Infographics as a Tool for Equity in Reference and Instruction

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Abstract

Meeting students' needs and sustaining their attention in an asynchronous, online environment can be challenging, and it takes a lot of time to create digital resources like videos, tutorials, and research guides. Infographics are an ideal, multimodal tool for effectively engaging students by visualizing library spaces, services, and research processes. In this session, participants learned about digital equity issues in higher education and viewed examples of infographics used to orient students to physical library spaces and information literacy concepts for reference and instruction. Critical design considerations related to equity and inclusion in infographics included access, representation, language, and accessibility. The session also covered free tools for creating instructional infographics and practical ways to incorporate infographics into research guides, frequently asked questions, and tutorials. During the session, participants analyzed icons and shared their own ideas and examples of infographics that visualize library processes.

Introduction

As reference and instruction librarians, we often create online instructional materials such as videos, research guides, and interactive tutorials that learners can use at their own pace. However, learners may find text-heavy instructional materials difficult to engage with in an asynchronous online environment. In her book *Data Visualization and Infographics*, Maudlin (2015) describes how: "Your patrons, especially those who have grown up in the age of the Internet, will expect to see data presented to them in a visual format, the easier to enjoy on a tablet or smartphone and the better to use on the go than a chart or page of prose" (p. 110). According to a recent survey of 1,500 fully online college students, 99% of respondents owned a mobile device and 44% used a mobile device to conduct all or almost all of their research (Aslanian et al., 2019). Visual and mobile-friendly instructional materials are increasingly relevant in the midst of the COVID-19 pandemic with many college campuses operating in a fully remote or hybrid environment. At California State University Dominguez Hills, alternatives to face-to-face instruction will continue through Spring 2021, and many of our students do not have access to laptops or reliable internet connection. CSUDH's student population is primarily Hispanic and Black, and live in local, under-resourced communities (California State University Dominguez Hills, n.d.). These are racial and class disparities that cannot be ignored in our instructional design. To supplement or replace synchronous online instruction, students need to be able to come away with a tangible resource that they can access from their phone. Well-designed videos and research guides can be effective but underutilized and time-intensive to create. Infographics as online teaching tools can at least mitigate some of these challenges to

creating and delivering instructional content asynchronously using free or low-cost design tools like Piktochart (https://piktochart.com/) and Canva (https://www.canva.com/). Librarians without formal design training can use these online graphic design tools to create engaging and mobile-friendly visuals with dynamic hyperlinks that can also be embedded into a webpage or LibGuide (Willenborg, 2017).

Summary of Practical Takeaways

First, choose a library or information literacy concept you want to convey in your infographic. What do you want students to learn or be able to do after reviewing the infographic? A simple learning outcome like "Students will be able to use the library catalog to find and locate online and print books" can help refine your scope.

Next, consider how you will represent the concept through text and images. Who is your audience? What will they recognize? What may be unfamiliar to them? Is library jargon necessary and defined, or is there a way to describe the concept or process using plain language (Usability.gov, n.d.)? For example, instead of using the phrase "library catalog," you might say: "Use OneSearch, the main search bar on the library's homepage." Visuals should also help quickly convey information to your audience instead of being purely decorative or distracting (Piktochart, 2015). This is also a place to be critical since simplified icons and graphics can still convey coded messages. For example, icons for "library" show buildings with decorative columns that reinforce the library as an institution where not all learners may feel comfortable or welcome.

After you've created your infographic, how will learners find and interact with your infographic? This can be as simple as hosting it on a LibGuide or the library's Frequently Asked Questions to share a link or where learners can find it on their own. In Piktochart, you can copy the embed code from the sharing options and paste it into the source code of an HTML editor in a mobile-responsive wrapper. It may also be appropriate to pair an infographic with multiple choice or reflective questions in an interactive tutorial platform like SpringShare's LibWizard tutorials or directly in the Learning Management System.

Finally, throughout your infographic design process, keep web accessibility and principles of universal design for learning in mind (W3C Web Accessibility Initiative, 2020; CAST, 2018). For text, use appropriately sized and styled fonts and a high ratio for color contrast for users with dyslexia, challenges with reading comprehension, or visual impairments (Weikel, 2017). For color checks, use online tools like the WebAIM Color Contrast Checker (https://webaim.org/resources/contrastchecker/) to generate a ratio aligned with Web Content Accessibility Guidelines (WCAG). Infographics should also be available to learners as screen-reader accessible PDFs that are remediated for reading order, alternative text, and additional features using Adobe Acrobat Pro (Adobe, n.d.).

Activities

Pre-session Survey

What is your experience with infographics?

- I've created an infographic for reference/instruction.
- I've created an infographic, but for something other than libraries.
- I haven't created my own infographic, but I've used them for reference/instruction.
- Infographics for reference/instruction is new to me.

Post-session Survey

How likely are you to create an infographic for reference/instruction for your library after this session?

- Very likely - I'm so inspired!
- Somewhat likely - I'm curious to try it out.
- Not likely - That's okay!

Analyzing Icons

Directions: Review and share your reflections on the first page of search results for "library" and "evaluate" from The Noun Project (https://thenounproject.com/). What comes to mind when you see these images? What isn't represented?

