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CHAPTER 11

Collaborative Approaches to Teaching and Building Visual Literacies

Chris Lopez, Salma Abumeeiz, Neha Gupta, Simon Lee, Sylvia Page, Ashley Peterson, and Monique Tudon

Defining and Teaching Multiple Literacies

Information has always encompassed forms beyond text. As library workers who teach information literacy, the authors acknowledge the multiple literacies that overlap and mutually support the evaluation, use, and creation of information across formats. The case studies outlined in this chapter primarily present approaches to teaching visual and digital literacies, both of which support a holistic and nuanced understanding of information literacy.

Visual literacy describes the attainment of fluency in critically engaging, creating, and communicating with visual media. This broad umbrella of information formats includes static images, video, and text-image hybrids like infographics, comics, or memes. Though it is an important component of information literacies, visual literacy is distinct enough that it is subject to a framework of practices and dispositions from the Association of College and Research Libraries (ACRL), called *The Framework for Visual Literacy in Higher Education: Companion Document to the Framework for Information Literacy for Higher Education* (VL Framework).¹ Both of these documents acknowledge that visual



media increasingly exists in digitized or born-digital formats, and therefore teaching and learning visual literacy entails engagement with digital literacy. In the context of our case studies, digital literacy is defined as the ability to engage and create digital information formats and tools, while also understanding the affordances and limitations of digital technologies and leveraging these affordances in the learning process.²

Given that critical engagement, creation, and communication with visual information involves multiple literacies, we look for collective authorship and collaborative creation processes. This approach allows us to bring in multiple viewpoints and experiences that cover the skill sets and dispositions of these literacies, such as appreciating the iterative process of designing visual objects; analyzing and synthesizing images in their social, economic, and artistic contexts; implementing accessibility principles to ensure accessibility for all; and cultivating a community to gather feedback on created visuals. This starting point brought us to the collaborative design processes of comics and games. It is common in comics and game creation for there to be multiple people responsible for the end product (e.g., one comic may have an author for the text, an artist, a colorist, etc.). Collaborative (and specifically learner-led) design can leverage the respective expertise of each team member and generate awareness of and appreciation for differing learning styles among all. In most of the projects discussed in the following case studies, learners (undergraduate and graduate students) were vital participants in the creation processes of these learning objects. This foundational tenet of collaborative knowledge creation aligns with one of the VL Framework's knowledge practices: "Learners who are developing their visual literacy abilities . . . seek out and participate in a range of creative, social, and scholarly communities in order to create, produce, and disseminate visuals."³

By discussing several digital learning objects created by teams of library staff and students at UCLA Library, we will demonstrate how image-based modalities provide opportunities for community building and for deep visual (and other) literacy development. These case studies concretize the themes, skills, and practices associated with the dispositions of "perceiv[ing] visuals as communicating information."⁴ They will also underscore the unique artistic and communicative affordances of visual media, their potential in promoting visual and digital literacies, and how they prioritize and center learners in their own learning journeys.

Accessibility in Visual Literacy and Open Educational Resources

It is important that we specifically address the role of accessibility as a component of visual literacy and as a principle in the design of visual learning objects.⁵ As the VL Framework outlines in its "Learners pursue social justice through visual practice" theme, learners developing their visual literacy abilities "recognize how incorporating accessibility practices and principles can enrich the experience of visuals for all users."⁶

We would also like to address the widespread lack of accessibility in the construction, storage, and distribution of open educational resources (OERs), which constitute all of

the resources outlined in the preceding case study. As outlined by Xiangling Zhang and colleagues, essential accessibility features, including perceivability, operability, understandability, and robustness, are largely absent within OERs, within which “accessibility is still in its infancy.”⁷ Members of the Writing Instruction and Research Education (WI+RE) team are currently problematizing our own approaches to OERs, specifically reflecting on centering accessibility both in the technical capabilities of our resources and as a fundamental framework on which to build our initiative.⁸ This work has inspired us to look to disability justice activists and scholars, including the Design Justice Network, who argue that a design *justice* approach, rather than one that ends at representation within *current* design paradigms, “rethinks design processes, centers people who are normally marginalized by design, and uses collaborative, creative practices to address the deepest challenges our communities face.”⁹ As we continue to reimagine our approaches to OERs, we are inspired to think about how we might leverage collaborative authorship to include multiple experiences and how visual literacies can be in dialogue with the collaborative, creative processes that are integral to design justice.

Applying the Dispositions: Visual Modes at UCLA Library

The *Open Axis* Video Game: Visualizing Complexity

To mark Open Access Week 2020, the play-Based Open Access Team (pBoat) at the UCLA Library created a novel approach to instruction and outreach called the *Open Axis* video game.¹⁰ A similar team had previously created board games and in-person interactive learning experiences to commemorate Open Access Week but were forced to reimagine what gamified instruction would look like in a remote environment during the COVID-19 pandemic. The team elected to create a choose-your-own-adventure narrative game, embedded with side-scrolling 8-bit minigames, related to open access and scholarly publishing topics. The game featured playable characters at various stages in their academic careers who are faced with unique publishing and research challenges.

