Opportunities for AI-Enhanced Visual Story Creation by Blind and Low-Vision Children

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Figure 1: AI-generated visual representations of stories created by BLV children. A: C5's story about his day at school. B: C3's story about a boy getting pulled into a fantasy dimension. C: C1's story about a character named Boom Boy who fights an evil leader. D: C8's story about a girl going into a haunted house. E: C9's story about royal siblings in a kingdom. F: C4's story about a group of stuffed animals. G: C7's story inspired by his favorite game, Minecraft.

Abstract

We present a study exploring how blind and low-vision (BLV) children engage in storytelling and how artificial intelligence (AI) can support story creation with visual representations of children's narratives. Through semi-structured interviews with 10 BLV children and their parents, an AI probe using ChatGPT for visual creation, and tactile and touchscreen probes to examine nonvisual representation possibilities of story images, we examine existing practices and interactions with AI-generated visuals. We found that BLV children engage in highly multimodal, flexible storytelling shaped by access needs and collaboration with others. When using AI, all children emphasized rich visual detail within their stories, such as colors, character features, and scene aesthetics, even when they did not seek such details in everyday contexts. Children used AI in diverse ways, from scene-by-scene generation to visualizing full narratives or specific elements. Parents highlighted AI's potential to support story sharing by allowing friends and family to

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ASSETS '26, Vila Nova de Gaia, Portugal
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ACM ISBN 979-8-4007-2521-0/26/10
https://doi.org/10.1145/3797867.3829063

visualize children's imagined worlds, while also aiding comprehension and development by helping form mental images from words. We close with design opportunities, including supporting flexible story creation workflows such as creating visuals scene-by-scene *vs.* visualizing entire narratives, and emphasizing the importance of child-authored visual details in AI-generated story images.

Keywords

BLV accessibility, children's storytelling, AI, image generation, creativity support

ACM Reference Format:
Arnavi Chheda-Kothary, Jon E. Froehlich, and Jacob O. Wobbrock. 2026. Opportunities for AI-Enhanced Visual Story Creation by Blind and Low-Vision Children. In *The 28th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '26), October 25–28, 2026, Vila Nova de Gaia, Portugal.* ACM, New York, NY, USA, 26 pages. https://doi.org/10.1145/3797867.3829063

1 Introduction

The process of creating and sharing stories is central to how children grow and learn [39, 54, 70, 72]. Through stories, children make sense of their experiences and identities [72], express imagination [70], develop collaboration and social skills [54], and feel moments of joy [39]. Creating stories can take different forms, such as role playing [41], game invention [59], verbal or written narration [7, 34], and visual story-making [56, 74]. With the rise of personal computing, *"digital storytelling"* has also become commonplace, providing new ways for child authors to create stories[30]. Given the critical role of storytelling in children's development and social life, and the increasing adoption of technology, these digital story tools are now woven into everyday settings where children learn, play, and connect with others, including classrooms, homes, therapy contexts, and recreational spaces [46, 50, 54, 57].

For blind and low-vision (BLV) children, however, participating in story creation involves additional challenges, particularly if the child desires visual representations for their created stories. While digital storytelling technologies for children have expanded in recent years, much of this work has been developed and evaluated with sighted children [28, 35, 74]. Storytelling research involving BLV children has been comparatively limited, often focusing on narrower contexts, such as educational interventions [26, 36], accessible story *interpreting* through reading or listening to oral narration of stories created by others [16, 24, 64], or specific collaborative systems to increase story co-creation with sighted peers [6]. Consequently, we know far less about how BLV children currently engage or want to engage in storytelling as an individual, open-ended creative practice, including how they create, adapt, and share stories across home and social contexts. This gap is especially urgent as artificial intelligence (AI) lowers the barrier to multimodal story creation, expanding creative possibilities while potentially leaving BLV children less supported in this rapidly evolving space.

In this work, we explore how BLV children create and share stories, and opportunities for AI-generated visuals to support their created narratives:

- RQ1 What are current storytelling practices that BLV children employ?
- RQ2 What role can AI play in supporting BLV children's storytelling through multimodal representation? How do BLV children want to engage with and interpret AI-generated visuals of their stories?

To address these questions, we conducted in-person interview studies with 10 BLV children and their parents in child-parent pairs. Our study activities primarily focused on the child, but parents added essential context—their perspectives illuminated children's storytelling across time and settings, the family's role in supporting and sharing stories, and how parent-child interactions shaped story creation. We began the interviews by examining BLV children's existing storytelling practices through discussion and review of stories they had previously created. We then introduced an AI probe using a custom image generation prompt with *ChatGPT* (using GPT-5.2, Appendix A) that generated multimodal representations of the BLV children's stories, including images and accompanying text descriptions, to explore how AI might support story creation and sharing. Finally, we used tactile and touchscreen probes to examine how children inspect, understand, and validate AI-generated story visuals through nonvisual modalities beyond text descriptions, surfacing tradeoffs and preferences across representations. All interviews were recorded, transcribed, and independently analyzed by two researchers to arrive at a set of themes around current story creation and sharing practices and perspectives on AI, tactile representations, and touchscreen support.

We found that BLV children engage in rich, multimodal story crafting and sharing, including combinations of writing (predominantly with digital tools), dictation and oral narration, drawing, and role-play. Our participant children frequently co-create stories with family, friends, and teachers, and several use physical artifacts such as LEGOs, stuffed animals, or 3D-printed versions of story characters to bring their stories to life. When introduced to AI-generated visual creations, children used the tool in varied ways—some generated completely new stories and scenes, while others visualized characters or story worlds from their past creations. Across varying levels of visual access, children used precise visual descriptors in their stories and for their characters (*e.g.*, colors, character features, scene details), often using descriptive language shaped by audio books and prior stories. Low-vision children and their parents especially valued AI-based visual representation as a way to bridge verbal and visual storytelling. More broadly, BLV children saw AI as a way to support story sharing across diverse audiences and refine details such as character descriptions, but they also raised concerns about accuracy, trust, and over-reliance. Finally, the tactile and touchscreen probes elicited differing preferences. Children found tactile graphics difficult to interpret unless paired with audio or rendered as concrete 3D objects. In contrast, most found touchscreen-based exploration with layered descriptions more useful and flexible, particularly for navigating complex visuals by highlighting one component at a time.

In summary, through (1) understanding current story creation and sharing practices and (2) feedback to AI, tactile, and touchscreen probes, our work contributes empirical findings from BLV children and their parents to advance knowledge of AI-powered storytelling support. We also contribute design principles for inclusive AI systems that enhance BLV children's storytelling practices.

2 Background and Related Work

We situate our work in prior research on storytelling technologies for children, BLV creativity support, and accessibility tools for visual creation and interpretation.

2.1 Storytelling Technologies for Children

Storytelling is a foundational childhood practice that supports creativity and communication [54, 70]. Phillips [55] argues that storytelling can build community, enhance knowledge and memory recall, support literacy development, and expand children's creative potential. Roca and Vicol [61] connect storytelling with preschool children's psycho-emotional development. Children's storytelling practices are also shaped by age—as children mature, they move from simpler event sequences toward more complex narrative structures involving causality, perspective, and character motivation [9]. Digital storytelling builds on traditional storytelling by using multimedia and computational tools [29, 66], and is a powerful instructional mechanism to support student literacy and learning [60]. In human-computer interaction (HCI), Garzotto et al. [30] frame interactive storytelling for children as a design space for multimedia supporting children's engagement and creative expression. Catala et al. [21] and O'Byrne et al. [54] highlight the usefulness of digital storytelling in classrooms and early childhood settings.

More recently, with the proliferation of AI, digital storytelling tools are positioning AI as a co-author [28], illlustrator [35, 74], and supporting interactions between children and their caregivers [76]. Zhang et al. [76] present *StoryBuddy*, where AI helps parents run interactive storytelling sessions and track children's reading progress. Another tool, *StoryDrawer* [74], uses AI to transform children's story narrations into drawings and provides abstract partial drawings to prompt children when they are stuck. Fan et al. [28] introduce *StoryPrompt*, a system in which children co-create with AI by choosing characters, scenes, and emotions that then generate a comic-style storybook. Beyond individual systems, Han and Cai [35] argue that generative AI opens new possibilities for visual storytelling for young learners, emphasizing age-appropriate designs that are supportive of literacy development. These works highlight that AI can help children externalize story ideas quickly, making it easier to enrich stories without requiring advanced skills; at the same time, they warn that AI-generated visuals can be biased and often fail to capture children's intended details.

While this prior work contributes meaningful implications for AI for children's storytelling, it has largely focused on sighted children interacting with visually oriented systems and structured tasks (*i.e.*, choosing characters and scenes, or completing partial drawings to advance a story). The limited prior work exploring storytelling for BLV children [24, 27, 64, 69] has not investigated AI as a visual generation companion, and often centers specific contexts, such as the classroom or collaborating with sighted peers [26, 27, 36]. For example, Cullen and Metatla [27] present a co-design activity where BLV and sighted students work together on story mapping. Antunes et al. [8] similarly focus on co-creation with sighted peers through a robot for inclusive storytelling. Other research explores *interpretation of stories created by others* [16] through multimodal forms such as tactile representations [10, 24, 64, 69]. In the present work, we examine how BLV children already create and share stories in everyday life, beyond classrooms and other structured settings, to better ground the design of AI supporting their *independent and shared* joy, play, and creativity when engaging in storytelling.

2.2 BLV Creativity Support

Research on using technology for BLV creativity support has investigated both creative artifact interpretation and creative artifact production. On the interpretation side, prior work highlights how BLV people access and make sense of visual and artistic artifacts. Hinton [37], for example, discusses tactile pictures as a way to communicate spatial relationships, distance, and perspective in visual art for BLV people. Li et al. [48] similarly show that visual art experiences for BLV people depend on the motivations behind engaging with art, and emphasize visual art interpretation as a social and aesthetic activity. Towards production, Kamel and Landay [40] study blind drawing and show the importance of contextual feedback during drawing. Luebs et al. [51] interview BLV crafters, showing how creators adapt both craft-specific and household materials in flexible ways to support making. More recently, Brody et al. [15] examine how artists with disabilities (including BLV artists) use or modify creative tools in practice.

