



MODULE 13 Reading Visuals

An Effective Reading Process: Student Strategies

Visual representations are a common way to communicate complex information in a compact form. More and more, authors and publishing companies are incorporating visual materials into textbooks. These strategies are meant to help you read and interpret visuals so to understand them fully in the context of your readings.

STRATEGY #1: Understanding The Role Of Visuals In A Textbook

When you have a long reading assignment, it can be tempting to skip over or quickly glance at the visuals in your textbook. However, visuals can help clarify concepts and deepen your comprehension, and are often very important for your overall understanding of a reading.

Visuals perform several important functions including:

1. Visually illustrate a concept such as a cycle or a process
2. Clarify information presented in the text by --presenting it a different way --showing an occurrence, a document, or a situation that was explained in words
3. Add information to make the text content more interesting or richer

Your instructor may walk you through the following exercise to discuss the relevance and importance of visuals in your textbook. If not, do it on your own.

Take a few minutes to go through a chapter that includes visuals. Discuss the visuals relevance and importance by answering the following questions:

1. What type of visual appears on page x? (pie chart, photograph, line graph, etc.)
2. Does it compliment the material and/or explain the material in a different way? If so, how?
3. Does it add new material or understanding to the concepts in the reading? If so, how?
4. Does it help to make the material more interesting? If so, how?

WHAT ABOUT THOSE “PULL-OUT BOXES” IN MY TEXTBOOKS? DO I HAVE TO READ THEM?

Remember to read “pull out” boxes too. Although you might be tempted to skip them in the interest of saving time, it is usually well worth your time to read them. They usually highlight important passages, elaborate on concepts, provide explanations or examples, or ask important questions. “Pull-outs” are often inserted to make your learning experience more interesting, so why not take advantage of them?

HOW ABOUT I JUST READ THE VISUALS? WON’T I LEARN ENOUGH?

While it is important for you to consider the visuals, don’t give into the temptation of ignoring text and skipping through the chapter just examining the visuals. Remember, they are meant to elaborate on or clarify the text, not replace it. You cannot expect to get the “whole picture” just from the visuals.



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Here is an example of textbook pages with visuals:

Surfing In Waves Of Information

In two chapters we discuss how to navigate these Web waves, to achieve the most efficient information retrieval. We first discuss a common method to find items: ways to navigate the ever larger ocean of information on the Web. Even in narrow fields, the Web updates new information sweeps every day, and it becomes a daily, time-demanding effort to wade all of the lower-priced and publications.

On the Web, graphics and charts are used to present data. As always, the audience and the market at large are subject to feedback. Visible sites offer the user real content, and logic also can be used to make better. Intelligent agents can make the Web and use their "memory" the time.

Before the Web search engines were available, the searching of information was considered a major site standing block. The very search engines that were taking users into the internet of information quickly transformed themselves into business models that could navigate the ocean.

The Web search engines were the first sites in existence that allowed users to go out and surf the pages of information on the Web and actually make some findings. When the preparation and details of Web sites grew rapidly, the need arose to automate the search functions that people need to perform repeatedly. Intelligent agents software is designed to provide a precisely focused information retrieval that not only can provide searching activities to save the user time and allow people to determine in what other than on surfing programs.



Intelligent agents software makes it easy to find information and make it easy to use. The user of the Boston City website can use the search engine to find information on each page. The user can use the search engine to find information on each page.

Intelligent Agents

The Web wave intelligent agent is a partial solution for the need to wade through piles of digital information. The average Web user can't and won't put in a lot of time to have advantage of the ocean of information on the Web. It is already increasingly difficult to keep up with the information systems updating the Web, and it's growing by megabytes each year. Intelligent agent software automates just surfing in these kinds of huge information, and more personal information is also available on the Web. Some of this can even "watch" what you return and automatically return "more like this." Be careful whenever this feature is available because employer can use them rather than you.



Be sure to write out your own notes. Agents must be carefully looked with to achieve best results.

They consider the nature of search. These old topics were that have been hanging from just also the idea of the subject will hold a lot of potential. Using recently loaded major site (SRI) which allows point to point communications at that time, the speed of the latest conventional modern, SRI has been available for years, and SRI modern are equally affordable and practical.

