

Images and the Research Process

I **MAGES CAN PROMPT** inquiry and discovery and help students move from their concrete personal experiences into the more abstract area of library research. A deeper and richer understanding of visual content empowers students to think about ways to use images as part of their everyday iterative research processes. Teaching image research and evaluation alongside traditional bibliographic tools is a natural fit. If you're not sure where to begin, use the process and prompts in **Activity**

6.1: Kick-Starting Research with Historical Images to lead students through looking at the details of an image, describing cultural and historical factors relevant to the production of an image, and generating questions from an image.

Research shows that college students are already looking for images and text at the same time: in their information-seeking behavior, students don't separate searching for sources by type. In their 2010 Project Information Literacy report, Alison Head and Michael Eisenberg noted that "students begin their course-related research activities in search of *research contexts*, [which] entails getting information for interpreting and defining information need" (5–6). Head and Eisenberg went on to say that students often find this part of the research process to be "laborious" and "frustrating." Incorporating visual literacy as part of the research process can mitigate this frustration by giving students the tools to move through multiple sources and content types.



ACTIVITIES IN THIS CHAPTER

- 6.1: Kick-Starting Research with Historical Images
- 6.2: Using Images to Further Research
- 6.3: Examining a Source Visually
- 6.4: Evaluating Images and Their Sources
- 6.5: Analyzing a Map to Teach Source Evaluation
- 6.6: Contemplating the Value of an Image

As they grapple with the richness of the contextual information they find, they build comfort with an information environment that blends image and text. Each source demands sharp evaluation skills to parse what's there and to pose new questions. Working with images throughout the research process readies students to find and use information in all formats, while developing critical thinking and evaluation proficiency.

Foundational Questions

What Do Images That I Encounter during Research Tell Me?

Pay attention to the variety and types of images that you find while you research—they can reveal disciplinary and interdisciplinary practices and serve as sources themselves. Images can raise new questions about your topic and give you more ideas for avenues to explore in your research.

Can Visual Thinking Techniques Help Me Understand My Topic and Research?

Take a moment to sketch out the concepts in your next research topic. Drawing a concept map, or using a graphic organizer, can further your research by revealing previously unseen connections, narratives, and arguments.

What Do the Visual Characteristics of My Sources Tell Me?

Evaluating the visual characteristics of sources can help you decode the purpose of a source and strengthen your critical reading and evaluation skills.

How Do I Approach Evaluating Images and Their Sources?

The critical thinking strategies you've developed for evaluating all kinds of information also work for evaluating images and image sources. Assess the unique characteristics of images and explore the reliability and credibility of where you find them to decide if an image aligns with your project goals.

Using Images to Further Research

Paying attention to the images that you encounter during the research process reveals disciplinary and interdisciplinary practices. These images can provide ideas for visual content to include in research or to use as sources of information themselves. Consider what you can learn from the range of images included in articles about the same topic, but in different fields. The **Images Found during Research** example parses the graphics retrieved by

two searches in a multidisciplinary database—one for “solar panels” and one for “art therapy.” As students are researching, directing their attention to the images included in the sources they find can advance their understanding of how images are used in scholarly discourse. Indeed, many subscription databases emphasize image content as value added and include features that let you delve into the graphics without even reading the article. Contemplating the variation in graphic choices across the disciplines opens up discussion with students about discourse communities, helping students make choices about graphics to include in their own projects as they move from novices to experts. Chapter 3, “Create and Use Images,” applies this concept in the image creation process; use **Activity 3.1: Exploring Disciplinary Image Use** to help students move from pinpointing image use in a discipline to applying what they learn in their own work.

Example: Images Found during Research

Search 1: “Solar Panels”

SAMPLE ARTICLE	INCLUDED GRAPHICS	DISCIPLINE
Aly, Aly Mousaad, and Girma Bitsuamlak. 2014. “Wind-Induced Pressures on Solar Panels Mounted on Residential Homes.” <i>Journal of Architectural Engineering</i> 20 (1): 1-12.	2 Color Photographs 2 Charts 12 Graphs	Engineering
Smith, Michael G., and Johannes Urpelainen. 2014. “Early Adopters of Solar Panels in Developing Countries: Evidence from Tanzania.” <i>Review of Policy Research</i> 31 (1): 17-37.	8 Charts	Public Policy
Zhang Yinong, Pu Jiantao, and Jianjun Fang. 2014. “Machine Vision Based Micro-Crack Inspection in Thin-Film Solar Cell Panel.” <i>Sensors and Transducers</i> 179 (9): 157-161.	2 Black-and-White Photographs 1 Diagram 1 Graph	Applied Technology

Search 2: "Art Therapy"

