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Teaching Visual Literacy Skills in a One-Shot Session

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Abstract
Just as one-shot information literacy sessions can be implemented in college classes to improve students’ research capabilities, similarly-styled sessions on image research can increase their visual literacy skills. While most students interact with images daily, capturing photos on their mobile devices, reading picture-heavy articles on websites, and reposting images from social media pages, such activities do not transform them into critical viewers and users of visual media. To be considered visually literate, as defined by the Visual Literacy Competency Standards for Higher Education by the Association of College and Research Libraries, an individual must “effectively find, interpret, evaluate, use, and create images and visual media.”

A wide range of research and critical thinking strategies may be introduced through these instructional sessions. Locating trustworthy sources online, evaluating the content and quality of images, scrutinizing manipulated images, understanding the implications of copyright, and creating an effective system to store digital files and manage citations are among the recommended topics for presentation. Teaching strategies for image research sessions include using live web searches in both scholarly and open access resources to highlight their relative strengths and weaknesses, using real life examples of image use scenarios to provide context, and structuring presentations based around the specific class in which it will be taught. The desired outcome of teaching an instructional session is to provide students with the tools and confidence they need to effectively use high-quality visual materials in their undergraduate years and beyond.

Keywords
Visual literacy, Library instruction, Image research, Digital images

Author Bio & Acknowledgements
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Introduction

Many college professors incorporate information literacy sessions into their undergraduate courses to help students effectively access and use the materials they need for their research. The librarian teaching this session, which generally occurs within one class period, will introduce students to library resources and provide online search strategies. Just as these one-shot information literacy sessions can improve students’ research capabilities, similarly-styled sessions on image research can increase their visual literacy skills. This chapter focuses on specific methods for teaching students how to find, manage, and use visual materials.

The topics to be covered in this chapter pertain mostly to subject areas in the humanities, particularly art history. However, with some modification, the ideas presented could also be used in a wide variety of academic disciplines—from art and design to the STEM fields—as the increased use of visuals in today’s society is not limited to any one area.

Context

The Visual Resources Collections (VRC) operates within the Department of the History of Art at the University of Michigan (UM), Ann Arbor. A repository of both analog and digital images used for teaching and research, the VRC is also an archive of photography by emeriti faculty. Over its 100-year history, the VRC has been through many changes. Today, while still maintaining extensive archives, the VRC is shifting away from being a static, siloed image repository, instead favoring an approach comprised of campus-wide outreach and increasing access to our collections.

One service offered at the UM VRC is an in-class session on how to find and analyze art images. These sessions are modeled after the “one-shot information literacy session,” in which a librarian will cover research techniques, online search strategies, and available resources to a class of students. The reason behind this format lies within the parallel issues between researching written and visual material. Just as the superfluous amounts of text on the web can easily cause “information overload,” the same can be said for the endless amount of visual material that exists online. The learning outcomes from these two types of instructional sessions also have similarities; they both aim to raise students’ research skills and critical thinking abilities. Typical library instruction will increase students’ information literacy, and sessions focused on visual media will improve students’ visual literacy skills.

In addition to instructional sessions, the VRC occasionally hosts its own events that promote visual and media literacy. These have ranged from a brown bag lunch with the University’s copyright librarian, to drop-in sessions on topics such as presenting from a smartphone. We also offer training on research, scanning, and copy photography. Internships offered to graduate students in History of Art or the School of Information are a means of offering hands-on experience to those interested in careers in visual and archival materials. Through this wide variety of activities, the VRC supports effective use of images to promote scholarship.
The Need for Visual Literacy Education

Today’s college students don’t remember a world before the Internet. They regularly create, alter, and share visual content, with very little thought given to the media’s accuracy or its copyright status. In certain settings, this behavior is perfectly fine, and even encouraged, such as a photo “mashup” contest or retweeting a video from a museum’s Twitter page. But in academic and professional settings, misuse of visual materials—either by plagiarism or an oversight of copyright—is a very serious matter.

So how do students know where to draw the line? When is it permissible to freely use others’ images, and when is it not? And where do they find high-quality images for their research papers, design projects, and classroom presentations? In the digital age, delving into the murky abyss of proper image use is difficult for any individual to understand on their own, yet it is still an issue that many college students will face at some time.

