



This is “Reading to Learn”, chapter 5 from the book [Success in College \(index.html\)](#) (v. 1.0).

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## Chapter 5

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### Reading to Learn

Figure 5.1



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## Where Are You Now?

Assess your present knowledge and attitudes.

	Unsure	No	Yes
1. I am a good reader and like to read for pleasure.			
2. I feel overwhelmed by the amount of reading I have to do for classes.			
3. I usually understand what is written in textbooks.			
4. I get frustrated by difficult books.			
5. I find it easy to stay focused on my reading.			
6. I am easily bored reading for classes.			
7. I take useful notes when I read.			
8. I can successfully study for a test from the notes I have taken.			
9. I use a dictionary when needed while reading.			
10. I have trouble reading long passages on the computer screen.			

## Where Do You Want to Go?

Think about how you answered the questions above. Be honest with yourself. On a scale of 1 to 10, how would you rate your level of academic reading at this time?

Poor reader					Excellent reader													
1		2		3		4		5		6		7		8		9		10

In the following list, circle the three most important areas in which you think you can improve:

- Preparing for reading
- Understanding what you read
- Staying focused while reading
- Selecting the best location for reading
- Selecting the best time for reading assignments
- Breaking down assignments into manageable pieces
- Working my way through a difficult text
- Setting priorities for reading assignments
- Reading faster
- Taking notes while reading
- Finding strategies for highlighting and marginal notes
- Reading primary source documents
- Improving my vocabulary

Are there other ways in which you can improve your reading? Write down other things you feel you need to work on.

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## How to Get There

Here's what we'll work on in this chapter:

- Understanding why reading is so important for college success
- Learning how reading fits into the learning cycle
- Learning how reading in college is different from reading in high school
- Discovering the principles of reading to learn (active reading)
- Knowing where, when, and how long to read
- Discovering the anatomy of a textbook
- Learning tips for reading textbooks in specific subjects
- Learning tips for reading primary sources
- Learning tips for reading digital texts
- Building your vocabulary

## Reading to Learn

Sure you can read. After all, that's what you are doing now, at this moment. But reading to learn is active reading, a process that involves much more than the mechanics of converting a set of letters into meaningful words. It is a process that you will use for gathering much of the new information you get in school—and in life.

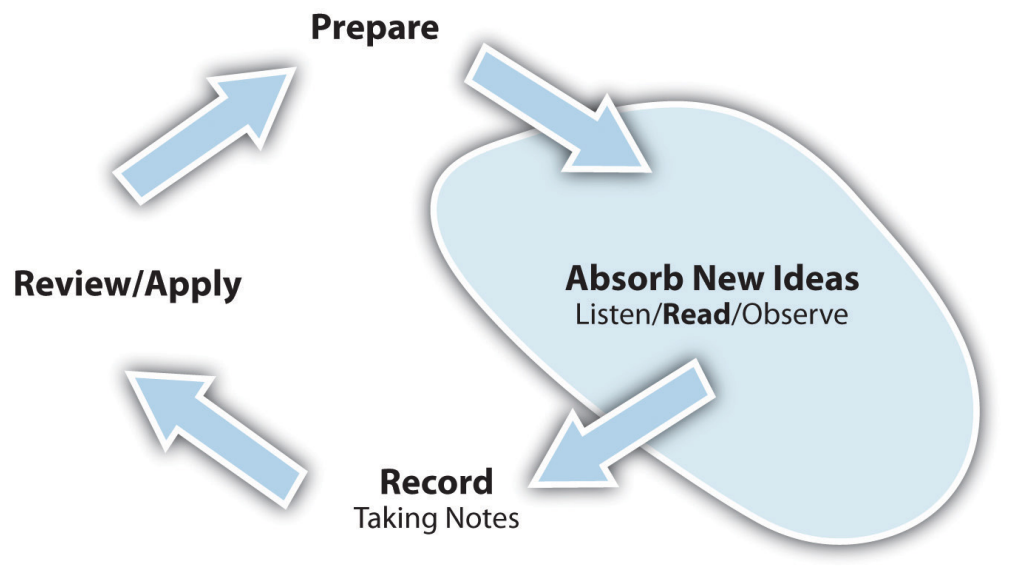
Does the following sound familiar? You've had a full day of classes, so you go to the gym to get in a workout. Afterward, you meet a friend who suggests going out for a quick bite; you get back to your room around eight o'clock and settle in to work on your reading assignment, a chapter from your sociology text entitled "Stratification and Social Mobility." You jump right in to the first paragraph, but the second paragraph seems a bit tougher. Suddenly you wake up and shake your head and see your clock says 11:15 p.m. Oh no! Three hours down the drain napping, and your book is still staring back at you at the beginning of the chapter, and you have a crick in your neck.

Now, picture this: You schedule yourself for a series of shorter reading periods at the library between classes and during the afternoon. You spend a few minutes preparing for what you are going to read, and you get to work with pen and paper in hand. After your scheduled reading periods, by 5:30 p.m. you have completed the

assignment, making a note that you are interested in comparing the social mobility in India with that in the United States. You reward yourself with a workout and dinner with a friend. At 8 p.m., you return to your room and review your notes, feeling confident that you are ready for the next class.

The difference between these two scenarios is **active reading**<sup>1</sup>. Active reading is a planned, deliberate set of strategies to engage with text-based materials with the purpose of increasing your understanding. This is a key skill you need to master for college. Along with listening, it is the primary method for absorbing new ideas and information in college. But active reading also applies to and facilitates the other steps of the learning cycle; it is critical for preparing, capturing, and reviewing, too.

Figure 5.2 *The Role of Reading in the Learning Cycle*



In this chapter, you will learn the basics of active reading. Follow all the recommended steps, even though at first you may think they take too long. In the end, you will be able to cut your reading time while increasing what you learn from reading. Read on!

1. A conscious process in which the reader chooses to create an interaction with the written word, with the objective of increasing understanding.

