

How Blind or Low Vision Creators Use Tools for Ideation: A Survey

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Abstract

Ideation is a crucial first step in any creative process. Although accessibility researchers have studied the creative practices of blind or low vision (BLV) individuals, we know little about how BLV creators across different fields ideate, which is a process that typically precedes the actual artifact construction. We conducted an online survey with 73 BLV creators to explore how they engage in ideation through generating, capturing, organizing, and evaluating their ideas. Our results suggest that BLV creators use a wide variety of tools across different modalities (textual, auditory, tactile, visual). The modality of these tools often does not match that of their final artifacts (e.g., tactile creators still frequently use text-based editors). We discuss design opportunities for ideation tools that better support cross-modal workflows that help BLV creators externalize and develop their ideas in different formats.

CCS Concepts

• **Human-centered computing** → **Empirical studies in accessibility**.

Keywords

Creativity, ideation, idea management, blind and low vision, accessibility, disability

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1 Introduction and Related Work

Creativity is central to everyday making and artistic expression, yet many creativity support tools and workflows remain inaccessible

for blind or low vision (BLV) individuals [1, 55, 61]. Nevertheless, BLV creators continue to engage and succeed in artistic endeavors [4, 6, 21, 27, 41, 56]. Understanding and enhancing accessible creativity is, therefore, a matter of upholding equity and disability justice. Over the years, accessibility researchers have examined the creative practices of BLV creators and developed technologies to support creative activities. This ranges from text authoring [15, 17, 18, 39], visual content creation, such as image generation [8, 30, 60] and photography [3, 28, 35], audio production [45, 49, 54], and tactile creation, such as fiber arts and crafts [5, 13, 16, 26, 46]. For instance, Zhang et al. [59] surveyed and interviewed BLV people on their digital content creation needs, highlighting their interests across various content types (e.g., images, videos, websites). While prior work has advanced our understanding of how BLV individuals consume and author content in specific domains or for certain creative tasks, we still know little about how they *ideate*, which usually happens *before* the artifact construction phase and serves as the first step of scientific and creative innovations [32].

Ideation, or idea management, is an iterative process of generating, capturing, organizing, evaluating, and developing ideas, which helps creators realize their design visions and solve problems [12, 31]. Creators in different professions, such as designers [24, 31, 52] and musicians [51], all rely on a set of tools to manage their ideas, including general-purpose tools (e.g., online search) and domain-specific applications (e.g., Pinterest). HCI researchers have also produced substantial research to enhance ideation [23, 25]. For example, using relevant examples for visual exploration and inspiration [36, 58], combining concepts to produce new ideas [10, 62], and enhancing mood boards to curate diverse references [37, 38]. However, current ideation tools (e.g., digital whiteboards [19, 44]) and practices (e.g., mind-mapping) pose significant accessibility barriers for BLV creators. This is because much of the prior work on ideation and creativity support tools is grounded in the experiences of sighted creators [11]. As ideation is foundational to creative processes, if widely adopted ideation tools remain sighted-centric, BLV creators may need to expend significant effort managing ideas, and some ideas may never be pursued at all.

To address this gap, we aim to understand how BLV creators use different digital and physical tools throughout their ideation process, i.e., to generate, capture, organize, and evaluate ideas. From a survey with 73 BLV creators who engage in diverse creative domains, including writing, music production, tactile graphics, digital

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drawing, and mixed-media arts, we found that respondents adopted a wide range of tools for ideation supporting different input/output modalities, such as online search, AI assistants, document editors, and physical tools. They preferred more accessible and familiar tools (e.g., document editors) over those with specialized ideation features but limited accessibility support (e.g., whiteboards). Interestingly, the modality of ideation tools did not always match the modality of their creative domains and the resulting artifacts. For example, visual artists (e.g., illustrators) used audio recording to capture fleeting ideas and tactile artists (e.g., knitters) frequently used text-based tools (e.g., note-taking apps, Google Docs) to document project plans. This suggests a design opportunity and need for ideation tools to support accessible and cross-modal workflows so that BLV creators can easily externalize and develop new ideas across different formats. Overall, we contribute to new empirical understanding of the tools and practices BLV creators adopt for ideation and provide implications for future ideation support tools to center the needs of BLV creators.