SAMPLE ARTICLE	INCLUDED GRAPHICS	DISCIPLINE
Crawford, Cindy, Courtney Lee, and John Bingham. 2014. "Sensory Art Therapies for the Self-Management of Chronic Pain Symptoms." <i>Pain Medicine</i> 15 (S1): S66-S75.	2 Diagrams 4 Charts	Medicine
Metzl, Einat S. 2013. "Artistic, Therapeutic, and Sexually Informed: A Five-Week Human Sexuality Course for Art Therapy Students." <i>American Journal of Sexuality Education</i> 8 (4): 191-212.	3 Illustrations 1 Collage 1 Photograph 7 Graphs	Education
Holmqvist, Gärd, and Cristina Lundqvist Persson. 2012. "Is There Evidence for the Use of Art Therapy in Treatment of Psychosomatic Disorders, Eating Disorders and Crisis? A Comparative Study of Two Different Systems for Evaluation." <i>Scandinavian Journal of Psychology</i> 53 (1): 47-53.	1 Diagram 3 Charts	Psychology

Wherever they are used, images can act as a springboard for further research. Images contain a wealth of information and are a rich source for digging deeper into your content and research area. Images encountered during research typically are not there simply for decorative purposes. Consider what an image is adding to an argument and how you can follow that argument to ask more questions and explore other sources. In **Activity 6.2: Using Images to Further Research**, students assemble images they encounter during a research session, then use these images to pose new questions and move the research process forward.

Visualizing a Topic

Flex visual literacy skills at the beginning of the research process by engaging students in visualizing their topics. You may be accustomed to asking students to brainstorm keywords for a research topic. Instead of listing keywords, why not have students generate a concept map by drawing a circle in the center of a page and creating branches for subtopics and related ideas. Or give students a few minutes at the beginning of a workshop to draw an "ideal source," then use the results as a springboard to decide which resources to consult. Representing research ideas in a nonlinear way encourages lateral thinking and can reveal new connections.



Figure 6.1. Brainstorming

Visualizing a topic also shows promise for developing and improving higher order thinking. A study in *Education* found that students who made concept maps about a psychology-related topic later demonstrated superior critical thinking about that topic. The study concluded that “graphically depicting the structure of complex concepts appears to effectively complement the variety of abstract paradigms for facilitating critical thinking” (Harris and Zha 2013, 209). There is an abundance of research in medical, pharmaceutical, and nursing education about using concept maps in the classroom. One such study, conducted by a team of pharmacy educators at the University of the Pacific, found that the majority of students enrolled in a cardiovascular care course agreed that concept maps helped them to conceptualize the big picture of treatment for the chronic conditions studied in the course (Carr-Lopez et al. 2014).

Evaluating Visual Characteristics of Sources

Librarians often help students distinguish between scholarly and popular articles, unpacking textual cues to uncover authority, accuracy, purpose, quality, objectivity, currency, and relevance. By extension, we can help students identify how the visual characteristics of a source contribute to the interpretation of its overall reliability and usefulness. Instead of starting with the written


COFFEE BREAK!

Concept Mapping

In the box, sketch a concept map for a topic you've recently worked with students to explore.

REFLECT

What new connections did you find?

How might students benefit from this strategy?

criteria, try a side-by-side visual comparison to prompt discussion. Have students explain the differences that they *see*. For example, students can compare

- A recent cover of the journal *Popular Music* with a recent cover of *Rolling Stone*
- A feature article from *Science* with an article from *National Geographic*

This type of work trains our students to use visual cues to compare and contrast layout, ads, images, titles, headings, and authorship. This approach is transferable and sets up students to ask critical questions of sources that they encounter in different contexts, such as a list of database search results or a website that relates to a research topic. For example, a student might notice that a

website's red, white, and blue color scheme suggests a strong patriotic stance or that the images of people in a political candidate's blog all look directly at the camera, portraying a feeling of strength. The use of big, bold headlines on a newspaper's site reveals the content creator's desire to draw viewers in and perhaps persuade them about a particular point of view. Use **Activity 6.3: Examining a Source Visually** to examine how bibliographic information is presented, to explore design elements, and to consider how visual elements inform a source's authority, purpose, objectivity, and reliability.



COFFEE BREAK!

Explore the Geography of a Source

Pick up a book, magazine, or journal. Take a moment to step back and look at it visually. Try to find each piece of bibliographic information, and classify your efforts in the table using the following scale to determine each item's visual emphasis score:

- 1 = Impossible to find
- 2 = Difficult to find
- 3 = Not easy to find, but I found it
- 4 = Easy to find
- 5 = Impossible to miss

INFORMATION	VISUAL EMPHASIS SCORE (1-5)	NOTES AND QUESTIONS
Title		
Author(s)		
Author(s)' affiliation		
Publisher		
Date of publication		
Sources used		

Which pieces of information stand out? Which are difficult to find? What new questions arise?

REFLECT

How might you apply this exercise in your work with students?

Evaluating Images and Their Sources

Evaluating images is an extension of the information evaluation you're already doing with text-based materials. Critical thinking, contextualizing, and inquiry practices are the foundation of all evaluation, including image and image source evaluation. The nature of the image format, however, requires that you expand your evaluation strategies to encompass additional image-specific questions and questions raised by the relationship of text and image.