## 5.1 Are You Ready for the Big Leagues?

### LEARNING OBJECTIVES

1. Explain how reading in college is different from reading in high school.
2. Understand the importance of reading for college learning.

Think back to a high school history or literature class. Those were probably the classes in which you had the most reading. You would be assigned a chapter, or a few pages in a chapter, with the expectation that you would be discussing the reading assignment in class. In class, the teacher would guide you and your classmates through a review of your reading and ask questions to keep the discussion moving. The teacher usually was a key part of how you learned from your reading.

If you have been away from school for some time, it's likely that your reading has been fairly casual. While time spent with a magazine or newspaper can be important, it's not the sort of concentrated reading you will do in college. And no one will ask you to write in response to a magazine piece you've read or quiz you about a newspaper article.

In college, reading is much different. You will be expected to read much more. For each hour you spend in the classroom, you will be expected to spend two or more additional hours studying between classes, and most of that will be reading. Assignments will be longer (a couple of chapters is common, compared with perhaps only a few pages in high school) and much more difficult. College textbook authors write using many technical terms and include complex ideas. Many college authors include research, and some textbooks are written in a style you may find very dry. You will also have to read from a variety of sources: your textbook, **ancillary materials**<sup>2</sup>, **primary sources**<sup>3</sup>, academic journals, periodicals, and online postings. Your assignments in literature courses will be complete books, possibly with convoluted plots and unusual wording or dialects, and they may have so many characters you'll feel like you need a scorecard to keep them straight.

In college, most instructors do not spend much time reviewing the reading assignment in class. Rather, they expect that you have done the assignment before coming to class and understand the material. The class lecture or discussion is often based on that expectation. Tests, too, are based on that expectation. This is why

2. Additional or supplemental reading materials beyond a standard course textbook. These may include journal articles and academic papers.

3. Documents, letters, diaries, newspaper reports, financial reports, lab reports, and records that directly report or offer new information or ideas, rather than secondary sources (like many textbooks) that collect information that originated in primary sources.

active reading is so important—it's up to you to do the reading and comprehend what you read.

**Note:** It may not always be clear on an instructor's syllabus, but a reading assignment listed on any given class date should be read *before* coming to class on that date.

### KEY TAKEAWAYS

- College reading is very different from high school reading.
- You must take personal responsibility for understanding what you read.
- Expect to spend about two or more hours on homework, most of it reading, for every hour you spend in class.
- Reading is a primary means for absorbing ideas in the learning cycle, but it is also very important for the other three aspects of the learning cycle.



## 5.2 How Do You Read to Learn?

### LEARNING OBJECTIVES

1. Understand the four steps of active learning.
2. Develop strategies to help you read effectively and quickly.

The four steps of active reading are almost identical to the four phases of the learning cycle—and that is no coincidence! Active reading is learning through reading the written word, so the learning cycle naturally applies. Active reading involves these steps:

1. Preparing
2. Reading
3. Capturing the key ideas
4. Reviewing

Let's take a look at how to use each step when reading.

### Preparing to Read

Start by thinking about why your instructor has chosen this text. Has the instructor said anything about the book or the author? Look at the table of contents; how does it compare with the course syllabus? What can you learn about the author from the **front matter**<sup>4</sup> of the book (see [Table 5.1 "Anatomy of a Textbook"](#))? Understanding this background will give you the context of the book and help define what is most important in the text. Doing this exercise once per textbook will give you a great deal of insight throughout the course.

Now it is time to develop a plan of attack for your assignment. Your first step in any reading assignment is to understand the context of what you are about to read. Think of your reading assignment in relation to the large themes or goals the instructor has spelled out for the class. Remember that you are not merely reading—you are reading for a purpose. What parts of a reading assignment should you pay special attention to, and what parts can you browse through? As we mentioned in the beginning of this chapter, you will be expected to do a considerable amount of reading in college, and you will not get through it all by

4. A publishing term used to describe the first parts of the book that are not part of the actual text. The front matter may include a preface, a foreword, an introduction, biographical profiles of the authors, and the table of contents.

reading each and every word with a high level of focus and mental intensity. This is why it is so important to learn to define where to invest your efforts.

Open your text to the assigned pages. What is the chapter title? Is the chapter divided into sections? What are the section titles? Which sections are longer? Are there any illustrations? What are they about? Illustrations in books cost money, so chances are the author and publisher thought these topics were particularly important, or they would not have been included. How about tables? What kinds of information do they show? Are there bold or italicized words? Are these terms you are familiar with, or are they new to you? Are you getting a sense for what is important in the chapter? Use the critical thinking skills discussed in Chapter 3 "Thinking about Thought" as you think about your observations. Why did the author choose to cover certain ideas and to highlight specific ideas with graphics or boldface fonts? What do they tell you about what will be most important for you in your course? What do you think your instructor wants you to get out of the assignment? Why?

## Anatomy of a Textbook

Good textbooks are designed to help you learn, not just to present information. They differ from other types of academic publications intended to present research findings, advance new ideas, or deeply examine a specific subject. Textbooks have many features worth exploring because they can help you understand your reading better and learn more effectively. In your textbooks, look for the elements listed in the table below.

Table 5.1 Anatomy of a Textbook

Textbook Feature	What It Is	Why You Might Find It Helpful
Preface or Introduction	A section at the beginning of a book in which the author or editor outlines its purpose and scope, acknowledges individuals who helped prepare the book, and perhaps outlines the features of the book.	You will gain perspective on the author's point of view, what the author considers important. If the preface is written with the student in mind, it will also give you guidance on how to "use" the textbook and its features.
Foreword	A section at the beginning of the book, often written by an expert in the subject matter (different from the author) endorsing the author's work and explaining why the work is significant.	A foreword will give you an idea about what makes this book different from others in the field. It may provide hints as to why your instructor selected the book for your course.
Author Profile	A short biography of the author illustrating the author's credibility in the subject matter.	This will help you understand the author's perspective and what the author considers important.
Table of Contents	A listing of all the chapters in the book and, in most cases, primary sections within chapters.	The table of contents is an outline of the entire book. It will be very helpful in establishing links among the text, the course objectives, and the syllabus.