Though SRI, some software service provides changed time-based sites, even two years per minute add up when the remote work station is constantly connected, as they will be in the future, and as time goes on. The SRI are also controlled by the user, and also, that, no search changes are necessary, except for the special sections on each end. It should be no surprise that the SRI: use of called content makes a system that can use data over the same time.



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STRATEGY #2: Reading Tables

A table, made up of rows and columns, is a fairly simple way to present data involving at least two sets of variables.

Although tables are useful for conveying specific information, but they do not create comparisons as pie charts or bar graphs do. Using left to right (row) and up to down (column) eye movements, tables are generally easy read when you understand how they are constructed.

As an example, take a moment to look at this table illustrating information about international students by academic level.

Academic Level	2006/07 Int'l Students	2006/07 % of Total	2007/08 Int'l Students	2007/08 Int'l Total
Associate's	67,855	12.5	65,378	11.5
Bachelor's	170,195	31.4	177,982	31.4
Graduate	264,288	48.8	276,842	48.8
Non-Degree	38,986	7.3	46,837	8.3

Reading this graphic is relatively simple. For example, if you need to know the number of international graduate students for 2007-2008, you would simply look down the column for “graduate” and then move a finger across the row for 2007-08 and find the total of 276,842 students.

When a table is included in your reading, follow these four steps for better comprehension:

STEP 1 Previewing and Comprehension

- What is the title/caption?
- What data is recorded in the columns and rows?

STEP 2 Structural Analysis

- How is the information organized?
- How should the information be tracked and read?

STEP 3 Content Analysis

- Summarize the information the table conveys.
- How does the table relate to the reading?

STEP 4 Critical Analysis

- Who created the table, for what purpose, and for what audience? Could the table be biased?
- Does the information appear complete and current?
- How can you use the information in the table? How does it relate to what you have read?



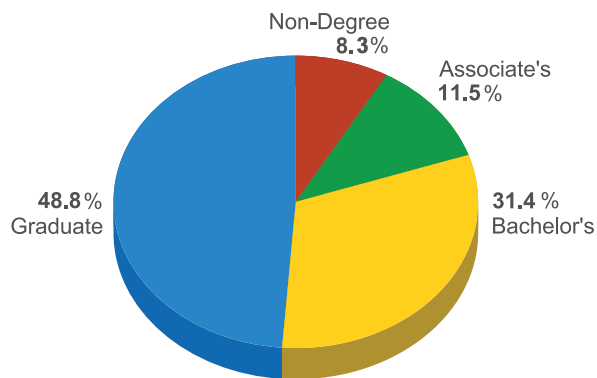
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STRATEGY #3: Reading Charts

You will encounter many different types of charts in textbooks. Two common ones are pie charts and process charts. Each has its own purposes and specific ways of reading for comprehension. It is important to understand what kind of chart you are looking at before you can interpret it.

International Students By Academic Level, 2007/08

Source: Member Website of the Institute of International Education



Pie chart: A pie chart is a visual representation of parts to the whole. In other words, each slice of the pie represents some percentage of the total. A bigger percentage becomes a bigger slice of the pie.

This pie chart illustrates the same information as the previous table on international students. However, unlike the table, this pie chart helps the reader draw comparisons by percentages. Notice how the distinct colors help readers see the differences immediately.

To check your understanding of this pie chart, identify the categories with the most and the least international students.

When a pie chart is included in your reading, follow these steps for better comprehension:

STEP 1 Previewing and Comprehension

- What is the title/caption?
- What data is recorded in the pie segments?

STEP 2 Structural Analysis

- How is the information organized?
- How should the information be tracked and read?

STEP 3 Content Analysis

- Summarize the information the pie chart conveys.
- How does the pie chart relate to the reading?