Technology shifts have led to more visually-rich websites, and the widespread use of mobile devices has greatly increased the use of photography across all areas of life. However, just because people are consuming more visuals, this does not automatically train them to effectively interpret and use them. An analogy by Peter Felten (2008) richly illustrates this point: “living in an image-rich world does not mean students (or faculty and administrators) naturally possess sophisticated visual literacy skills, just as continually listening to an iPod does not teach a person to critically analyze or create music” (60).

The Association for College & Research Libraries (ACRL) succinctly summarizes the need for the inclusion of visual literacy education into higher education curriculum in their 2011 groundbreaking document, the Visual Literacy Competency Standards.

"Today's society is highly visual, and visual imagery is no longer supplemental to other forms of information. New digital technologies have made it possible for almost anyone to create and share visual media. Yet the pervasiveness of images and visual media does not necessarily mean that individuals are able to critically view, use, and produce visual content. Individuals must develop these essential skills in order to engage capably in a visually-oriented society.

According to a 2013 paper by Nicole A. Beatty, with the increase in digital images, there is an “immediacy that comes from having visual materials at one’s fingertips” (33). Therefore, “there is a need for visual literacy to be incorporated into pedagogy” (33). These changes to our culture underscore why it is so essential to include visual literacy as part of the curriculum for undergraduate students, especially those in art and design-related fields.

Definitions of Visual Literacy

Although many different definitions of visual literacy exist, they share more similarities than differences (Avgerinou and Pettersson 2011, 7). The ability to understand and analyze/interpret the content of visual materials is a key point in most, if not all, of visual literacy definitions. These include the first VL definition coined by John Debes in 1969, which is currently in use by the International Visual Literacy Association, and the more recent definition.
provided by the ACRL. These definitions also share many similar components to other literacies, particularly media literacy and information literacy (NAMLE, 2010; ACRL, 2000).

In terms of teaching visual literacy in college courses, the definition of visual literacy provided by the ACRL is the most applicable, because it was designed for individuals in higher education. The ACRL Visual Literacy Competency Standards for Higher Education is a document that, for the first time, outlines definitive competencies that an individual at college level or higher must possess in order to be visually literate. The report provides the following definition for visual literacy:

*Visual literacy is a set of abilities that enables an individual to effectively find, interpret, evaluate, use, and create images and visual media. Visual literacy skills equip a learner to understand and analyze the contextual, cultural, ethical, aesthetic, intellectual, and technical components involved in the production and use of visual materials. A visually literate individual is both a critical consumer of visual media and a competent contributor to a body of shared knowledge and culture.*

The definition also includes seven standards that an individual must possess in order to be considered visually literate. These standards are broad in nature, ranging from designing and creating images and visual media, to effectively understanding the myriad issues involved in the creation and use of images (ACRL 2011).

With so many different skills involved in visual literacy, “it takes a village” to produce visually literate individuals. While an awareness of VL can be gained in a one-shot information session, a deeper immersion in visual literacy requires the collaboration of different types of educators: faculty, librarians, internship supervisors, and fellow students—sharing their expertise.

Teaching how to interpret or “read” images—what they are of, and what they are about—may be best taught by faculty, being subject experts who can fully explain the context. The design and creation of visual materials can be incorporated into assignments, particularly in art and design classes, or set forth in the “real world” setting of an internship.

Still, the other visual literacy standards, as defined by the ACRL can be effectively presented by a librarian or visual resources professional. Among these standards are to “find and access needed images and visual media effectively and efficiently,” and to “understand many of the ethical, legal, social, and economic issues” that come with using or creating images and visual media (ACRL 2011). These standards can be effectively taught by librarians or visual resources professionals, because they have research-heavy backgrounds and tend to follow the latest technology trends. As Benjamin Harris (2007) explains, “information professionals will tend to focus more on navigating resources to locate images, evaluating image resources, and the ethical or appropriate use of these texts” (66).

