

Open:

- Excel
- Catalyst (and make a Disc Forum)
- Word
- Google

#### Using Graphics: Objectives

By the end of this unit, you will be able to

- decide when graphics are appropriate in your online materials, and justify your choices;
- distinguish between "information" and "noise" in a graphic;
- describe some ways to make graphics accessible to persons with visual disabilities;
- explain why "alt tags" are necessary, and write useful ones; and
- find existing graphics and use them ethically.

I'm Jan Kinney. I'm an instructional designer at UW Educational Outreach. In addition, I'm a resource person for my department on creating and editing graphics.

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When we offer learning materials online, we can enhance them with graphics. These may include graphs, tables, charts, photographs, maps, cartoons, and so on.

#### What Can Graphics Do?

Graphics can

- illustrate the flow of a process or cause-and-effect;
- display or compare statistics, trends, or other related facts;
- reveal information not readily obvious or evident;
- illustrate a concept or convey an emotion; and
- provide an alternative way to convey information for more visually-oriented learners.

Graphics are appropriate whenever **showing** rather than **telling** will enhance learning. For example, we can use graphics to

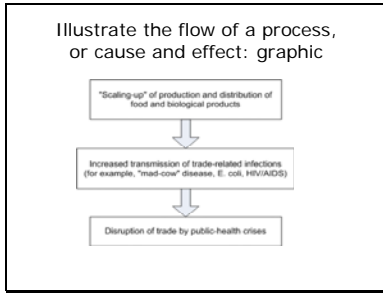
- illustrate the flow of a process or cause-and-effect;
- display or compare statistics, trends, or other related facts;
- reveal information not readily obvious or evident;
- illustrate a concept or convey an emotion.

Graphics also provide an alternative way to convey information for more visually-oriented learners.

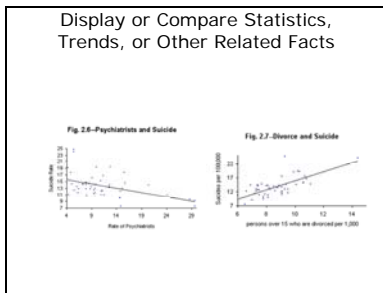
#### Description of the Flow of a Process, or Cause and Effect: Text

Emergence of trade-borne infectious disease is hastened when you "scale up" agricultural production or the production of human biologicals to meet international trade market demands. Transmission is broadened through the transportation or trade in goods. Economic impact is large due to trade disruptions.

The lecture does not illustrate this statement, but if we wanted to emphasize the **flow** from "scaling up" of trade to increased transmission of infections, to disruption of trade, we might create a flowchart that looks like...

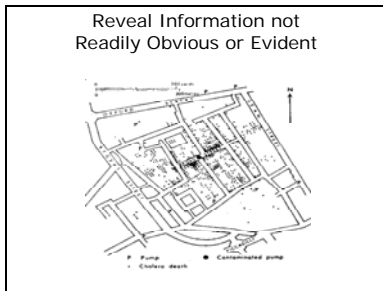


This.



A graphic can show statistical relationships and trends at a glance that it may take a couple of paragraphs to say in print.

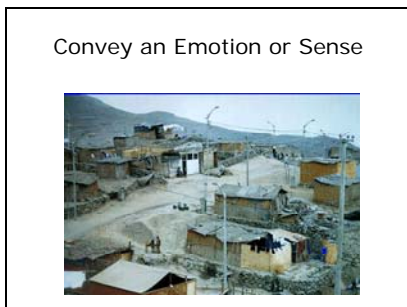
These two graphs show positive and negative correlation between two sets of variables. Imagine how much text you'd need to write to convey the same ideas.



One of the most famous examples of using a graphic to reveal information and create new knowledge is the map of a cholera outbreak in London in 1854, created by Dr. John Snow. Dr. Snow plotted cholera deaths on a map of a London neighborhood, and also showed the locations of public water pumps. It was evident from the map that cases were clustered around the Broad Street pump. Dr. Snow had the pump handle removed, and the outbreak stopped.



This photo is from a course on construction safety. We could say that you need to place a scaffold on a secure footing, but this shows it in a way that conveys the danger of not doing so.



