogical review. The process included five main phases:

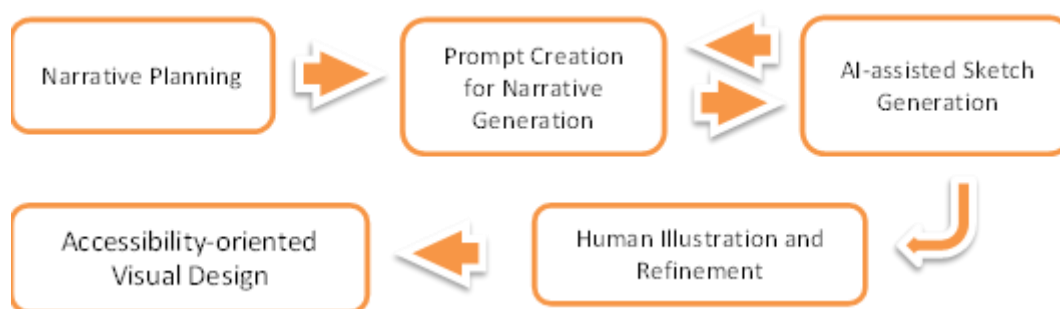


Figure 1. Book Illustration Creation Steps

The small-group testing session lasted approximately 30 minutes. During the session, the facilitator read the storybook aloud while occasionally pausing to ask questions and invite students to respond. Students were encouraged to interact with the story in multiple ways, including answering questions, pointing to illustrations, reacting to repeated narrative elements, or demonstrating non-verbal responses such as gestures or mimicry. This interactive reading format was used to capture students' behavioral and emotional responses to both the narrative content and visual design of the storybook.

• **Data Analysis:** The observational data were analysed using descriptive analysis to identify patterns of student engagement during the storytelling session. Quantitative scores from the behavioral checklist were summarized to

calculate overall engagement tendencies across the six indicators. These quantitative results were then interpreted alongside qualitative field notes in order to provide a richer understanding of how students interacted with the storybook. The combined analysis allowed the researchers to examine how narrative repetition, visual design, and interactive storytelling influenced student attention, participation, and emotional responses.

3. Results

AI-Assisted Storybook Development

We implemented a design-oriented methodology consisting of sequential phases, each utilising AI tools in conjunction with human expertise. We assert that despite the advancements in AI, human labour remains a source of pride. We view AI as a tool rather than an extension of our identity. This study aims to understand the

functioning of AI and explore effective collaboration methods with it. This document outlines the steps undertaken regarding AI implementation.

1. *Conceptual Framing And Thematic Scaffolding*

In this first stage we try to clearly outline what we want from a storybook, the basic concepts before we develop the story with the AI. The initial phase of our development process involved the identification of essential safety themes that would constitute the core message of the children's storybook. This stage commenced with collaborative dialogues involving special educators, psychologists, and child protection experts. The discussions sought to guarantee that the content was developmentally appropriate and consistent with contemporary best practices in child safety education. These sessions highlighted several critical self-protection topics, including the recognition of inappropriate or unsafe touch, the differentiation between safe and unsafe environments, the identification of trustworthy individuals (such as family members, teachers, or carers), and the establishment of personal boundaries. The key themes established the narrative framework while ensuring the content addressed real-world scenarios in an accessible, respectful, and relevant manner for children with intellectual or developmental disabilities. This foundational step was essential for developing a narrative that empowers children through knowledge, while also fostering emotional safety and autonomy.

2. *AI-Assisted Narrative Idea Generation*

The subsequent step involves formulating a narrative based on the fundamental concepts previously discussed with the experts. Story development encompasses the creation of narrative or storybook texts, as well as the formulation of prompts that facilitate the generation of image concepts, which are subsequently valuable for the illustration process. The following are the general steps undertaken at this stage.

a. **Prompt engineering for story outlines.** Utilising a large language model (LLM) such as ChatGPT, we developed structured

prompts designed to produce story ideas that are culturally and cognitively inclusive. For instance, prompts such as:

“Create a story outline for a children's picture book focussing on a child with an intellectual disability learning to distinguish between safe and unsafe situations.”