Textbook Feature	What It Is	Why You Might Find It Helpful
Chapter Preview or Learning Objectives	A section at the beginning of each chapter in which the author outlines what will be covered in the chapter and what the student should expect to know or be able to do at the end of the chapter.	These sections are invaluable for determining what you should pay special attention to. Be sure to compare these outcomes with the objectives stated in the course syllabus.
Introduction	The first paragraph(s) of a chapter, which states the chapter's objectives and key themes. An introduction is also common at the beginning of primary chapter sections.	Introductions to chapters or sections are "must reads" because they give you a road map to the material you are about to read, pointing you to what is truly important in the chapter or section.
Applied Practice Elements	Exercises, activities, or drills designed to let students apply their knowledge gained from the reading. Some of these features may be presented via Web sites designed to supplement the text.	These features provide you with a great way to confirm your understanding of the material. If you have trouble with them, you should go back and reread the section. They also have the additional benefit of improving your recall of the material.
Chapter Summary	A section at the end of a chapter that confirms key ideas presented in the chapter.	It is a good idea to read this section before you read the body of the chapter. It will help you strategize about where you should invest your reading effort.
Review Material	A section at the end of the chapter that includes additional applied practice exercises, review questions, and suggestions for further reading.	The review questions will help you confirm your understanding of the material.
Endnotes and Bibliographies	Formal citations of sources used to prepare the text.	These will help you infer the author's biases and are also valuable if doing further research on the subject for a paper.

Now, before actually starting to read, try to give your reading more direction. Are you ever bored when reading a textbook? Students sometimes feel that about some of their textbooks. In this step, you create a purpose or quest for your reading, and this will help you become more actively engaged and less bored.

Start by checking your attitude: if you are unhappy about the reading assignment and complaining that you even have to read it, you *will* have trouble with the reading. You need to get “psyched” for the assignment. Stoke your determination by setting yourself a reasonable time to complete the assignment and schedule some short breaks for yourself. Approach the reading with a sense of curiosity and thirst for new understanding. Think of yourself more as an investigator looking for answers than a student doing a homework assignment.

Take out your notebook for the class for which you are doing the reading. Remember the Cornell method of note taking from [Chapter 4 "Listening, Taking Notes, and Remembering"](#)? You will use the same format here with a narrow column on the left and a wide column on the right. This time, with reading, approach taking notes slightly differently. In the Cornell method used for class notes, you took notes in the right column and wrote in questions and comments in the left column after class as you reviewed your notes. When using this system with reading, write your questions about the reading first in the left column (spacing them well apart so that you have plenty of room for your notes while you read in the right column). From your preliminary scanning of the pages, as described previously, you should already have questions at your fingertips.

Use your critical thinking skill of questioning what the author is saying. Turn the title of each major section of the reading into a question and write it down in your left column of your notes. For example, if the section title is “The End of the Industrial Revolution,” you might write, “What caused the Industrial Revolution to end?” If the section title is “The Chemistry of Photosynthesis,” you might write, “What chemical reactions take place to cause photosynthesis, and what are the outcomes?” Note that your questions are related to the kind of material you are hearing about in class, and they usually require not a short answer but a thoughtful, complete understanding. Ideally, you should not already know the answer to the questions you are writing! (What fun is a quest if you already know each turn and strategy? Expect to learn something new in your reading even if you are familiar with the topic already.) Finally, also in the left column, jot down any keywords that appear in boldface. You will want to discover their definitions and the significance of each as you read.

**ACTIVITY: TRY IT NOW!**

OK. Time to take a break from reading this book. Choose a textbook in which you have a current reading assignment. Scan the assigned pages, looking for what is really important, and write down your questions using the Cornell method.

Now answer the following questions with a journal entry.

- Do you feel better prepared to read this assignment? How?
- Do you feel more confident?
- Do you feel less overwhelmed?
- Do you feel more focused?

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**Alternative Approaches for Preparing to Read**

In Chapter 4 "Listening, Taking Notes, and Remembering" you may have determined that you are more comfortable with the outline or concept map methods of note taking. You can use either of these methods also to prepare for reading. With the outline method, start with the chapter title as your primary heading, then create subheadings for each section, rephrasing each section title in terms of a question.

If you are more comfortable using the concept map method, start with the chapter title as your center and create branches for each section within the chapter. Make sure you phrase each item as a question.

### **Now Read**

Now you are ready to start reading actively. Start by taking a look at your notes; they are your road map. What is the question you would like to answer in the first section? Before you start reading, reflect about what you already know about the subject. Even if you don't know anything, this step helps put you in the right mind-set to accept new material. Now read through the entire section with the objective of understanding it. Follow these tips while reading, but do not start taking notes or highlighting text at this point:

- Look for answers to the questions you wrote.
- Pay particular attention to the first and last lines of each paragraph.
- Think about the relationships among section titles, boldface words, and graphics.
- Skim quickly over parts of the section that are not related to the key questions.

After reading the section, can you answer the section question you earlier wrote in your notes? Did you discover additional questions that you should have asked or that were not evident from the title of the section? Write them down now on your notes page. Can you define the keywords used in the text? If you can't do either of these things, go back and reread the section.

### **Capture the Key Ideas**

Once you can answer your questions effectively and can define the new and keywords, it is time to commit these concepts to your notes and to your memory. Start by writing the answers to your questions in your notes in the right column. Also define the keywords you found in the reading.

Now is also the time to go back and reread the section with your highlighter or pencil to call out key ideas and words and make notes in your margins. Marking up your book may go against what you were told in high school, when the school owned the books and expected to use them year after year. In college, *you* bought the book. Make it truly yours. Although some students may tell you that you can get more cash by selling a used book that is not marked up, this should *not* be a concern at this time—that's not nearly as important as understanding the reading and doing well in the class!