There is a rapid increase in population in developing countries, and we're also seeing increasing urbanization in these poor countries. These situations create the mega-cities such as Sao Paulo, Brazil and Cairo, Egypt, where there are large urban populations with poor sanitary infrastructure.

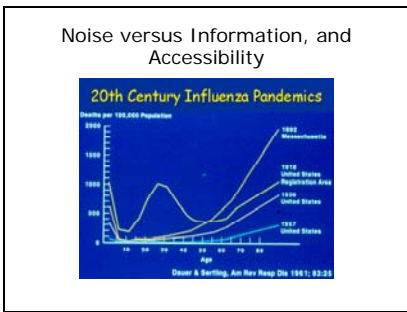
We can think about concepts such as poor sanitation, overcrowding, and poverty, but when we see a photograph of a slum in Lima, Peru, we can better understand what these concepts actually mean. This photo also shows graphically the disparity in public services. Note that there are street lights here, but none of the wires run into these homes.



Graphics can also convey a sense of grandeur, monumental scale, and awe. Here is the Horsehead Nebula as seen by the Hubble Telescope.

Your Turn

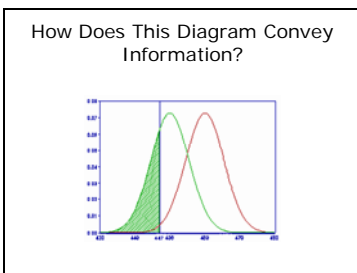
What are some other uses for graphics?



When we use graphics in online presentations, we want to be sure that everything in the graphic actually **adds information**. Anything that does not provide useful information is referred to as "noise," and our aim is to reduce noise as much as possible.

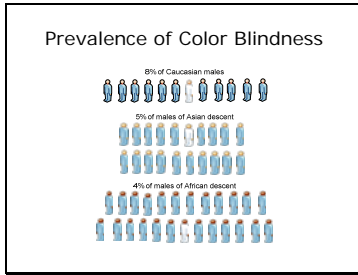
Your Turn

Is this graphic easy to read? Is it attractive? Does every element in it provide useful information? What information does it provide?

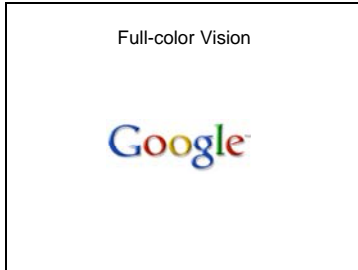


How can we tell the difference between the left-hand curve and the one on the right?

Now, it's statistically probable that at least one person in this room can't see that difference.

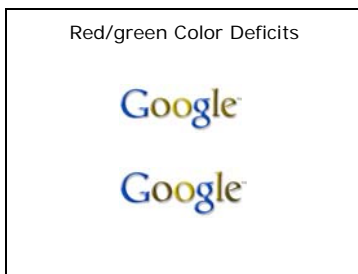


Color-blindness is a recessive gene passed from mothers to sons, and it takes various forms. One in twelve Caucasian males (8%), one in 20 Asian males (5%), and one in 25 African males (4%) are so-called "red-green" colorblind." This means that if your graphic is being viewed by three white men, there is a 22% chance one of them is can't distinguish between red and green, and there are three types of colorblindness. The difference between the colors may also be hard to distinguish for persons with low vision.



There's a great web site, called Vischeck, that lets persons with full-color vision see what their Web sites look like for persons with color vision deficits.

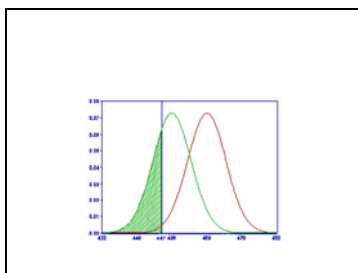
Here's a familiar graphic.