In the process of developing the *Open Axis* video game, pBoat established learning outcomes, used collaborative visual tools, and applied pedagogical strategies to support the creation of an effective and cohesive end product. This process included collaborative storyboarding with LucidChart to prototype character story paths, using an open-source program called Twine to build interactive, nonlinear stories across each character profile, and learning to create browser-based games through Flowlab.io to intersperse common story arcs across each character (see figures 11.1–11.3).¹¹ It was in pBoat’s design philosophy to develop character profiles from diverse backgrounds to appeal to a broader audience in the learner community. Including gender-neutral names was an intentional design, and ensuring that we included undergraduates, graduate students and faculty members in the sciences as well as the humanities and social sciences aimed to broaden



Figure 11.1

Screenshot from Research Help mini-game in Flowlab.

in a concise manner, without distilling the dimensions of these featured topics. The textual prompts and choose-your-own-adventure format enabled the team to visualize and instruct on true-to-life dilemmas and pathways to success that are not always clear or apparent. Games also provide a safe environment in which to fail (players have the ability to backtrack and correct previously made decisions during the game).¹⁴ Building a digital learning object as a game engages not only a learner’s visual literacy skills, namely finding and interpreting visual data, but also their game literacy skills: comprehension of narrative, identifying and abiding by the rules and boundaries of the game, and so on.¹⁵ Finally, the embedded mini-games throughout the game provided an additional opportunity to reinforce and engage learners on key themes related to research and publishing. For instance, in one mini-game, players are asked to find a VPN “key” in order to unlock a paywall text. In total, the *Open Axis* game visualizes complex topics by

appeal. To help ensure accessibility for users with disabilities, *Open Axis* is compatible with screen readers, can be embedded within learning management systems, and was constructed with colors, links, and text that are compliant with W3C standards.¹² The original transcript for text portions of the game can also be made available for users to support universal access.¹³ Moreover, gamification pedagogy was critical to explaining difficult concepts like open access to the end user. Applying gamification across *Open Axis* enabled designers to educate users about library services and resources while simultaneously introducing players to scholarly publication dilemmas (i.e., the decisions they make in the game) that either open—or create—barriers to access.

The video game format presents several instruction and outreach opportunities not afforded by other modalities. Foremost, *Open Axis* enabled pBoat to visualize complex research and publishing challenges

employing immersion and role-playing game (RPG) elements. In doing so, the game provides learners with an opportunity to actively participate in their own learning.¹⁶

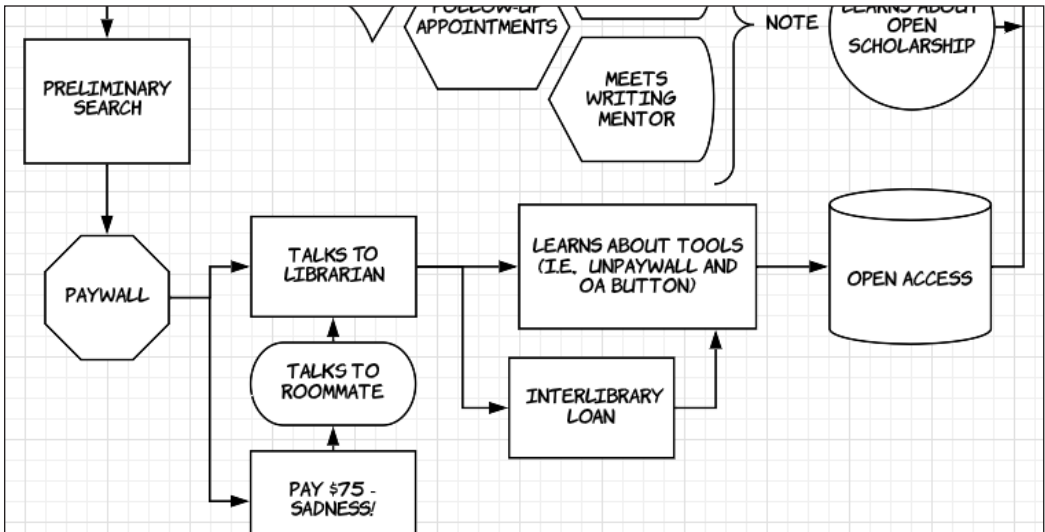


Figure 11.2

Screenshot of backend story arcs created in Twine.