References

Adobe. (n.d.). *Using the Acrobat Pro DC Accessibility Checker*. https://www.adobe.com/accessibility/products/acrobat/using-acrobat-pro-accessibility-checker.html

Aslanian, C. B., Clinefelter, D. L., & Magda, A. J. (2019, June 4). *Online college students 2019*. The Learning House. https://www.learninghouse.com/knowledge-center/research-reports/ocs2019-research-report/

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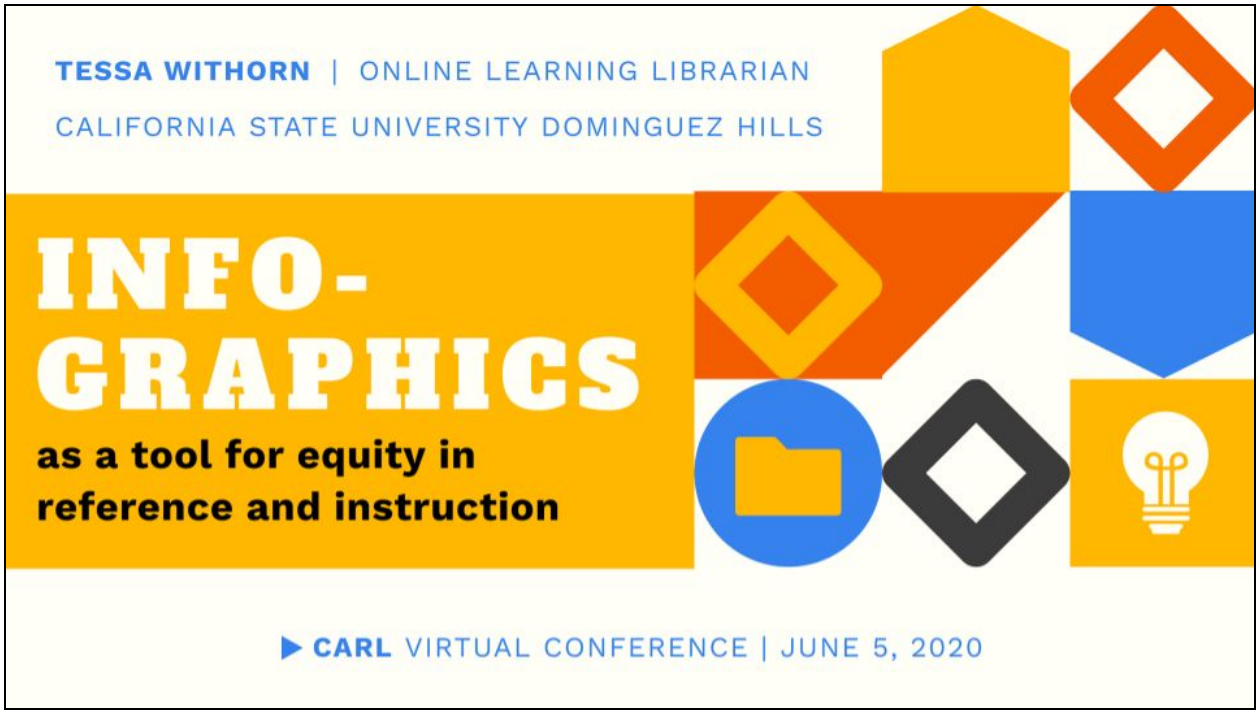
Willenborg, A. (2017). Beyond clip art. *Kentucky Libraries*, *81*(1), 15-20. http://library.palcomtech.com/pdf/5425.pdf

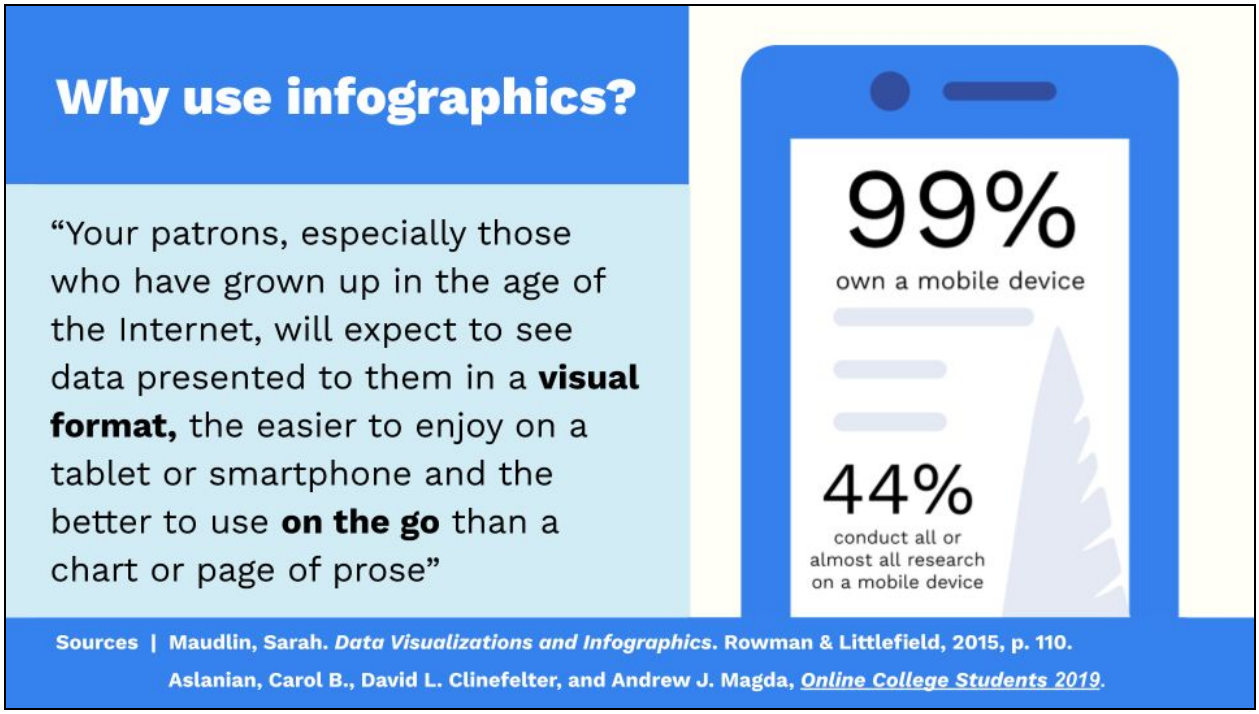
Usability.gov. (n.d.) *Writing for the web*. https://www.usability.gov/how-to-and-tools/methods/writing-for-the-web.html