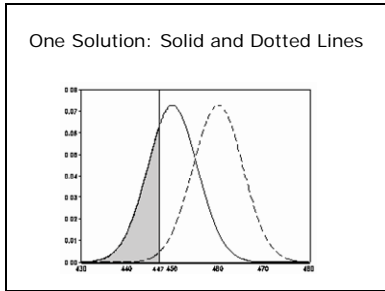
Here's the same image as seen by persons with Deuteranope color vision (at the top) and with Protanope color vision (below). Persons with both these conditions have difficulty distinguishing red and green.



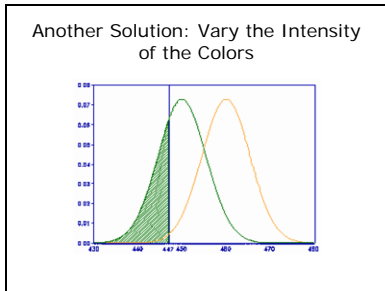
Here's the image as seen by people with blue/yellow deficit: Tritanope color vision.



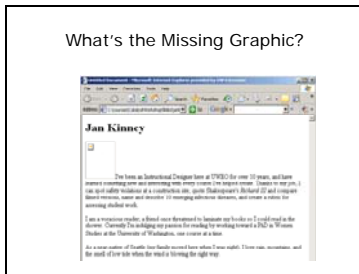
Let's take another look at this red and green graph. What can we do to make this useful to persons with color vision deficits?



Here's one solution. We could also vary the thickness of the lines. If we use one of these solutions, we could still use the red-green color scheme, because now people who can't distinguish red and green still have a way to distinguish one curve from the other.



Here's another solution. We've lightened the red (and added a lot of yellow to it), and darkened the green.

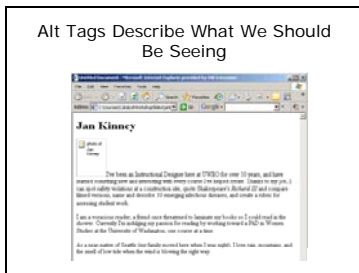


As you search the Internet, you've very likely encountered something like this.

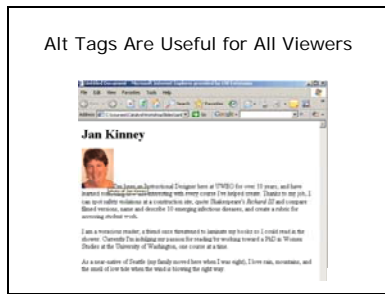
That X in the blank box is a bit of a tease; it's telling you there should be a graphic there, but because the Web designer was careless and forgot to include it, or because you've chosen not to download graphics, you don't get to see it.

Persons with low vision or dyslexia often use a device called a screen reader, which reads the text on the Web page out loud. When a screen reader encounters a graphic, all it can do is announce "graphic."

Wouldn't it be helpful to know at least what you're missing  
How about this?



That label is called an alt tag, because it functions as an *alternative* to the graphic. You create it in the code when you add the graphic. Screenreaders can read graphics, so they're useful for persons with low vision or dyslexia, and they're actually required, as a component of accessibility



Why Should We Care about Accessibility?

- Americans with Disabilities Act (ADA)
- Section 508
- Jan, see Lesson six of ITA 340

Now that the site owner has discovered the mistake, we can see the photo, and pretty safely assume that's a photo of Jan Kinney. But, just to verify what we think we're looking at, we can hold the cursor over the graphic for a few seconds, and watch the alt tag appear.

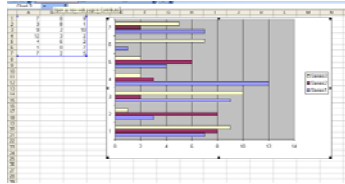
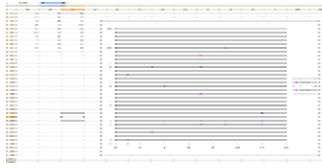
This tag is a brief but thorough description of what we're looking at. Like most aspects of accessibility—think curb cuts, for example—this feature benefits everyone, not just persons with disabilities.

From a course on Web Publishing: The Department of Education's Office of Civil Rights (OCR) clarified aspects of the ADA in regard to Web-based content following a student complaint: "The issue is not whether the student with the disability is merely provided access, but the issue is rather the extent to which the communication is actually as effective as that provided to others." For communication to be effective, the OCR mandated three essential components: "timeliness of delivery, accuracy of the translation, and provision in a manner and medium appropriate to the significance of the message and the abilities of the individual with the disability."