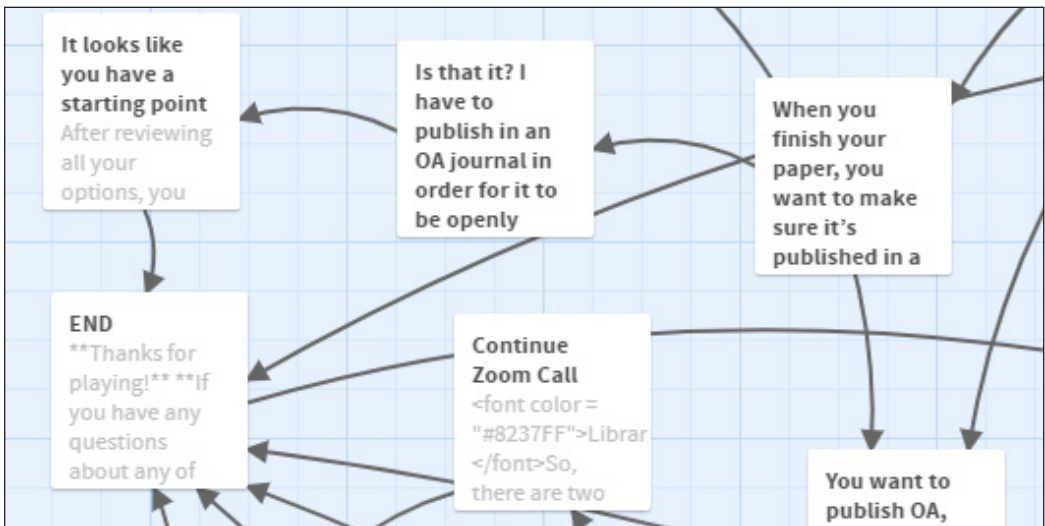


Figure 11.3

Screenshot of game planning and design in LucidChart.

Web Comic Tutorials: Multimodal Synergies for Critical Learning

The use of the comics format at UCLA Library originated from our instructional resource design team, WI+RE).¹⁷ Composed of student designers and full-time librarians, WI+RE employs a unique iteration of the learner-centered design process that roots each project idea in the holistic needs of the learner: cognitive, affective, vocational, and so on.¹⁸

WI+RE incorporated the comics format into its modality toolbox in early 2020. At the time, besides audiovisual tutorials (i.e., videos), the other prominent medium used for asynchronous informational literacy instruction was course presentation slides. While these slides contained images and videos, the written word remained the dominant mode of communication, with the visuals playing an ancillary role. The tutorial “Breaking Down Academic Articles” presented our learners with a resource that disrupted the text-based hegemony of information content consumed by learners in formalized education¹⁹ by communicating through its words *and* images.²⁰ Since the debut of “Breaking Down,” WI+RE has utilized this synergistic medium for multiple topics related to research, including finding images with different copyright restrictions.²¹

While the comics format allowed us to create visual resources that offered common ground for different learning styles—that is, visual and verbal/textual learners—its multimodality also required each learner to perceive information from multiple viewpoints. In the case of “Breaking Down,” we aimed not only to concisely provide the most essential tips to analyzing articles, but also to incorporate visuals that would help the learner appreciate the written argument from and in conversation with another vantage point. For example, in addition to *explaining* the importance of identifying keywords and concepts in academic prose, the comics format offers another pedagogical experience by *visualizing* that concept through the representation of identifying specific stars that constitute a constellation in the night sky brimming with stars (see figures 11.4–11.5). In concert, the images portray both the challenge and reward of locating keywords while the text conveys how the keyword location process aids in understanding a scholar’s

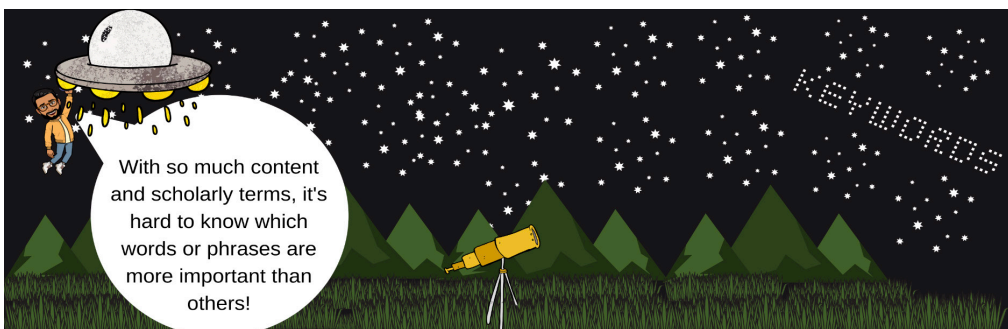


Figure 11.4

Screenshot a panel from the “Breaking Down Academic Articles” web comic.