2 Methodology

Approved by Northeastern University's Institutional Review Board, we distributed an online survey through a BLV-centric organization's mailing list and our personal networks. Table 2 in the Appendix reports aggregated demographics of 73 BLV respondents, excluding incomplete or potentially fraudulent responses [48].

Procedure. The survey collected information about respondents' creative practices, including the types of tasks they performed, whether they worked individually or collaboratively, and the tools and strategies they used for three main ideation activities: (1) finding inspiration for new ideas, (2) capturing and organizing ideas, and (3) evaluating ideas. We implemented them as multiple-response questions with predefined tool options informed by prior literature on idea management strategies of sighted creative practitioners [31, 53] and our research experience with BLV creators, along with an open-ended "others" option. Respondents also described an example artifact they had created and optionally linked to their portfolios or websites with more sample artifacts. We also collected demographic information, including country, gender, age range, race/ethnicity, occupation, self-reported disabilities, and assistive technologies used.

Creative Modality Categorization. To analyze how respondents' tool choice varied across modalities, we categorized their open-ended description of creative practices and the resulting artifacts by modality. For this, we considered respondents' dominant sensory engagement in the creative process, such as through sight (visual arts), hearing (auditory arts), or touch (tactile arts) [33, 34]. Visual and tactile modalities were often hard to distinguish, as many practices (e.g., knitting, beadwork) involve both. In such cases, we prioritized respondents' sensory strategies, such as visual (e.g., color, flat patterns) or tactile (e.g., texture) considerations for decision-making. For instance, one knitter described creating knitted products without visually following a pattern, suggesting a primarily tactile focus: *"a headband/ear warmer I knitted out of yarn created using fluff from my dog. I did not use a pattern to create this artifact."* Another knitter mentioned designing knitting pattern books, which we categorized as visual. We considered text (e.g., poetry,

novels) a distinct modality because it comprises discrete linguistic structures [50] and is accessible through multiple channels (e.g., vision, audition through screen readers, and touch through braille). We did not enforce mutually exclusive categories when respondents were involved in multiple modalities, and excluded three respondents whose responses lacked details to reliably determine modality. Following this approach, we assigned one or more modalities to respondents' creative work, including visual, tactile, textual, auditory, or multimodal (e.g., tactile-visual). Three co-authors each independently labeled the full responses (inter-rater reliability, Fleiss' $\kappa = 0.785$, which indicates substantial agreement [22]) and later resolved disagreements through a round of discussion.

3 Findings

3.1 Tool Preferences Across Ideation Activities

3.1.1 Finding Inspiration. Respondents mostly relied on online search (68.5%, $n = 50$; Figure 1), followed by AI tools like ChatGPT (58.9%, $n = 43$) and media platforms like YouTube (57.5%, $n = 42$). Respondents who selected the "other" option (35.6%, $n = 26$) primarily mentioned non-digital and experiential sources of inspiration. For example, ten cited people (e.g., friends, artists, or community members) and seven described personal experiences (e.g., imagination, interests, or life experience). As one respondent stated: *"inspiration comes from my interactions with people, music, engagements with the world around me, social climate, and just general personal interest in ideas that come up in my head."*

Takeaway. These responses indicate that BLV creators draw on content-rich and ubiquitous sources of inspiration. They prefer lightweight tools that support rapid and exploratory access to content (e.g., online search) over tools containing more structured organization and retrieval (e.g., reference managers like Zotero), which may require greater effort to learn and integrate into their creative workflows. Also, although our survey focuses on tool use, respondents' answers suggest that inspiration is not only shaped by digital tools but also social interactions and lived experiences.

3.1.2 Capturing and Organizing Ideas. Most respondents (79.5%, $n = 58$) used document editors (e.g., Google Docs, Microsoft Word), followed by a range of tools, such as note-taking apps, audio recording, online storage tools (e.g., Google Drive), and physical tools (e.g., braille printouts). Respondents who selected the "other" option (27.4%, $n = 20$) reported using many physical tools, including braille-based tools (e.g., braille notetakers, sometimes combined with digital storage like Dropbox), adaptive hand tools (e.g., magnifiers, pens, rulers), and everyday materials (e.g., cardboard). Some also referred to less-structured approaches, including embodied (e.g., drawing ideas, fabricating prototypes, tactile sketching with WikiStix), performative (e.g., playing music), or cognitive activities (e.g., keeping ideas in one's head).