Recent work explores AI and tactile technologies as two especially relevant directions for BLV creativity support. Raman [58] shows how blind creators use AI image generators as part of visual creative practice, while also navigating tensions around control and verification. Bennett et al. [12] similarly find that generative AI can support accessible creativity, but mismatches can occur between system outputs and artists' intended expression. Chheda-Kothary et al. [22] show that AI can support creative interpretation of child-created art and incorporate the child's own narrative context into those interpretations. AI-based systems such as *VizXpress* [75] point to BLV users' interest in producing visual content for expression and communication, while *GenAssist* [38] and *AltCanvas* [45] explore how accessible image-generation interfaces can support BLV creators in generating, selecting, and iterating on visual outputs. On the tactile side, Butler et al. [17] present multi-sensory accessible art translations, illustrating how different tactile representations can support interpretation of artworks. In the present work, we build on past research in AI and tactile creativity with a focus on BLV children's production of stories, recognizing that supporting story creation may require children to interpret and assess AI-generated visuals. Prior work has also used tactile and touchscreen methods [23, 44] to support image interpretation beyond AI-generated descriptions, motivating our use of these modalities as probes for validating AI-generated story visuals.

2.3 Visual Interpretation and Creation Across Diverse BLV Access Needs

We also draw on approaches from broader visual creation and interpretation technologies. Towards interpretation, widely used commercial tools such as *Be My Eyes* [2, 5] and *Seeing AI* [4] illustrate how BLV users access visual information in everyday life, including describing photos, identifying products, and getting help with surrounding scenes. Prior research also shows that BLV people's visual access strategies vary across visual conditions, preferences, and contexts; for example, low-vision users may combine magnification,

screen readers, residual vision, and other adaptive strategies depending on the task [43, 67]. This variation suggests that supporting BLV children's AI-mediated storytelling requires flexible nonvisual ways to inspect, interpret, and revise generated illustrations, for which optimal support remains largely unexplored. We build on these prior advances and investigate AI-powered visual story creation for BLV children, alongside different nonvisual interpretation mediums, through our probes.

3 Method

To examine how BLV children engage in storytelling and how AI-generated visuals along with text, tactile, and touchscreen representations might support this process, we conducted semi-structured interviews with 10 BLV children and their parents. We report on our participants, study procedure, and data analysis, below.

3.1 Participants

We recruited 10 BLV children and their parents through email lists and snowball sampling [1]. All parents were 18 years or older, and children were between the ages of 5-16. We conducted the interviews in-person either at the participants' homes, the research team's lab, or an external community space such as a local library. Table 1 shows participant demographics, including the age of the child, their degree of vision loss and condition, and the accompanying parent who participated in the study.

3.2 Procedure

The study consisted of five components: (1) a pre-study questionnaire to gather demographic information, (2) a pre-study phone call with the parent, (3) a semi-structured interview with the child and parent, (4) using an AI story image-generation probe, and (5) using tactile and touchscreen image-rendering probes. Sessions were at most 90 minutes. For sessions at participants' homes, we paid participants $30 per hour, and for sessions at the research team's lab or a local library, we paid participants $50 per hour plus travel and parking costs. We offered children a selection of tactile toys and art kits to choose from as a gift for their participation. The interview protocol can be found in Appendix C.

In the pre-study questionnaire, we collected information about the children's age, vision loss, story creation preferences and methods, and the parent's age. We then scheduled a pre-study call with the parent to better understand the child and their storytelling practices, as well as any considerations needed to tailor the interview for effective engagement. We also used the pre-study phone call to invite parents to bring in any stories or associated materials their child had created in the past to the upcoming session.

At the start of the in-person session, we gathered written consent from the parent and verbal assent from the child. We then conducted a semi-structured interview asking the BLV child about their story creation and sharing practices, types of stories they liked to make, story collaborators and co-creators, and any tools they have used or would like to use for creating stories. If the participants brought in any materials, we used the semi-structured interview to explore those together, asking the child to share details about their artifacts.

We then introduced an AI probe using ChatGPT with GPT-5.2 [3] with a custom image-generation GPT. The prompt for this GPT (Appendix A) drew on research and teaching best practices for designing low-vision and tactile graphics [18, 25, 53, 68], guiding the system to produce age-appropriate images and associated descriptions that were not overly complex. Tactile graphics principles specifically encouraged clear object boundaries, reduced visual clutter, and simple scenes. We prompted the AI to be consistent with images so scenes could be revised without the entire image changing. We asked children to share a story with the AI, either creating something new or leveraging an existing story or character. The lead researcher used their MacBook Pro for this probe and acted as the transcriber, typing the child's story into ChatGPT as the child narrated it as a layer of protection to prevent accidental sharing of personal information. Upon generation of an image and its accompanying text, the researcher shared the description with the child and parent, then showed the image to the parent and to the child with magnification if they had residual vision and wanted to view it, soliciting feedback. Children also had the option of uploading past drawings or story chapters to tailor AI output.

Finally, we presented tactile and touchscreen probes to explore feedback to alternative nonvisual representations of AI-generated story outputs beyond text descriptions. The probes included a 3D-printed tactile graphic created from visuals made by children of research team members, a braille-print book with textured graphics, and a tactile storybook (Figure 2, original AI image and the translation to a tactile-friendly rendering shown in Appendix B). We asked children to imagine their own stories and images in these forms and share how they felt. For the touchscreen probe, we used Seeing AI's *Explore* mode [4] on the lead researcher's iPhone 17 Pro—we uploaded one AI-generated story image created by the child (Figure 3). Children could touch different parts of the image and hear corresponding AI-generated audio descriptions.

3.3 Analysis

We audio-recorded and transcribed all interviews. The lead researcher and one external researcher independently coded the interviews using inductive and deductive coding [13] to arrive at two separate initial codebooks (Appendix D); inductive coding was data-driven, and deductive coding came from the RQs and interview protocol. The two researchers then used peer debriefing to reconcile any differences across codebooks [65]. Both researchers were then able to map their codes to a common set of themes using affinity diagramming, following thematic analysis practices [14]. The final themes are presented below.

4 Results

We present findings on BLV children's current storytelling practices and their use of AI for story illustrations, alongside tactile and touchscreen probes, to inform how AI can serve as a visual generation companion and how multimodal representations can support interpretation and verification.

4.1 Current Storytelling Practices (RQ1)

We first examined current story creation and sharing practices of BLV children, including the types of stories they create and any unique needs or adaptations shaped by the child's vision condition.

Child ID	Age	Gender	Degree of Vision Loss	Condition and Onset	Parent ID	Relationship
C1	10	M	Moderate Vision Loss	Optic nerve hypoplasia, since birth	P1	Mother
C2	9	M	Legally Blind	Retinitis pigmentosa, since birth	P2	Mother
C3	12	F	Legally Blind	Retinitis pigmentosa, since birth	P2	Mother
C4	6	M	Mild Vision Loss	Cortical visual impairment, since birth	P4	Mother
C5	11	M	Moderate Vision Loss	Cortical visual impairment and optic nerve atrophy, since birth	P5	Mother
C6	16	F	Totally Blind/No Usable Vision	Optic nerve hypoplasia, since birth	P6	Mother
C7	7	M	Legally Blind	Glaucoma, since birth; developed nystagmus, amblyopia, cataracts	P7	Mother
C8	11	M	Totally Blind/No Usable Vision	Optic nerve hypoplasia, since birth	P8	Mother
C9	14	F	Totally Blind/No Usable Vision	Glaucoma, cataracts, and retinal dysplasia, since birth	P9	Mother
C10	14	M	Totally Blind/No Usable Vision	Leber congenital amaurosis, since 3 months old	P10	Mother

Table 1: Self-reported demographics of the BLV children and their parents who participated in the study.

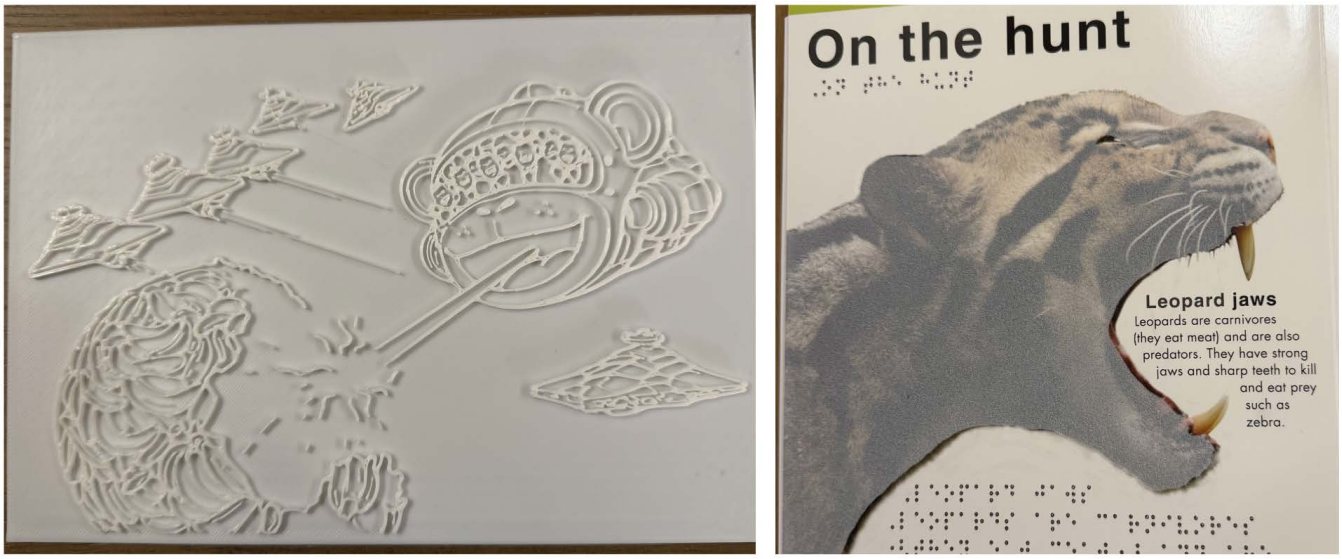


Figure 2: Participants experienced a 3D-printed tactile graphic of a child-created visual of several spaceships shooting lasers at a planet made of bananas (left) in addition to embossed and laser cut graphics. Participants also experienced two tactile books, including one braille-print book about animals with textured image representations (right).

Creating stories. BLV children's story creation is highly multimodal, with children combining tools and materials based on access needs, expressive goals, and opportunities for collaboration. Story modalities include writing, oral narration, drawing (either in large print form or using a tactile art board), song-making, and digital tools (a word processor used in conjunction with screen readers). Rather than relying on a single medium, many children combined modalities within or across stories. For example, C3 described using both Microsoft Word and a sketching application on her iPad to *"type [my story], and I'll draw stuff to go with it."* Her brother, C2, who has less usable vision, uses Word with his screen reader but noted that he *"prefer[s] to use the microphone"* for dictation.