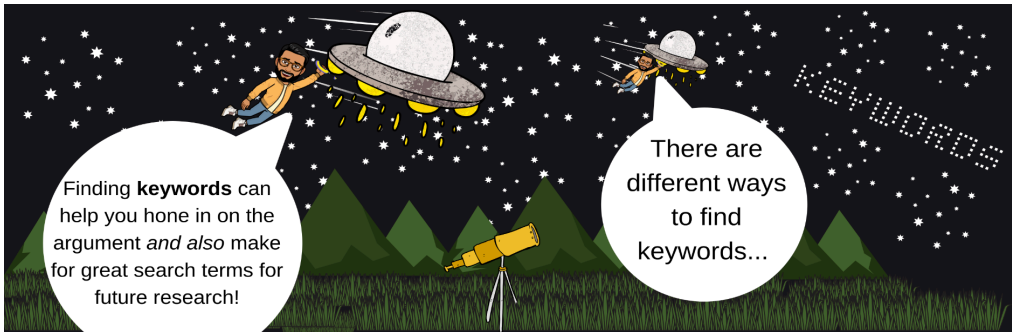


Figure 11.5

Screenshot of a panel from the “Breaking Down Academic Articles” web comic.

argument. Each of our web comic tutorials invites learners to synthesize the visual and textual information presented to fully understand the concept.

As we continued to experiment with the “multiplicative resonance—a dynamic look-read, read-look—of comics,”²² we began to realize that the medium of comics not only lends itself to supporting multiple ways of perceiving information, but also cultivates visual literacy dispositions and skill sets as learners work through the visual resources themselves (see figure 11.6).

Visual literacy, however, is more than critical consumption and interpretation of images. Effectively perceiving the information portrayed through visuals requires an appreciation of the creative process itself, and in our case the digital and media processes of creating web comics—something that the VL Framework emphasizes in a range of knowledge practices and dispositions within the theme “Learners perceive visuals as communicating information.”²³ Understanding this crucial disposition of visual and digital literacies, the WI+RE team has also created space for building these literacies in learners by giving them a chance to create the very resources we share with their peers. Let us now turn to the experiences of these learner-designers, WI+RE’s title for library student workers who primarily focus on designing learning objects, such as the aforementioned web comics.

NEHA: UTILIZING VISUAL LITERACY TO FORGE NEW AVENUES FOR CONVEYING INFORMATION TO FELLOW LEARNERS

As a learner-designer on the WI+RE team, I seek to create empathy-driven tutorials about writing and research geared toward fellow university students, and including comics in the tutorials has become a regular practice.²⁴ An initial challenge was navigating the sources of illustrations for the comics I incorporate into these tutorials. Websites such as Canva and Bitmoji provide collections of graphics and customizable cartoon characters for creators such as me who are not skilled illustrators. Planned illustrations are often not included in the free bank of images provided by Bitmoji and Canva (the tools we use

to design our web comics). Therefore, the original storyboards of my comics sometimes need to be altered to fit the illustrations I have access to and prevent me from reusing the same images in multiple panels. These moments of revision always enhance my comics

Observation

Deconstruction

Synthesis

At the heart of “perceiving visuals as communicating information” is the ability to deconstruct and interpret each element of a visual to then appreciate the entirety of it: an interpretive interplay between the sequential and simultaneous.*

Hey!

!?

Me?

oh...

Hey!

!?

Me?

oh...

Similarly, comics present visual information in deconstructed fragments, inviting the learner to appreciate and analyze the multiple modes of communication within each panel.

each fragment of information...

Meaning, however, is only fully synthesized when the learner holds each panel, each collection of images and words in relation to each other. The visual and verbal fragments of information are simultaneously perceived.

* Sousanis, Unflattening, 62.

Figure 11.6

Chris Lopez, “Appreciating Images in Their Sequence and Simultaneity,” February 3, 2022.

more than I originally expected and increase my visual literacy. Rather than adhering to the first image that comes to mind, I pause to reflect on several visual concepts that could portray information that I want to communicate. This reflection allows me to identify illustrations that are not directly associated with my written content, making the tutorial more memorable and effective. One personal example, as shown in figure 11.7, was when I was creating a tutorial about writer's block and struggling to find images that could portray the feeling of boredom. The comic, made completely via Bitmoji and the free version of Canva, shows the process that led me to expressing boredom through an unconventional visual, ultimately elevating the way I perceive and convey ideas visually in the materials I make for students and hopefully giving the learners another way to effectively absorb information.