Takeaway. We inferred that accessibility is still a primary concern for BLV creators while selecting tools for capturing and organizing ideas. A large portion of respondents chose document editors since they are relatively accessible and more familiar. In contrast, very few respondents used digital whiteboards because of their inaccessibility [2, 19], although they are widely used among sighted practitioners for visual exploration and organization [52, 53]. These

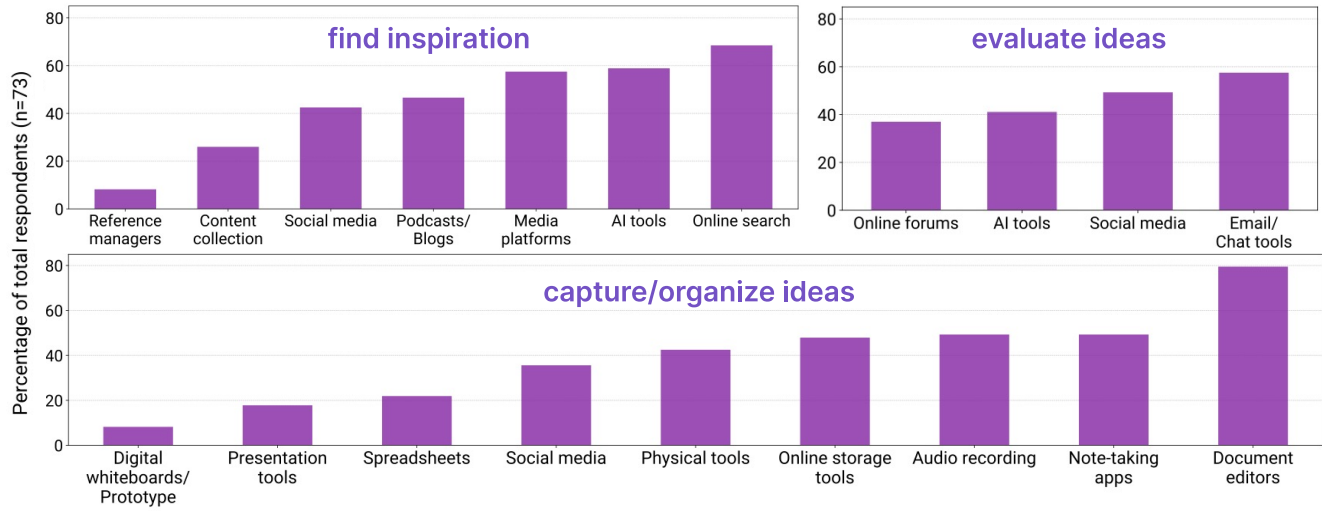


Figure 1: Tool use across three main ideation activities: finding inspiration (top-left), capturing and organizing ideas (bottom), and evaluating ideas (top-right). Bars indicate the percentage of respondents ($N = 73$) reporting use of each tool type.

findings suggest that BLV creators may be constrained to tools that better support accessibility (e.g., compatible with screen readers) even if they offer fewer ideation-specific functionalities (e.g., clustering, voting).

3.1.3 Evaluating Ideas. More than half of the respondents (57.5%, $n = 42$) evaluated ideas based on human feedback via email or chat-based tools (e.g., Slack), followed by social media or messaging apps (49.3%, $n = 36$), AI tools (41.1%, $n = 30$), and online forums (37.0%, $n = 27$). Notably, only respondents who used AI for drawing inspiration continued to use it for evaluating ideas. Among respondents who chose the “other” option (27.4%, $n = 20$), the most common approach ($n = 15$) was seeking feedback directly from family, friends, sighted peers, or domain experts through in-person conversations, voice or video calls, or a combination of communication methods. As one respondent stated, “*I have a couple of close friends who are professional artists that I talk with over the phone or video chat several times a month, exchanging ideas, discussing our current projects, giving and gaining support, and sharing inspirational ideas and thoughts.*”

Takeaway. The prominence of human feedback emphasizes the social and interactive nature of idea evaluation. AI feedback is the only “non-social” option here. Many BLV respondents incorporated AI into their ideation workflows (58.9% for inspiration and 41.1% for evaluation), highlighting AI’s growing use in supporting ideation, especially for generating novel ideas and facilitating reflection on the work without depending on sighted assistance. However, the relative decrease in AI use for idea evaluation may indicate respondents’ tendency to use AI for open-ended exploration and knowledge seeking rather than for critical feedback where social interaction and trust become more important.