Appendix 1: Presentation Slides

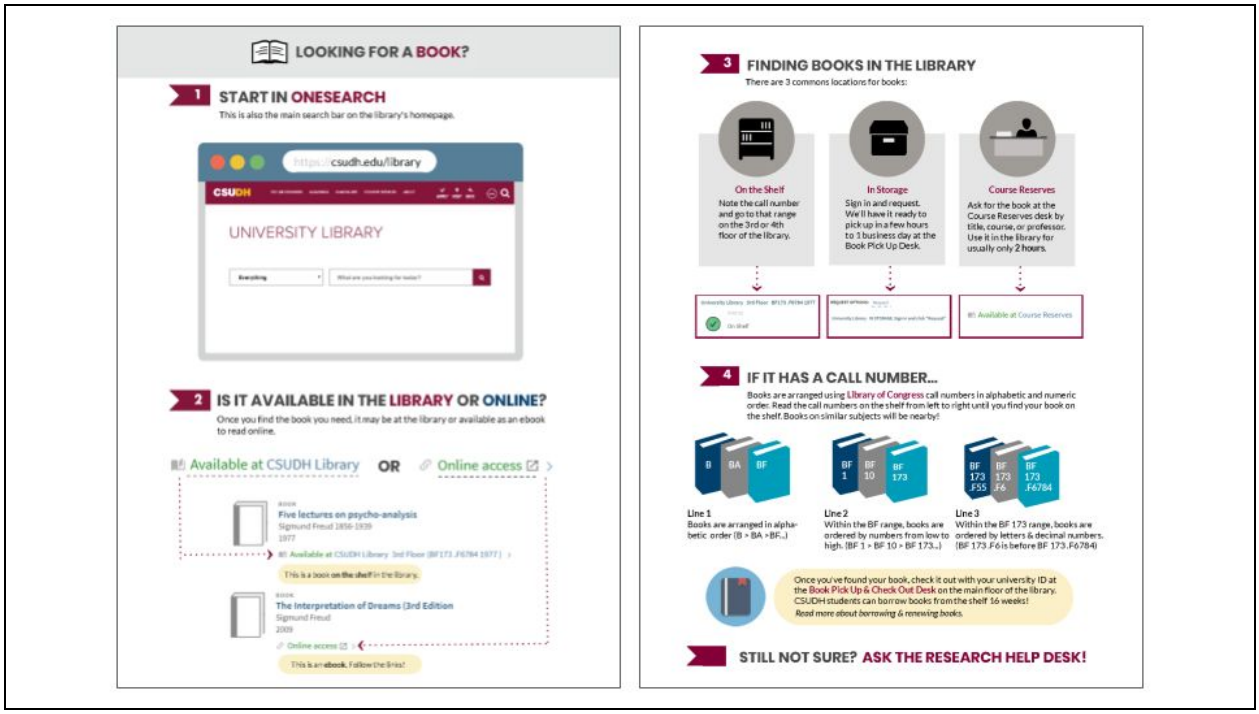


Slide 1: Introduction

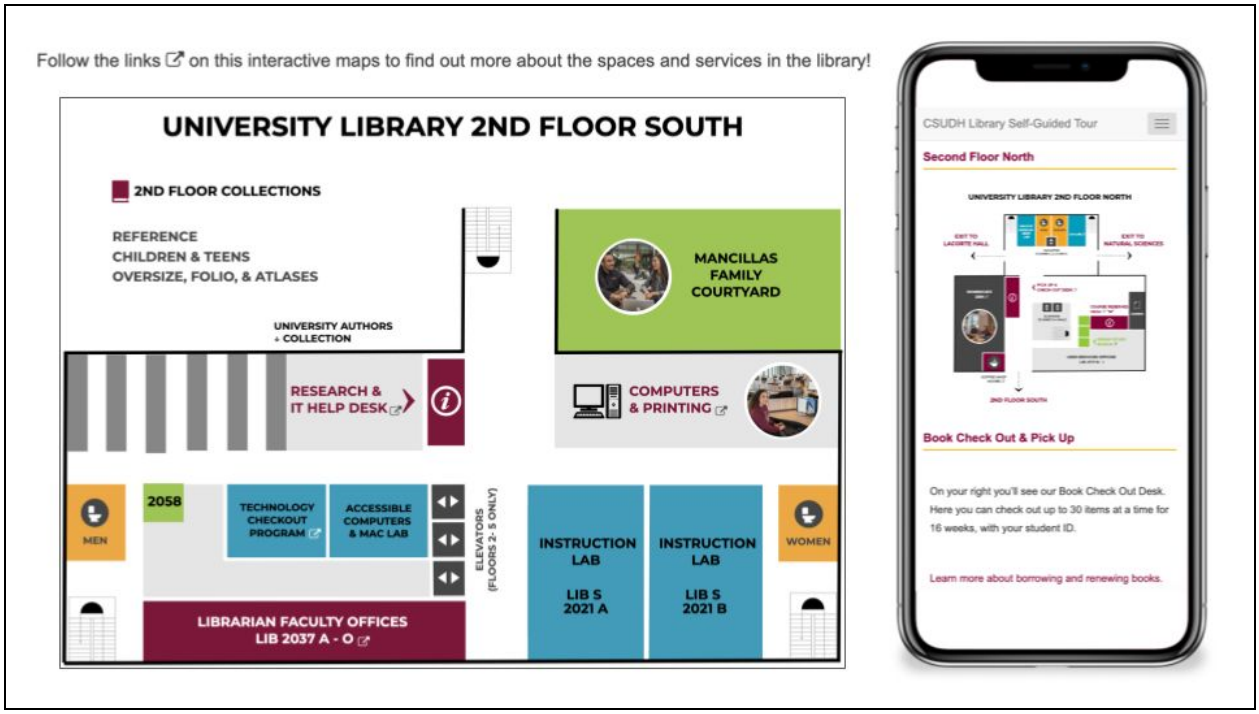