Though it’s a relatively new frontier in the digital era, visual literacy has been incorporated into the curriculum at various institutions of higher education. Brown University offered an entire course on Digital Visual Literacy in 2005 (Spalter and Van Dam 2008, 98). At the University of California, Santa Barbara, students majoring in Art are required to pass a course on visual literacy. Courses dedicated to visual literacy are also offered at the American University, Washington D.C.; Dominican University; Northern Illinois University; the University of Oregon; the University of Michigan, and more. These undergraduate and graduate-level courses are not only within the Art and Art History departments, but also Communications,
Humanities, and Library Science. Many other institutions feature for-credit classes on Information Literacy, which often incorporate concepts of visual literacy into the syllabus (Beatty 2013, 39).

The Case for Instructional Sessions

Traditionally, “one-shot library instructional sessions,” also called “information literacy sessions,” (Hsieh and Holden 2010, 459) attempt to broaden students’ research skills within one class period. They typically range from twenty minutes to an hour in length, and are taught either as a broad overview of resources available at the university, or are tailored to elaborate on particular resources for a class or assignment.

These one-shot sessions are often designed around a framework of the ACRL’s Information Literacy Competency Standards (Miller 2009, 33). Five of the ACRL’s visual literacy standards have nearly identical counterparts to the ACRL’s IL standards, substituting “images and visual media” for a broader sense of “information” in general. These shared standards deal with determining what is needed, finding and accessing needed materials, effective use of materials, critical evaluation of materials, and understanding economic, legal, and social issues surrounding their use.

With so much common ground between information and visual literacy, the format of IL sessions can be adapted to a session on visual literacy. The sessions may be scheduled at any point in the semester, usually in preparation for large assignments. They may be held in the classroom, library, or computer lab. Above all, they may be customized to fit the particular course subject, focusing on search terms and available resources that are relevant to the subject.

Visual Literacy Outreach at the University of Michigan

At the University of Michigan, the VRC has been offering instructional sessions on topics related to visual literacy for the past decade. Typically, these sessions follow a format combining a PowerPoint presentation with live web searches. They usually last around half of a class period, and can be made longer or shorter at the faculty’s request.

Over the past few years, the main focus of these presentations has shifted. Once built around how to navigate the University’s online image collections, they now encompass a broader perspective of image research as a whole. The reason for this shift stemmed from the evolving nature of digital content on the web. More and more institutions are digitizing their collections for public online access, and partnerships like the Google Art Project make it easier than ever to access high quality art images online. Increased storage space on servers has also lead to unofficial repositories of virtually limitless images; the popular photo site Flickr, for example, grants each of its users a whopping terabyte of storage. Nowadays, finding visual materials is easy. It is knowing how to critically appraise, analyze and use images that is more difficult and complex.

While we believe that our collection of over 85,000 digital images of art and architecture is a fantastic research tool, we also recognize that students are more prone to do quick Google searches. This is why our approach to teaching image research encompasses instructions for searching library-provided digital collections as well as search techniques for more popular
resources. In doing so, we make sure to distinguish the strengths and weaknesses of different sites, and make it clear what constitutes acceptable and unacceptable use of images in an academic setting.

VRC instructional sessions are most often given to undergraduate art history courses. However, we have also presented to classes in the Humanities and Classics departments, as well as to an incoming group of graduate students in Archaeology. In the past, the VRC has also collaborated with university librarians to create joint presentations—half focused on image research, half on text-based research. Such an approach informs students of a wider variety of resources available to them through the University libraries, and it also sheds light on issues common to all forms of research.

Content of Presentations

While the content of individual sessions will vary, depending on the faculty’s needs and the students’ skill levels, each presentation usually covers the same core topics: finding, analyzing, organizing, and utilizing images. One key point to these sessions is that they are tailored to the class subject. While arranging a time to present in a given class, I will ask the professor what specific topics he/she would like me to cover—such as going into further detail about a particular resource, perhaps Artstor or Bridgeman Education. Additionally, I will make sure to get a copy of the syllabus in advance of the presentation. This allows for the advance preparation of subject-related custom web searches and lists of sample keywords to get students brainstorming.