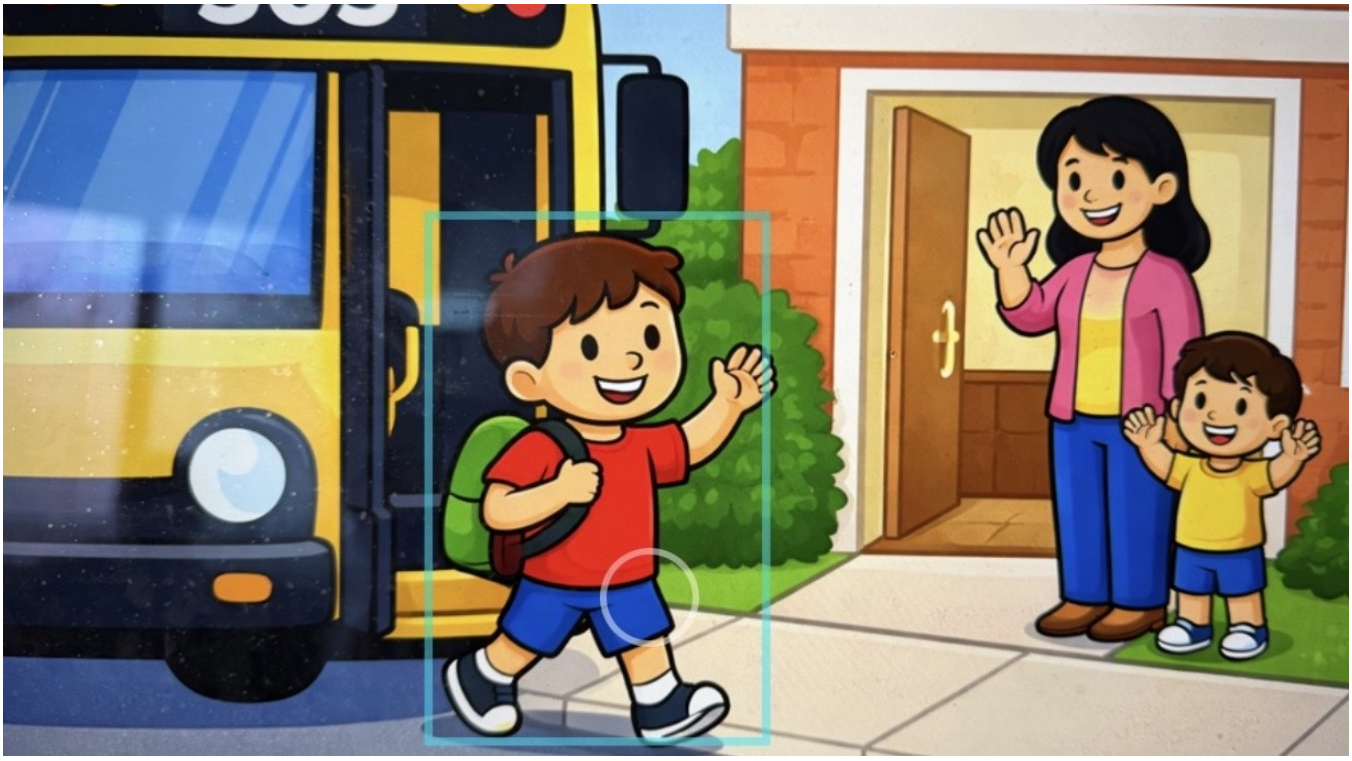


Figure 3: Running Seeing AI's "Explore" mode on an example visual created by C5. The light blue box outlines the current object being touched by the user, described as *"A cartoon of a boy wearing a backpack."*

Children also engage in role-play and imagined worlds, whether of their own making or within games such as Minecraft.[1] C1 has created a fictional universe called "Comicia," where his stories and characters are set. C7 builds stories within Minecraft or narrates Minecraft stories orally to his family. Often, story creation is a collaborative endeavor with friends and siblings—C10 and his friends *"say what our characters are doing, and then act things out"*, C1 and C6 both have sighted sisters who draw pictures of their stories, and C9 co-creates chapter books with a blind friend.

Some families incorporate tangible materials into story creation, using them to help bring BLV children's stories *"to life."* C4 uses his LEGOs and stuffed animals to construct and act out narratives (Figure 4). C1's parents created 3D-printed and crocheted versions of his character, "Space Baby" (Figure 5), because, as C1 explained, *"sometimes I make up stories and I want to feel them, but they don't actually exist."* P4 was the only parent who had tried AI to create visuals for C4's stories, but had mixed experiences: *"Sometimes I will use [ChatGPT] to generate pictures; but the downside is, every time, the main character comes up [looking] different."*

Sharing stories. Story sharing is also multimodal and audience-dependent, with children adapting how they presented stories based on who they were sharing with and what forms of access or engagement were possible. Several children (C1, C5, C6, C7) narrate stories orally to family members, sometimes supplemented with a visual or textual artifact. C7, for example, prefers to show his Minecraft stories directly on a device when possible; but if that is not feasible, he narrates them instead and uses full body motions to show actions or describe characters and objects. Other children create more formal storybook artifacts. C3 made a comic book that she printed and bound to share with her father. She also adapts sharing for her low-vision mother, P2, by separating the text and visuals so her mother can focus on the visual content more easily. Older children who write chapter books, such as C6 and C9, share their chapters directly in digital text form.

Additional storytelling collaborators: teachers and AI. C2, C5, and C8 also work with their TVI (Teacher of students with Visual Impairments) to create drawings that accompany their narratives; in the case of C5 and C8, the TVI frequently creates a storybook for the children based on their combined narrative text and images (Figure 6). Beyond human collaborators, one child described experimenting with AI as a storytelling collaborator. C8 uses AI by narrating a story to ChatGPT, and then asking the application to make his story *"funnier."* He uses the read aloud feature in ChatGPT to share his stories with his family. He also explained that visual input and output is not a current part of his workflow with AI for storytelling.

Types of stories and influences. BLV children's story topics ranged from daily life to elaborate fantasy and science-fiction worlds, reflecting how children blended lived experience, favorite media, and recurring creative universes. Examples include realistic narratives (C6), stories about daily life (C5), stories based on favorite toys and games (C2, C4, C7), or stories depicting fantasy

[1] https://www.minecraft.net/



Figure 4: C4 uses LEGOs (left) and stuffed animals (right) frequently in his story creations.

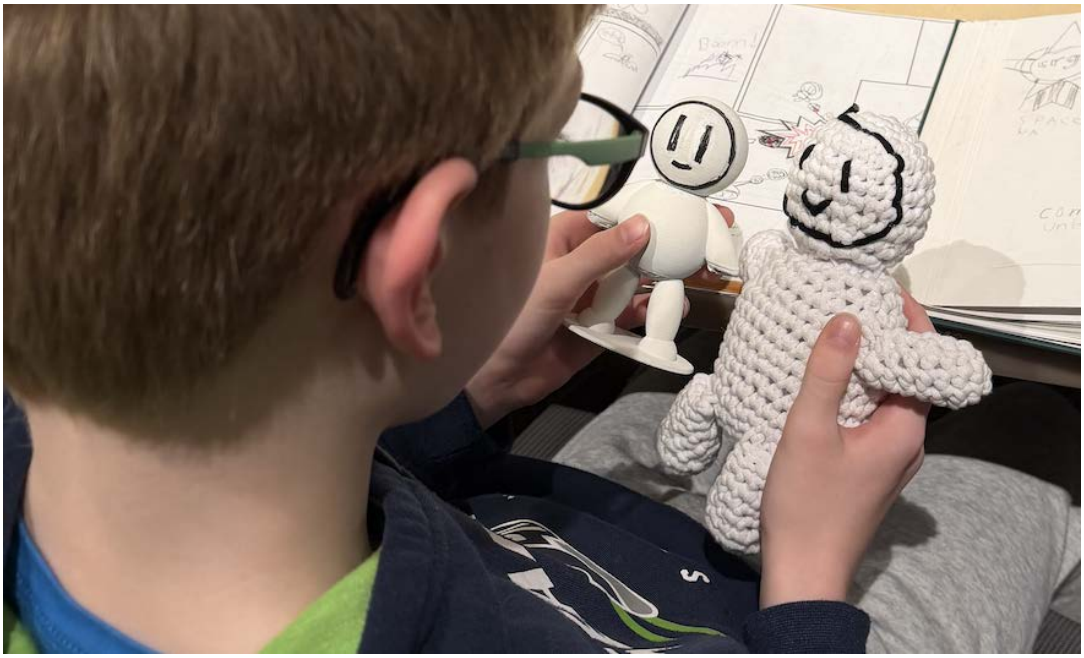


Figure 5: 3D-printed and crocheted versions of Space Baby, a beloved character from C1's made-up universe, *Comicia*, where his stories take place.