The purpose of marking your textbook is to make it your personal studying assistant with the key ideas called out in the text. Most readers tend to highlight too much, however, hiding key ideas in a sea of yellow lines. When it comes to highlighting, less is more. Think critically before you highlight. Your choices will have a big impact on what you study and learn for the course. Make it your objective to highlight no more than 10 percent of the text.

Use your pencil also to make annotations in the margin. Use a symbol like an exclamation mark (!) or an asterisk (\*) to mark an idea that is particularly important. Use a question mark (?) to indicate something you don't understand or are unclear about. Box new words, then write a short definition in the margin. Use "TQ" (for "test question") or some other shorthand or symbol to signal key things that may appear in test or quiz questions. Write personal notes on items where you disagree with the author. Don't feel you have to use the symbols listed here; create your own if you want, but be consistent. Your notes won't help you if the first question you later have is "I wonder what I meant by that?"

If you are reading an essay from a magazine or an academic journal, remember that such articles are typically written in response to other articles. In Chapter 4 "Listening, Taking Notes, and Remembering", you learned to be on the lookout for signal words when you listen. This applies to reading, too. You'll need to be especially alert to signals like "according to" or "Jones argues," which make it clear that the ideas don't belong to the author of the piece you are reading. Be sure to note when an author is quoting someone else or summarizing another person's position. Sometimes, students in a hurry to get through a complicated article don't clearly distinguish the author's ideas from the ideas the author argues against. Other words like "yet" or "however" indicate a turn from one idea to another. Words like "critical," "significant," and "important" signal ideas you should look at closely.

After annotating, you are ready to read the next section.

## Reviewing What You Read

When you have completed each of the sections for your assignment, you should review what you have read. Start by answering these questions: "What did I learn?" and "What does it mean?" Next, write a summary of your assigned reading, in your own words, in the box at the base of your notepaper. Working from your notes, cover up the answers to your questions and answer each of your questions aloud. (Yes, out loud. Remember from Chapter 4 "Listening, Taking Notes, and Remembering" that memory is improved by using as many senses as possible?)



Think about how each idea relates to material the instructor is covering in class. Think about how this new knowledge may be applied in your next class.

If the text has review questions at the end of the chapter, answer those, too. Talk to other students about the reading assignment. Merge your reading notes with your class notes and review both together. How does your reading increase your understanding of what you have covered in class and vice versa?

## Strategies for Textbook Reading

The four steps to active reading provide a proven approach to effective learning from texts. Following are some strategies you can use to enhance your reading even further:

- **Pace yourself.** Figure out how much time you have to complete the assignment. Divide the assignment into smaller blocks rather than trying to read the entire assignment in one sitting. If you have a week to do the assignment, for example, divide the work into five daily blocks, not seven; that way you won't be behind if something comes up to prevent you from doing your work on a given day. If everything works out on schedule, you'll end up with an extra day for review.
- **Schedule your reading.** Set aside blocks of time, preferably at the time of the day when you are most alert, to do your reading assignments. Don't just leave them for the end of the day after completing written and other assignments.
- **Get yourself in the right space.** Choose to read in a quiet, well-lit space. Your chair should be comfortable but provide good support. Libraries were designed for reading—they should be your first option! Don't use your bed for reading textbooks; since the time you were read bedtime stories, you have probably associated reading in bed with preparation for sleeping. The combination of the cozy bed, comforting memories, and dry text is sure to invite some shut-eye!
- **Avoid distractions.** Active reading takes place in your short-term memory. Every time you move from task to task, you have to “reboot” your short-term memory and you lose the continuity of active reading. Multitasking—listening to music or texting on your cell while you read—will cause you to lose your place and force you to start over again. Every time you lose focus, you cut your effectiveness and increase the amount of time you need to complete the assignment.
- **Avoid reading fatigue.** Work for about fifty minutes, and then give yourself a break for five to ten minutes. Put down the book, walk around, get a snack, stretch, or do some deep knee bends. Short physical activity will do wonders to help you feel refreshed.

- **Read your most difficult assignments early** in your reading time, when you are freshest.
- **Make your reading interesting.** Try connecting the material you are reading with your class lectures or with other chapters. Ask yourself where you disagree with the author. Approach finding answers to your questions like an investigative reporter. Carry on a mental conversation with the author.

#### KEY TAKEAWAYS

- Consider why the instructor has selected the particular text. Map the table of contents to the course syllabus.
- Understand how your textbook is put together and what features might help you with your reading.
- Plan your reading by scanning the reading assignment first, then create questions based on the section titles. These will help you focus and prioritize your reading.
- Use the Cornell method for planning your reading and recording key ideas.
- Don't try to highlight your text as you read the first time through. At that point, it is hard to tell what is really important.
- End your reading time by reviewing your notes.
- Pace yourself and read in a quiet space with minimal distractions.

### CHECKPOINT EXERCISES

1. List the four steps to active reading. Which one do you think will take most time? Why?

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2. Think of your most difficult textbook. What features can you use to help you understand the material better?

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3. What things most commonly distract you when you are reading? What can you do to control these distractions?

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4. List three specific places on your campus or at home that are appropriate for you to do your reading assignments. Which is best suited? What can you do to improve that reading environment?

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## 5.3 Dealing with Special Texts

### LEARNING OBJECTIVES

1. Recognize strategies for reading special types of material and special situations, such as the following:
  - Mathematics texts
  - Science texts
  - Social studies texts
  - Primary sources
  - Foreign language texts
  - Integrating reading with your family life
  - Online reading

While the active reading process outlined earlier is very useful for most assignments, you should consider some additional strategies for reading assignments in other subjects.

### Mathematics Texts

Mathematics present unique challenges in that they typically contain a great number of formulas, charts, sample problems, and exercises. Follow these guidelines:

- Do not skip over these special elements as you work through the text.
- Read the formulas and make sure you understand the meaning of all the factors.
- Substitute actual numbers for the variables and work through the formula.
- Make formulas real by applying them to real-life situations.
- Do all exercises within the assigned text to make sure you understand the material.
- Since mathematical learning builds upon prior knowledge, do not go on to the next section until you have mastered the material in the current section.
- Seek help from the instructor or teaching assistant during office hours if need be.