The topics that follow are subjects that educators may wish to consider in creating their own image research or visual literacy training sessions.

Image Quality: Content

To be visually literate, one should know how to interpret an image both by its content and by its properties. This ties in with the ACRL’s fourth visual literacy competency standard of “evaluating images and their sources” (ACRL 2011). Furthermore, Dr. Anne Bamford (2003) states in the Visual Literacy White Paper that “students need to be aware of the manipulative uses and ideological implications of images” and that visual literacy involves “making judgements of the accuracy, validity, and worth of image” (1).

To demonstrate the importance of image quality when looking at art, I will perform a live Google Image search of a famous artwork suggested by a student. A quick search of, say, “The Child’s Bath” by Mary Cassatt will yield results with widely varying hue, brightness, contrast, and aspect ratios. Searched in July 2014, the top results in Google Images even yielded a reverse image of the painting, as well as an image from an art history website that actually depicted a copy made after the artwork. The metadata accompanying these images also varies, with some websites saying the painting was created in 1893, others 1892 or 1890. Some websites neglected to include any citation of the image. Examples such as these demonstrate the questionable images and data found on non-scholarly sources.

Another exercise I use is to have students compare four selected images of the same artwork, such as “Music I” by Gustav Klimt. At least one of the images will be a fake—
something from a commercial company selling painting reproductions. Students are then asked to guess which image best represents the artwork in question. In doing so, they should realize how difficult it is to ascertain what faithfully represents an artwork, and what has been copied or modified.

**Considering the Image Source**

A key determinant in evaluating the quality of an image and the validity of its data is to consider its source. An established publisher will have a history of accuracy. Commercial companies such as Reuters rely on the journalistic integrity of their photographs in order to stay profitable. Museum and university image collections have their reputations of knowledge and authority to uphold.

By contrast, user-populated collections, such as Flickr, have little to no accountability on the accuracy of their images. The trustworthiness of wiki sites generally fall somewhere in the middle. While anyone can upload or edit an image on Wikipedia, the collaborative review of content is its own protective measure. When using websites like Wikipedia, I advise students that it is best to proceed with caution. Results should always be verified by a reputable source.

**Image Quality: Properties**

In terms of an image’s properties, students need to be aware of its technical aspects: color, size, format, and metadata. Whether projected on PowerPoint or printed in a design project, bad images reflect poorly on a student’s work. Unfortunately, no fixed definitions of digital image quality currently exist. As stated in a report by the Image Permanence Institute, “there are no guidelines or accepted standards for determining the level of image quality required in the creation of digital image databases for access or preservation of photographic collections” (Frey and Reilly 2006, 11). Every organization sets their own standards based on their digitization needs and the resources they have available.

But in general, the higher an image's resolution (measured in PPI, or pixels per inch) and the larger its dimensions, the better its quality will be. A non-compressed file format, i.e. TIFF rather than JPEG, also factors into determining an image's quality. Because of their much larger file sizes compared to JPEGs, TIFF images are more difficult to find online. Fortunately, for the extent of most research needs and student projects, JPEGs work just fine. Typically, a resolution of 300 PPI is considered acceptable for presentation and some print purposes.

Once a student can pick out a poor quality image, it becomes easier to recognize what makes a high quality image. Images should have details that are well-lit, without being washed out. Hue, saturation, contrast and brightness should all be balanced.

**Finding Images**

So, after students know what to look for (and what to look out for) in visual materials, where do they go to find them? To “find and access needed images and visual media effectively
and efficiently” is the second visual literacy standard listed by the ACRL, yet many students are not aware of the full range of resources available to them.

If their institution has its own online image collection, that’s usually a good place to start. Visual Resources Collections and Digital Libraries often curate their digital image assets based around different disciplines, in some cases even with sections for specific courses. Many universities also subscribe to image databases, such as Artstor. A list of these resources can usually be found on the university’s library website, or in a subject-specific LibGuide.

I will always provide a handout of recommended resources when teaching instructional sessions on image research (see Appendix). Updated every semester, the list includes links to the University of Michigan’s image collections; subscription-based websites like Artstor; museum websites with large collections, such as the Rijksmuseum in Amsterdam; and open-access collections such as the Google Art Project.