Incorporate culturally pertinent elements specific to Indonesia, utilise repetitive language structures for enhanced accessibility, and present scenarios that demonstrate the establishment of boundaries. The AI presented multiple narrative structures, each centred on a child protagonist engaging in routine scenarios, including interactions with neighbours, school attendance, and involvement in community activities.

b. **Iterative refinement.** Following the generation of initial outputs through LLM prompts, we performed a comprehensive evaluation of the results to examine their thematic alignment, cultural sensitivity, narrative coherence, and cognitive accessibility. The review process was conducted collaboratively by the research team, comprising language educators, illustrators, and specialists in special education. The initial outputs, though creative, necessitated significant adjustments to align with our target audience, especially regarding language complexity and emotional tone.

c. **Character development prompts.** Large language models (LLMs) were employed to generate comprehensive descriptions of the story's protagonists, facilitating the construction of multidimensional and considerate representations of children with disabilities. For instance, a prompt could be: “Characterize a 7-year-old child with an intellectual disability who utilises a wheelchair, emphasising expressive facial features that reflect curiosity and confidence.” Suggestions for dialogue style suitable for children with differing comprehension levels resulted in character sketches that were emotionally nuanced and developmentally suitable.

d. **Bias mitigation through explicit prompt design.** To ensure that AI-generated content adheres to ethical standards and avoids harmful stereotypes, we incorporated explicit prompt instructions to guide the model away

from stereotypical or reductive representations of disability. Prompts such as: “Ensure portrayal emphasises agency and dignity; avoid pity narratives; include supportive adult figures” were meticulously crafted to highlight empowerment, self-determination, and respectful representation. By directing the model using these parameters, we sought to prevent frequent misrepresentations.

3. *AI-Driven Sketch Prompting*

This phase marks a significant stage in the development of the children's storybook, specifically in generating ideas for book illustrations. At this stage, AI plays a significant role in generating drawing or sketch concepts. The following steps are undertaken at this stage.

a. **Translating narrative scenes into sketch prompts:** For each major story scene, we created precise and detailed prompts to direct an image-generation model in generating

preliminary visual sketches. The prompts were designed to encapsulate the setting and actions of the scene, while also addressing the emotional tone, cultural elements, and accessibility considerations relevant to the narrative. The prompts generally encompassed aspects such as the character's appearance, facial expression, body posture, environment, and the intended message of the scene. Here is an example of a typical prompt we have utilised:

“Make me a line art sketch for a children's story book titled Disa and the Protectors For the first page, here is the brief

Image: Illustration of DISA, a GIRL wearing a headscarf, smiling and waving her hand forward.

Background: Disa inside the house (the safest place in the world)

Text: "Hello !! I'm Disa, I'm so happy to be inside the house, the best place in the world :)" (Disa)

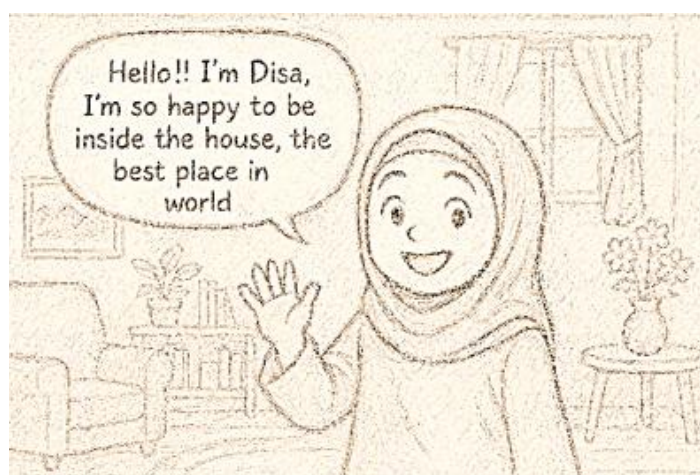


Figure 1. Line art generated by AI ChatGPT

b. **Visual refinement through iterative prompt adjustments:** Following the generation of initial AI sketches derived from prior character and scene descriptions, we proceeded to a phase of iterative refinement. This required a thorough examination of each image for precision, clarity, and consistency with the narrative tone and the

cognitive requirements of the target audience. Insights from these reviews informed the refinement of our prompts, leading to targeted adjustments in the visual outputs. For example, when a character's pose was ambiguous or lacked clarity, we revised the prompt to include more detailed instructions.