3.2 Tool Preference Across Creative Modalities

We categorized respondents’ creative practices into five modalities (textual, auditory, visual, tactile, and multiple) according to the procedure described in Section 2. Of the 70 respondents included in

this analysis, 17 engaged exclusively in tactile modality, 12 visual, 9 textual, and 3 auditory, while 29 in multiple modalities. Due to the small sample size, we did not perform statistical tests, and thus, our observation should be interpreted as descriptive rather than inferential. In addition to creative modality, we also discuss tool modality, which is based on the dominant form of content representation or interaction that the tools afford. For example, we refer to document editors and note-taking apps as text-based tools, voice recording as audio-based tools, and tactile graphics as physical tools. To examine whether and how tool choice relates to specific creative modalities, we focused on respondents who reported working within a *single* creative modality (Table 1) to mitigate ambiguity in cases where respondents working in multiple creative modalities may have used the same tool to support ideation for different types of creative work (e.g., poetry and knitting).

For *drawing inspiration*, online search remained the most frequently used technique among respondents, while visual-centric content collection tools (e.g., Pinterest) were not reported by any respondents in auditory or textual modalities. Social media matches online search in popularity only among visual-focused respondents (8 of 12), while being less commonly used in other modalities. For *capturing and organizing ideas*, tool selection was aligned with modality-specific practices. For example, 11 of 17 respondents in tactile modality used physical tools, while visual-heavy tools like digital whiteboards and presentation or slides-authoring tools were reported by only respondents working in tactile and visual modalities (none in auditory or textual). However, some tools (e.g., document editors, audio recording, physical tools, and social media) were used by respondents across all modalities, potentially due to these tools’ relatively better accessibility support. For *evaluating ideas*, 10 of 12 visual-focused respondents reported using online forums. In contrast, most respondents (7 of 9) in textual modality relied on collaborator feedback via email or chats but only one consulted online forums. This difference hints at the variance in how artifacts are evaluated, as visual artifacts may be more readily

Table 1: Tool use across ideation activities among respondents who worked in a single creative modality (textual, tactile, visual, or auditory) or multiple modalities. Within each ideation activity, tools are ordered from the most (top) to the least (bottom) commonly selected among all respondents. For each ideation activity, the most commonly chosen tool among respondents from each type of modality is boldfaced.

Activities	Tools	Single Modality (n=41)				Multiple (n=29)
		Textual (n=9)	Tactile (n=17)	Visual (n=12)	Auditory (n=3)	
Find inspiration	Online search (e.g., Google, Bing)	6	13	8	1	19
	AI tools (e.g., ChatGPT, Gemini, Claude AI)	5	10	7	0	19
	Media platforms (e.g., YouTube, Spotify)	3	9	7	2	19
	Podcasts/Blogs	4	7	5	0	17
	Social media (e.g., Instagram, X/Twitter)	3	6	8	1	12
	Content collection (e.g., Flickr, Pinterest, portfolio websites)	0	5	3	0	9
	Reference managers (e.g., Google Scholar, Zotero)	1	3	1	0	1
Capture and organize ideas	Document editors (e.g., Google Docs, Microsoft Word)	8	14	8	1	25
	Note-taking apps (e.g., Apple Notes, Notability)	4	12	6	0	13
	Audio recording (e.g., voice memo)	3	9	7	1	15
	Online storage tools (e.g., Google Drive)	2	7	6	0	18
	Physical tools (e.g., braille printouts, tactile graphics)	4	11	4	1	10
	Social media/Messaging (e.g., Discord, Instagram)	2	5	4	1	13
	Spreadsheets (e.g., Microsoft Excel, Google Spreadsheet)	0	5	4	0	5
	Presentation tools (e.g. Microsoft Powerpoint, Google slides)	0	1	4	0	7
	Digital whiteboards/Prototype (e.g., Miro, FigJam)	0	1	2	0	2
Evaluate ideas	Email/Chat-based collaboration (e.g., Slack, Teams)	7	9	3	2	18
	Social media/Messaging (e.g., Discord, X/Twitter)	4	6	6	1	19
	AI tools (e.g., ChatGPT, Gemini, Claude AI)	2	7	5	0	14
	Online forums (e.g., Reddit)	1	7	10	1	8

shared for broader feedback from general public, whereas text artifacts (e.g., novels) may benefit from targeted and expert feedback from collaborators who are more familiar with the work.