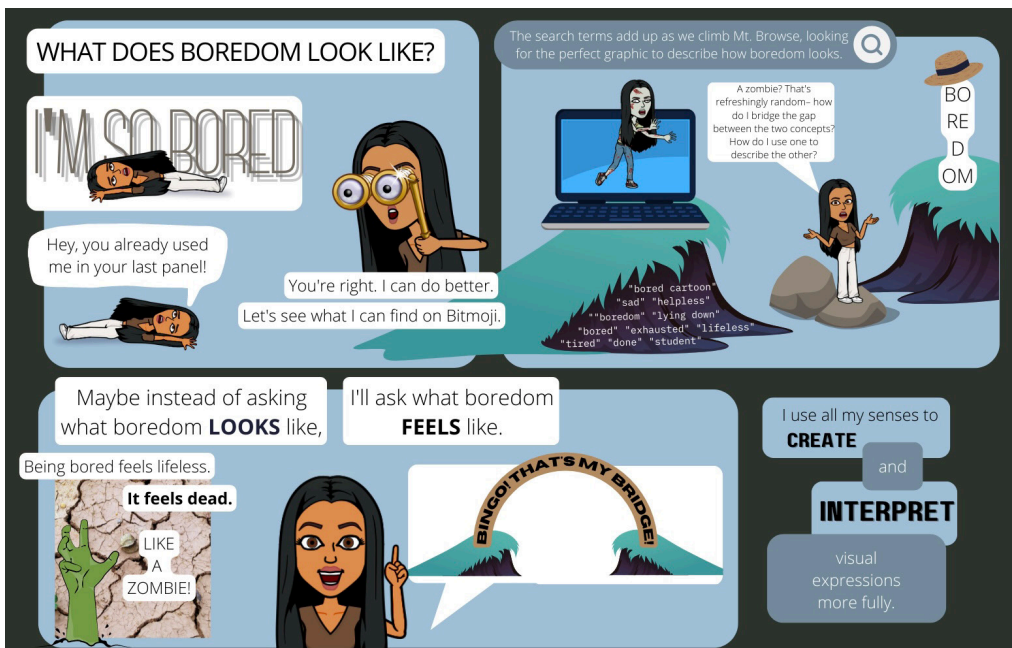


Figure 11.7

Neha Gupta, "New Avenues for Conveying Information to Fellow Learners," February 3, 2022.

MONIQUE: NEGOTIATING AESTHETIC IMPACT OF DIFFERENT IMAGE TYPES BASED ON INTENT

As a learner-designer, I (Monique) knew that I wanted to make visually stimulating and easily digestible content for learners, but I knew that my visual resources were limited. While I wanted to communicate certain words and make specific references, I figured I could rely on my illustration and animation skills to do so. The resources and graphics that were available to me not only provided a jumping-off point for me to reference and

grab inspiration from, but they also were useful when I needed simpler everyday graphics. Thus, as I mixed media and graphics from the resources available to me and the ones I made on my own, I found myself trying to balance out the two: a balance between what I needed, what I wanted to communicate, and what was possible to communicate with what I had. In each project, I found myself evaluating the media I could use, choosing the best method based on economy, aesthetics, and digestibility for learners (see figure 11.8). In this, my visual literacy has further developed.

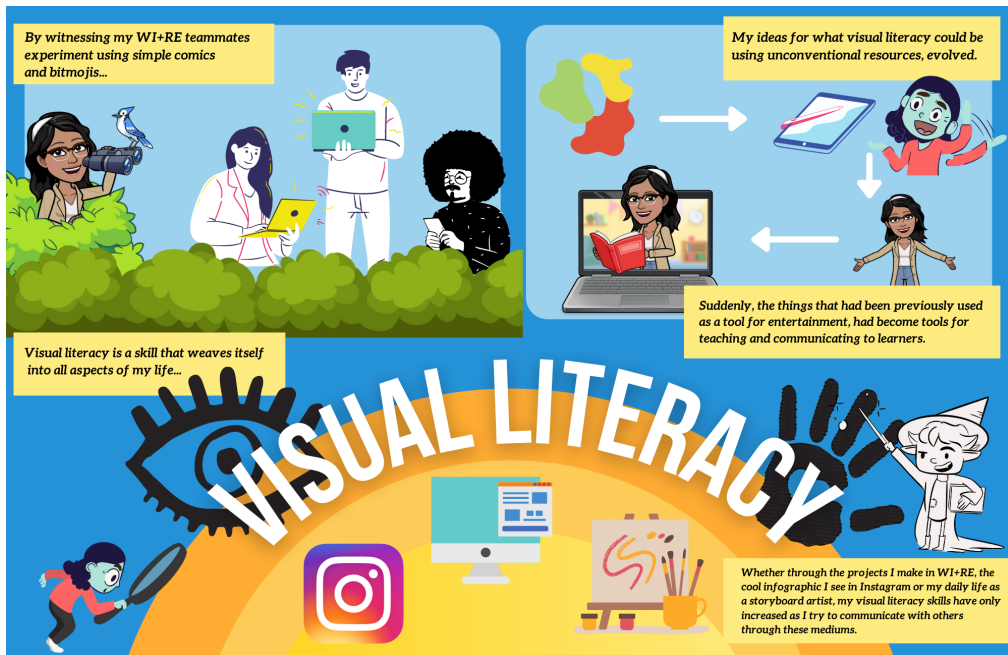


Figure 11.8

Monique Tudon, "Negotiating Aesthetic Impact of Different Image Types Based on Intent," February 3, 2022.

ACCESSIBILITY IN COMICS

In the same way that accessibility practices and principles are only beginning to make inroads into OER design, disability studies and accessibility standards are in the early stages of intersecting with all things comics.²⁵ Disability activists and scholars alike welcome this turn in comics studies and comics production given the ocularcentric attention, analyses, and delineations the multimodal format has received.²⁶

When the WI+RE team turned to the comics format, both documentation for and practical examples of making educational web comics accessible to all users was scant. Our initial (and current) attempt to make the web comics accessible to blind and low vision learners relies on the features of the H5P technology we embed our web comics

in.²⁷ For each page of the web comic, we overlay an information button, recognizable to screen readers, that, when clicked, opens a small window with the transcript of the comic. This transcript is a slightly altered version of the comic script we use when creating the web comic that describes the visual content of the panel and then in sequence relays the textual-dialogical content of the panel.