Slide 2: Session outcomes



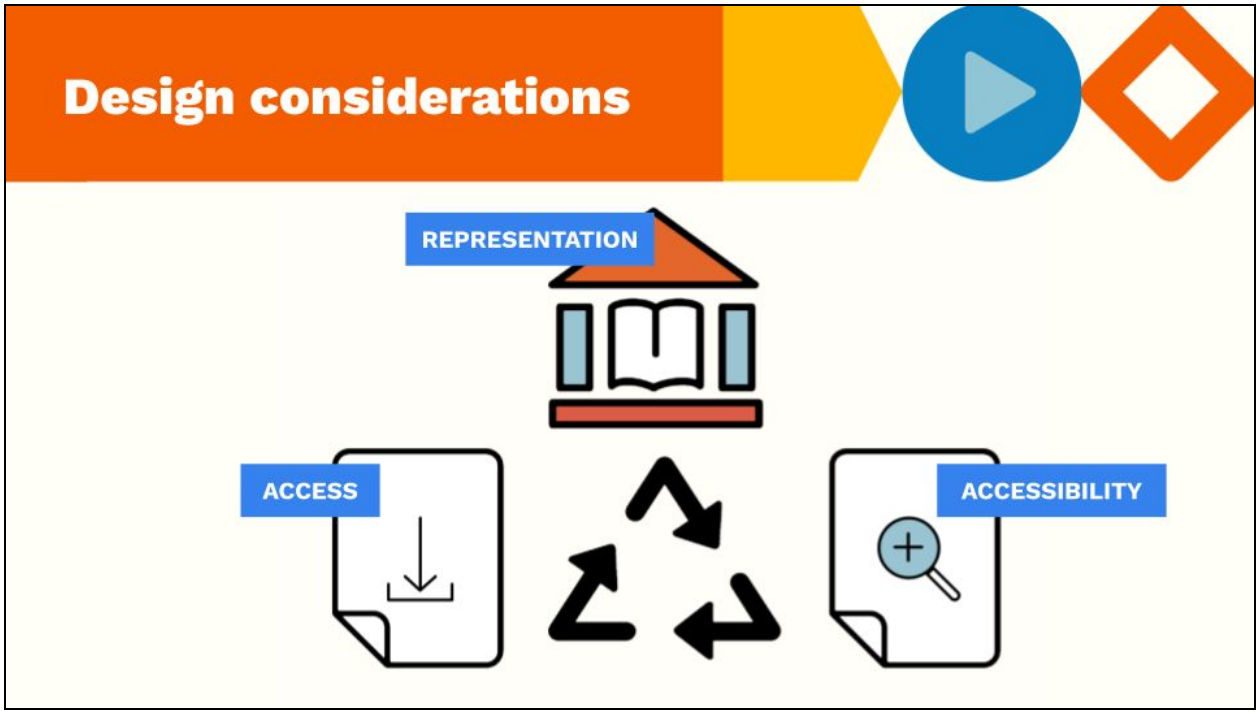
Slide 3: Why use infographics?