STEP 4 Critical Analysis

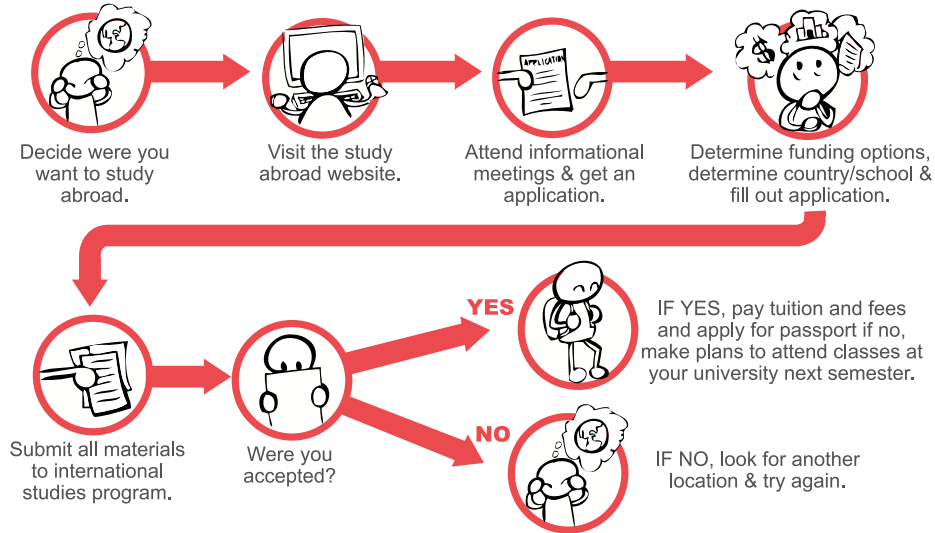
- Who created the pie chart, for what purpose, and for what audience? Could the pie chart be biased?
- Does the information appear complete and current?
- How can you use the information presented in the pie chart? How does it relate to what you have read?



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Process charts: Because process charts are used to demonstrate a process from beginning to end, they are especially useful for illustrating processes that include decision making. Some process charts use different shapes for different processes and arrows to indicate direction.

Steps to applying to an international program:



This process chart demonstrates the steps a student must take to apply to an international program. Reading this graphic is relatively simple. Consider the number of steps and what would happen if something were left out of the sequence.

When a process chart is included in your reading, follow these four steps for better reading comprehension:

STEP 1

Previewing and Comprehension

- What is the title/caption?
- What data is included in the process?

STEP 2

Structural Analysis

- How is the information organized?
- How should the information be tracked and read?

STEP 3

Content Analysis

- Summarize the information conveyed.

- How does the process chart relate to the reading?

STEP 4

Critical Analysis

- Who created the process chart, for what purpose, and for what audience? Could the process chart be biased?
- Does the information appear complete and current?
- How can you use the information in the process chart? How does it relate to what you have read?



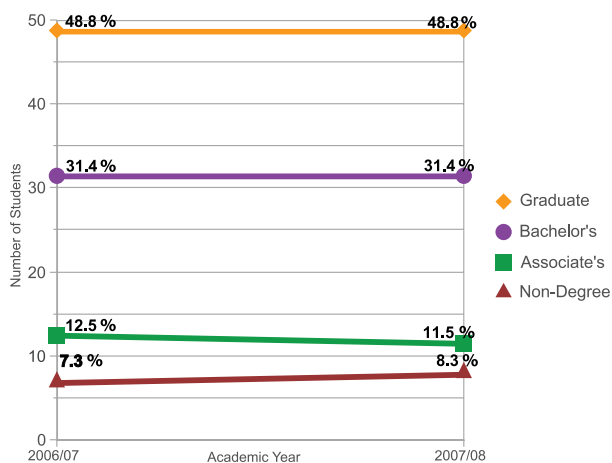
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STRATEGY #4: Reading Graphs

Just as there are many different types of charts, graphs come in a wide variety including line graphs and bar graphs. Generally speaking, a graph represents relationships or trends via lines, bars, or dots. Each graph has its own purposes and specific ways of reading for comprehension. Therefore, it is important to understand what kind of graph you are looking at before you can interpret it.

International Students By Academic Level, 2006/07-2007/08

Source: Member Website of the Institute of International Education



Line graph: Line graphs use lines to connect datapoints and indicate changes or trends. Line graphs allow you to draw comparative conclusions about how the data has fluctuated over time. This line graph again uses the data provided in the table for international students by academic level. Reading this graphic is relatively simple. Can you identify which categories had the greatest and the least fluctuation?