While this practice technically adapts the educational web comic and makes its information accessible to blind and low vision learners, we recognize that this practice comes short of delivering a learning experience comparable to the one the web comic offer sighted readers. Additionally, our current practice arguably offers learners who utilize our transcript a diluted version of the aesthetic experience of reading comics. While the read-look dynamic is an aesthetic and cognitive experience available to sighted learners, comics theorists and disability activists have demonstrated that it is possible to adapt comics for blind learners in a way that generates an opportunity to critically engage images and concepts in the sequential-simultaneous dynamic of comics mentioned earlier.

These innovations in accessibility practices take on a variety of forms: from collaborative efforts of creating comic book description standards designed to cultivate an authentic “comic book experience”²⁸ to the implementation of tactile art and haptic technologies in concert with traditional screen-reading technologies. Each of these approaches highlights how perceiving an image involves other senses beyond sight.²⁹ Given these innovative paths toward accessibility, our hope is to discern which approach makes best sense for our learners and is technically feasible so that we can create more equity and meaning for anyone who engages our visual resources.

“But I Don’t Have Time to Innovate!” Transforming What We Have

In addition to the creation of innovative, visually based learning objects such as games and comics, teaching visual literacy can start with tools readily available to library educators and with competencies learners already possess. In this instance, a full-time staff member and a graduate student research assistant undertook a collaborative effort to transform an image resource research guide and a student employee training session into sites of learning valuable visual thinking skills.³⁰ The guide and the session were both redesigned with the learner’s experience foregrounded.

Built and expanded over many years, the image resource research guide was a comprehensive portal for image databases, primers on image use and licensing, and other such information. While the guide contained an expansive wealth of resources, it was challenging to navigate, and the project team sought to transform it from an exhaustive compendium into a site of visual literacy education (figure 11.9). The team began by investigating approaches to user-centered research guide design and consulting visual literacy competencies, as well as conducting informal conversations with library users

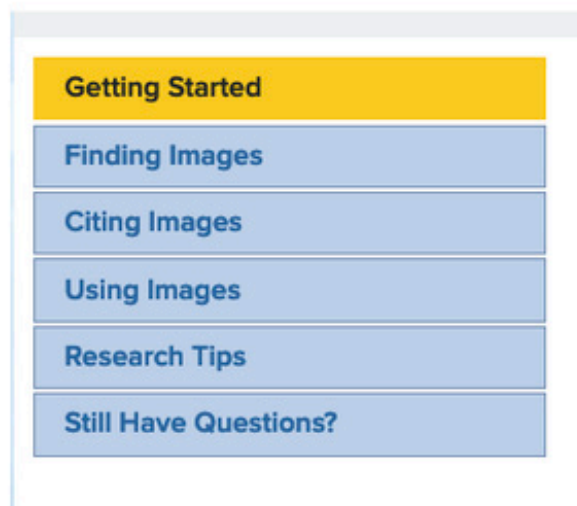
about their image research needs. Based on this information, the guide's sections were reorganized to reflect an image-based research process a learner might undertake, and greater emphasis was placed on the broad range of disciplines that incorporate visual thinking skills. The new guide's visual design became simplified and more accessible, with minimalist landing pages that invite all learners to keep digging into the wealth of resources provided.

The team took a similar collaborative, user-centered approach to the second project, an image resources training session for library student employees providing research support. These sessions had previously been analogous to the original version of the image resource guide: a very comprehensive overview of the library's collections and services that support image-based research. In the redesign of the training session, the team again saw an opportunity to teach visual literacy. The goals for the session shifted from creating comprehensive expertise on where to look for images to encouraging a nuanced understanding of the role of visual materials in a research process. Learners



Figure 11.9

Screenshots of old and updated versions of image resource research guide. To the left: the navigation menu of the original image resource research guide. Below: the revised navigation menu.



were prompted to consider questions such as when a research question requires finding and using images and how finding and using images compares to a text-based research process. The team centered the student employees' multiple perspectives as paid service providers, learners, and educators who stand to benefit from visual literacy skills during and beyond their terms of employment. During the training session, participants were invited to consider the knowledge they already possess about finding, using, and attributing authorship to visual media. This led to a discussion of why learners in any discipline might need to access and use images in their research, followed by time for participants to collaboratively explore select image databases and discuss their affordances to an image-based research process.

These examples show that teaching and learning visual literacy can start by creatively reframing existing resources. The project team's efforts were underpinned by a belief that visual literacy, and by extension all information literacies, transcends knowledge of a specific library's resources and can empower learners to critically engage any information ecosystem.

