

# Visual Literacy

## Scenario

All incoming students at Chloe's college take a required, one-credit seminar on visual literacy taught by a team of faculty from statistics, biology, history, and sociology. The seminar meets once a week for the duration of the semester. Initially the class discusses the principles of presenting and reading content in visual form and experiments with various tools for creating visual content, both static and dynamic. They talk about the ways in which charts, graphics, videos, and other nontextual content can convey ideas powerfully and immediately, and they also dissect certain resources to see how easy it can be for visual content to misrepresent facts or omit vital details.

The first assignment is for students to find two pieces of visual content—from news, advertisements, corporate reports, academic material, or elsewhere—and explain to their recitation group why one is effective and accurate and how the other is unclear, misleading, or otherwise problematic. With her newly critical eye, Chloe is surprised by how difficult it is to find graphics that appear to be free of gaps or bias. As part of her looking, she watches a lot of news and informational videos and is struck by how much she now notices about the way a short clip is put together to make a point—even if that point is poorly supported by the content in the video.

For a final project, the students create their own visual content, based on work they are doing in any of their other courses. All semester, the instructors have pointed out that portraying information visually is not limited to math or science fields, and the students have been exposed to visual content in humanities, social sciences, and other disciplines. Chloe decides to create a map-based project related to a course she's taking on women's health. Using data from a variety of sources, along with an interactive mapping application, Chloe develops a map of the county that lets users show and hide various layers, including income level, employment, overall crime, crimes against women, and rates of STDs. The project allows users to interpret what they see, and in this way it provides ideas for research into the associations and possibly causal relationships between the various factors shown.

## 1 What is it?

Over the past half century, many of our encounters with information have shifted from the printed page to the screen. Screen-based information offers so many more options—images and video, with their elements of color, shape, dynamic filters, and composition—that the concept of visual literacy has become important. **Visual literacy is the ability to recognize and critically appreciate meaning in visual content and to use visual elements to create effective communication.** It is not restricted to such fields as film, design, statistics, and the visual arts but is a vital skill for any student in higher education. In educational and vocational environments, students and other communicators are building infographics, videos, and interactive maps that require them to identify patterns and meaning in data, choose viable questions to consider, determine what to present in graphics, and select from an array of tools and services to construct a final product.

## 2 How does it work?

**Visualizations often provide better ways to tell a story or understand data.** A map, for example, shows the borders of a city or country more precisely than a detailed verbal or textual explanation. A chart can offer a simple-to-grasp story of a company's financial growth or decline. As faculty and students employ more visuals in teaching and learning, visual literacy has become part of courses across the curriculum. Courses in public speaking often now include the expectation that students will develop accompanying visual elements. Many writing courses explore questions of where and how to embed visual data in text and how many visuals can be effectively understood. Courses in history and the sciences increasingly use video, audio, and interactive media, and many include discussions about the range of content suitable for graphic communication or how to pull together complementary communication approaches into a coherent whole. Courses that deal with large data sets now encourage students to explain the conclusions to be drawn from the data through maps and charts. All these efforts are supported by access to a wide and growing landscape of software tools that support the generation of charts, labeled timelines, interactive maps, and other sorts of visual content.

# Visual Literacy

## 3 Who's doing it?

In discussions of visual competency and literacy, the conversation often centers on standards. The Visual Literacy Competency Standards for Higher Education, from the Association of College and Research Libraries, is an online resource that offers definitions and standards for visual literacy. Conferences that promote visual literacy are becoming increasingly common, such as the International Visual Literacy Conference, hosted most recently by The Toledo Museum of Art. The museum website offers a free online tutorial on visual literacy, which discusses the topic from an art and design perspective. Meanwhile, **some colleges and universities are making visual literacy coursework part of general education requirements.** For those who seek free and interesting visual literacy tutorials, informative examples are also provided by the College of Arts and Humanities at the University of Maryland, College Park, whose “Visual Literacy Toolbox” site presents online activities with an “explore” feature that allows visitors to interact with graphics. As a cursor crosses a portion of an image in “Introduction to Political Cartoons,” for example, pop-up information explains aspects of the symbolism, impact, and intent of the cartoon.

## 4 Why is it significant?

The move from printed content to electronic media has expanded the potential for using visuals, including dynamic data sources, animations, and interactivity. New forms of graphic communication enable presentation of content in lines, blocks, pictures, and videos, sometimes with very little descriptive text. As a result, **visuals are increasingly used as an adjunct to—and in some cases, a substitute for—text.** As the prevalence of visual communication expands, so does the need to develop a critical eye to evaluate visual content for its accuracy and validity. Moreover, creating graphics that accurately and effectively convey information requires fluency with relevant principles and tools. Existing and evolving standards could also help creators of visual content build effective informational elements.

## 5 What are the downsides?

**Those who promote visual literacy in higher education may struggle against a viewpoint that text should be the primary modality for scholarly communication.** Also, although faculty are likely comfortable evaluating term papers, some

may have concerns about critiquing an infographic or a video. Issues of copyright and open content present another challenge, both for those who create visual content and those who use it. Students and faculty alike may be unsure about the allowable uses of charts, interactive maps, videos, or photographs, not to mention the rights surrounding remixing or otherwise reusing visual content. Visual content can also pose accessibility issues—the video that comes without captions can disenfranchise those with hearing difficulties, and a color-coded graphic can be problematic for someone who is colorblind.

## 6 Where is it going?

The character of visual presentation is undergoing change as tools become easier to use, thus lowering the bar to entry, particularly for techniques like simple screen captures and screencasts. Animation may see wider use as tools emerge to allow anyone to create and employ it. In many disciplines, expect to see a greater focus on interactivity that allows users to change variables in an online graphic. As graphic-creation tools continue to mature, **visual content will move seamlessly across a variety of mobile platforms,** regardless of OS or screen size. Finally, as visual literacy becomes a more widely recognized concern in K–12, more college-bound students may find they need to prepare for college-level communication by acquiring visual skills, such as drawing and composition.

## 7 What are the implications for teaching and learning?

The demand for visual literacy is driving key changes in curricula as visual content becomes a presumptive component of our communication toolbox. Courses in how to evaluate and present visual information are appearing in programs in the humanities, sciences, mathematics, technology, and the arts. Degree and certificate programs are being established and modified to support visual literacy as it becomes an explicit requirement for employment in a range of fields. The tools of data visualization, including animated and movie-based applications, are increasingly common, available, and easy to use. **These tools offer students and faculty the opportunity to make new discoveries and find new ways to present complex data.** Perhaps most interesting, the shifting focus in education from the printed page to the screen may herald a change not just in the way we present our thoughts but in the way we think.