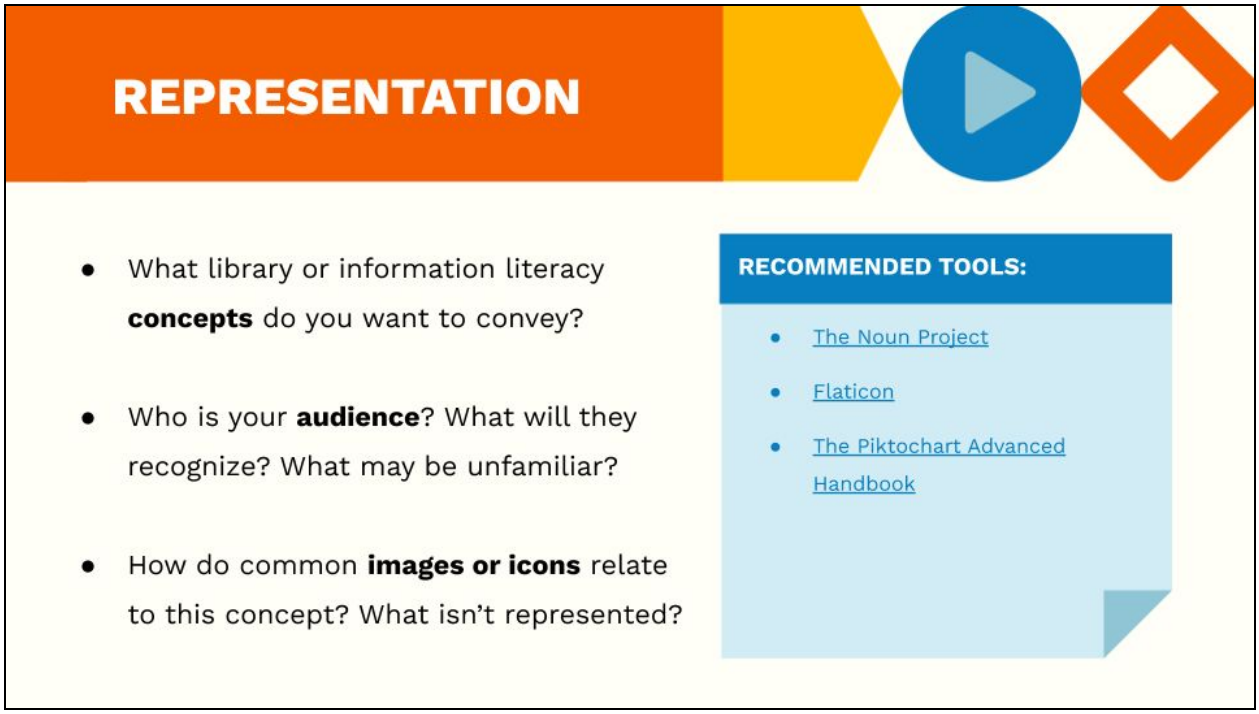
Slide 4: Infographic example "Looking for a Book?" from CSUDH



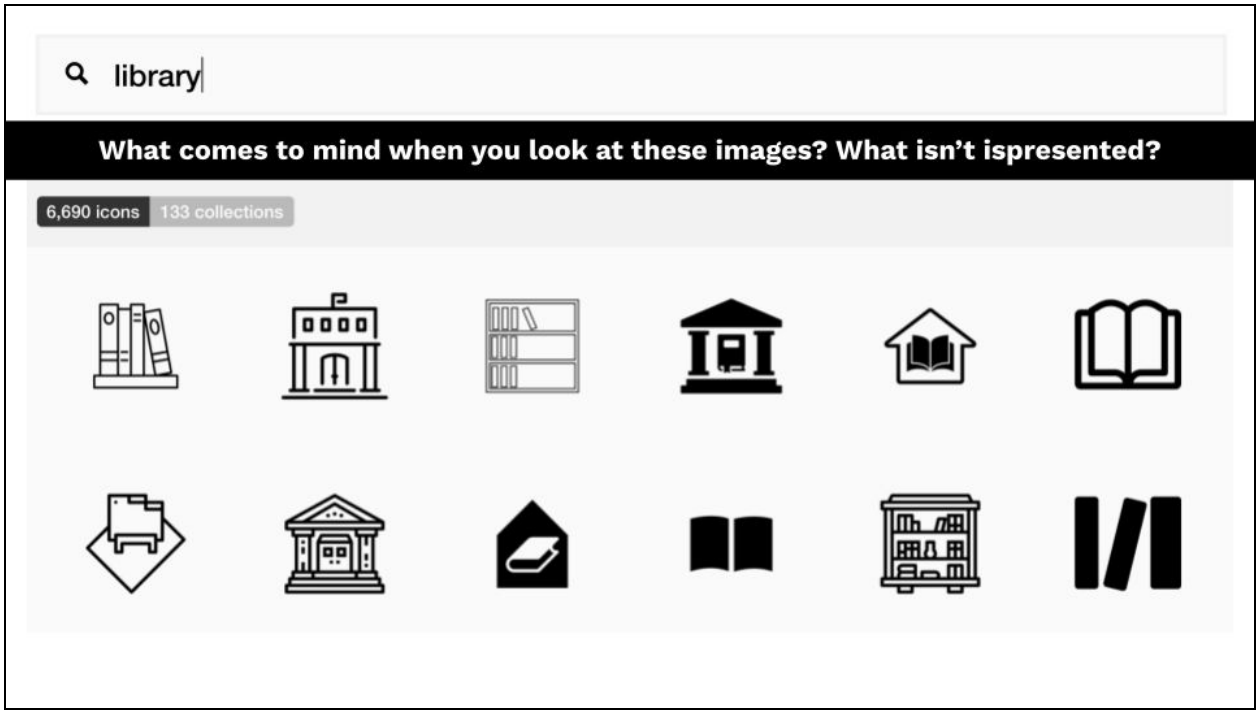
Slide 5: Infographic example of library floor maps at CSUDH