We like to think of image evaluation in clusters of questions or sites of evaluation. Some clusters are already part of your everyday information evaluation practice. Other clusters may prompt new ideas to help you and your students evaluate image content quickly and effectively. Different clusters may be more relevant at different times, but having these tools at your fingertips can make it that much easier to seamlessly integrate image and image source evaluation into the research process. Use **Activity 6.4: Evaluating Images and Their Sources** to think through the different aspects of image evaluation with your students, faculty, and colleagues.

EVALUATING IMAGES RHETORICALLY

The context in which an image will be used is key to the evaluation process. Compositionist Joseph Bizup introduced a rhetorical vocabulary for teaching research-based writing dubbed BEAM, for background, exhibit, argument, and method (Bizup 2008). With BEAM, students focus on *how* a source is used

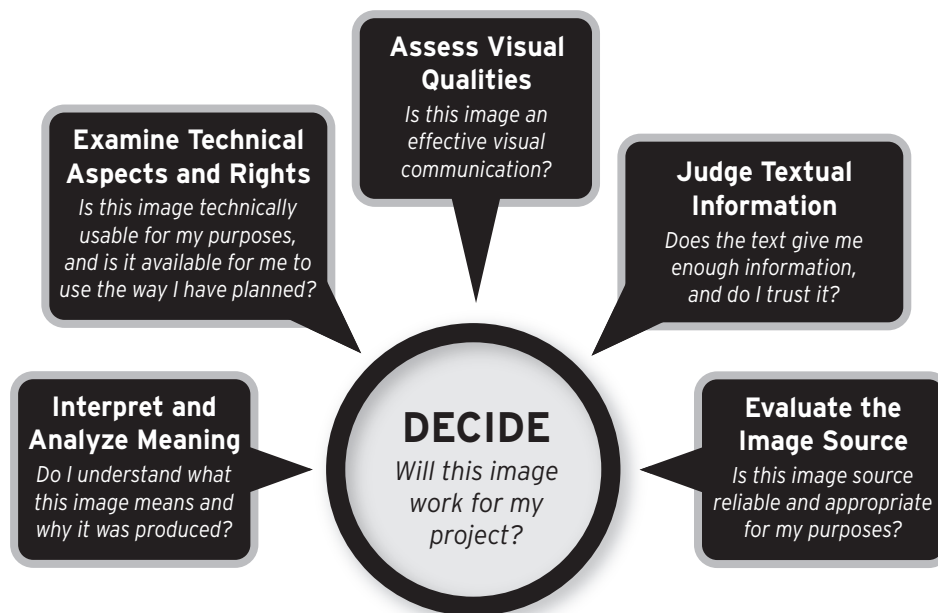


Figure 6.2. Image evaluation clusters

rather than on the source type or classification. Bizup argues that classifying sources as primary, secondary, or tertiary ignores their rhetorical function in favor of their “relationship to some external point of reference.”

Classic definitions of primary sources (created during the time period or culture under study), secondary sources (discuss primary sources), and tertiary sources (summarize secondary sources) can undermine a more complex rhetorical understanding of what role a source is playing within a work. The BEAM model complements a basic understanding of the characteristics of source types while offering the flexibility to see that ways of using sources are context-dependent and shift based on discipline and research question.

Like writing instructors, librarians can use a source’s rhetorical role to develop critical thinking and move beyond prescriptive evaluative criteria such as the “CRAAP Test,” which emphasizes currency, relevance, authority, accuracy, and purpose but fails to address the role that sources play in a student’s work. Although BEAM focuses on textual sources, it can be applied to visual materials too. Our chart **Evaluate an Image’s Rhetorical Role** shows how images can be background, exhibit, argument, and method sources. It is important to remember that because BEAM is context-based, a specific source may fit into different categories, depending on how the author intends to use it.

Evaluate an Image’s Rhetorical Role		
SOURCE	RHETORICAL ROLE	IMAGE EXAMPLE
Background	Provides general information, factual evidence, or context; often encyclopedias or reference materials	A statistical chart to track historical unemployment rates
Exhibit	Analyzes or interprets; often primary source materials such as documents, ephemera, or data	A soup-can label with recipes from the 1950s to interpret elements of social life from that time period
Argument	Engages in scholarly conversation by refuting, affirming, or refining claims; often journal articles or scholarly papers	An exhibit catalog of Salvador Dali’s work to make an argument about surrealism
Method	Derives governing concept or way of working; often theory sources	A diagram of a theoretical model to ground new work sources

Bizup proposes a simple rule of thumb to help writers avoid creating stale prose when contributing new ideas to scholarly discourse: “If you start with an exhibit, look for argument sources to engage; if you start with argument sources, look for exhibits to interpret” (Bizup 2008, 82). Exhibits are often primary sources, and you can deploy this rule of thumb to identify when students might need a primary source to push their work forward.