Conclusions on Creativity and Design: Not Just Products

In this chapter, we have outlined how visual literacies and modalities can be used to both frame library instruction and create instructional objects that cultivate dispositions and skill sets essential to visual literacy as learners engage them.³¹ However, our endorsement of using these approaches is rooted in our belief that visual-based instruction does more than produce visual products and literacy. Critically, visual mediums present opportunities to form communities of practice and collaboration around creativity and its accompanying outcomes. From the formation of ideas, to creating prototypes and receiving feedback on ways to increase accessibility, to dialoguing with learners, we regard these artistic expressions as an ongoing conversation and partnership, rather than a singular event.

In a setting that highlights educational materials, this collaborative process is especially important, as students engage in community learning through the act of interpreting visual media and sharing their perspectives with other learners. Visuals such as comics are composed of a variety of elements—including characters, setting, dialogue, and meaningful space in the form of gutters—each of which provide a vehicle for sharing ideas in unpredictable and dynamic ways. When a cohort of creators gathers to produce these multifaceted visual resources, the variety of unique perspectives they bring to the table culminates in an artistic expression that invites a breadth of interpretation, perspectives, and dialogue, ultimately expanding the community that surrounds each piece. In our view, the cohort-creator approach is one that can be modeled in a variety of contexts including and beyond the creation of visual resources and can be employed as a means of building with and for diverse perspectives. We have found that creating

such cohorts around salient guiding principles—such as the WI+RE Design Toolkit and Manifesto—that are continuously updated to reflect new goals and perspectives will augment your cohort’s activities around sets of shared values (see figure 11.10).³²

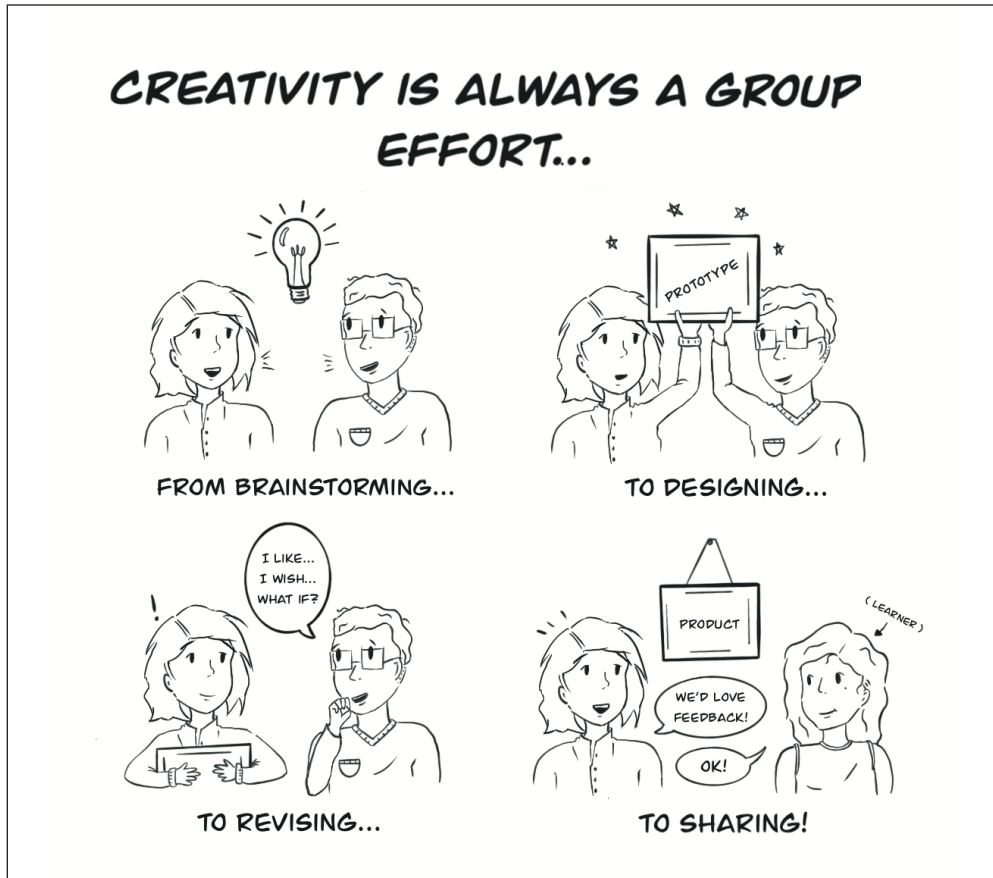


Figure 11.10

Salma Abumeeiz, “Creativity Is Always a Group Effort.”