Search Tips

Established databases, while providing more trustworthy results, do have downsides. Because cultural institutions and nonprofits have less funds available than massive sites like Google, their search engines may not be as sophisticated. An image search that yields too many results may be capped, with not all results shown. Academic databases also tend to have more rigid search terms. Searching “Raphael” may retrieve many results, but using the artist’s full name, “Raffaello Sanzio da Urbino” may fail to retrieve any. Compared to Google, the search algorithms of many academic databases are not as flexible or intuitive to human language, and rely more on fixed terms. To get around this, students should be prepared to try different wordings in their searches, trying out synonymous terms when one doesn’t work.

Additionally, learning to use the advanced search options of a database will also considerably improve results. Rather than dumping a string of words into one keyword search box, an advanced search allows users to set and combine specific criteria—artist, title, date of creation, etc.—for more precise results. Because databases such as Artstor are intended for a higher education audience, they can provide more targeted results than an all-encompassing image search engine.

Finding images, as opposed to text, poses some unique problems. While browsing the web, it’s not uncommon to come across an image that has no citation information attached—no descriptive filename, no photo credit, nor any identifying text on its website. Given how rampant photo sharing and re-posting behaviors are, not everyone thinks to attribute the proper credit to the images on their social media pages. In this scenario, a reverse image search can be of extraordinary help. I demonstrate this to students by presenting an image of an artwork without context, and using Google Images’ reverse image search to find a visual match of the image. If Google is able to match the image, it will provide the title of the work and the artist’s name. I will then show students how to verify these results—by searching a reputable source to confirm the data.

A reverse image search has other uses, as well. Because many university students actively create their own photographs and other visuals, they ought to be aware of who may be using their images without their permission. Using reverse image search in this instance can show a creator if their work has been reposted on another site. The same strategy can be used by graduate students trying to track down the copyright holder of an image they wish to publish.
File naming and metadata

However, reverse image searches do not always work. It is all the more reason students should be savvy about how they manage their own personal image collections on their computers. As explained by Benjamin R. Harris (2007), “If students are surfing, and cutting and pasting with images, they may neglect to collect information that will be needed in a citation for the image. Asking students to keep a record of information about the image to aid in citation will force them to review the context of these images more closely and will reinforce the need to evaluate the context of images” (72).

All too often, digital images are saved with non-descriptive filenames. Something like photo1.jpg will not be helpful at all when it comes to later identifying the title or source of the image. Because part of being visually literate involves effectively finding and accessing visual materials (ACRL 2011), it is imperative that an individual takes this into consideration when building his or her own collection of images—whether for personal reference or their own photography.

For casual use, a filename of Artist - Title.jpg may be enough. More in-depth file naming could include criteria such as date accessed or created, the source of the image, sequential numbers for multi-part images, etc.

During presentations, I use metadata-related issues to reinforce the argument of doing image research at reputable organizations only. The images from many subscription databases come with embedded metadata. Put simply, embedded metadata is textual information, such as the date of creation, the photographer’s name, and title of the work, stored within the image file itself. This data travels within the photo, even if it’s downloaded from a website, moved around from one file location to another, or sent out as an email attachment.

Students ought to be aware of this functionality as they do their image research. Instead of scouring the internet, looking for the source to an image that a student saved to his/her hard drive years ago, he/she might find that the information was embedded in the image all along. The metadata can be accessed by right clicking on the file and selecting “Details” (on a Windows platform) or “Get Info” (on a Mac).

Of course, as with any good research project, an ounce of prevention is worth a pound of procrastination-induced panic. Keeping a running list of citations will prevent future headaches. A well-structured hierarchy of file folders will also help to ensure that saved images are easy to locate. Finally, backing up data is paramount to anyone working with digital files, especially those creating their own original works.