## Reading Graphics

You read earlier about noticing graphics in your text as a signal of important ideas. But it is equally important to understand what the graphics intend to convey. Textbooks contain tables, charts, maps, diagrams, illustrations, photographs, and the newest form of graphics—Internet URLs for accessing text and media material. Many students are tempted to skip over graphic material and focus only on the reading. Don't. Take the time to read and understand your textbook's graphics. They will increase your understanding, and because they engage different comprehension processes, they will create different kinds of memory links to help you remember the material.

To get the most out of graphic material, use your critical thinking skills and question why each illustration is present and what it means. Don't just glance at the graphics; take time to read the title, caption, and any labeling in the illustration. In a chart, read the data labels to understand what is being shown or compared. Think about projecting the data points beyond the scope of the chart; what would happen next? Why?

**Table 5.2 "Common Uses of Textbook Graphics"** shows the most common graphic elements and notes what they do best. This knowledge may help guide your critical analysis of graphic elements.

Table 5.2 Common Uses of Textbook Graphics

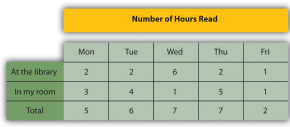
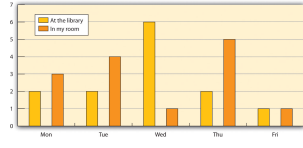
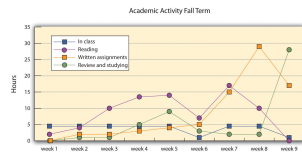
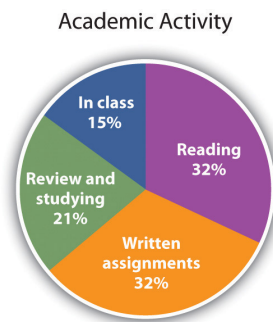
<p><b>Figure 5.3 Table</b></p>  <table border="1" data-bbox="532 1270 820 1396"> <thead> <tr> <th colspan="6">Number of Hours Read</th> </tr> <tr> <th></th> <th>Mon</th> <th>Tue</th> <th>Wed</th> <th>Thu</th> <th>Fri</th> </tr> </thead> <tbody> <tr> <td>At the library</td> <td>2</td> <td>2</td> <td>6</td> <td>2</td> <td>1</td> </tr> <tr> <td>In my room</td> <td>3</td> <td>4</td> <td>1</td> <td>5</td> <td>1</td> </tr> <tr> <td>Total</td> <td>5</td> <td>6</td> <td>7</td> <td>7</td> <td>2</td> </tr> </tbody> </table>	Number of Hours Read							Mon	Tue	Wed	Thu	Fri	At the library	2	2	6	2	1	In my room	3	4	1	5	1	Total	5	6	7	7	2	<p>Most often used to present raw data. Understand what is being measured. What data points stand out as very high or low? Why? Ask yourself what might cause these measurements to change.</p>
Number of Hours Read																															
	Mon	Tue	Wed	Thu	Fri																										
At the library	2	2	6	2	1																										
In my room	3	4	1	5	1																										
Total	5	6	7	7	2																										
<p><b>Figure 5.4 Bar Chart</b></p>  <table border="1" data-bbox="519 1627 820 1774"> <thead> <tr> <th>Day</th> <th>At the library</th> <th>In my room</th> </tr> </thead> <tbody> <tr> <td>Mon</td> <td>2</td> <td>3</td> </tr> <tr> <td>Tue</td> <td>2</td> <td>4</td> </tr> <tr> <td>Wed</td> <td>6</td> <td>1</td> </tr> <tr> <td>Thu</td> <td>2</td> <td>5</td> </tr> <tr> <td>Fri</td> <td>1</td> <td>1</td> </tr> </tbody> </table>	Day	At the library	In my room	Mon	2	3	Tue	2	4	Wed	6	1	Thu	2	5	Fri	1	1	<p>Used to compare quantitative data or show changes in data over time. Also can be used to compare a limited number of data series over time. Often an illustration of data that can also be presented in a table.</p>												
Day	At the library	In my room																													
Mon	2	3																													
Tue	2	4																													
Wed	6	1																													
Thu	2	5																													
Fri	1	1																													

Figure 5.5 Line Chart



Used to illustrate a trend in a series of data. May be used to compare different series over time.

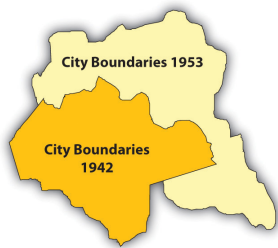
Figure 5.6 Pie Chart



Used to illustrate the distribution or share of elements as a part of a whole. Ask yourself what effect a change in distribution of factors would have on the whole.

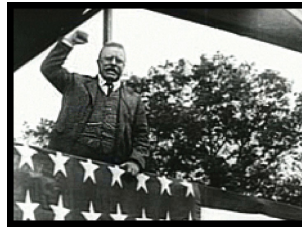
Figure 5.7 Map

Effect of Postwar Suburban Development  
City of Oak Hills



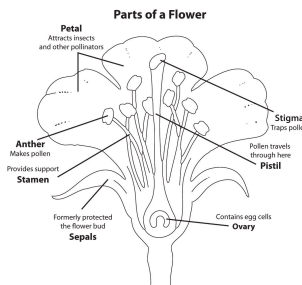
Used to illustrate geographic distributions or movement across geographical space. In some cases can be used to show concentrations of populations or resources. When encountering a map, ask yourself if changes or comparisons are being illustrated. Understand how those changes or comparisons relate to the material in the text.

Figure 5.8 Photograph



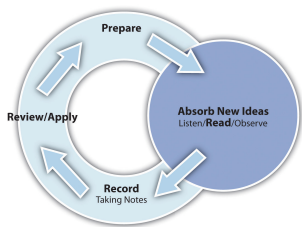
Used to represent a person, a condition, or an idea discussed in the text. Sometimes photographs serve mainly to emphasize an important person or situation, but photographs can also be used to make a point. Ask yourself if the photograph reveals a biased point of view.