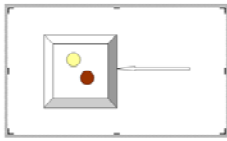
From the Section 508 Web site: In 1998, Congress amended the Rehabilitation Act to require Federal agencies to make their electronic and information technology accessible to people with disabilities. Inaccessible technology interferes with an individual's ability to obtain and use information quickly and easily. Section 508 was enacted to eliminate barriers in information technology, to make available new opportunities for people with disabilities, and to encourage development of technologies that will help achieve these goals. The law applies to all Federal agencies when they develop, procure, maintain, or use electronic and information technology. Under Section 508 (29 U.S.C. ' 794d), agencies must give disabled employees and members of the public access to information that is comparable to the access available to others.

If you're interested in learning more about accessibility, you can contact the DO-IT office at the UW.

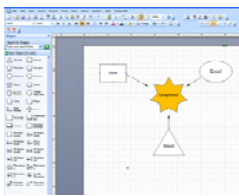
### Creating Graphics: Excel



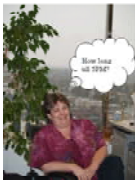
### Creating Graphics: Word



### Creating Graphics: Visio



### Combining Graphics: Word or Visio



### Finding Ready-made Graphics Online



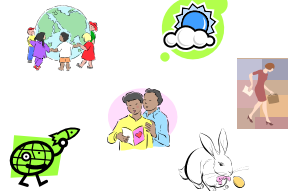
### UW Library Image Collections



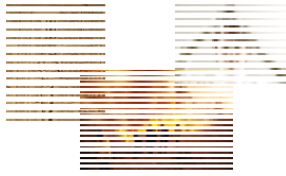
### Digital Collections



### Clip Art



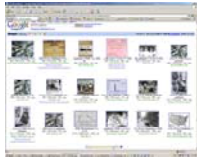
## Clip Art



## Google Images



## Google Images Results



## Closeup of Results



## Facilitating Discussion: Objectives

- By the end of this unit, you will be able to
- choose an appropriate discussion tool for your learners and purposes;
  - craft meaningful discussion assignments;
  - set standards for performance and participation; and
  - facilitate and monitor online discussions to help foster a sense of community among learners.

## Facilitating Discussion

### Discussion Tools

- e-mail: [Pine](#), [WebPine](#), [UMail](#)
- forums or discussion boards: [GoPost](#)
- blogs: [WordPress](#)
- chat or instant messaging: Windows
- audioconferencing: [C & C Teleconferencing](#)
- collaboration: [Peer Review](#), [Portfolio](#), [Share Space](#), [GoPost](#) attachments

## Facilitating Discussion

### Discussion FAQs

- What makes a compelling forum question?
- How do I encourage interaction and response?
- What is my role in an online discussion?
- Should I require participation?
- How do I evaluate participation?

## Facilitating Discussion

### Meaningful Assignments

- connect the assignment clearly to the material and your educational purpose
- relate to learners' experiences
- focus on application and reflection rather than declarative knowledge
- ask questions or pose problems that have multiple answers, strategies, or approaches

## A Bad Example

Don't try this at home...

"Some feel that the United States is less militarily secure than we were in 2000. Discuss."

What's wrong with this prompt?

## Your Turn

Using the guidelines for meaningful assignments, take five minutes to draft a discussion prompt related to the material in the Influenza lesson.

## Facilitating Discussion

### Standards

- cover both rules for learner interaction and expectations for deliverables
- write clear, succinct, and complete descriptions and instructions
- include models and examples
- create and provide evaluation rubrics

### Creating an Assessment Rubric

Excellent	
Acceptable	
Unacceptable	

### Facilitating Discussion

#### **Facilitation Guidelines**

- decide your role and communicate it- set learner expectations early
- respond promptly
- facilitation vs. moderation
- vary your response: none, individual, or group
- consider peer facilitation, small groups
- respond to problems privately

### Contact Information

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206-685-6379