Make it in more raw sketch, because the illustration will be in watercolored artstyle

Figure 2. Prompt and Line art generated by the revised prompt

c. **Exploring composition through AI-generated sketch variants:** To support visual development, we requested multiple sketch variants per prompt using AI image-generation tools. These prompts were intentionally varied in

phrasing—modifying elements such as setting, posture, character focus, or emotional tone—to explore a broad range of visual compositions for each scene.



Figure 3. Sketch variants generated from AI

4. *Digital Illustration and Refinement*

The subsequent step represents the final and most critical phase of the preceding steps. This stage highlights our capabilities as storybook developers, particularly the function of an illustrator. This stage involves collaboration between lecturers and students in the creation of illustrations, aimed at enhancing learning opportunities for students. The following outlines the general steps undertaken.

a. **Illustration development using digital drawing software:** Selected AI-generated sketches were imported into a digital drawing environment where they served as visual drafts for further illustration development. These

preliminary sketches provided the basic structure, composition, and character positioning that illustrators refined and stylised to align with the intended aesthetic of the storybook. Using layered digital drawing techniques, the illustrator traced the sketches, adjusted proportions, and refined facial expressions to enhance emotional clarity. This process enabled the integration of AI-assisted visual ideation with human artistic interpretation. The flexibility of digital drawing tools also allowed iterative adjustments to linework, colour composition, and page layout, helping maintain visual clarity and reduce unnecessary visual complexity. Through this workflow, the generative potential of AI was combined with the artistic judgement of the

illustrator, resulting in illustrations that are visually engaging while remaining cognitively accessible for the intended audience.

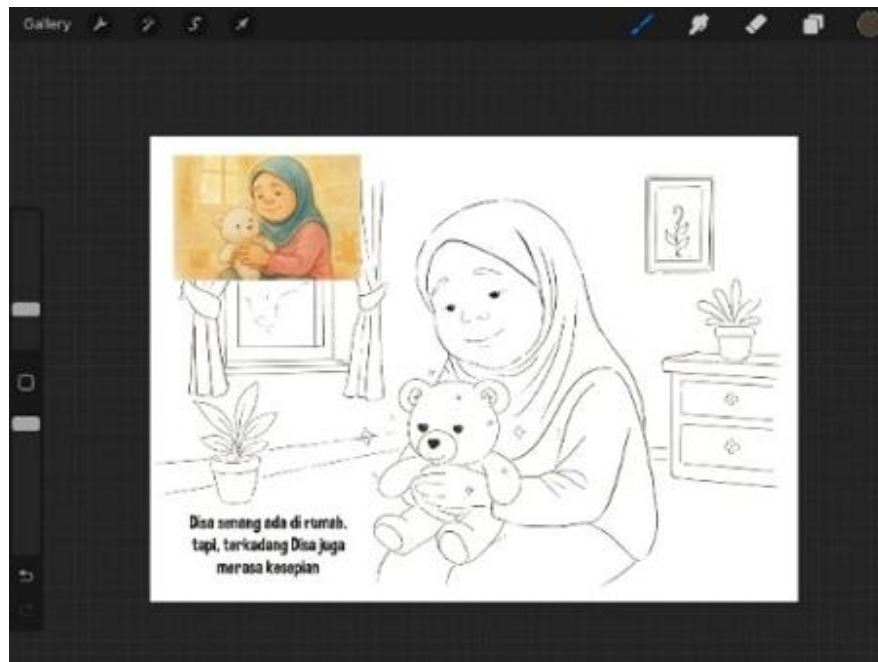


Figure 4. Creating sketch from AI reference

b. **Accessibility-focused styling:** During the visual development phase, we implemented accessibility-focused design principles to guarantee that the storybook is cognitively accessible and visually understandable for children with varying abilities. The principles involved employing clean lines to minimise visual noise, thereby preventing cognitive overload, especially for individuals with autism spectrum. The design of each page maintained a uniform character representation, allowing for easy identification of the protagonist and supporting characters throughout various scenes—crucial for children who gain from repetition and pattern recognition. Alongside visual simplicity, the spatial alignment of text and illustrations was meticulously controlled. The placement of key actions or emotional expressions in the artwork was deliberately aligned with the corresponding dialogue or narration to enhance meaning through proximity.