When a line graph is included in your reading, follow these four steps for better reading comprehension:

STEP 1 Previewing and Comprehension

- What is the title/caption?
- What data is recorded along the horizontal and vertical axes?

STEP 2 Structural Analysis

- How is the information organized?
- How should the information be tracked and read?

STEP 3 Content Analysis

- Summarize the information conveyed in the line graph.

- How does the line graph relate to the reading?

STEP 4 Critical Analysis

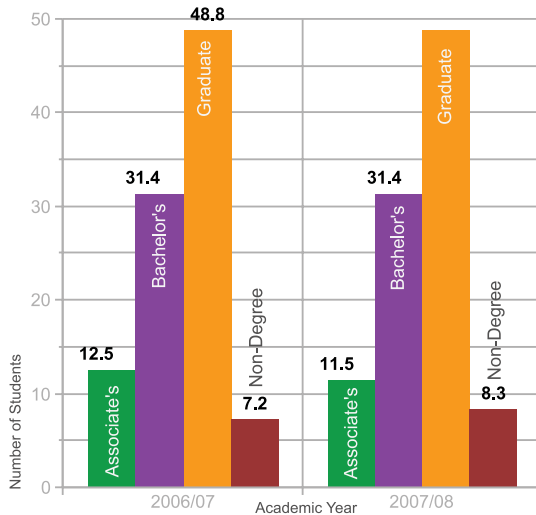
- Who created the line graph, for what purpose, and for what audience? Could the line graph be biased?
- Does the information appear complete and current?
- How can you use the information in the line graph? How does it relate to what you have read?



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International Students By Academic Level, 2007/08

Source: Member Website of the Institute of International Education



Bar graph: A bar graph uses rectangular bars to compare two or more data sets.

The same data on international students by academic level is presented in this bar graph. Reading this graphic is relatively simple. Can you identify which categories had the greatest and the least fluctuation?

When a bar graph is included in your reading, follow these four steps for better reading comprehension:

STEP 1 Previewing and Comprehension

- What is the title/caption?
- What data is recorded along the horizontal and vertical axes?

STEP 2 Structural Analysis

- How is the information organized?
- How should the information be tracked and read?

STEP 3 Content Analysis

- Summarize the information conveyed in the bar graph.
- How does the bar graph relate to the reading?

STEP 4 Critical Analysis

- Who created the bar graph, for what purpose, and for what audience? Could the bar graph be biased?
- Does the information appear complete and current?
- How can you use the information in the bar graph? How does it relate to what you have read?



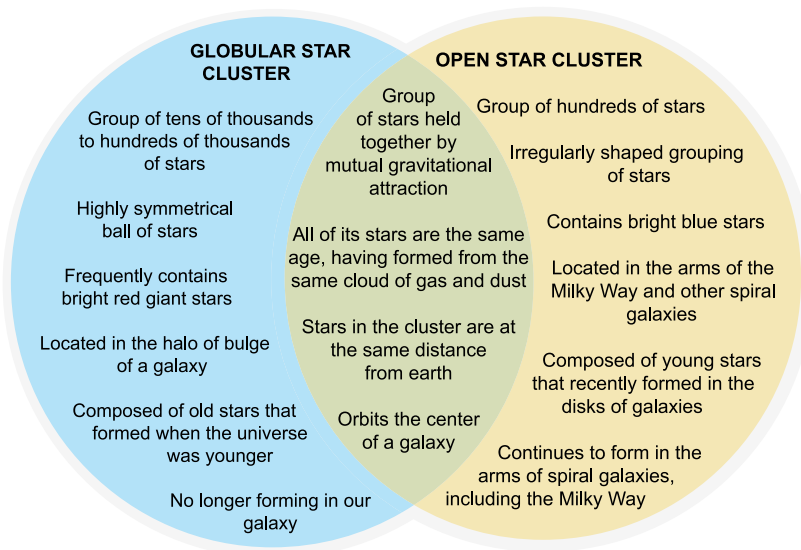
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STRATEGY #5: Reading Diagrams

Diagrams can be used in many different ways, but they are especially good for illustrating concepts and processes. As with the other graphics described here, diagrams come in a variety of types. Therefore, it is important to understand what kind of diagram you are looking at before you can interpret it.