Notes

1. Association of College and Research Libraries, *ACRL Visual Literacy Competency Standards for Higher Education* (Chicago: Association of College and Research Libraries, 2011), <https://www.ala.org/acrl/standards/visualliteracy>; Association of College and Research Libraries, *The Framework for Visual Literacy in Higher Education: Companion Document to the Framework for Information Literacy for Higher Education* (Chicago: Association of College and Research Libraries, 2022), https://www.ala.org/acrl/sites/ala.org.acrl/files/content/standards/Framework_Companion_Visual_Literacy.pdf.
2. American Library Association, “Digital Literacy,” accessed January 25, 2022, <https://literacy.ala.org/digital-literacy/>.

3. Association of College and Research Libraries, *Framework for Visual Literacy*, 5.
4. Association of College and Research Libraries, *Framework for Visual Literacy*, 6.
5. We should consider the relationship of the visual to ableism in terms of both visual material rendering content inaccessible to those with visual disabilities and also the way in which the ocular/psychological act of staring constructs a social model of disability. Rosemarie Garland-Thomson, *Staring* (Oxford: Oxford University Press, 2009). In particular, when depicting human figures, what choices are made that lead to a body being understood as normative or not? In a learning context, how might that impact someone's engagement with the visual?
6. Association of College and Research Libraries, *Framework for Visual Literacy*, 6, 10.
7. Xiangling Zhang et al., "Accessibility within Open Educational Resources and Practices for Disabled Learners: A Systematic Literature Review," *Smart Learning Environments* 7, no. 1 (2020): article 1, p. 4, <https://doi.org/10.1186/s40561-019-0113-2>.
8. Salma Abumeeiz and Matthew Weirick Johnson, "The Limits of Inclusion in Open Access: Accessible Access, Universal Design, and Open Educational Resources" (presentation, UCLA Library, March 22, 2022), <https://scholarship.org/uc/item/9qx853tv>.
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10. The *Open Axis* video game can be accessed at the following link: <https://guides.library.ucla.edu/openaccess/openaxis>
11. Lucid home page, <https://lucid.app/> (requires login); Twine home page, <https://twinery.org/>; Flowlab home page, <https://flowlab.io/>. Respective programs do not require programming knowledge and are relatively easy to learn. Twinery has its own reference guide (<https://twinery.org/reference/en/>), Flowlab.io has introductory video tutorials (https://flowlab.io/video_tutorials), and Lucid.app has a built-in Education Center with a reference guide, mini-lessons, and a help center.
12. "W3C Standards and Drafts," W3C standards and drafts | W3C, n.d., <https://www.w3.org/TR/?status%5B0%5D=standard>.
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16. Hoffner et al., "Open Axis Video Game," 424.
17. UCLA Library, WI+RE: Writing Instruction + Research Education home page, accessed January 28, 2022, <https://uclalibrary.github.io/research-tips/>.
18. To learn more about how WI+RE incorporates learner-centered design philosophy, see Doug Worsham and Dani Brecher Cook, "Let's Build Something! (The Toolkit): A Rapid-Prototyping Instructional Design Workshop" (text materials, April 2018), <https://app.box.com/s/184451559e-y5uloo11x42z458zcrlevp>. For more on WI+RE's applied value-driven design philosophy, see Taylor Harper et al., "The WI+RE Way: A Manifesto and a Process for Learner-Led Design," *Journal of New Librarianship* 5, no. 1 (2020): 1–24.
19. See Chris Lopez, "Breaking Down Academic Articles," <https://uclalibrary.github.io/research-tips/breaking-down-academic-articles/>.
20. Steven Hoover, "The Case for Graphic Novels," *Comminfolit* 5, no. 2 (2012): 174–86, <https://doi.org/10.15760/comminfolit.2012.5.2.111>. See also, Samantha Kirk and Patricia Guardiola, "Visualizing Arguments: Constructing Comics to Unpack Scholarly Texts," in *Comics and Critical Librarianship: Reframing the Narrative in Academic Libraries*, ed. Olivia Piepmeier and Stephanie Grimm (Sacramento, CA: Library Juice, 2019), 231–246.
21. Alexandra Solodkaya et al., "Finding Images with the UCLA Library," WI+RE, UCLA Library, 2020, <https://uclalibrary.github.io/research-tips/finding-images/>.
22. Nick Sousanis, *Unflattening* (Cambridge, MA: Harvard University Press, 2015), 64.

23. Association of College and Research Libraries, *Framework for Visual Literacy*, 6–7.
24. The students' perspectives in the next few paragraphs and graphics reflect their thoughts on what visual literacy dispositions are cultivated in them as they design instructional resources for their peers on topics that are not necessarily related to visual literacy. These reflections are offered to demonstrate the possibilities for teaching visual literacy by inviting your learners to think and communicate through the creation of visual objects. To our knowledge, no librarian at UCLA fully utilized this model for visual design in their instruction and assessment.
25. Take, for example, the #ComicsA11Y Symposium 2021 put on by San Francisco State University: Nick Sousanis et al., "Opening Comments and Keynote Panel (#ComicsA11Y Symposium 2021)," VI Program SFSU, September 10, 2021, YouTube video, 31:09, <https://www.youtube.com/watch?v=StfMNlgbq00>.
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