Figure 5.9 Illustration



Used to illustrate parts of an item. Invest time in these graphics. They are often used as parts of quizzes or exams. Look carefully at the labels. These are vocabulary words you should be able to define.

Figure 5.10 Flowchart or Diagram



Commonly used to illustrate processes. As you look at diagrams, ask yourself, “What happens first? What needs to happen to move to the next step?”

### Scientific Texts

Science occurs through the experimental process: posing hypotheses, and then using experimental data to prove or disprove them. When reading scientific texts, look for hypotheses and list them in the left column of your notes pages. Then make

notes on the proof (or disproof) in the right column. In scientific studies these are as important as the questions you ask for other texts. Think critically about the hypotheses and the experiments used to prove or disprove them. Think about questions like these:

- Can the experiment or observation be repeated? Would it reach the same results?
- Why did these results occur? What kinds of changes would affect the results?
- How could you change the experiment design or method of observation? How would you measure your results?
- What are the conclusions reached about the results? Could the same results be interpreted in a different way?

### Social Sciences Texts

Social sciences texts, such as those for history, economics, and political science classes, often involve interpretation where the authors' points of view and theories are as important as the facts they present. Put your critical thinking skills into overdrive when you are reading these texts. As you read, ask yourself questions such as the following:

- Why is the author using this argument?
- Is it consistent with what we're learning in class?
- Do I agree with this argument?
- Would someone with a different point of view dispute this argument?
- What key ideas would be used to support a counterargument?

Record your reflections in the margins and in your notes.

Social science courses often require you to read primary source documents. Primary sources include documents, letters, diaries, newspaper reports, financial reports, lab reports, and records that provide firsthand accounts of the events, practices, or conditions you are studying. Start by understanding the author(s) of the document and his or her agenda. Infer their intended audience. What response did the authors hope to get from their audience? Do you consider this a **bias**<sup>5</sup>? How does that bias affect your thinking about the subject? Do you recognize personal biases that affect how you might interpret the document?

5. A personal inclination that may prevent unprejudiced consideration of a question.



## Foreign Language Texts

Reading texts in a foreign language is particularly challenging—but it also provides you with invaluable practice and many new vocabulary words in your “new” language. It is an effort that really pays off. Start by analyzing a short portion of the text (a sentence or two) to see what you do know. Remember that all languages are built on **idioms**<sup>6</sup> as much as on individual words. Do any of the phrase structures look familiar? Can you infer the meaning of the sentences? Do they make sense based on the context? If you still can’t make out the meaning, choose one or two words to look up in your dictionary and try again. Look for longer words, which generally are the nouns and verbs that will give you meaning sooner. Don’t rely on a dictionary (or an online translator); a word-for-word translation does not always yield good results. For example, the Spanish phrase “Entre y tome asiento” might correctly be translated (word for word) as “Between and drink a seat,” which means nothing, rather than its actual meaning, “Come in and take a seat.”

Reading in a foreign language is hard and tiring work. Make sure you schedule significantly more time than you would normally allocate for reading in your own language and reward yourself with more frequent breaks. But don’t shy away from doing this work; the best way to learn a new language is practice, practice, practice.

**Note to English-language learners:** You may feel that every book you are assigned is in a foreign language. If you do struggle with the high reading level required of college students, check for college resources that may be available to ESL (English as a second language) learners. Never feel that those resources are only for weak students. As a second-language learner, you possess a rich linguistic experience that many American-born students should envy. You simply need to account for the difficulties you’ll face and (like anyone learning a new language) practice, practice, practice.

### ACTIVITY: LOST IN TRANSLATION

Go online and open a Web-based language translator such as Babel Fish (<http://www.babelfish.yahoo.com>). In the translation window, type in a phrase that you or your friends might say in your daily conversations, including any slang terms. Translate it to another language (any language will do) and then copy the translation. Then open a new translation window, paste the translated phrase, and translate back from that language to English. Does it match your original phrase? Try this with other languages to see if your results vary. What does this tell you about automated translation programs?

6. An expression whose meaning is not predictable by the meanings of the words that make it up; many slang expressions are idioms.

## Integrating Reading with Your Family Life

If you are a parent of young children, you know how hard it is to get your schoolwork done with them around. You might want to consider some of these strategies.

- Don't expect that you will often get long periods of uninterrupted reading time. Find or create short periods of time to do things like scanning the assignment and preparing your questions.
- Schedule your heavy reading for early in the morning or late at night when the children are sleeping. Don't use that precious uninterrupted time for watching television or washing the dishes; those can be done when the kids are awake.
- Read to your children and then tell them it's time for everybody to read their own book. (Even very young children like to "read" books by looking at the pictures.) You'll be surprised how long kids will read, especially when they see Mommy and Daddy reading, too.
- Take your reading with you. You can get a lot of reading done while waiting for your children during music or dance class or soccer practice, or while you wait to pick them up at school.
- Share child-care responsibilities with other students who also have children. This can buy an additional big block of reading time for each of you.

## Online Reading

When accessing materials online, you should ask additional questions in order to fully understand the assignment. The Internet provides access to virtually endless numbers of articles on just about any subject. The following five steps will help you understand the "story behind the story" in online materials and also evaluate the reliability of the material, especially if this is a reading you selected yourself for research or independent work.

1. Look at the **URL**<sup>7</sup>, the Web address. It can give you important information about the reliability and intentions of the site. Start with the page publisher (the words following the "www" or between the "http/" and the first single backslash). Have you heard of this source before? If so, would you consider it a reliable source for the kind of material you are about to read? For example, you might happen upon an article about cholesterol with this URL: <http://www.americanheart.org/presenter.jhtml?identifier=1516>. The page publisher identifier shows this is the Web site of the American Heart Association, a reputable source of health information. Now

7. An Internet address; URL stands for "uniform resource locator."

consider the domain type in the URL, which follows the period after the publisher. “.com” and “.biz” are used by commercial enterprises, “.org” is normally used by nonprofit organizations, and “.edu” is reserved for educational institutions. None of these is necessarily bad or good, but it may give you a sense of the motivation for publishing this material. For example, a different article about cholesterol on a pharmaceutical company’s Web site might be biased toward treatment of high cholesterol with a drug the company makes.