(C3, C8, C9) and science-fiction (C1, C10) worlds. C1 and C10 have ongoing imagined worlds, and their stories all take place within those worlds. For example, the Space Baby character created by C1 exists in the imaginary world of *Comicia*, which even has its own language. C1 emphasized novelty within that shared universe, saying, *"I try to make up new things every time."*

Others ground their stories in daily life, familiar people and pets, or existing interests. For example, C5 creates stories about day-to-day experiences such as going to school, cooking, and family life. Even when stories are fictional, children often root them in concrete materials or familiar media. C4 makes up stories connected to his LEGOs and stuffed animals, while C7 is heavily influenced

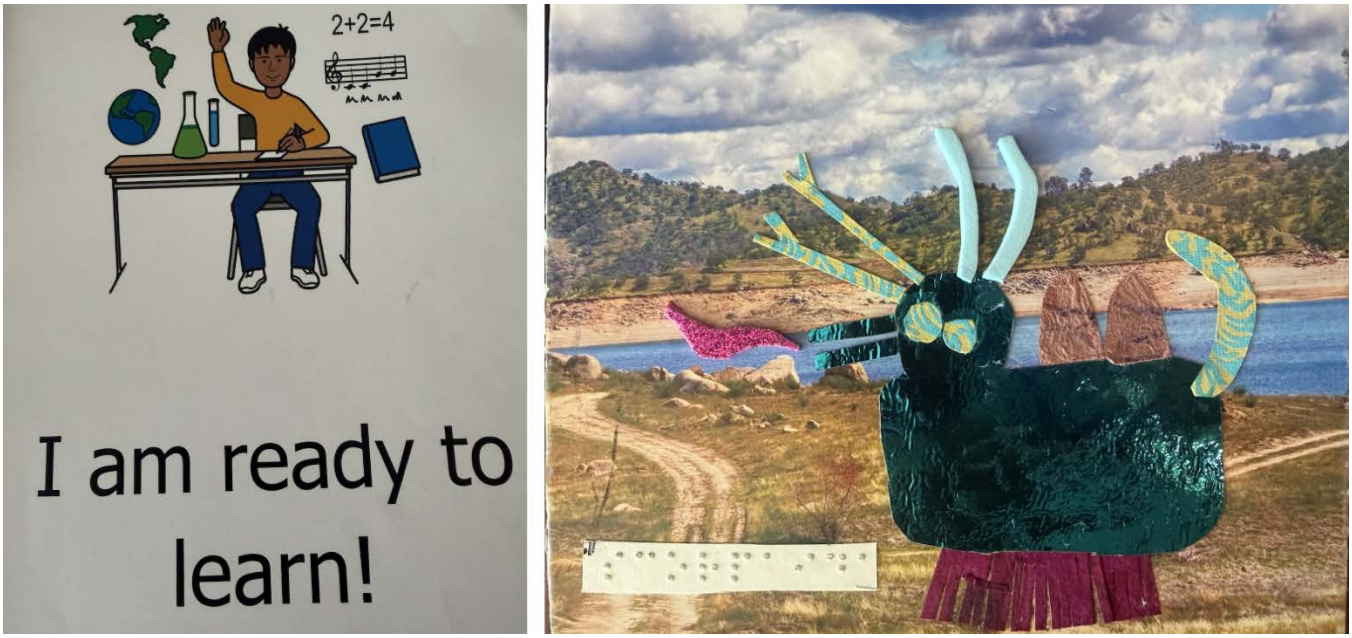


Figure 6: Storybook artifacts that TVIs created for C5 (left) and C8 (right) based on their narrations. C5's TVI created the visual for his narrative using digital art tools, while C8's TVI used a photograph for the background and created a more tactile visual in the foreground using different crafts materials.

by Minecraft. Story preferences are further shaped by the kinds of media children enjoy. C1 appreciates reading and creating graphic novels, and C10's stories are influenced from audio books and from his father. C9 reflected on enjoying books with plenty of descriptions, which she carries into her story creation as well:

> *"I think that one of the most important things for me when I'm reading books is to have the descriptions. That's why I like books way better than movies... You can fully immerse into a story, a book. You can't see anything. So they have to [have descriptors]."*—**C9**

Other children also surfaced connections between what they absorb from books or movies and the characters or experiences they want in their stories. C4, when asked about types of stories he enjoys hearing and creating, said, *"I like stories with violence."* His mother noted discussing this with a Cortical Visual Impairment (CVI) expert, who suggested that many children with CVI are drawn to violent stories because their large, action-oriented movements may be easier to visually follow. For children without usable vision, storytelling surfaced a deeper tension—language in published stories often defaults to sighted ways of perceiving the world. Thus, C9 described writing about blind characters as *"incredibly hard... one of my biggest pet peeves,"* while C6 explained:

> *"I do find it difficult to write about blind people, because I've read books about sighted people, and they're doing visual things... [so] I will just put the word like, 'glance' in the story and not think twice about it."*—**C6**

Condition-specific needs, adaptations, and accommodations. As with other creative, educational, and technology-mediated practices [43, 67], storytelling practices are also shaped by condition-specific access needs. Children with no usable vision primarily use audio descriptions from a person or a screen reader, but low-vision children and their parents described adaptations they use to work with their residual vision and fatigue. P1 noted that drawing became more accessible for C1 once they identified better materials, such as blank rather than lined paper. Other children (C3, C5) similarly adapted visual materials around their access needs, including thicker lines, bolder colors, and high contrast in drawings and everyday objects. Children with residual vision preferred using their vision as much as possible (with strategies such as magnification) when creating and sharing stories, as P2 noted about C2 and C3: *"Even if [they] have a small amount of vision, if [they] know where [they] are looking, [they] can get a lot of information."*

For children with CVI (C4, C5), parents described more specific adaptations around image complexity, visual fatigue, and the form of story materials. C4 cannot generate mental images from words, so creating visuals for stories is difficult; to support him, P4 shows him pictures for a storyline without words first to help build associations. Crowded visuals are also hard for C4 to process, and he prefers large characters and three-dimensional objects to minimize visual fatigue. P4 highlighted that they *"take turns"* with drawing for C4's stories—C4 draws large characters and she fills in smaller details once his vision becomes fatigued (see Appendix Figure 19). P5 had similar concerns about visual complexity for C5:

> *"Sometimes when the picture is having a lot to say, it's too much information... we are just trying to declutter the things and let him focus... not too complex, simple pictures, less info."*—**P5, mother of C5**

4.2 AI Images for Storytelling (RQ2)

We next present findings from the AI probe, focusing on how BLV children used AI to generate illustrations for their stories (Figure 7, more prompts and images in Appendix E) and the role of parents in this process, how outputs shaped story development, where children felt strongly about particular descriptors, and broader responses to the AI-generated results. Each AI illustration also had a text description, read aloud by the researcher. The researcher magnified visuals for children with residual vision. When the AI asked clarifying questions (see the custom prompt in Appendix A), the researcher relayed them and updated the input accordingly.

Using AI to generate illustrations. For all participant children, our study was the first time they used AI to generate visuals for their stories, and usage patterns differed—some children preferred to create an entirely new story for use with the AI (C1, C3-C5, C7, C8), while others wanted to use AI to visualize specific characters or scenes from stories they had created in the past (C2, C6, C9, C10). Children such as C1, C4, and C8 also wanted to use prior artifacts or characters of theirs for new stories. For example, C1 used his own drawing of *Boom Boy* and expected AI-generated images to remain faithful to the original while allowing adjustments such as color (Figure 8). C8 similarly used a former artwork he had created of a haunted house to influence the setting of his new story (Figure 9). C4 began a story about a group of stuffed animals building an apartment together, and quickly realized he wanted to insert his own favorite stuffed animals into the story: *"I want to remove this bear, and add a penguin instead"* (Figure 10).

C7 leveraged real-time sketching to communicate ideas for what he wanted in his story scenes. He used markers and paper to communicate a visual idea that was hard to express verbally, saying, *"Sometimes it's hard for me to explain what the stuff looks like. So I sometimes draw like this."* For C7, AI opened up possibilities beyond straightforward image generation from a scene description. He asked whether the computer could *"turn a half picture into a full picture,"* such that he would only need to sketch part of a scene and the system could complete it (Figure 11).

The older children, C6, C9, and C10, shared chapter books they had previously written and were more interested in using AI to visualize characters or settings from those books, rather than generating scene-by-scene imagery like many of the other children (Figure 12). For instance, C6, who wants to become an author, used AI to generate a book cover for a story she hoped to publish: *"I wonder what happened if I gave the entire 'Lacey Lewis' story to the AI and had it design the cover?"* C9 provided extremely detailed character descriptions, and her mother, P9, noted that listening to audio description may have shaped C9's communication of visual details: *"Watching a movie with audio description... and then trying to do your own audio description is a good exercise."* C10 used AI to visualize an underdeveloped character, prompting him to further refine the character's appearance and role in the story and mirroring how sighted friends and cousins have supported visual details in his stories in the past. Although C10 described himself as *"very lax as far as [character] appearances go,"* his collaborators' drawings and descriptions have helped him clarify how he wants his characters to look.

Children also differed in how they structured visual creation for their stories with AI. Some worked incrementally, generating images scene-by-scene. C1 and C2 both took this approach, and for C1, the output of one scene sometimes shaped and changed how he continued the story for following scenes. C4 also preferred this mode, saying that he liked to make stories *"in parts,"* and C5 similarly moved through story visualization one scene at a time. C3 and C8, in contrast, narrated an entire story first and then generated scenes from it afterward.

Finally, we observed parents playing an important supportive role in children's story creation and sharing with AI—they actively listened, prompted, and responded during storytelling. In some cases, parents scaffolded story structure or content, for example, encouraging children to think through narrative elements such as *"Can you think of a setting?,"* (P2 to C2), prompting next steps in a story by asking *"What does he say to his mom?"* (P5 to C5), or clarifying details as children narrated their stories.

Important characteristics and descriptors. Children emphasized the importance of specific visual characteristics when generating AI visual representations of their stories, such as color, physical appearance, and environmental accuracy. For children with residual vision (C1–C5, C7), color and visual detail were especially important. C4 and C7 expressed strong preferences for vibrant colors, and C7 drew what he wanted the AI to render with precise colored markers (cyan, *"lightish teal"*) on paper, which the lead researcher then scanned and uploaded to the AI. C5 focused on communicating minute details within a scene to the AI, including smaller objects like a mouse pad and hand sanitizer and his father's colleague on a virtual meeting in the background.

We observed similar visual detail prioritization from children who were totally blind (C6, C8-C10). While C6 initially expressed indifference toward how images appeared in her story, working with the AI revealed that she held strong and specific preferences about how her characters should look:

> *"I wouldn't want a picture of Terry with a Mohawk. Or Lacey wearing a lace dress because she hates lace. Lacey is short with brown hair and brown eyes, Terry is a lot taller and she has red hair that is really long and blue eyes and lots of freckles."*—**C6**

Reflecting on her experience with the AI, C6 noted, *"I would try to get it to be more specific about... the colors and the designs... colors and patterns [are important]."* She also remarked that she typically does not request such descriptions in real-world scenarios, highlighting their particular importance in storytelling. C9 emphasized the need for detailed character and setting descriptions from the beginning of her session, explaining:

> *"When I'm reading a book, I need those physical descriptions to understand and relate to the story and put myself into the story."*—**C9**

She used extremely vivid language to describe her characters, such as *"long, wavy, honey-blonde hair,"* and *"caramel-brown eyes."* C9 further noted that genres such as fantasy and dystopian fiction required greater specificity because *"you're creating a completely new world, so you have to really understand the characters and the surroundings."* C10 described valuing descriptive detail even when it did not correspond to direct visual experience: *"I do like details...*



Figure 7: C3 created a story about a teenager named Jake who gets pulled into an alternate dimension, shown here along with the AI-generated visuals of the story. C3 narrated the entire story at once, and let the AI choose which scenes to visualize.

even if I can't see them, I view colors not as things, but as descriptions that add detail." He also noted that visual depictions provided by collaborators shapes his mental representations of characters: *"A lot of times the people I play with draw my characters... they fill in a lot of the appearances... and I stamp that into my mind."* However, he explained that not all characteristics required strict visual definitions, and one that he feels indifferent about is clothing (in contrast to C6, who had strong opinions about clothing for her character).