Images and Information Literacy Threshold Concepts

We have already taken an in-depth look at what visual literacy looks like up close and in daily practice. In this section, we take a broader view and situate images and visual literacy within the context of ACRL’s *Framework for Information Literacy for Higher Education*. Images fit into every aspect of information literacy, from reflectively discovering information to understanding how information is produced and valued to using information to create new knowledge and participate ethically in communities of learning.

The *Framework’s* six frames—each consisting of a threshold concept, knowledge practices, and dispositions—offer a flexible structure that can be used in tandem with visual literacy competencies to enhance library instruction and student learning across the disciplines. Threshold concepts open up new possibilities for visual literacy engagement, and visual literacy practices can expand that liminal space where librarians and students are exploring complex ideas such as the value of information and the information creation process. Visual literacy can enrich, deepen, and make tangible students’ experience of information literacy. Our real-world classroom examples for each frame provide a taste of what’s possible.

AUTHORITY IS CONSTRUCTED AND CONTEXTUAL

Like other information sources, images and graphics reflect their creators’ expertise and credibility and must be evaluated on the communication purpose *and* the context in which they are situated. The information need and purpose determine the level of authority required. For example, if you need an image of an air conditioner part so that you can buy a new one from your local hardware store, a photo you take of the broken part might be just fine. But a student who is planning to use a 3-D printer to generate a new part on her own will need a more sophisticated visual model.

Maps work well for teaching this frame because students tend to automatically view them as authoritative sources. In **Activity 6.5: Analyzing a Map**

to Teach Source Evaluation, students answer a series of questions to judge the credibility of a map as a source for making a prediction. Students learn that maps are authored constructions of three-dimensional reality, prone to distortions, biases, artistic license, creative embellishment, and even lies.

INFORMATION CREATION AS A PROCESS

Whether they stand alone or are integrated into academic work, images are created for specific purposes to communicate messages, convey ideas, or illustrate concepts. Chapter 3, “Create and Use Images,” provides a range of activities that work toward building a sophisticated understanding of the image creation process. Reinforce this frame by incorporating image evaluation into conversations about the research process. Use our **Evaluating Images and Their Sources Worksheet** to help students articulate the capabilities and constraints of visual content created through any medium or process.

INFORMATION HAS VALUE

The economics of image production and distribution is a rich area for discussing concepts related to this frame. Use **Activity 6.6: Contemplating the Value of an Image** to explore some of the choices that photographers and corporations make when sharing and selling images. The case study in this activity illustrates how the “value” of an image can range from economic to communal, reflecting a variety of interests and motivations. Chapter 4, “Ethical Use of Images,” explores intellectual property principles and practices around images, such as fair use, interpreting terms of use, censorship, and ethical issues related to image sharing.

RESEARCH AS INQUIRY

Use images to emphasize the iterative nature of research and to guide students through the process of generating new questions or refining existing questions. In **Activity 6.2: Using Images to Further Research**, students collect images during the research process and then spend time analyzing the images to raise new questions that push their research forward. Used in this way, images help students to develop a curious mind-set and the flexible thought processes needed to articulate knowledge gaps and determine next steps in the research process. Chapter 1, “Interpret and Analyze Images,” provides key questions for inquiry-based learning with a variety of image content, ranging from photographs to data visualizations.

SCHOLARSHIP AS CONVERSATION

Images can hook audience members, capture their interest, and add cohesion to a research workshop. The analogy of scholarship as a conversation is a per-

fect occasion for using an image as a topic of conversation. We've all had conversations, and we know what they look like and where they happen. Consider beginning a research workshop with an iconic image or an image commonly known in the subject area. Then ask students to imagine that they are in a space such as a café or lounge and that it is full of people deeply engaged in conversation about the image—the students' task is to engage in one of the conversations going on around them. Give students a minute to write down what they would do to join one of the conversations. Students might say, "I'd need to introduce myself" or "I'd have to think of something to say about the image." And inevitably someone says, "I'd have to *listen*" or "I'd have to ask someone else more about the image first." These answers set the tone for the session and let you draw on the analogy of research as a conversation throughout the class.

Activity 5.1: Why Cite Images? situates images in the scholarly communication process by relating image citation practices to participating in research as a conversation.

SEARCHING AS STRATEGIC EXPLORATION

Unlike textual sources, most images lack full bibliographic descriptions. This difference means that searching for images requires a healthy dose of creativity and flexible thinking. For example, to effectively use a corpus of images described only by user-generated tags, a student needs to imagine an ideal image, think about how someone else might describe it, try a search, and then modify that search based on the results. Or a student might need to accept that using the browsing functionality in an image database is the best bet. Exploring image sources can help students tolerate ambiguity and build a skill set of strategies that transfer to finding other types of information. In chapter 2, "Find the Right Images," we provide detailed strategies for image inquiry and discovery.

Next Steps

Images are part of, or can be integrated into, every step of the research process. Incorporate images into your own work whenever possible.