Takeaway. These results suggest that the modality of the tool used for ideation does not always mirror the modality of final creative artifacts or practices of BLV creators. For example, tactile-focused respondents still frequently used document editors (14 of 17) and note-taking apps (12 of 17) during ideation, although these tools are text-based and offer limited tactile or physical affordances. Similarly, visual-focused respondents captured and organized ideas through audio recording (7 of 12). Therefore, accessible ideation tools need to support cross-modal workflows, where textual, auditory, tactile, and visual ways of externalizing ideas can complement and smoothly transition from one format to another throughout the creative processes of BLV creators.

4 Discussion

Through a survey with 73 BLV creators, we found that respondents used a diverse ecosystem of digital and physical tools for ideation. Based on the results, we discuss design implications for creativity support tools that facilitate ideation activities for BLV creators.

For creative inspiration, our respondents draw not only on various digital tools, but also on their daily experience with other people and the environment [43, 57]. To support inspiration gathering, tools could expand the available input modalities beyond text or voice, such as having a documentation system that supports all text, image, and audio modalities and allows for effective revisiting. For example, tools could help BLV users document physical

materials through photographs or scanning with real-time audio feedback [3, 7, 9] and revisit visual-based content with appropriate descriptions [14]. For idea evaluation, there's a relative decrease in AI use compared with idea generation, possibly due to respondents' preference for human feedback. Future researchers could explore ways to pair real-time, on-demand AI feedback [20, 42, 60] with human judgment from sighted peers to balance productivity, agency, and social connection.

Furthermore, our respondents engaged with multimodal tools, from text-based editors to tactile and physical tools, to draw inspiration and capture, organize, and evaluate ideas. This indicates the need for future ideation tools to not only enhance accessibility within individual tools or modalities, but also create a shared space for BLV creators to think and draw inspiration across tools and modalities [53]. For instance, prior systems have made visual content creation more accessible through structured image descriptions, audio feedback, and tactile graphics [30, 40]. Researchers have also explored cross-modal translation of artifacts, such as converting images into tactile graphics [47] and turning visual information into interactive sonification [29]. Building on these techniques, future researchers could develop ideation environments that preserve the meaning and relationships between ideas as they appear and move across modalities and create a more centralized space to manage those scattered resources. Such cross-modal ideation support should allow BLV creators to more easily externalize, aggregate, connect, and develop innovative ideas in different accessible formats.

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A Appendix

Table 2: Demographic information of survey respondents (N=73). 70 respondents reported their gender and age range. Based on their self-described occupations, respondents worked in diverse professional fields, including creative arts (e.g., writer, musician, voice actor, photographer, product designer, pattern or tactile designer, woodworker), accessibility (e.g., assistive technology specialist, blindness rehabilitation professional), education (e.g., teacher, instructor), healthcare (e.g., therapist, mental health counselor), technology (e.g., programmer, technical support specialist), and business (e.g., business owner, marketing manager). Note that occupation categories were from open-ended responses and were not mutually exclusive. Respondents whose descriptions indicated only employment status (e.g., student, retired, unemployed) or unique professions not in the categories were included in Other. Respondents engaged in diverse creative activities (e.g., writing, fiber arts, audio production, content creation).

Category	Group	Count (%)
Gender (n=70)	Female	45 (64.3%)
	Male	24 (34.3%)
	Non-binary	1 (1.4%)
Age Range (n=70)	18–24	2 (2.9%)
	25–34	17 (24.3%)
	35–44	17 (24.3%)
	45–54	12 (17.1%)
	55–64	15 (21.4%)
	65+	7 (10.0%)
Occupation (N=73)	Creative Arts	27 (37.0%)
	Accessibility	13 (17.8%)
	Education	11 (15.1%)
	Healthcare	8 (11.0%)
	Technology	6 (8.2%)
	Business	5 (6.8%)
	Other	19 (26.0%)