Globular and Open Cluster

Source: Space Telescope Science Institute (STScI)



Venn diagram: A Venn diagram illustrates the points at which two or more groups or concepts overlap. In the example here, the characteristics of both globular and open star clusters are listed in the left and right spheres. Can you identify the characteristics that are common to both types of clusters?

If your reading includes a Venn diagram, follow these four steps for better reading comprehension:

STEP 1 Previewing and Comprehension

- What is the title/caption?
- What is the subject of the circles in the diagram?

STEP 2 Structural Analysis

- How is the information organized?
- How should the information be tracked and read?

STEP 3 Content Analysis

- Summarize the information conveyed in the Venn diagram.
- How does the Venn diagram relate to the reading?

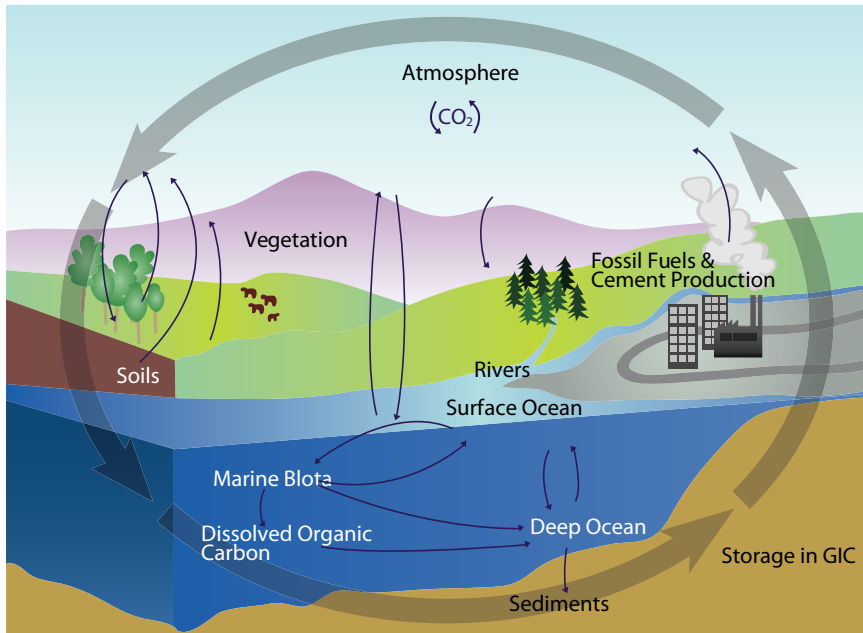
STEP 4 Critical Analysis

- Who created the Venn diagram, for what purpose, and for what audience? Could the Venn diagram be biased?
- Does the information appear complete and current?
- How can you use the information in the Venn diagram? How does it relate to what you have read?



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The Carbon Cycle



Cycle diagram: A cycle diagram is a useful way to illustrate a process that has the same beginning and ending point.

Notice the complexity within this carbon cycle. The general cycle is illustrated through the big circle, but there are mini-cycles within it as well. Reading this graphic is relatively simple. Try talking through the carbon cycle as represented in this cycle diagram.

When your reading includes a cycle diagram, follow these four steps for better reading comprehension:

STEP 1 Previewing and Comprehension

- What is the title/caption?
- What cycle is being illustrated?

STEP 2 Structural Analysis

- How is the information organized?
- How should the information be tracked and read?

STEP 3 Content Analysis

- Summarize the information conveyed in the cycle diagram.
- How does the cycle diagram relate to the reading?

STEP 4 Critical Analysis

- Who created the cycle diagram, for what purpose, and for what audience? Could the cycle diagram be biased?
- Does the information appear complete and current?
- How can you use the information in the cycle diagram? How does it relate to what you have read?



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STRATEGY #6: Reading Photographs

Photography is commonly interspersed within much of your reading materials and has tremendous power to communicate information.

“Reading” photographs along with the related text presents a unique set of challenges. However, these questions can help you decode, evaluate, and respond to photographic images.