c. **Enhancing emotion and clarity through colouring process:** Upon finishing the line art and layout alignment, the subsequent essential phase in the illustration workflow is the colouring

process. In this phase, colour is selected and utilised not merely for aesthetic purposes but to intentionally support emotional tone, direct visual attention, and improve cognitive accessibility for young readers with varying needs. The initial step involved the selection of a limited, cohesive colour palette, primarily featuring soft, unsaturated tones intended to elicit feelings of safety and warmth. Light and neutral backgrounds were utilised to enhance the visibility of characters and critical visual elements in the foreground. Emotional expressions, including excitement, worry, and determination, were accentuated by warm blushes, variations in lighting, and subtle shadowing, offering visual cues that complemented the text without overshadowing it. The colouring process served as a connection between the visual and emotional aspects of the narrative. The narrative tone was unified, enhancing comprehension and establishing a sensory environment that is inclusive and emotionally engaging, thereby contributing to a book experience that is both aesthetically pleasing and accessible.



Figure 4. Coloring Process

d. **Iterative feedback loops:** After developing initial story drafts and illustrations, we implemented a structured feedback process by sharing them with special educators, cognitive development specialists, and child psychologists. These professionals offered specific feedback, particularly regarding the clarity of facial expressions, emotional cues, body posture, and the cognitive accessibility of text and imagery. We requested reviewers to evaluate the recognisability and significance of a character's facial expressions (e.g., fear, happiness, uncertainty) for children with intellectual disabilities.

Classroom Testing Results

Overview of the Testing Session

The small-group testing session involved ten students aged approximately ten years who participated in an interactive read-aloud activity using the storybook *Disa and Friends*. The session lasted approximately thirty minutes and was conducted in a classroom setting at a special education school. During the activity, the facilitator read the story aloud while encouraging students to respond to questions, observe illustrations, and react to recurring narrative elements. The observer documented student engagement using a structured behavioral checklist and qualitative field notes. The observational data provide insight into how students interacted with the storybook's narrative structure, visual design, and repeated story elements during the reading session.

Student Engagement Indicators

Table 1 presents the average engagement scores observed during the storytelling session.

Table 1. Student Engagement During the Read-Aloud Session

Indicator	Mean Score (0–3)	Interpretation
Attention to story	2.2	Moderate to high attention
Verbal participation	1.9	Moderate verbal engagement

Non-verbal interaction	1.8	Moderate visual interaction
Positive emotional expression	2.2	Generally positive response
Negative emotional expression	0.3	Very low occurrence
Recognition of repeated elements	2.0	Good recognition of repetition

Scale: 0 = none, 1 = occasional, 2 = moderate, 3 = consistent engagement.

Attention to the Story. Students generally demonstrated sustained attention during the storytelling activity. Most participants maintained visual focus on either the book or the facilitator for significant portions of the session. Although some students occasionally became distracted by surrounding classroom stimuli, the majority were able to return their attention to the story when prompted. The illustrations and narrative pacing appeared to help maintain student attention, particularly during moments when visual expressions or emotionally meaningful scenes were presented.

Verbal Participation. Verbal participation occurred at a moderate level throughout the session. When the facilitator posed questions related to the storyline, several students responded enthusiastically by answering verbally or attempting to complete phrases from the narrative. However, participation varied among students, with some responding only occasionally due to fluctuations in concentration. These responses indicate that the interactive read-aloud approach helped stimulate dialogue between the facilitator and students, allowing learners to engage actively with the story content.

Non-Verbal Interaction with Illustrations. Students also demonstrated non-verbal engagement with the storybook illustrations. Some students pointed to images, mimicked character actions, or followed visual cues presented in the narrative. These responses suggest that the illustrations served as meaningful visual supports that helped students interpret the story. However, this type of engagement was not evenly distributed across participants, as several

students remained relatively passive during portions of the activity.

Emotional Responses. Most students displayed positive emotional expressions while listening to the story. Smiling, attentive facial expressions, and signs of enthusiasm were observed throughout the reading session. Only one student showed occasional signs of boredom during certain parts of the activity. The overall emotional tone of the session suggests that the characters, illustrations, and narrative structure were generally appealing to the students.

Recognition of Repeated Narrative Elements. One notable finding was the students' ability to recognize repeated narrative elements within the story. Several students reacted when recurring phrases or story patterns appeared again in the narrative. This indicates that repetition within the storyline helped students anticipate and follow the sequence of events. Such repetition appears to support comprehension for learners with intellectual learning difficulties by reinforcing key concepts and maintaining narrative continuity.