- Take a moment to visually evaluate the next source you use.
- Try incorporating the BEAM model into your teaching of image source types.
- Next time you're discussing information literacy threshold concepts with your colleagues, make images a part of the conversation.

**COFFEE BREAK!**

Create a Visual Prompt for Scholarship as Conversation

Compositionists use literary theorist Kenneth Burke's analogy of scholarly discourse as an unending conversation, often called "the Burkean parlor," to teach writing. The research process involves "listening in" on this "unending conversation," and you can use an image as a visual prompt to convey this analogy.

Read the following excerpt and then brainstorm a visual.

Imagine that you enter a parlor. You come late. When you arrive, others have long preceded you, and they are engaged in a heated discussion, a discussion too heated for them to pause and tell you exactly what it is about. In fact, the discussion had already begun long before any of them got there, so that no one present is qualified to retrace for you all the steps that had gone before. You listen for a while, until you decide that you have caught the tenor of the argument; then you put in your oar. Someone answers; you answer him; another comes to your defense; another aligns himself against you, to either the embarrassment or gratification of your opponent, depending upon the quality of your ally's assistance. However, the discussion is interminable. The hour grows late, you must depart. And you do depart, with the discussion still vigorously in progress. (Burke 1941, 110)

List conversation spaces that might resonate with your learners (e.g., campus lounges, nearby cafés, or actual parlors).

_____	_____
_____	_____
_____	_____
_____	_____

Select a space and use an image of it to create a visual prompt.

Use your prompt as a warm-up to begin a research workshop. Students draw on their prior experiences as they consider this question: "What would you do to join in on a conversation in this space?" Use the responses as a touchstone for the "scholarship as a conversation" frame.

REFLECT

What did you learn from the students' responses?

REFERENCES

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**ACTIVITY 6.1**

Kick-Starting Research with Historical Images

LEARNING OUTCOMES

- Look carefully at the details of an image.
- Describe cultural and historical factors relevant to the production of an image.
- Generate questions from an image.

DESCRIPTION

The activity is laid out in two parts: an individual reflection on an image, followed by a class discussion about what can be learned from exploring the image's context. Prepare a two-slide presentation: slide one contains only the image, and slide two includes the image source, title, and any relevant accompanying metadata. Show slide one while students respond to questions on the worksheet. Questions move along the continuum of critical inquiry by first sharpening observational skills and eventually requiring students to articulate what new questions the image raises. After discussing responses to the questions, reveal slide two with the image information.

For example, if slide one is figure 6.3, slide two would contain the following:

- From the Library of Congress American Memory Project.
- Titled “Bread line beside the Brooklyn Bridge Approach.”
- Created during the Great Depression as part of the Farm Security Administration's effort to record American life between 1935 and 1944.
- Part of the same series as Dorothea Lange's iconic image of the Depression, “Migrant Mother,” formally titled “Destitute pea pickers in California. Mother of seven children. Age thirty-two. Nipomo, California.”

TIPS FOR SUCCESS

- For maximum impact, choose a high-quality image that is closely related to the course content and was created at a known time for a specific purpose. Photographs created as part of a government project or for a journalistic purpose work especially well.
- This activity is an excellent opener to a one-shot session because it grabs students' attention and immediately engages them in the looking process. The success of this activity hinges on your ability to lead a purposeful and directed discussion, so choose the image carefully.

OPTIONAL EXTENSIONS

- Present the image and accompanying metadata at the same time. Students individually generate a list of questions, then work in groups to compare and contrast their work and generate a new list of questions. Discuss findings as a class.
- Analyze an image's suggestive qualities, aesthetic elements, or relation to ideas or concepts. Present an image, then use the following discussion prompts:
 - ◇ What mood, atmosphere, or emotional quality does the image evoke? What do you feel while looking at it?
 - ◇ How do the aesthetic elements of the image contribute to this feeling, atmosphere, or quality? Consider the use of color, line, shape, texture, and light and dark.
 - ◇ What idea or concept might this image be used to represent? Why?