The photograph below is provided as a reference as you work through application of the following steps:



Source: Image provide by CDC Public Health Image Library (PHIL)

1. The Five “W” Questions:

A common approach to understanding what photographs communicate is to ask the Five W’s: who, when, what, where, and why. While the “Five W’s” may seem simplistic, they are a starting point for better comprehension. Utilize the Five “W” questions starting with this basic comprehension set:

- Who or what is in the photograph?
- When was this photograph taken?
- What is happening in the photograph?
- Where was this photograph taken?

Adding the fifth W, “Why?” builds on basic comprehension to encourage critical analysis for visual literacy:

- Why did the photographer select these particular elements to include in the photograph?
- Why did the photographer emphasize certain elements and not others?
- Why did the photographer take the picture at this moment?
- Why did the photographer take the picture from this angle?



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2. Analyzing Photographer's Intention:

When we ask this next set of questions, we put ourselves in the scene of the photograph and in the mind of the photographer. Photographers are like writers—they make decisions about their content with regard to audience and how they want to communicate the information of the image.



Source: Image provide by CDC Public Health Image Library (PHIL)

The photograph above is provided as a reference as you work through application of the following steps:

- What are your eyes immediately drawn to? In photography, they call these “vectors of attention.” Why does the photographer want you to focus here?
- The photographer has captured a moment in time. What do you think was happening before and after?
- The photographer took the picture from a specific angle. How would it look from different angles?
- What if the picture was cropped and framed differently? How would it change the “message” of the photograph?
- The photographer selected particular elements to include—what didn't he/she include in the photograph? Why?

These series of questions can provide effective scaffolding for understanding a photograph—and you can take it even further. Consider why the authors of a text have chosen to use the photograph embedded in the reading, or even why they added photographs at all. The connection of the visual to the text can greatly enhance your reading engagement and comprehension.



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STRATEGY #7: Reading Comics and Cartoons



Stock Market Vultures

Comics and cartoons can be an engaging way to connect to and extend the content of reading, but we often need to develop the ability to “read” them in order to gain their full benefit.

Image taken from: cartoons-political.com

The comic above is provided as a reference as you work through application of the following steps:

STEP 1

Previewing and Comprehension

- What is the title/caption?
- List the objects or people you see in the comic/cartoon.
- Who or what is involved in the scene?
- What kind of interaction is taking place?
- When does it seem to be taking place?
- Where does it seem to be taking place?

STEP 2

Structural Analysis

- How is the comic/cartoon drawn: Caricature? Realistically? Symbolically?
- How do the drawings relate to the text?
- Do word placements and font variations impact meaning?

STEP 3

Content Analysis

- Summarize the message of the comic/cartoon.
- Why is a comic/cartoon appropriate for this message?

STEP 4

Critical Analysis

- Who created the comic/cartoon, for what purpose, and for what audience? What bias is shown?
- What rhetorical strategies are used to persuade (logical argument, emotional argument, ethical appeals)? In what ways are the rhetorical strategies used? Why?
- How does this connect to what you have read?



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Useful Resources

Picture this: Visual literacy activities.

<http://museumca.org/picturethis/visual.html>

Picture this provides a host activities to promote visual literacy. Through the use of historical photographs, students can look and tell, write, and make. The website suggests that students can: “learn to appreciate and analyze photographs, increase their visual literacy, develop and improve observational skills, and increase critical thinking skills.”

Working with charts, graphs, and tables.

<http://openlearn.open.ac.uk/mod/resource/view.php?id=200279>

This section on charts, graphs, and tables from Open Learn is an online textbook chapter that helps students read and interpret graphics. It addresses their concerns, helps them make sense of data presented in a variety of formats, presents activities to assess their understanding, and provides a glossary.

Visual literacy: An e-learning tutorial on visualization for communication, engineering, and business.

<http://www.visual-literacy.org/>

As stated on the homepage, “This e-learning site focuses on a critical, but often neglected skill for business, communication, and engineering students, namely visual literacy, or the ability to evaluate, apply, or create conceptual visual representations.” Although this website features a series of online courses requiring a password, there are many useful resources including videos and an extensive bibliography as well as two demo tutorials.

****Please bear in mind that documents on the web might change location or go away. If a link provided here does not work, try searching the key terms in a search engine or locating more of your own resources.**