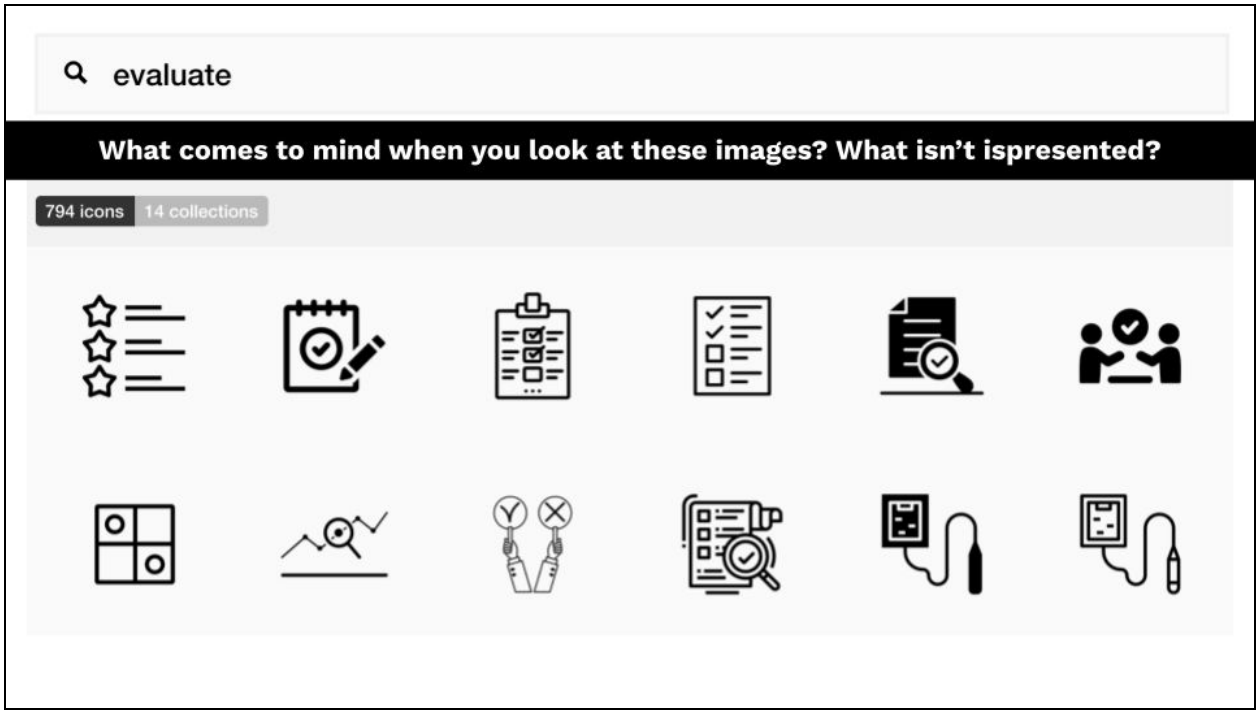
Slide 6: Design considerations



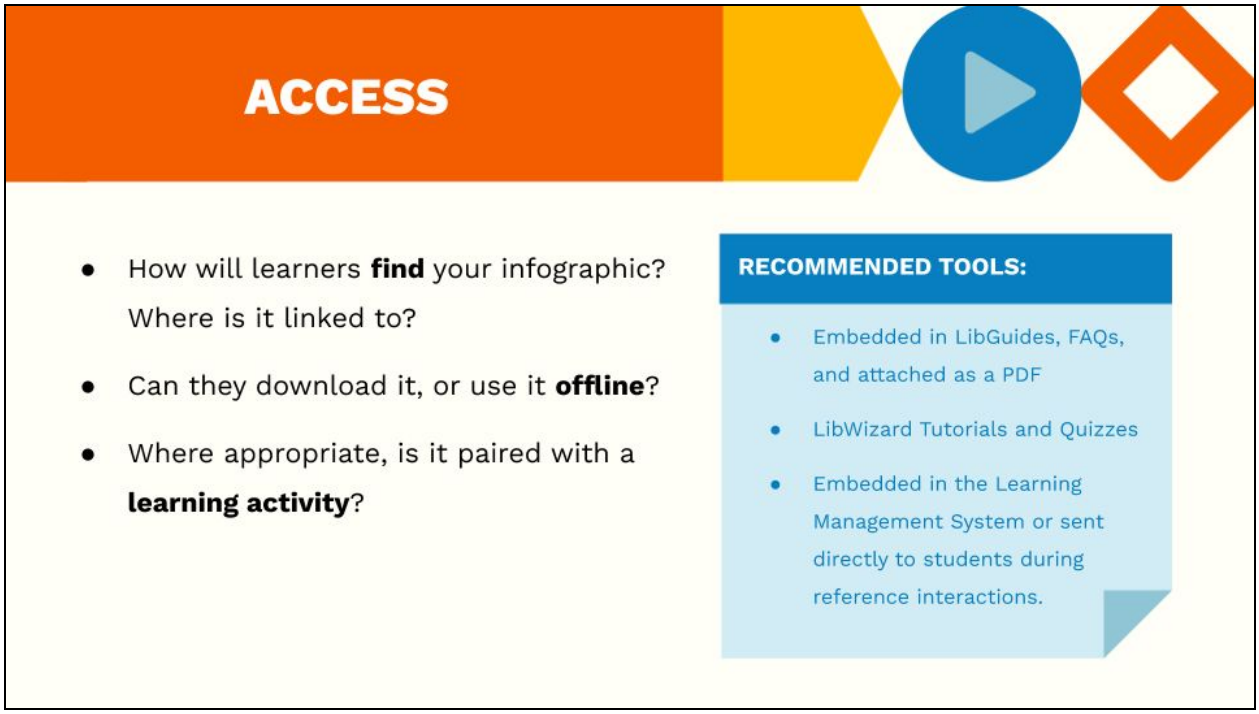
Slide 7: Representation



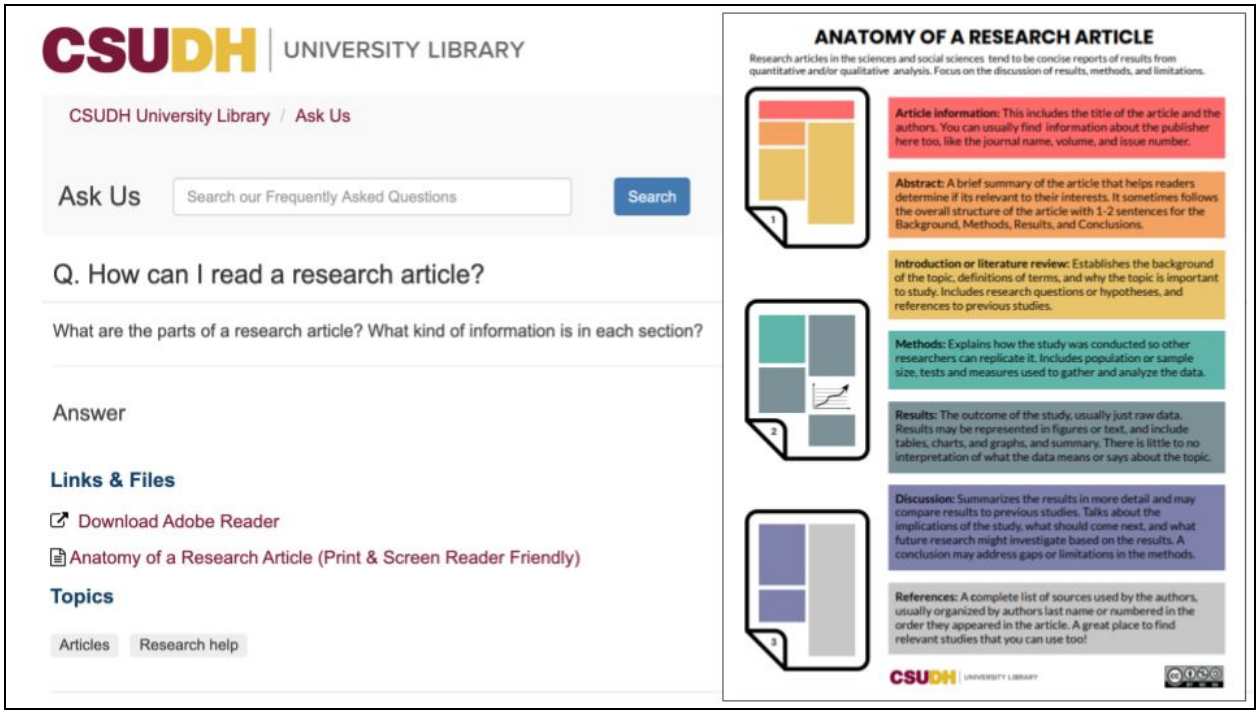