VISUAL LITERACY STANDARDS CONNECTION

- ACRL Visual Literacy Standard 3, Performance Indicators 1, 2, and 4

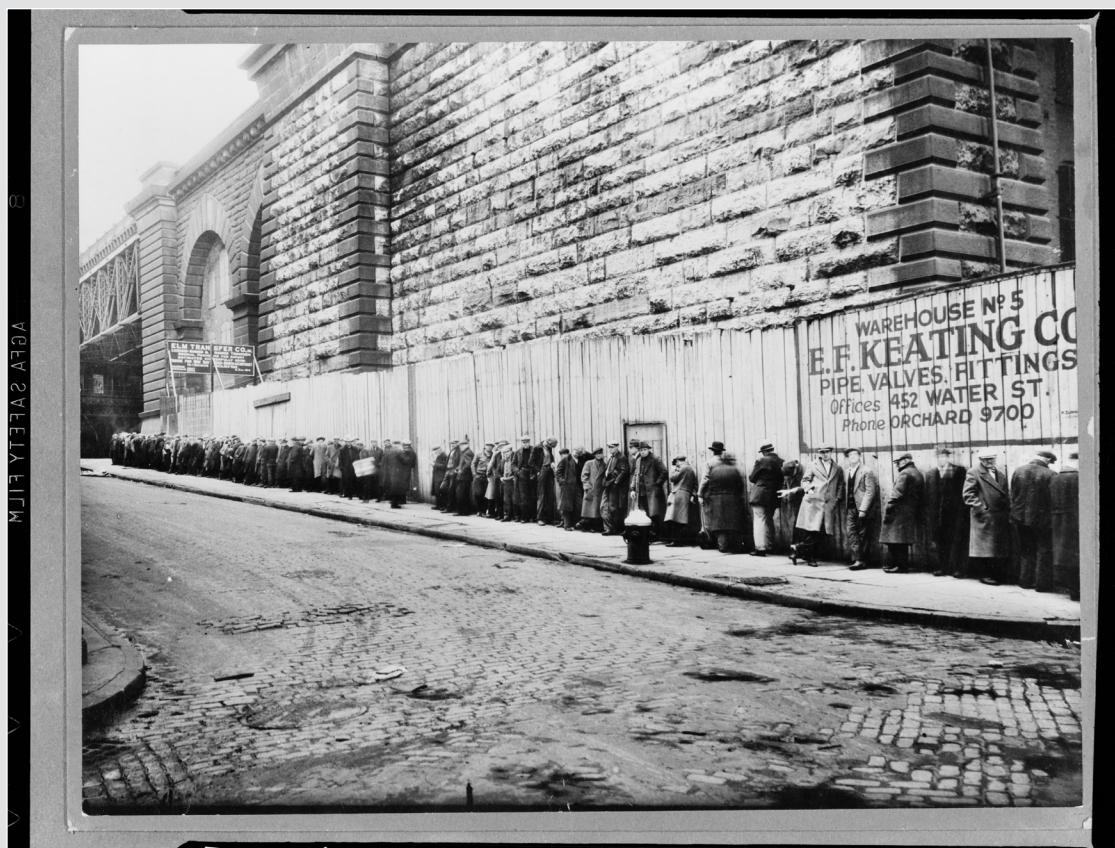


Figure 6.3. New York, New York. Bread line beside the Brooklyn Bridge Approach, via the Library of Congress, Prints and Photographs Division, FSA/OWI Collection (LC-USW33-035391-ZC)

Kick-Starting Research with Historical Images

Step 1: Analyze the image on your own.

Explore the image and respond to the following questions:

- What do I see? _____

- What is going on? _____

- Why do I think this image was created? _____

Step 2: Investigate the image as a group.

Take your initial observations further and record your thoughts here:

- What do you see that gives you a sense of the time period in which this image was created?

- What do you see that indicates where this image was created? _____

- Does this image clue you in on economic conditions? Political conditions? Social structures?
How? _____

- What questions does this image raise for you? _____

ACTIVITY 6.2

Using Images to Further Research

LEARNING OUTCOMES

- Retrieve and collect images during the research process.
- Analyze images to raise new questions for research.

DESCRIPTION

Use a tool such as Padlet during a research session for students to capture, collect, and share images they find that relate to their topics. Padlet is a free virtual bulletin board that allows for sharing images and text. As students research their topics, have them drop images they encounter into a shared Padlet that you set up ahead of time. Images can be anything, and students do not need to interpret or evaluate the images during the initial phase of research. The Padlet acts as a holding tank for images, a brainstorming location for collecting visual materials. At the end of the research session, have students return to the images in the Padlet and consider the discussion questions individually or in small groups. Use the discussion prompts to find out how students will use the images they found to further their research.

DISCUSSION PROMPTS

- What new questions do these images raise about your research topic?
- What else do you need to explore, based on what you see?
- What other images do you still need to find?

TIPS FOR SUCCESS

- Set up the Padlet in advance, and make sure students retain access so they can return to the images and explore further after the class.
- Padlet is an ideal tool for this activity because student logins are not required, links to the original source are retained, and there's no need to download and track the image information.

VISUAL LITERACY STANDARDS CONNECTION

- ACRL Visual Literacy Standard 2, Performance Indicator 2
- ACRL Visual Literacy Standard 3, Performance Indicator 1

ACTIVITY 6.3

Examining a Source Visually

LEARNING OUTCOMES

- Examine visual characteristics of a source.
- Evaluate how information is presented visually.

DESCRIPTION

Select a source for students to evaluate visually, or have students select their own. Students work in groups to describe how elements such as title, author, and publisher are presented visually, recording their impressions on the **Examining a Source Visually Worksheet**. Prompt students to consider a variety of design elements and strategies, including layout, color, font, and emphasis. Then prompt students to reflect on what their descriptions reveal about the source's authority, purpose, objectivity, and reliability.