Copyright

An awareness of copyright laws ties in to the ACRL’s seventh Visual Literacy Competency Standard, “understanding many of the ethical, legal, social, and economic issues surrounding the creation and use of images and visual media” (2011). However, the allotted time for instructional sessions, along with the amount of material to cover, does not allow much room for an in-depth discussion of permissions issues. The extent to which I cover copyright depends on the type of students in the session and what projects they are working on.
For undergraduates, incorporating materials that may be copyrighted into their assignments is usually not an issue, provided that the assignment does not reach an audience further than their professor and classmates. Anything that is to be published online or elsewhere should include further consideration of fair use guidelines. Graduate students who wish to incorporate visuals in their theses or dissertations will most certainly encounter permissions issues (Wagner and Kohl 2011, 15).

In any case, I will advise students to check the copyright statements of the websites that host the content they are interested in using, and provide resources to further assist them with their questions. Some of these resources are:

- The University’s copyright office
- Copyright websites and LibGuides from UM and other universities
- Statements or other documents from organizations directly involved with intellectual property issues (such as the Visual Resources Association)
- The Creative Commons website

Outcomes

Library instructional sessions have been proven in multiple studies to increase students’ information literacy skills and confidence in research (Hsieh and Holden 2010, 467; Zoellner 2008, 376). Use of reference sheets—either printed on paper or available online—summarizing the content of the session and providing additional sources has also been shown to be an effective method for students to retain the information presented (Mahaffy 2012, 209).

After the instructional session, students should be aware of the issues surrounding visual literacy. They should know what resources available to them through their college or university, including where to turn when they need help. Visual literacy is a far-reaching topic that is impossible to cover in a class period, but providing students with the basics of finding and using images can plant the seeds for them to improve their research skills on the whole.

Closing

College students are using visuals more and more, both in their assignments and in their personal lives. Just by being online, students are also consuming more images than ever. It is therefore essential to the successfullness of their education that they develop skills in visual literacy. An in-class instructional session given by a librarian, visual resources professional, or other educator can raise students’ awareness of the complex issues that surround finding, creating, and using images.

Just as there are many performance indicators and learning outcomes within the seven standards of visual literacy set in place by the ACRL, there are many different approaches from which visual literacy education may be presented. To summarize, the following are some key points that should help deliver a successful, effective session:

- Demonstrate using live web searches, asking students for keyword suggestions.
- Collaborate with other library departments, where applicable, to combine text and visual research strategies into one joint session.
• Provide a handout of recommended image resources.
• Point students in the direction of helpful services on campus, such as digitization labs, visual resource centers, copyright offices, reference library services, etc.
• Do not condemn students for using the websites they are already using, such as Google Images; rather, show them how to use these resources more effectively.

With the new framework set in place by the ACRL, opportunities abound for advocates of visual literacy. Creating instructional sessions, drop-in workshops, discussions, or other events can only help to expand the recognition of visual literacy across a college campus. Visual literacy is truly an interdisciplinary concept and should not be confined to the arts; science and journalism also rely heavily on visuals, as do other subject areas. To be visually literate requires a strong sense of critical thinking, and this can empower students and educators alike.

Appendix

The following is a handout of digital image resources for Art History students. Depending on the class, certain sources may be added or omitted. Contact information for the Visual Resources Collections is also provided.

Restricted Access Websites
• Artstor – http://www.artstor.org
• Bridgeman Education – http://www.bridgemaneducation.com
• Catalog of Art Museum Images Online (CAMIO) – http://camio.oclc.org/

Open Access Websites
• Europeana – http://www.europeana.eu/
• Google Art Project – http://www.googleartproject.com
• WorldImages – http://worldimages.sjsu.edu/

University of Michigan Resources
• Research Guides – http://guides.lib.umich.edu/
• Visual Resources Collections – http://www.lsa.umich.edu/histartvrc
  
  Online image database – http://quod.lib.umich.edu/h/hart?page=index
• MLibrary Image Collections – http://quod.lib.umich.edu/cgi/i/image/image-idx
• Mother of All Art & Art History Pages – http://www.umich.edu/~motherha/

Repositories with Large Digital Collections
• The Smithsonian – http://www.si.edu
• The British Museum – http://www.britishmuseum.org
• The Victoria & Albert Museum – http://www.vam.ac.uk
• New York Public Library – http://www.nypl.org
• Library of Congress – http://www.loc.gov
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