Slide 8: Activity analyzing icons of "library" from The Noun Project



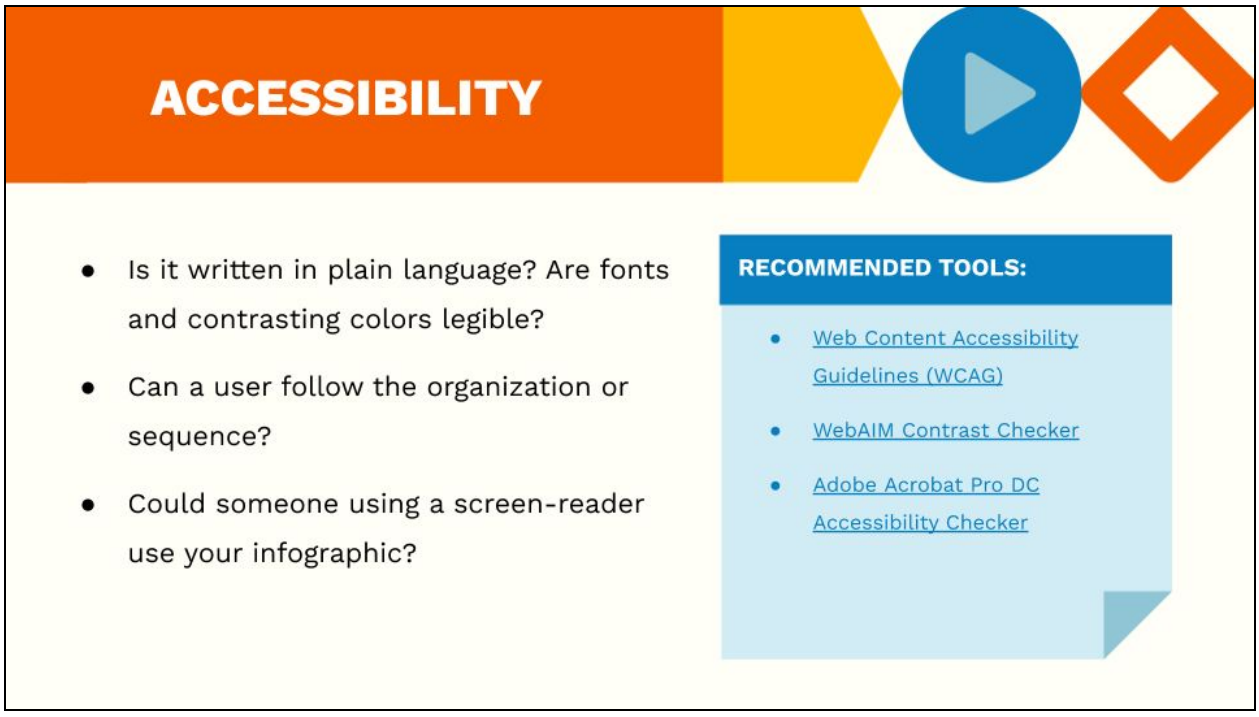
Slide 9: Activity analyzing icons of "evaluate" from The Noun Project