2. Look at the page’s perimeter and the “masthead” at the top of the page. What name is listed there? Is it the same entity as the one listed as the publisher in the URL? Are you dealing with a company or the Web site of an individual—and how might that affect the quality of the information on this site? What can you learn from poking around with navigation tabs or buttons: what do they tell you about the objective of the Web site? Look for a tab labeled “About Us” or “Biography”; those pages will give you additional background on the writer.
3. Check the quality of the information. Based on what you learned earlier, ask yourself if the information from this Web site is reliable for your needs. If the material you are reading was originally published elsewhere, was that publication reputable, such as an academic or peer-reviewed journal or a well-known newspaper? If you need the most up-to-date information, check the bottom of the page, where a “last modified” date may be shown. Does the author reference reliable sources? What links does the author offer to other Web sites? Are they active and reputable?
4. Consider what others are saying about the site. Does the author offer references, reviews, or quotes about the material? Check blogs to see what other people think of the author or Web site by searching for the title of the article together with the word “review” or “blog.” Enter the Web site’s URL in the search engine at <http://www.Alexa.com> to see what other Web sites link to the one you are reading.
5. Trust your impressions about the material. You have recently been exposed to related material in your class and textbooks. What does your “gut” say about the material? Ask yourself why the Web site was written. (To inform and provide data or facts? To sell something? To promote a cause? To parody?) If you are unsure of the quality of the information, don’t use it or check first with your instructor or college librarian before you do.

## Additional Resources

**University of California Berkeley Library.** <http://www.lib.berkeley.edu/TeachingLib/Guides/Internet/Evaluate.html>

**Cornell University Olin and Uris Libraries.** <http://www.library.cornell.edu/olinuris/ref/webcrit.html>

**Duke University Library.** <http://library.duke.edu/services/instruction/libraryguide/evalwebpages.html>

## KEY TAKEAWAYS

- Do all the exercises in math textbooks; apply the formulas to real-world situations.
- Each type of graphic material has its own strength; those strengths are usually clues about what the author wants to emphasize by using the graphic.
- Look for statements of hypotheses and experimental design when reading science texts.
- History, economics, and political science texts are heavily influenced by interpretation. Think critically about what you are reading.
- Working with foreign language texts requires more time and more frequent breaks. Don't rely on word-for-word translations.
- If you need to read with children around, don't put off your reading until you have a large block of time; there is much you can do with short reading periods.
- Online materials offer endless possibilities, but select Web sites for information carefully to ensure reliability and currency.

### CHECKPOINT EXERCISE

Go online and find an article about something you are reading about in a textbook. (Use the five steps to evaluate the article.) Scan both the Web page and the equivalent textbook section and list your questions for both. Are the questions different, or are many similar? How does each author answer those questions? Which do you think is better written and more authoritative? Why?

## 5.4 Building Your Vocabulary

### LEARNING OBJECTIVES

1. Recognize the importance of building your vocabulary.
2. Master techniques for building your vocabulary.

Both leaders and advertisers inspire people to take action by choosing their words carefully and using them precisely. A good vocabulary is essential for success in any role that involves communication, and just about every role in life requires good communication skills. We include this section on vocabulary in this chapter on reading because of the connections between vocabulary building and reading. Building your vocabulary will make your reading easier, and reading is the best way to build your vocabulary.

Learning new words can be fun and does not need to involve tedious rote memorization of word lists. The first step, as in any other aspect of the learning cycle, is to prepare yourself to learn. Consciously decide that you want to improve your vocabulary; decide you want to be a student of words. Work to become more aware of the words around you: the words you hear, the words you read, the words you say, and those you write.

Do you have a lazy vocabulary? Wake it up with the “lazy speech” exercise.

### ACTIVITY: LAZY SPEECH

Recruit a friend you spend a lot of time with. Give them an index card with the following words written on it and ask them to keep a tally of the number of times you say these words sometime when you are together for an hour or more. If you have a small recorder, give it to the person and ask them to record you at a time you are not aware of it.

- Ummm or Uhh
- Like
- They
- You know
- OK
- Yeah
- Ohmigawd

Include in this list any other words, including expletives, that you may be using without thinking.

Are there words you constantly overuse? Were you surprised at how often you used some of these expressions? Now that you are aware of the frequency you use certain expressions, what strategies can you use to control or substitute more articulate and expressive words for them?

Building a stronger vocabulary should start with a strong foundation of healthy word use. Just as you can bring your overuse of certain words to your conscious awareness in the previous activity, think about the kinds of words you should be using more frequently. Some of the words you might consciously practice are actually very simple ones you already know but significantly underuse or use imprecisely. For example, many students say he or she “goes” instead of he or she “says.” If you take it a step further, you can consider more accurate choices still. Perhaps, he “claims” or she “argues.” Maybe he “insists” or “assumes.” Or it could be that she “believes” or she “suggests.” This may seem like a small matter, but it’s important from both a reader’s and a writer’s perspective to distinguish among the different meanings. And you can develop greater awareness by bringing some of these words into your speech.

These habits are easier to put into action if you have more and better material to draw upon: a stronger vocabulary. The following tips will help you gain and correctly use more words.

