CHAPTER 7

Reading to Remember

Jeanne L. Higbee of the University of Minnesota, Twin Cities, contributed her valuable and considerable expertise to the writing of this chapter.

IN THIS CHAPTER, YOU WILL LEARN

- How to "prepare to read"
- How to preview reading material
- How to mark your textbooks
- How to review your reading
- How to develop a more extensive vocabulary

College texts are loaded with concepts, terms, and complex information that you are expected to learn on your own in a short period of time. To do this, you will need to learn and to use a reading method such as the one described in this chapter.

The following plan for textbook reading is based on four steps: previewing, reading, marking, and reviewing.

Previewing

The purpose of previewing is to get "the big picture." Begin by reading the title of the textbook chapter. Ask yourself, "What do I already know about this subject?" Next, quickly read through the introductory paragraphs, and then read the summary at the beginning or end of the chapter (if there is one). Finally, take a few minutes to page through the chapter headings and subheadings. Note any study exercises at the end of the chapter.

As part of your preview, note how many pages the chapter contains. It's a good idea to decide in advance how many pages you can reasonably expect to cover in your first 50-minute study period. This can help build your concentration as you work toward your goal of reading a specific number of pages. Before long, you'll know how many pages is practical for you. Also keep in mind that different types of textbooks may require more or less time to read.

Mapping

Mapping the chapter as you preview it provides a visual guide to how different chapter ideas fit together. Because about 75 percent of students identify

themselves as visual learners, visual mapping is an excellent learning tool for test preparation as well as reading (see Chapter 3, Learning Styles and Personality).

How do you map a chapter? While you are previewing, use either a wheel or a branching structure (Figure 7.1). In the wheel structure, place the central idea of the chapter in the circle, place secondary ideas on the spokes emanating from the circle, and place offshoots of those ideas on the lines attached to the spokes. In the branching map, the main idea goes at the top, followed by supporting ideas on the second tier, and so forth. Write in the title first. Then, as you skim through the rest of the chapter, use the headings and subheadings to fill in the key ideas.

Alternatives to Mapping

Perhaps you prefer a more linear visual image. Then consider making an outline of the headings and subheadings in the chapter. You can fill in the outline after you read. Or make a list. Set up the list with the terms in the left column and fill in definitions, descriptions, and examples on the right after you read. Divide the terms on your list into groups of five, seven, or nine, and leave white space between the clusters so that you can visualize each group in your mind. This practice, known as "chunking," will help you learn the material more easily.

If you are an interactive learner, make lists or create a flash card for each heading and subheading. Then fill in the back of each card after reading each section in the text. Use the lists or flash cards to review with a partner, or to recite the material to yourself. As you preview the text material, look for connections between the text and the related lecture material. Call to mind the related terms and concepts that you recorded in the lecture. Use these strate-

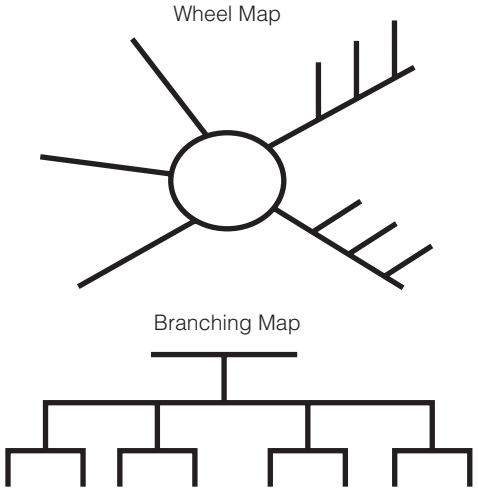

Figure 7.1 Wheel and Branching Maps

gies to warm up. Ask yourself, "Why am I reading this? What do I want to know?"

Reading Your Textbook

Read before you highlight. With your skeleton map or outline, you should be able to read more quickly and with greater comprehension. Read without using your pencil or highlighter. When you have reached the end of a section, stop and ask yourself, "What are the key ideas in this section? What do I think I'll see on the test?" Then, and only then, decide what to underline or highlight.

Learn to concentrate. Consider these suggestions, and decide which ones would help you concentrate on your material:

- Find a study location, preferably in the library if you are on campus, that is removed from traffic and distracting noises.
- Read in 50-minute blocks of time, with short breaks in between. By reading for 50 minutes more frequently during the day instead of cramming all your reading in at the end of the day, you should be able to process material more easily.
- Set goals for your study period, such as "I will read 20 pages of my psychology text in the next 50 minutes." Reward yourself with a 10-minute break after each 50-minute study period.
- If you are having trouble concentrating or staying awake, take a quick walk around the library or down the hall. Stretch or take some deep breaths and think positively about your study goals. Then resume studying.
- Jot study questions in the margin, take notes, or recite key ideas. Reread parts of the text that you find confusing, and make a note to ask your instructor for clarification.
- Focus on the important portions of the text. Pay attention to the first and last sentences of paragraphs and to words in italics or bold print.
- Use the glossary in the text for definitions of unfamiliar terms.