Overall Observational Findings

Overall, the testing session indicates that the storybook was able to generate sustained engagement among students during the read-aloud activity. The combination of simplified narrative structure, repetitive dialogue, and visually clear illustrations appeared to support student attention and participation. Nevertheless, variations in engagement among students highlight the diversity of learning profiles within the group. While some students actively participated throughout the session, others

showed intermittent attention or limited interaction with the story content.

4. Discussion

Accelerated Ideation and Diversified Narrative Options

The utilisation of large language models (LLMs) significantly accelerated the ideation phase of story development by generating diverse narrative structures within seconds. This capability enabled the design team to explore multiple narrative directions—from imaginative adventure frameworks to everyday-life scenarios—before selecting the most pedagogically appropriate storyline. Previous studies have shown that LLM-assisted ideation can increase creative productivity and expand the range of potential ideas generated during early design phases (Girotra et al., 2023; Chakrabarty et al., 2024). Similarly, experimental comparisons between human ideation and AI-assisted brainstorming suggest that generative models can produce a larger number of candidate ideas in a shorter time frame, increasing the probability of identifying high-quality creative outcomes (Doshi & Hauser, 2024).

In the present study, these benefits were particularly relevant for designing narratives that address sensitive topics such as self-protection for children with intellectual learning difficulties. Carefully structured prompts enabled the generation of storylines that incorporated simplified language, repetitive narrative patterns, and culturally relevant contexts. The classroom testing results suggest that such narrative characteristics may support student engagement. During the read-aloud session, several students demonstrated recognition of repeated story elements and responded positively to recurring phrases. Repetition is widely recognised as an effective strategy for supporting comprehension among learners with intellectual disabilities because it reinforces memory and facilitates narrative understanding.

Research on narrative competence indicates that individuals with intellectual disabilities can engage meaningfully with storytelling when linguistic and visual scaffolds are appropriately

designed (Altman et al., 2022; Grove, 2022). Similarly, Rodgers and Loveall (2022) emphasise that structured and accessible writing interventions can support comprehension among learners with intellectual and developmental disabilities. The classroom observations in this study provide preliminary evidence that simplified narrative structures generated through AI-assisted ideation may align well with these pedagogical principles.

Prompt Engineering and Inclusive Representation

Prompt engineering played a central role in shaping the inclusivity and accuracy of AI-generated character representations. By specifying visual attributes such as facial expressions, assistive devices, and culturally appropriate clothing, prompt variations allowed the research team to guide AI outputs toward respectful and realistic depictions of children with disabilities. Prior studies have shown that prompt modifiers and prompt sequencing significantly influence the representational outcomes of text-to-image models, affecting whether generated images reproduce stereotypes or follow explicit design instructions (Shin et al., 2024).

In the context of inclusive educational materials, careful prompt design can help mitigate the risk of harmful representations while enabling the creation of diverse and relatable characters. In this study, explicit prompt instructions emphasised dignity, agency, and emotional expression in order to avoid stereotypical portrayals of disability. These design decisions were further refined through expert feedback from educators and specialists in special education. The classroom observations suggest that the resulting illustrations functioned as effective visual supports during storytelling. Several students demonstrated non-verbal engagement with the images by pointing at characters or mimicking actions depicted in the scenes. Although such interactions were not consistent across all participants, these responses indicate that visual clarity and expressive character design may help students interpret the narrative context.

Collaboration between AI and Human Creativity

The illustration process followed a hybrid workflow in which AI-generated sketches served as preliminary visual references that accelerated the early design stage. By rapidly generating multiple sketch variations, AI tools enabled the design team to explore a wider range of visual compositions before committing to final illustrations. This approach reduced the time required for manual concept sketching and allowed illustrators to focus on refinement, stylistic consistency, and pedagogical alignment (Wang et al., 2025; Pei et al., 2024).

However, the results of this study reinforce the importance of maintaining human oversight throughout the creative process. Human illustrators played a critical role in refining the AI-generated sketches, adjusting emotional expressions, incorporating cultural elements relevant to Indonesian contexts, and ensuring visual coherence across the storybook. These manual refinements were particularly important for conveying subtle emotional cues that

generative models often struggle to represent consistently. The classroom testing results further highlight the importance of this human–AI collaboration. Students appeared to respond positively to expressive character illustrations and emotionally meaningful scenes. These observations suggest that while AI may assist in generating visual ideas, human interpretation and artistic refinement remain essential for producing educational materials that resonate with learners.