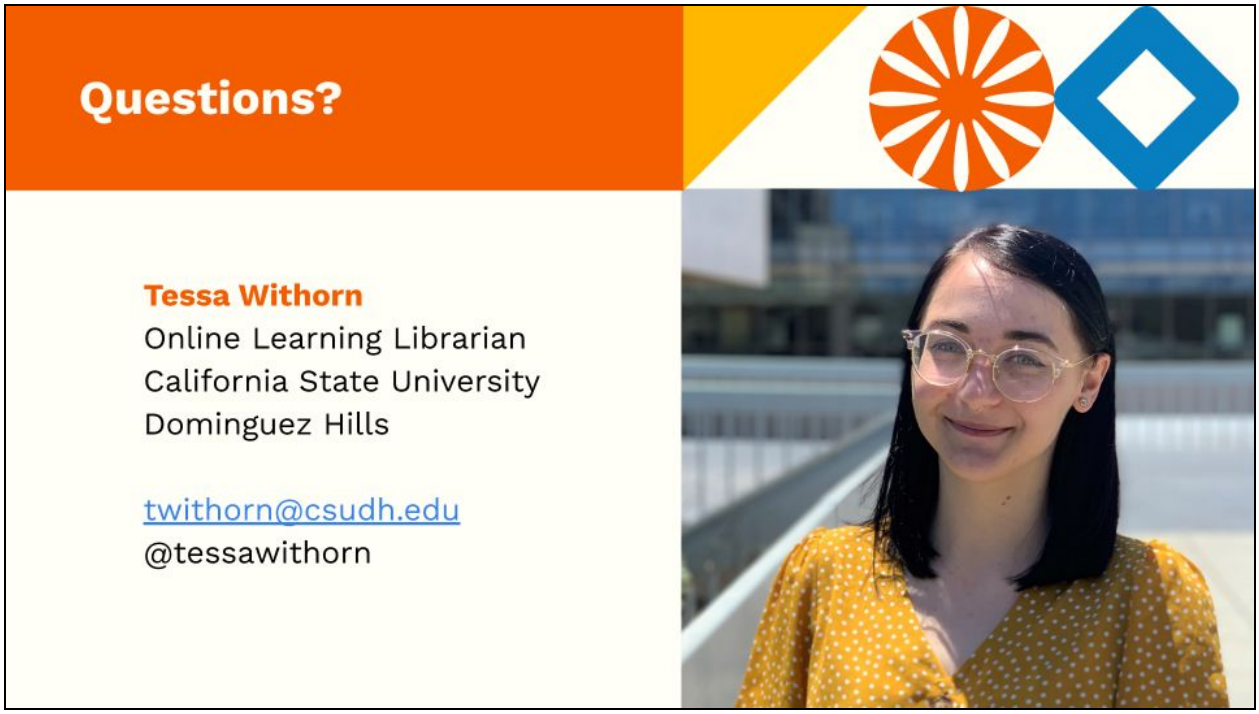
Slide 10: Access



Slide 11: Example of embedded infographic “Anatomy of a Research Article” in LibAnswers at CSUDH



Slide 12: Accessibility



Slide 13: Questions and contact

Appendix 2: Handout

Design considerations	
What do you want students to be able to learn from your infographic? **Representation:** What images and language will convey concepts for your audience? **Access:** How will learners find and interact with your infographic? **Accessibility:** Check for plain language, legible fonts and color contrast, order/sequence, and features for assistive technology.	
Design tools	**Accessibility tools**
• PIktochart • Canva • Noun Project • Flaticon	• WebAIM Contrast Checker • HTML Colors from Image • Adobe Acrobat Pro DC Accessibility Checker

Recommended readings

- Maudlin, S. (2015). *Data Visualizations and Infographics*. Rowman & Littlefield.
- Piktochart. (2015). *The piktochart advanced handbook: Using Piktochart like a pro*. https://piktochart.com/wp-content/uploads/2015/07/Piktochart-e-book-3-Using-Piktochart-Like-A-Pro.pdf
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