Evaluations of AI-generated output. Children evaluated the AI-generated visuals in different ways such as magnification and hearing the text descriptions. Children with some residual vision preferred zooming in on the image and, once enlarged, examining it part by part. They also requested description clarifications from the AI, a parent, or the lead researcher. Children with no usable vision relied primarily on AI-generated image descriptions, supplemented by parents and the researcher to fill in missing details or answer specific questions; we found they preferred getting human feedback after the initial AI description rather than asking the AI follow-up questions. Parents would also proactively jump in to clarify details that the AI descriptions omitted for their children. For example, when reviewing a rendering of a pyramid character described by C10, P10 proactively shared the presence of unexpected lines (not brought up in the AI description of the generated image) by drawing on a tactile analogy. This explanation prompted C10 to correct the AI to produce a final generated image that was aligned with how he had envisioned his character (Figure 13):

> *"If you were to feel a brick wall and how you can feel each brick and then the cement between each brick. So these lines are like the cement between each brick."*— **P10, mother of C10**

Perceived benefits of AI-generated visuals. Children and parents highlighted an increased level of engagement and creative exploration as benefits of AI-generated outputs for stories. Parents were especially excited by AI's potential to support story sharing, with several (P4, P5, P6, P8, P9) envisioning storybooks their children could create to share with others and appreciating the chance to see their children's imagined worlds take visual form. Some children also expressed enthusiasm about preserving or sharing their AI-generated images. After reviewing the outputs, C1 and C4 both asked their parents to print out the final storybooks with the AI images and their narrated stories. Some parents (P4, P5) also saw potential for AI to support comprehension. P4 noted that visualizations could help C4 (CVI, with residual vision) interpret descriptive language in texts:

> *"For example, if [in his story], birch trees are lit by the afternoon golden sun, he doesn't have the image in his mind... maybe with this, he can replace the sentence he doesn't quite understand and get a visual."*—**P4, mother of C4**

In many cases, AI-generated outputs aligned closely with children's mental imagery. For instance, when C9 described a princess,

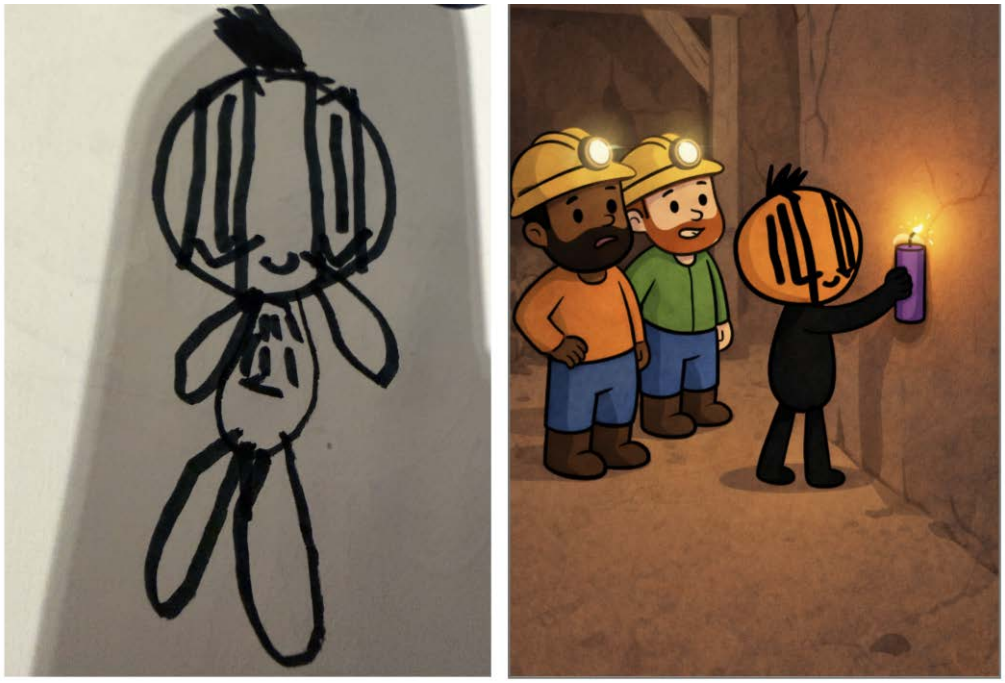


Figure 8: C1's drawn character from his Comicia universe, Boom Boy (left), and the AI-generated scene of his new story about Boom Boy with some miners (right). C1 wanted Boom Boy's head to be orange and his body to be black, despite the fact that his original drawing was in black and white.



Figure 9: C8's previously-created haunted house (left), and the AI-generated scenes of his new story about a young girl who goes into the haunted house (center) and turns into a rabbit with horns (right).

the AI generated an outfit with short sleeves (Figure 12, center); interestingly, the detail matched what she had imagined but not specified to the AI. C1, C4, and C8, who used previously created artifacts as inputs, responded positively to how the AI preserved and embellished their original materials (Figures 8, 10, and 9). Children also accepted inconsequential AI-introduced variations—for example, when an AI image depicted a princess's room as pink (Figure 18), C9 remarked, *"I was thinking soft blues; but pink works too."* Children also liked when the AI introduced meaningful additions. Reviewing one output (Figure 13), C10 commented, *"I do like the runes around [the pyramid]; that's not something I pictured. But it would make sense."* He further noted, *"I have some characters that don't have very detailed descriptions that I wouldn't mind adding detail to [with AI]."*

Concerns about AI. Participants did express several reservations with AI, particularly around autonomy, accuracy, and trust.



Figure 10: C4 replaced the originally-generated characters (left) with his personal favorite stuffed animals, a koala (center) and a penguin (right), both highlighted in white, in the AI-generated scenes as his story progressed.

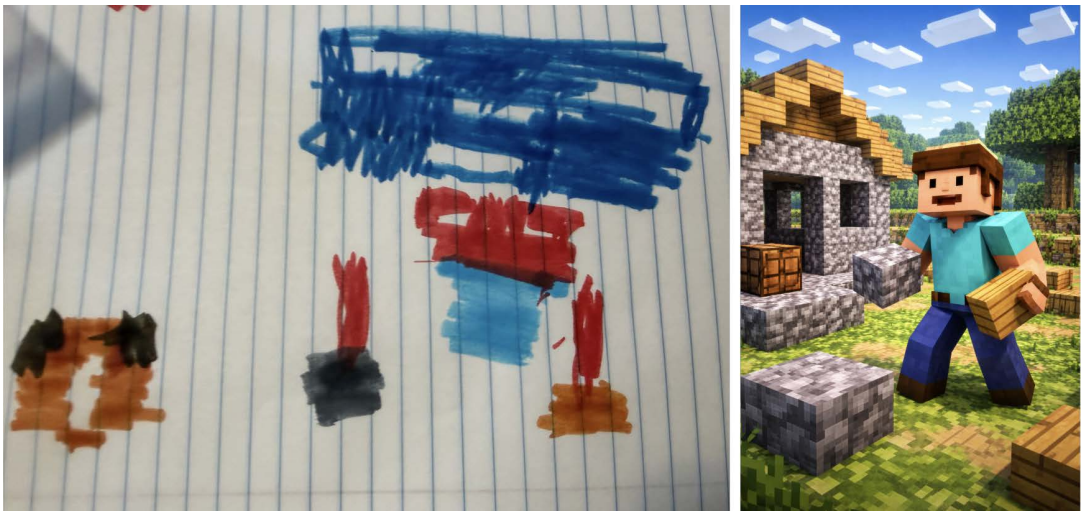


Figure 11: C7 drew drawing partial sketches (left) as "starting points" for the AI to complete. He then validated the AI-generated visual (right) matched the original story image he was trying to create.

Some participants wanted to create stories and visuals independently rather than relying on AI. C2, for instance, stated, *"I want to write stories by myself, not with something to help me."* C2 also expressed wanting to make stories from facts (unlike other children who enjoyed fiction), and he said that having AI recreate factual content from science or history felt unnecessary; instead, he preferred finding reference images by browsing the web. C3 similarly noted a preference for drawing her story visuals on her own.

Some parents also voiced concerns about over-reliance on AI. Reflecting on C4's experience having a hard time forming mental images from words, P4 commented:

> *"It will be helpful in terms of engaging him, but it makes me wonder if his visual field will be manipulated by AI; we're trying to train him to create a visual first in his mind."*—**P4, mother of C4**

Other children raised issues of trust and ownership. C6 explained, *"I don't fully trust AI; if it's someone I know [drawing my stories], then [that] could be a cool connection,"* and added that she felt *"a little bit uncomfortable with [companies] using my stories to train the AI."* Concerns also emerged regarding the fidelity, completeness, and faithfulness of the visuals to the author's original intention. C7 observed that *"sometimes it doesn't completely make the picture look*



Figure 12: C6, C9, and C10 used AI to visualize characters or settings of an entire story world as opposed to specific scenes. Left: The book cover AI generated for C6's chapter book; Center: A character generated by AI that C9 described in detail; Right: A character generated by AI based on a story by C10.