DISCUSSION PROMPTS

- What conclusions did you draw about the source based on its design?
- Does your analysis of the source tell you anything about how design choices are used when a content creator wants to persuade the reader to adopt a specific opinion or call to action?
- How are design choices used when a content creator wants to convey an objective stance?
- Based on your visual analysis, how would you evaluate the source's authority, purpose, and reliability?

TIP FOR SUCCESS

- This activity works well with any assignment that requires source evaluation, and it works particularly well when students have a research project that requires them to convey information visually.

OPTIONAL EXTENSIONS

- Try this activity exclusively with a specific source type, such as websites.
- If you are providing sources to students, also provide a text-only version of the source, stripped of all visual design. Consider giving half the class the original source and half the class the text-only version. How do students' evaluations of the source change or compare?

VISUAL LITERACY STANDARDS CONNECTION

- ACRL Visual Literacy Standard 3, Performance Indicator 3
- ACRL Visual Literacy Standard 4, Performance Indicator 2

Examining a Source Visually

Complete the following steps for your source.

Step 1: Explore the geography of the source.

Describe the visual presentation of the main pieces of identifying information. Where do they appear on the page? How are color, type, font size, and other visual cues used to draw your eye toward or away from particular information?

INFORMATION	DESCRIPTION OF VISUAL PRESENTATION
Title	
Author(s)	
Author(s)' affiliation	
Publisher	
Date	
Main content	
Other elements	

Step 2: Reflect.

How do the visual characteristics of the source impact the message that is being conveyed?

How would you evaluate the source's authority, purpose, and reliability based on your descriptions?

ACTIVITY 6.4

Evaluating Images and Their Sources

LEARNING OUTCOME

- Evaluate images and their sources from a variety of perspectives.

DESCRIPTION

The **Evaluating Images and Their Sources Worksheet** provides a question-driven approach to evaluating images and image sources. The question clusters are nonhierarchical, so students respond to the ones that apply to their specific context. These questions can be used in consultations with faculty and students, in library instruction sessions, in professional development workshops, and by faculty across the disciplines.

TIP FOR SUCCESS

- When working with these questions, emphasize that some questions may be more applicable than others, depending on the circumstances and the researcher's overall goals.

OPTIONAL EXTENSION

- Create an image evaluation workshop by presenting groups of students with the title and description of each question cluster. Give students time to generate their own criteria. Then give students the worksheet and discuss the overlaps and diversions.

VISUAL LITERACY STANDARDS CONNECTION

- ACRL Visual Literacy Standard 4, Performance Indicator 1, 2, 3, and 4

Evaluating Images and Their Sources

Use the clusters of questions to evaluate images and their sources and then decide if an image is right for your project. Some questions may be more applicable than others, so use the clusters that most suit your purposes.

1 Interpret and Analyze Meaning

Do I understand what this image means and why it was produced?

- Have I worked through the process of interpreting this image?
- Would it be useful for me to investigate this image further?

2 Examine Technical Aspects and Rights

Is this image technically usable for my purposes, and is it available for me to use the way I have planned?

- Is this image large enough and in a format I can use?
- Is the image clear and sharp enough?
- What do I know about how this image was produced?
- Has the image been altered in a way that calls into question its reliability?
- Does the rights information allow me to use this image the way I want to?

3 Assess Visual Qualities

Is this image an effective visual communication?

- Is the intended message of this image aligned with how it is presented visually?
- Do color, design, and composition enhance or detract from the image's purpose?
- Is the information in the image consistent or at odds with information from other sources?

4 Judge Textual Information

Does the text give me enough information, and do I trust it?

- Is the image accompanied by enough metadata and textual information that I can identify the image and investigate it further?
- Is the textual information consistent with what I see in the image, or does it raise further questions I need to resolve?
- Who provided the textual information, and what are their qualifications to do so?
- If the image is a data visualization, is the source of the data clear and are the variables clearly labeled?

5 Evaluate the Image Source

Is this image source reliable and appropriate for my purposes?

- What do I know about this image source?
- Who maintains the source?
- Where does the source get the images it is making available?
- Does this source credit other sources for images it does not own or produce?
- Is the meaning of the image changed or manipulated by the context in which it appears?
- Is this the best source for the image, or should I keep exploring other sources?

Decide

Will this image work for my project, or not?

- Is this image relevant to my research or project?
- Is this image suitable for the purpose I have in mind?
- Do I want to save this image and its information for later use?

ACTIVITY 6.5

Analyzing a Map to Teach Source Evaluation

LEARNING OUTCOMES

- Interpret and analyze the meaning of a map.
- Judge the credibility of a map as a source of information.

DESCRIPTION

This activity is designed as a visual prompt for the evaluation of sources. It is arranged in two parts that correspond to steps 1 and 2 of the **Analyzing a Map Worksheet**. First, students look at a map and interpret and analyze its meaning. Then students identify the author and publisher, data sources, and methodology to determine whether the map is a credible source. After each step, use the think-pair-share technique, with pen and paper or polling software, to record individual observations and discuss in groups and as a class.