Marking Your Textbook

Some students report that marking is an active reading strategy that helps them focus and concentrate on the material as they read. In addition, most students expect to use their text notations when studying for tests. To meet these goals, some students like to underline, some prefer to highlight, and others use margin notes or annotations. Look at Figure 7.2 on pages 114–115 for examples of different methods of marking.

Figure 7.2 Sample Marked Pages

SOURCE: Pages adapted with permission from James W. Kalat, *Introduction to Psychology*, 4th ed. (Pacific Grove, CA: Brooks/Cole, 1996).

CONCEPT CHECKS

7. Some students who read a chapter slowly get very good grades; others get poor grades. Why?
8. Most actors and public speakers who have to memorize lengthy passages spend little time simply repeating the words and more time thinking about them. Why? (Check your answers on page 288.)

SELF-MONITORING OF UNDERSTANDING

Whenever you are studying a text, you periodically have to decide, "Should I keep on studying this section, or do I already understand it well enough?" Most students have trouble monitoring their own understanding. In one study, psychology instructors asked their students before each test to guess whether they would do better or worse on that test than they usually do. Students also guessed after each test whether they had done better or worse than usual. Most students' guesses were no more accurate than chance (Sjostrom & Marks, 1994). Such inaccuracy represents a problem: Students who do not know how well they understand the material will make bad judgments about when to keep on studying and when to quit.

Even when you are reading a single sentence, you have to decide whether you understand the sentence or whether you should stop and reread it. Here is a sentence once published in the student newspaper at North Carolina State University:

> He said Harris told him she and Brothers told French that grades had been changed.

Ordinarily, when good readers come to such a confusing sentence, they notice their own confusion and reread the sentence or, if necessary, the whole paragraph. Poor readers tend to read at their same speed for both easy and difficult materials; they are less likely than good readers to slow down when they come to difficult sentences.

Although monitoring one's own understanding is difficult and often inaccurate, it is not impossible. For example, suppose I tell you that you are to read three chapters dealing with, say, thermodynamics, the history of volleyball, and the Japanese stock market.

People need to monitor their understanding of a text to decide whether to keep studying or whether they already understand it well enough. Most readers have trouble making that judgment correctly.

Later you will take tests on each chapter. Before you start reading, predict your approximate scores on the three tests. Most people make a guess based on how much they already know about the three topics. If we let them read the three chapters and again make a guess about their test performances, they do in fact make more accurate predictions than they did before reading (Maki & Serra, 1992). That improvement indicates some ability to monitor one's own understanding of a text.

A systematic way to monitor your own understanding of a text is the **SPAR method:** *S*urvey, *P*rocess meaningfully, *A*sk questions, and *R*eview and test yourself. Start with an overview of what a passage is about, read it carefully, and then see whether you can answer questions about the passage or explain it to others. If not, go back and reread.

SPAR
Survey
Process
Ask
Review

why

Also decide about larger units?

How

THE TIMING OF STUDY

Other things being equal, people tend to remember recent experiences better than earlier experiences. For example, suppose someone reads you a list of 20 words and asks you to recall as many of them as possible. The list is far too long for you to recite from your phonological loop; however, you should be able to remember at least a few. Typically, people remember items at the beginning and end of the list better than they remember those in the middle.

That tendency, known as the **serial-order effect,** includes two aspects: The *primacy effect* is the tendency to remember the first items; the *recency effect* refers to the tendency to remember the last items. One explanation for the primacy effect is that the listener gets to rehearse the first few items for a few moments alone with no interference from the others. One explanation for the recency effect is that the last items are still in

Cause of primacy effect

Figure 7.2 Sample Marked Pages (continued)

Cause of recency effect

the listener's phonological loop at the time of the test.

The phonological loop cannot be the whole explanation for the recency effect, however. In one study, British rugby players were asked to name the teams they had played against in the current season. Players were most likely to remember the last couple of teams they had played against, thus showing a clear recency effect even though they were recalling events that occurred weeks apart (Baddeley & Hitch, 1977). (The phonological loop holds information only for a matter of seconds.)

So, studying material—or, rather, *reviewing* material—shortly before a test is likely to improve recall. Now let's consider the opposite: Suppose you studied something years ago and have not reviewed it since then. For example, suppose you studied a foreign language in high school several years ago. Now you are considering taking a college course in the language, but you are hesitant because you are sure you have forgotten it all. Have you?

Harry Bahrick (1984) tested people who had studied Spanish in school 1 to 50 years previously. Nearly all agreed that they had rarely used Spanish and had not refreshed their memories at all since their school days. (That is a disturbing comment, but beside the point.) Their retention of Spanish dropped noticeably in the first 3 to 6 years, but remained fairly stable from then on (Figure 7.18). In other words, we do not completely forget even very old memories that we seldom use.

In a later study, Bahrick and members of his family studied foreign-language vocabulary either on a moderately frequent basis (practicing once every 2 weeks) or on a less frequent basis (as seldom as once every 8 weeks), and tested their knowledge years later. The result: More frequent study led to faster learning; however, less frequent study led to better long-term retention, measured years later (Bahrick, Bahrick, Bahrick, & Bahrick, 1993).