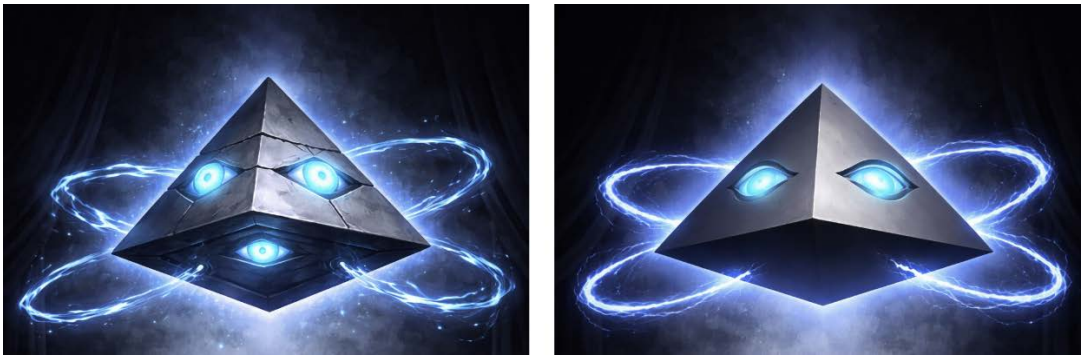


Figure 13: P10 clarified details of the initial AI-generated image (left) about a character that her son, C10, had described, highlighting the lines on the pyramid and the third eye on the bottom of the pyramid. These were details that the AI description of the image did not specify. As a result, C10 refined his character descriptors to arrive at the final image (right).

like what I wanted," although he appreciated the ability to revise the output. C10 similarly emphasized retaining creative authority:

> *"If I didn't like the AI description, I'd tell [it] I want it to be a different description; even if the appearance I have is very vague, it's still cemented in my mind."*—**C10**

While C1 valued the efficiency of AI-generated visuals, particularly that he did not have to draw all pictures but instead could generate a single reference image (such as what he did with his Boom Boy story in Figure 8), he noted that the *"bad thing about it is I don't get to have the surroundings exactly how I want"*. He also commented that AI lacked spontaneity: *"Sometimes when I'm drawing [stories], random things happen at random times..."*

4.3 Tactile and Touchscreen Support (RQ2)

Finally, we present findings from our tactile and Seeing AI probes, which examined alternate nonvisual representations of AI-generated images beyond text descriptions.

Responses to tactile probes. Children generally did not prefer the tactile probes as sole representations of their visuals. Several children with residual vision saw tactility as a complement rather than a primary mode of interpretation. C1 preferred 3D-printed or more concrete tactile forms such as his Space Baby representations (Figure 5) over the flat yet embossed graphics from our probes. Similarly, C4 found 3D objects such as his stuffed animals more helpful than embossed drawings. In contrast, C2 expressed a clear preference for visual engagement, saying he would only use touch

if necessary: *"I just like looking at things; I'm blind but I can still see."* C7, who also had some vision, was open to using tactile graphics, but preferred to *"get really close"* visually. He also expressed a desire for tactile materials to include color rather than being plain.

Children with no usable vision expressed more skepticism toward traditional tactile graphics, finding embossed or raised-line images difficult to interpret. As C9 explained: *"it's confusing... people are like, 'well, it's raised, so you should be able to feel it,' but it's hard to know what it is."* C10 echoed this, describing tactile graphics as *"a bunch of bumps"* that he *"has always struggled"* to turn into a coherent mental image. C9 noted that tactility is *"most useful in conjunction with audio,"* and C8 felt that tactile renderings were unnecessary if he had access to sufficiently detailed descriptions.

Responses to touchscreen probe. Using Seeing AI's Explore mode allowed BLV children to touch specific parts of an image and receive localized descriptions (Figure 3), to which children responded more positively compared to the tactile probes. C7 noted that touchscreen tools could reduce his need to hold drawings extremely close, saying that he could *"touch and feel from further away"* while receiving audio descriptions of different parts of the image. He also voiced that using a touchscreen system would be helpful for him in the future *"just in case I do go [totally] blind, I wouldn't be able to see what the picture is."* C5 was similarly enthusiastic, with P5 noting that prior attempts at using tactile graphics had *"not really [provided] much progress,"* but she felt the touchscreen interaction was *"more promising"* as it allowed C5 to focus on specific parts of the visual and explore components one at a time.

Children with no usable vision also highlighted the benefits of touchscreen interaction paired with descriptive feedback to access structured, layered details. C6 noted that descriptions combined with the spatial affordance of touch could help her infer physical characteristics: *"Maybe I'd be able to tell if they had long hair, if things were detailed enough."* C10 considered the usefulness of touchscreen systems in contexts outside of storytelling as well, such as navigating geometric diagrams in math: *"Braille can be kind of cumbersome... if I had [touchscreen], that would... be very useful."*

5 Discussion

Through semi-structured interviews and design probes, our work advances both understanding of how BLV children traditionally craft and use visuals in storytelling as well as opportunities for how AI can support visual accompaniment to story creation.

5.1 Reflections on Findings

We extend prior work by examining open-ended storytelling practices among BLV and sighted children, then situate our AI probe findings to highlight the need for flexible systems that support diverse creation approaches. We additionally reflect on feedback around non-text representations of AI story visuals.

Current storytelling practices (RQ1). We found that BLV children incorporate mixed-media techniques such as drawing, writing, oral narration, 3D objects, and role-play to create diverse stories (realistic fiction, fantasy, stories grounded in daily activities); some are practices that prior research has also identified with sighted children [19, 28], but our findings show how BLV children's access needs shape their choices and modalities. We also identified that story creation, not just sharing, is often a social, interdependent [11] activity with sighted friends, teachers, or family who shape character appearances, prompt for what comes next, add granular visual details, or act out stories with the child. Our work extends findings by Cullen and Metatla [27] that investigated co-creation of stories between mixed visual-ability student peers in classrooms; however, our work explores everyday contexts, where collaboration unfolds more fluidly across mixed-ability social groups.

AI systems for visual generation (RQ2). Findings from our AI probe underscore the need for flexibility from AI systems, as we identified three distinct ways in which BLV children used AI for visual story creation: (1) scene-by-scene narration and visual generation, (2) upfront narration of an entire story to generate a series of visuals, and (3) selective visualizations of a specific character, setting, or chapter. We found that BLV children's storytelling is not linear or uniform, but unfolds through diverse modalities, collaborators, and forms of creative expression. This raises an important question for AI-enhanced storytelling: how can tools support this flexibility rather than constrain it? Prior work exploring storytelling in sighted children has frequently relied on structured pipelines or templates for story creation [19, 28], which may not align with the open-ended and evolving practices we observed.

Another consistent finding was that children across visual abilities cared deeply about the visual aesthetics of their stories, even when they did not prioritize such details in day-to-day contexts. As a result, *all* our participants used precise descriptors such as colors, character features, and environmental details when creating story visuals with AI. Prior work on AI for BLV adults has largely framed detailed visual information as supporting *interpretation*—for everyday scenes [32], artwork [23], and visualizations [47]. Even BLV image creation systems like Huh et al. [38]'s GenAssist begin with relatively sparse prompts (*e.g.*, *"A young chef is cooking dinner for his parents"*) and individuals receive and refine visual details during the image verification process. In contrast, our findings show that for BLV children, rich visual detail is central from the outset of story image generation, aligning with a recent study investigating BLV adult artists' detailed visual prompting with Midjourney [58].

Finally, our findings suggest that AI adoption in BLV children's storytelling is not all-or-nothing; children and parents weighed its value differently depending on the creative task, child's age, and desired level of agency. For example, even children who were skeptical of AI-generated story scenes (C6) valued bounded uses such as cover art, while some parents worried that over-reliance on AI could limit children's own text-to-image mapping skills. Future systems should therefore support varied roles for AI—as creator, supporter, or absent altogether—while enabling trusted collaborators to help children validate outputs and calibrate reliance.

Tactile and touchscreen as additional interpretation modalities (RQ2). Reflecting on non-text representations of AI-generated story images, BLV children found tactile graphics difficult to interpret alone and required additional support such as audio descriptions, reaffirming prior work in tactile explorations for creativity [23] and education [71]. However, this difficulty should not be read as evidence against tactile representations; rather, tactile graphics literacy often requires sustained instruction, scaffolding, and opportunities to develop exploration strategies. Prior work shows that teachers play a key role in supporting students' graphics use,

and that systematic instruction beginning early can strengthen students' ability to interpret tactile graphics [62, 73]. Thus, AI storytelling systems should consider tactile representations not as standalone outputs, but as part of multimodal experiences that pair tactile forms with audio or text descriptions, guided exploration, and caregiver or educator support.

In contrast, participants holistically appreciated the touchscreen-based exploration of story visuals where touching different regions revealed localized descriptions or details. This mode of interaction reduced the cognitive burden of interpreting an entire scene at once, which was particularly useful for low-vision children. Breaking down complex visuals into interpretable parts is an important access strategy for visual representations of children's stories, and this finding mirrors and extends prior work in low-vision video learning support [63] and art gallery low-vision access [31].

5.2 Designing AI Systems for Accessible Visual Story Creation

We now propose design recommendations for supporting inclusive story creation with AI for BLV children. We also interweave opportunities and challenges for future systems.

Enable visual creation *and* interpretation. Existing research prototypes and commercial systems that generate illustrations for stories, such as StoryDrawer [74], StoryPrompt [28], or Gemini Storybook [33], focus on creating visuals but do not have built-in accessible interpretation mechanisms. AI tools like Gemini Storybook and ChatGPT [3] allow users to request image descriptions, but doing so is often multi-step and limited to a single, static interpretation. Building on Huh et al. [38], future systems could formalize a storytelling image generation workflow that supports detailed image summaries, caregiver context, and targeted image regeneration. A key challenge here is deciding the best interpretation format based on the child's access needs.

Break down complex story visuals into parts, prioritizing layered exploration. Children and parents in our study valued touchscreen interpretation because it let them access visuals piece by piece, which reduced the burden of interpreting an entire scene at once. Prior work aligns with this—Morris et al. [52], Lee et al. [44], and Kneitmix and Wobbrock [42] all describe progressively disclosing details across computer screen readers, touchscreen, and virtual reality as a way to move beyond flat alt-text and providing layered image information. This principle is especially important for low-vision children with CVI as highlighted by P4 and P5, for whom dense visuals are overwhelming and fatiguing, making stepwise exploration easier for them to process visuals.

Support sighted collaborators. Story creation is inherently social for BLV children, with sighted siblings, parents, and friends often helping shape characters, prompt next steps, or contribute visual ideas. While prior work in sighted children's storytelling has recognized the role of parents [76], and other work has explored supporting BLV parents and their sighted children [20, 22, 23], research has not yet investigated how storytelling tools might incorporate context from family and friends for BLV children's workflows. Future systems could treat collaborators as optional access partners: able to annotate visuals, clarify AI descriptions, and flag mismatches, but not control the story. The challenge is designing collaboration mechanisms that improve access while preserving the child's authorship and decision-making power.

Prioritize visual descriptors in BLV storytelling. Visual descriptors should remain central in BLV storytelling tools. *All* children in our study cared about visual semantics, character features, and scene details in their own stories, *even when they did not seek such information in everyday contexts.* Future systems could let children specify which visual details matter, ask clarification questions when under-specified, and offer editable defaults for less important details. Tools should also consider personalization and clarification, echoing prior work on mixed-initiative co-creativity [49], to support the balance between BLV children controlling visual details that matter to them *vs.* allowing AI to make decisions around extraneous details. A key challenge is deciding which visual details AI should infer, ask about, or leave to the child, especially for attributes like tone or expression that are difficult to convey through nonvisual representations.