For example, if the topic is whether the Fukushima nuclear disaster could happen in the United States, you might use the following maps:

- Global Earthquake Activity Since 1973 and Nuclear Power Plant Locations by James, maptd, a blog about maps.
- Nuclear Power Plants and Earthquake Risk by the National Center for Disaster Preparedness, Earth Institute and Columbia University.

TIPS FOR SUCCESS

- This activity gives students practice in observing, interpreting, and judging the value of graphical information. Use a good or bad example or both together to compare and contrast.
- Select a map with different levels of credibility—for example, the data sources might be reliable, but the authorship or methods used to create the map are questionable. Initially students may automatically trust a map until they begin to dig deeper and ask more questions.

OPTIONAL EXTENSION

- This activity also can be used to demonstrate how research is a question-driven process. Ask students to analyze the rhetorical situation of the map (purpose, audience, message, creator), the validity of the map's claims (argument), and how the map can be used as a launching point (exhibit) to generate compelling research questions. Ask questions such as these: What else do you want to know? What is missing?

VISUAL LITERACY STANDARDS CONNECTION

- ACRL Visual Literacy Standard 3, Performance Indicator 1
- ACRL Visual Literacy Standard 4, Performance Indicator 1

Analyzing a Map

Look at the map and answer the following questions.

Step 1: Observe and interpret.

1. What is the map presenting? _____

2. Consider the following:
What are the components (variables)? _____

What do the colors represent? _____

Why do you think this map was created (for what purpose)? _____

Step 2: Evaluate.

3. Who created the map? _____

4. What are the sources of data and methods used to create the map? _____

5. Do you trust this map? Why or why not? _____

6. Would you use this map as evidence to support your argument in a research assignment?
Why or why not? _____

ACTIVITY 6.6

Contemplating the Value of an Image

LEARNING OUTCOMES

- Consider different perspectives on the value of an image.
- Discuss real-world implications of Creative Commons licenses.

DESCRIPTION

Students explore the case of a commercial entity selling posters of photographer Frank Schulenburg's "The Bridge" by reading and discussing different perspectives on Creative Commons–licensed works. Have students form two large groups. Group 1 reads a newspaper article about this issue while group 2 reads a blog post by Frank Schulenburg. Students complete the **Contemplating the Value of an Image Worksheet** and then educate one another about the different perspectives during discussion.

READINGS

- *Group 1*: Douglas MacMillan, "Fight Over Yahoo's Use of Flickr Photos," *Wall Street Journal*, November 24, 2014.
- *Group 2*: Frank Schulenburg, "Why Yahoo Selling Canvas Prints from My Free Images Uploaded to Flickr Doesn't Bother Me," *Frank Schulenburg Landscape, Travel & Wikipedia Photography* (blog), November 30, 2014.

DISCUSSION PROMPTS

- What are the different kinds of value people place on photography?
- How would you feel if you were in the position of the photographer?
- Which Creative Commons license would you choose for your photography?

TIP FOR SUCCESS

- A bit of background knowledge helps this activity go smoothly. Frank Schulenburg shares many of his photos on Flickr with a CC BY-SA license, including his photograph titled "The Bridge." In 2014, Yahoo, the owner of Flickr, began selling posters of this image. Schulenburg was not notified, nor did he receive compensation. The situation created controversy in the media. However, Schulenburg felt that this was an acceptable and desired outcome—he values sharing content and even anticipated that his work could be used for profit.

OPTIONAL EXTENSIONS

- Expand the activity by having students read the news article and the blog post, then have them choose a side.
- Pair this activity with an in-depth exploration of Creative Commons licenses. Ask students to review the CC BY-SA license and determine whether it was followed in the instances described.

VISUAL LITERACY STANDARDS CONNECTION

- ACRL Visual Literacy Standard 7, Performance Indicator 1

Contemplating the Value of an Image

Step 1: Read the article that corresponds to your group.

Group 1

Douglas MacMillan, "Fight Over Yahoo's Use of Flickr Photos," *Wall Street Journal*, November 24, 2014, www.wsj.com/articles/fight-over-flickr-use-of-photos-1416875564.

Group 2

Frank Schulenburg, "Why Yahoo Selling Canvas Prints from My Free Images Uploaded to Flickr Doesn't Bother Me," *Frank Schulenburg Landscape, Travel & Wikipedia Photography* (blog), November 30, 2014, www.wikiphotographer.net/why-yahoo-selling-canvas-prints-from-my-free-images-uploaded-to-flickr-doesnt-bother-me.

Step 2: Answer the following questions and be prepared to discuss your responses.

1. How would you describe the value placed on photography presented by this article?

2. How would you feel if you were in the position of the photographer in this reading?

3. Would you consider assigning a Creative Commons license to your own photography?