- **Be on the lookout for new words.** Most will come to you as you read, but they may also appear in an instructor’s lecture, a class discussion, or a casual conversation with a friend. They may pop up in random places like billboards, menus, or even online ads!
- **Write down the new words you encounter, along with the sentences in which they were used.** Do this in your notes with new words from a class or reading assignment. If a new word does not come from a class, you can write it on just about anything, but make sure you write it. Many word lovers carry a small notepad or a stack of index cards specifically for this purpose.
- **Infer the meaning of the word.** The context in which the word is used may give you a good clue about its meaning. Do you recognize a common word root in the word? (Check [Table 5.3 "Common Latin and Greek Word Roots"](#) for common roots.) What do you think it means?
- **Look up the word in a dictionary.** Do this as soon as possible (but only after inferring the meaning). When you are reading, you should have a dictionary at hand for this purpose. In other situations, do this within a couple hours, definitely during the same day. How does the dictionary definition compare with what you inferred?
- **Write the word in a sentence, ideally one that is relevant to you.** If the word has more than one definition, write a sentence for each.
- **Say the word out loud** and then say the definition and the sentence you wrote.
- **Use the word.** Find occasion to use the word in speech or writing over the next two days.
- **Schedule a weekly review** with yourself to go over your new words and their meanings.

Table 5.3 Common Latin and Greek Word Roots

Root	Meaning	Examples
auto	self	automatic, automobile
bi	two	bicycle, biplane
bio	life	biography, biology
chrono	time	synchronize, chronicle
dict	say	predict, dictate
gen	give birth	generate, genetic
geo	earth	geology, geography, geometry
log	thought	biology, logic, pathology



Root	Meaning	Examples
manu	hand	manufacture, manual
phil	love	philosophy, anglophile
port	carry	transport, portable
sub	under	submarine, subtract
vac	empty	vacuum, evacuate

### Where Have You Been All My Life?

The following are some fun ways to find new words:

- Read.
- When you look up a word in the dictionary, look at other interesting words on the same page.
- Solve crossword puzzles.
- Play word games like Scrabble, Boggle, or Pictionary.
- Watch movies.
- Listen to speeches and attend lectures.
- Go to comedy clubs.
- Have discussions (not just casual conversations) with friends.
- Read some more.

### KEY TAKEAWAYS

- The best way to build your vocabulary is to read, and a stronger vocabulary makes it easier and more fun to read.
- Be aware of your own lazy vocabulary and try to avoid those words and expressions.
- Look for new words everywhere, not just in class readings.
- Before you look up a word in the dictionary, infer its meaning based on its context and roots.
- After you look up a word in the dictionary, write your own sentence using the new word. Say the word and definition out loud.
- Use the new word as soon as possible.

### CHECKPOINT EXERCISES

1. Which words do you habitually overuse? Do your friends overuse the same words? How can you collaborate to correct that overuse?

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2. During the course of the day, find five new words in five different places. What were those words, and where did you uncover them?

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3. What do the words “manuscript,” “scribe,” and “scribble” have in common? Can you detect the same root in these words?

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4. What do you think the root means?

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## 5.5 Chapter Activities

## Chapter Takeaways

### Reading

- Reading, like learning, involves a cycle of preparing, absorbing, recording, and reviewing.
- In college, you will be expected to do much reading; it is not unusual to do two or more hours of reading for every hour you spend in class. In college, you are also expected to think critically about what you read.
- Active reading involves four steps:
  1. Prepare for reading by scanning the assignment and developing questions for which you want to discover answers through your reading.
  2. Read the material and discover the answers to your questions.
  3. Capture the information by highlighting and annotating the text as well as by taking effective notes.
  4. Review the reading by studying your notes, by integrating them with your class notes, and by discussing the reading with classmates.
- Before you read, learn as much as you can about the author and his or her reason for writing the text. What is his or her area of expertise? Why did the instructor select this text?
- When scanning a reading, look for clues to what might be important. Read the section titles, study illustrations, and look for keywords and boldface text.
- Do not highlight your text until you have read a section completely to be sure you understand the context. Then go back and highlight and annotate your text during a second read-through.
- Think critically about what you are reading. Do you agree with what the author is saying? How does it relate to the rest of the material in the course? What does this new material mean to you in “real life”?

### Special Texts and Situations

- Do all the exercises in math textbooks; apply the formulas to real-world situations.
- Practice “reading” the illustrations. Each type of graphic material has its own strength or purpose.
- Look for statements of hypotheses and experimental design when reading science texts.
- History, economics, and political science texts are heavily influenced by interpretation. Think critically about what you are reading.
- Working with foreign language texts requires more time and more frequent breaks. Don’t rely on word-for-word translations.
- If you need to read with children around, don’t put off your reading until you have a large block of time; learn to read in short periods as available.

- When reading on the Internet, be extra diligent to evaluate the source of the material to decide how reliable that source may be.
- If English is your second language, seek out resources that may be offered on campus. In any case, be patient with the process of mastering college-level English. And always remember this: what feels like a disadvantage in one situation can be a great gift in another situation.

### Vocabulary

- Reading and vocabulary development are closely linked. A stronger vocabulary makes reading easier and more fun; the best way to build a vocabulary is to read.
- Look for new words everywhere, not just in class.
- When you encounter a new word, follow these steps:
  1. Write it down and write down the sentence in which it was used.
  2. Infer its meaning based on the context and word roots.
  3. Look it up in a dictionary.
  4. Write your own sentence using the word.
  5. Say the word, its definition, and your sentence out loud.
  6. Find an opportunity to use the word within two days.

## CHAPTER REVIEW

1. Describe the four steps of active reading.

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2. What part of a textbook should you compare with a class syllabus? Why?

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3. Why is it important to know something about a textbook's author?

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4. What time of the day should you plan to do your reading? Why?

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5. What is the difference between using the Cornell method for taking class notes and using the Cornell method for reading notes?

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6. Why do you think it is important to pose some questions about the material before you read?

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7. What should you do if you are getting tired when reading?

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8. List three requirements for a good reading location.

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9. Can you multitask while doing a reading assignment? Why or why not?

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10. Describe the process of evaluating a Web-based reading selection.

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**MAKE AN ACTION LIST**

<b>Two things I will do to improve</b>	<b>Actions</b>	<b>By when I expect to take the action</b>	<b>How I will know I accomplished the action</b>
My reading comprehension/ understanding	1.		
	2.		
My reading speed	1.		
	2.		
My vocabulary	1.		
	2.		