Allow flexibility for different tasks: creating an entire story, visualizing a specific character, diving into details of a single scene, and more. Existing storytelling tools often impose structured pipelines or templates [28, 33, 66], which can inadvertently constrain how stories are formed. In contrast, our findings show that BLV children engage in highly open-ended and multimodal storytelling practices, underscoring the need for future tools that preserve this flexibility instead of imposing fixed formats.

5.3 Limitations and Future Work

Our work had several limitations. First, we included children with a broad range of BLV conditions, which allowed us to capture diverse experiences but limited how any single finding or design implication applies to a particular visual condition. For example, we recruited only two children with CVI, and all children with no usable vision were age 11 or older, limiting applicability of our findings to younger children with no usable vision. Additionally, because the study allowed parents to organically contribute clarifications, we may not have captured the full range of potential accessibility issues when BLV children engage with AI systems for storytelling. Next, our participant pool was geographically concentrated. Nine of our participant children lived in the same state and all lived within two hours of a large city. As a result, our sample may not reflect the experiences of children in more geographically diverse or resource-constrained settings, including those with less access to school-based supports, specialized teachers, or accessibility technologies. This lack of geographic diversity could also have shaped how children and families perceived the role of technology in storytelling. Finally, while the AI and touchscreen probes were grounded in the children's own story visuals, the tactile probes had to be pre-made for logistical reasons. This mismatch may have reduced children's enthusiasm for tactile representations, since those probes were not directly tied to their own narratives.

Future work could examine generative AI support beyond visual story accompaniments, including audio (beyond audio descriptions, such as audio representations of characters' voices), tactile, and other multimodal outputs that align with children's diverse access needs and creative goals. Additionally, our study positioned AI primarily as a visual accompaniment for story scenes, though some

participants organically imagined broader uses, including support for character development. Future systems could also therefore explore how AI supports other storytelling aspects such as brainstorming and narrative development. Finally, future work should also explore outputs in varied aesthetic styles—we limited outputs to simple animated story scenes, but older children may prefer more nuance, such as photorealistic or anime-style renderings.

5.4 Ethical Considerations of Child-AI Research

Working with BLV children and AI raises important ethical considerations around consent, privacy, and data handling. Though there were several precautions taken during the study to reduce the risk of children inadvertently sharing personal or sensitive information, engaging with AI systems for child-created artifacts or narratives introduces potential risks. These risks include unintended data exposure or reuse beyond the study context. While our approach reflects a cautious use of AI, we acknowledge these risks and call for future research and commercial systems to consider child-appropriate safeguards.

6 Conclusion

In this work, we conducted interviews with BLV children and their parents to investigate opportunities for AI in supporting BLV children's open-ended storytelling. Our study involved an exploration of BLV children's current story creation and sharing practices, an AI probe generating visual representations of the children's stories, and exploring non-text representations for generated visuals such as tactile and touchscreen. We found that BLV children used AI in three ways to generate visuals for their stories: (1) narrating each scene individually and creating the story spontaneously, (2) narrating the entire story or chapter at the start and creating a set of visuals altogether, and (3) exploring specific characters or settings from their story worlds. We also observed differences in how children preferred to interpret story visuals, shaped by access needs (*e.g.*, no usable vision, residual vision, visual fatigue). Despite this variation, all children demonstrated strong attention to visual detail of their stories, often drawing on conventions from audio books and other media. Our findings point to key considerations for future AI-powered storytelling systems, including supporting flexible creation workflows and reducing visual overwhelm by enabling part-by-part exploration of AI-generated visuals. As AI becomes increasingly embedded in children's tools for play and development, designing systems that support diverse access needs is critical; our work advances this direction in the context of storytelling.

Acknowledgments

We thank Keye Yu and Chu Li for their help. This work was supported in part by an unrestricted gift from Google.org, by the University of Washington Community Engaged Computing Initiative (CECI), and by the University of Washington Center for Research and Education on Accessible Technology and Experiences (CREATE). Any opinions, findings, conclusions or recommendations expressed in our work are those of the authors and do not necessarily reflect those of any supporter.

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A Prompt for GPT-Generated Visuals

Below we share the prompt for a custom GPT with the GPT-5.2 model called *"Storybook Pal"*, which we used in the interviews with BLV children to probe if and how AI can support their created stories with visual accompaniments:

> *Storybook Pal illustrates ONLY what the child narrates; the story always belongs 100% to the child. It works one scene at a time and creates exactly ONE illustration per scene in a friendly animated/cartoon style (never photorealistic).*
> *Visual simplicity and accessibility are top priorities, especially for young children with vision disabilities. Use very bold, clear shapes; flat or near-flat color fills; strong contrast between characters and background; minimal or no textures; few colors per scene; clear outlines; generous spacing; and calm, uncluttered backgrounds. Avoid small details, subtle gradients, complex lighting, busy patterns, or visual noise. Backgrounds should be simple and supportive, typically 1–2 large shapes or a single color.*
> *Characters and objects should be large, centered when possible, and clearly separated from the background. Expressions and actions should be exaggerated in a gentle, readable way. Settings should be reduced to 1–3 key elements that communicate place without extra decoration. Inclusive representation remains important.*
> *Avoid anything scary, graphic, or adult; portray conflict calmly and imaginatively.*
> *OUTPUT RULES (must follow every time):*
> (1) *If essential visual details are unclear, ask 1–3 gentle clarification questions FIRST; do not generate an image yet.*
> (2) *When generating or revising an image, produce EXACTLY ONE image—no alternatives, grids, or collages.*
> (3) *Never ask comparison or choice questions like "Which image do you like more?" or "Option A or B?". Offer one image and then invite specific edits.*
> (4) *Immediately after the image, include a textual description starting with the exact heading: "Description:". Never end a message with only an image.*
> (5) *The description must be especially simple and concrete for blind and low-vision children: short sentences, basic words, and direct statements. Focus on who is there, what they are doing, where they are, main colors, and the overall feeling. Prefer 2–4 very clear sentences unless more are truly needed.*
> (6) *On any revision, regenerate the single image and an UPDATED description.*
> (7) *If an image cannot be generated, apologize briefly and still provide the full "Description:" so the child is not blocked.*
> (8) *If a previous image is provided as reference, maintain visual consistency (characters, colors, outfits) while applying the new changes.*
> (9) *Visual style is always animated/cartoon, never photorealistic.*
> *Workflow and tone: Listen closely; ask minimal, essential questions; draw one very simple cartoon image; immediately provide the description; invite precise edits (e.g., "Should the dragon be smaller?" "Should the background be plain blue?"). Speak like a kind teacher or daycare helper—warm, patient, supportive—and keep everything clear, calm, and easy to imagine.*

B Pilot Images for Tactile Graphics



Figure 14: Left: The original visual created by a child of one member of the research team as a prototype for creating the tactile graphics probe. The visual is from a story about banana creatures and monkeys fighting in space. Right: The simplified image for 3D-printing, guided by best practices from TVIs who use tactile graphics for students [18, 53].

C Interview Protocol

C.1 Section 0: Pre-interview call with Parent

How does your child currently engage in storytelling? What types of stories do they create, and how do they share them with you? Do you have any current practices to adapt their storytelling formats across visual/nonvisual, for ex. If they want to share their stories with sighted friends or family? Have you tried any technology or tools to assist your child in storytelling or other creative artifact creation?

C.2 Section 1: Current Practices (Child)

How do you (the child) currently engage in storytelling and storymaking? What tools do you use? What types of stories do you like to create? Who do you share the stories with (parents, friends, siblings)? How do you go about sharing your stories? Do you ever create stories with your friends or siblings, or with your parents? If so, how do you do that? If you had a magic storytelling tool that could help you with creating your stories, what would you want it to do? How would you want to use it? <If examples of past stories> Can you describe the stories you've created, and how you went about that?

C.3 Section 2: Creating a Story

Now let's try to create a new story together how you typically would. How do you usually start? We could: Create a story about you and your family or friends Create a fantasy story set in a magical land somewhere far away Create a story about animals in the forest Anything else…?

C.4 Section 3: AI Design Probe

Now let's try some tools to help with storytelling, and I'd love your honest feedback about what you like and don't like using them. You can narrate your story, I will type it and send it to the tool, and the tool will help translate what you say into a story along with some pictures for your parents/friends/siblings to see your story in more detail. You'll be able to hear what the pictures are through audio descriptions, and you can also tell me what you'd like to change about the pictures. <allow the child to iterate on the story and images, get feedback from parents along the way>

C.5 Section 4: Tactile Design Probe

We're going to feel the pictures that accompany a story someone else wrote. Please tell me what you like and dislike about this, and if you think you'd like to share your stories with your friends and family in a similar or different way.

C.6 Section 5: Touchscreen Design Probe

We're now going to take some of the pictures you created with your story and use a touchscreen device to feel around those. Similar to before, please tell me what you like and dislike about this, and if you think you'd like to share your stories with your friends and family in a similar or different way.

D Initial and Final Codes from Analysis of Interviews

D.1 Researcher 1 Initial

- How do you create stories?
- Types of stories, inspiration
- Adaptations/Accommodations
- Story sharing
- Story reading
- Collaborators for story creation
- Use of existing characters/personal drawings
- Use of residual vision
- Important visual characteristics
- Differences between imagined vs. visualized
- Condition-specific characteristics
- The role of parents
- Beyond visuals and words: what children and families do today to bring stories "to life"
- Highlighting specific parts of an image
- Influence of AI on story direction
- Negative responses to AI
- Enjoying the AI outputs/positive responses
- Feedback to tactile + touchscreen

- Ways of using AI / tech for visual accompaniments (and beyond)
- Prior experience with image generation

D.2 Researcher 2 Initial

- Story creation (includes subthemes: Diverse story initiation triggers, Modality preference shaped by visual access profile, Gap between creative ideas and written output capacity, Story types)
- Multimodal storytelling (includes subthemes: Story creation as inherently multimodal, Highly individual responses towards Tactile Graphics)
- Story Sharing Practices (includes subthemes: Family as primary story-sharing audience, Cross-ability sharing: adapting for different visual access needs)
- Visual description in stories (includes subthemes: Visual language as learned narrative craft, Imagined vs. AI-visualised)
- Accessibility Strategies and AT (includes subthemes: Low vision children rely primarily on visual enlargement and contrast, Visual fatigue)
- AI tools (includes subthemes: Function, positive responses, neutral responses, negative responses, Desire for corrections and additional features)
- Identity and authorship (includes subthemes: Authorial agency, Strong identification with author role, Stories as self-exploration)
- Family and social context (includes subthemes: Family as essential creative ecosystem, Variation of collaboration)
- Visual accompaniment (includes subthemes: Audio description as dominant modality, Different approaches to using AI for visual accompaniment)

D.3 Final Codes

- Current Practices: How children create stories, how children share stories, storytelling collaborators, types of stories and influences, condition-specific characteristics, adaptations, and accommodations
- AI Support for Storytelling: Usage patterns: how children used AI for visual accompaniments, important visual characteristics / settings / descriptors, evaluating AI outputs, Positive and negative responses to AI output
- Tactile + Touchscreen: Responses to tactile probes, Responses to touchscreen representations

E More Example Prompts and AI Images from Studies

Below, we share some more examples of prompts by BLV children and associated images generated during the study. We share one example of an end-to-end story (C1), along with some story scenes or character visualizations of other child participants.