Technical and Ethical Considerations

The integration of AI technologies into narrative and illustration development introduces several technical and ethical challenges that require careful consideration. One key issue is prompt sensitivity: generative models may misinterpret descriptions of disability and produce inaccurate or stereotypical representations unless prompts are carefully designed and validated (Tevissen, 2024). To mitigate this risk, the research team implemented an iterative prompt-refinement process and consulted educators and disability specialists during the design phase.



Figure 4. Scene generated from AI

Another important consideration concerns intellectual property and authorship. Under Indonesian copyright law (UU No. 28/2014), copyright protection depends on identifiable human authorship. Consequently, all AI-generated sketches in this study were treated as conceptual drafts rather than final illustrations. The research team redrew and refined the images using digital illustration tools in order to ensure originality and establish clear human creative contribution.

In addition, prompt histories, model versions, and design revisions were documented to maintain transparency in the creative process. Such documentation practices contribute to responsible AI use and help establish provenance for AI-assisted creative works. These safeguards demonstrate how AI

technologies can be integrated into educational design workflows while maintaining ethical accountability and human creative ownership.



Figure 5. Scene generated from AI with false emotional depiction and its correction

AI as a Creative Support Tool

Despite the advantages of generative AI for accelerating ideation and visual experimentation, the findings of this study reaffirm that AI systems remain fundamentally limited in their understanding of social and emotional contexts. Large language models and image generators operate primarily through statistical pattern recognition rather than lived experience or contextual understanding (Bender et al., 2021). For this reason, AI functioned in this project not as a replacement for human creativity but as a collaborative design tool that expanded the range of possible narrative and visual ideas. Human oversight remained essential in ensuring that the final storybook reflected authentic emotional expression, cultural relevance, and respectful representation of children with disabilities.

5. Conclusion

This study explored the development of an inclusive children's storybook on self-protection using an AI-assisted creative workflow combined with small-group classroom testing. The design process demonstrated that large language models and image-generation tools can support the rapid generation of narrative ideas, character concepts, and preliminary visual compositions. When integrated with human illustration and pedagogical review, these technologies can accelerate the development of educational materials while maintaining cultural sensitivity and inclusive representation. The classroom testing results provide preliminary empirical

evidence regarding how students with intellectual learning difficulties respond to such materials in a real learning environment. The observations indicate that the storybook was able to sustain student attention, encourage moderate levels of verbal participation, and generate positive emotional responses during interactive storytelling sessions. Students also demonstrated recognition of repeated narrative elements, suggesting that simplified narrative structures and repetition may support comprehension and engagement for learners with diverse cognitive abilities.

At the same time, the findings highlight the continued importance of human oversight in AI-assisted creative processes. While generative AI can expand creative possibilities and accelerate ideation, human educators and illustrators remain essential for ensuring pedagogical clarity, cultural relevance, and respectful representation of children with disabilities. This study contributes to emerging research on human–AI co-creation in educational media by demonstrating how AI-supported design workflows can be integrated with classroom-based observation to develop inclusive storytelling materials. However, the study is limited by the small-scale testing conducted in a single classroom setting. Future research should involve larger participant groups and multiple school contexts in order to evaluate learning outcomes related to children's understanding of personal safety and self-protection concepts. Overall, the findings suggest that combining AI-assisted creative tools with

human-centered design practices offers resources for children with diverse learning promising opportunities for developing needs. accessible and culturally responsive educational

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8. Author Declaration

- Originality of the Work

The manuscript submitted is an original work of the authors. It has not been published previously, is not under consideration for publication elsewhere, and does not contain any form of plagiarism. All sources of information and ideas from other authors have been appropriately acknowledged and cited.

- Conflict of Interest

The authors declare that there are no financial, personal, institutional, or other relationships that could be perceived as influencing the research, analysis, interpretation of data, or publication of this manuscript.

- Author Responsibility

All authors have made substantial contributions to the conception, design, execution, or interpretation of the study, have reviewed and approved the final version of the manuscript, and agree to be accountable for all aspects of the work.