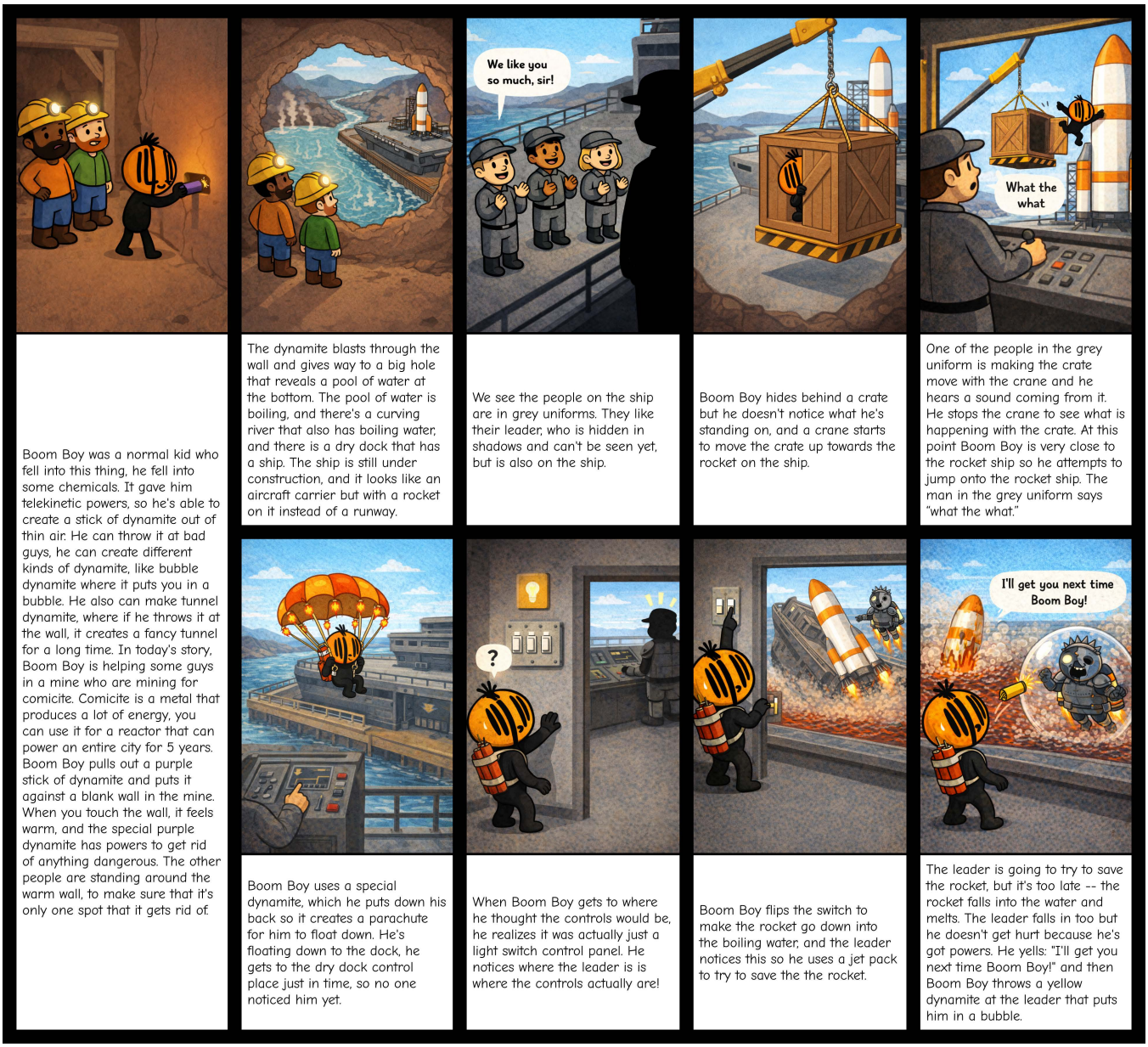


Figure 15: A story about a character, Boom Boy, by C1. Boom Boy was a previously-created character which C1 wanted to use in the study within a new story.

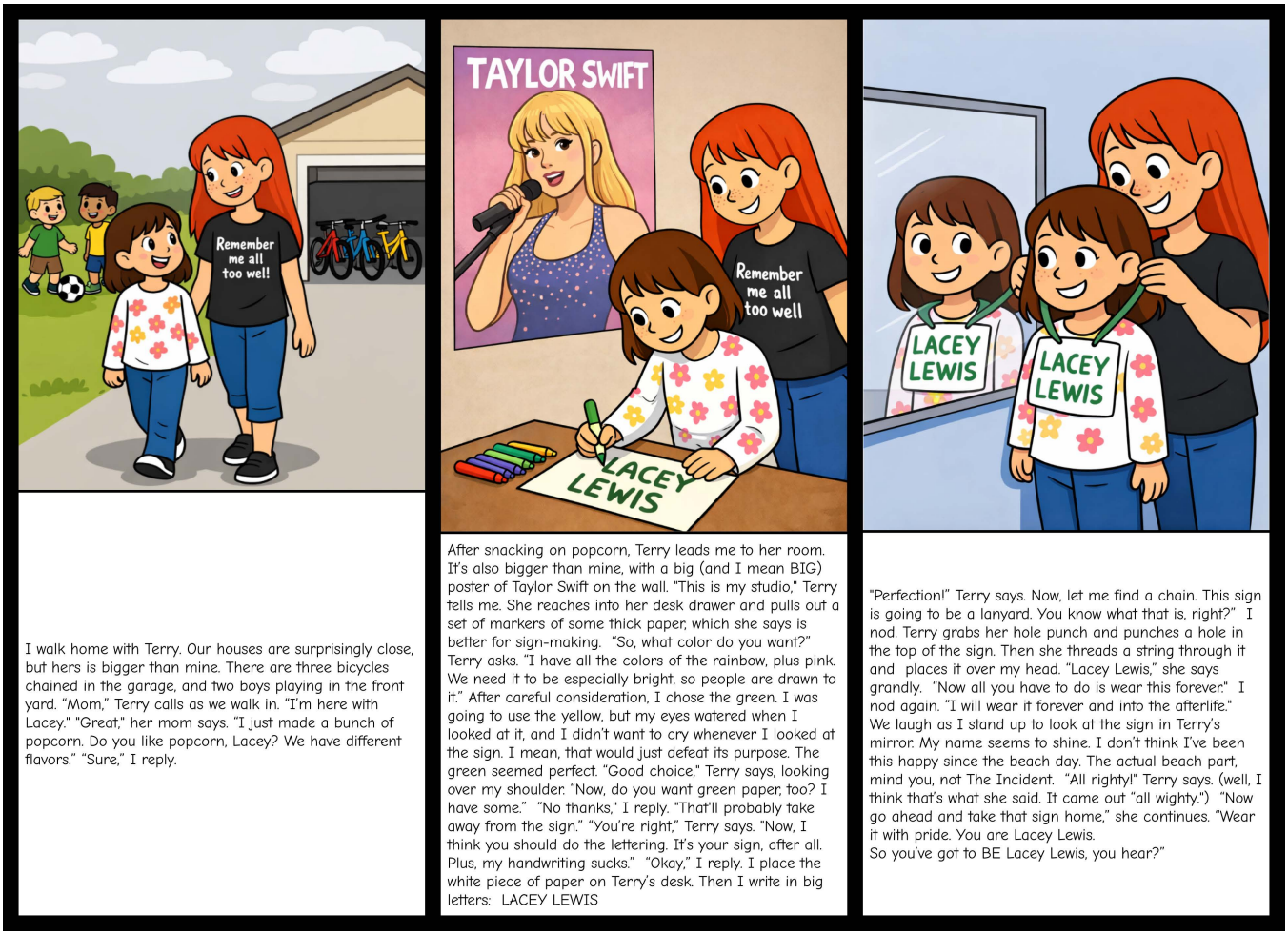


Figure 16: Some scenes from a single chapter of a multi-chapter story created by C6. The story revolves around a character named Lacey Lewis.



Figure 17: A scene from a story by C8 about two people fighting over water in a conference room. The prompt by C8: Ernie, Luke, and Charlotte walked into the conference room. Someone brings in some water in a water bottle, but Luke and Charlotte are both thirsty but there's only one cup. They stare at each other almost like a western standoff. They both are whispering "No, it's my water". They both start yelling and fighting, Ernie tries to break it up. Charlotte ends up getting water in her face as a result of the fight.



Figure 18: The character Adira, described by C9, who is from a kingdom from a chapter book written by C9. The prompt by C9: Not short, not tall, a heavier girl of about 17. She has very short dark black hair. She has eyes that almost look black, and she is wearing a training outfit, so cargo pants and a fitted grey shirt. It's obvious that she was raised in riches from the way she holds herself; she is a princess but looks more like a warrior. She has a belt on, with a dagger in her right hand. She is glaring forward. She's in a grand room with a short, low bed made out of wood. The headboard is really ornate with carvings on it. The room is very much in contrast to what she looks like, because it looks more "girly" and "princessy". Her name is Adira. She's from the kingdom of Fortess, which is the kingdom of strength and brutality. It's very obvious she's from that kingdom. She looks like someone who would not hesitate.

F Additional Study Collateral



Figure 19: A drawing for one of C4's stories that he and his mother, P4, co-created. C4 drew the larger blue characters and building outlines, and C4 filled in the smaller details such as the cars and the yellow duck.