The principle here is far more general than just the study of foreign languages. *If you want to remember something well for a test,* your best strategy is to study it as close as possible to the time of the test, in order to take advantage of the recency effect and decrease the effects of retroactive interference. Obviously, I do not mean that you should wait until the night before the test to start studying, but you might rely on an extensive review at that time. You should also, ideally, study under conditions similar to the conditions of the test. For example, you might study in the same room where the test will be given, or at the same time of day.

However, *if you want to remember something long after the test is over,* then the advice I have just given you is all wrong. To be able to remember something whenever you want, wherever you are, and whatever you are doing, you should study it under as varied circumstances as possible. Study and review at various times and places with long, irregular intervals between study sessions. Studying under such inconsistent conditions will slow down your original learning, but it will improve your ability to recall it long afterwards (Schmidt & Bjork, 1992).

studying for test vs. studying for long term

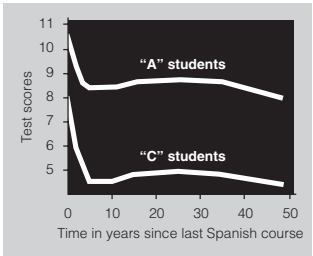

FIGURE 7.18
(Left) Spanish vocabulary as measured by a recognition test shows a rapid decline in the first few years but then long-term stability. (From Bahrick, 1984.) (Right) Within a few years after taking your last foreign-language course, you may think you have forgotten it all. You have not, and even the part you have forgotten will come back (through relearning) if you visit a country where you can practice the language.

No matter what method you prefer, remember these important guidelines:

1. **Read before you mark.** Finish reading a section before you decide which are the most important ideas and concepts.
2. **Think before you mark.** If you just mark pages, you are committing yourself to at least one more viewing of all the pages that you have already read—all 400 pages of your anatomy or art history textbook. Instead, take notes, create flash cards, make lists, or outline textbook chapters. These methods are also more practical if you intend to review with a friend or study group.
3. **Don't let highlighting or underlining give you a false sense of security.** When you force yourself to put something in your own words when taking notes, you are not only predicting exam questions but assessing whether you can answer them. Write as you read. Taking notes on your reading helps you focus on the key ideas and summarize as you go.
4. **Annotate.** You may want to try a strategy known as annotating the text. In your own words, write key ideas in the margins of the text.

Monitor Your Comprehension

An important step in textbook reading is to monitor your comprehension. As you read, ask yourself, "Do I understand this?" If not, stop and reread the material. Look up words that are not clear. Try to clarify the main points and how they relate to one another.

Another way to check comprehension is to try to recite the material aloud to yourself or your study partner. Using a study group to monitor your comprehension gives you immediate feedback and is highly motivating. One way that group members can work together is to divide up a chapter for previewing and studying and get together later to teach the material to one another.

Recycle Your Reading

After you have read and marked or taken notes on key ideas from the first section of the chapter, proceed to each subsequent section until you have finished the chapter.

After you have completed each section—and *before* you move on to the next section—ask again, "What are the key ideas? What will I see on the test?" At the end of each section, try to guess what information the author will present in the next section. Good reading should lead you from one section to the next, with each new section adding to your understanding.

Reviewing

The final step in effective textbook reading is reviewing. Many students expect the improbable—that they will read through their text material one time and be able to remember the ideas four, six, or even twelve weeks later at test time. More realistically, you will need to include regular reviews in your study process. Here is where your notes, study questions, annotations, flash cards, visual maps, or outlines will be most useful. Your study goal is to review the material from each chapter every week.

Consider ways to use your many senses to review. Recite aloud. Post diagrams, maps, or outlines around your living space so that you will see them often and will likely be able to visualize them while taking the test.

Adjusting Your Reading Style

With effort, you can improve your reading dramatically, but remember to be flexible. How you read should depend on the material. Assess the relative importance and difficulty of the assigned readings, and adjust your reading style and the time you allot accordingly. Connect one important idea to another by asking yourself, "Why am I reading this? Where does this fit in?" When the textbook material is virtually identical to the lecture material, you can save time by concentrating mainly on one or the other. It takes a planned approach to read textbook materials and other assigned readings with good understanding and recall.

Developing Your Vocabulary

Textbooks are full of new terminology. In fact, one could argue that learning chemistry is largely a matter of learning the language of chemists and that mastering philosophy or history or sociology requires a mastery of the terminology of each particular discipline.

If words are such a basic and essential component of our knowledge, what is the best way to learn them? Follow these basic vocabulary strategies:

- During your overview of the chapter, notice and jot down unfamiliar terms. Make a flash card for each term, or a list of all terms.
- When you encounter challenging words, consider the context. See if you can predict the meaning of an unfamiliar term using the surrounding words.
- If context by itself is not enough, try analyzing the term to discover the root or other meaningful parts of the word. For example, *emissary* has the root "to emit" or "to send forth," so we can guess that an emissary is

someone sent forth with a message. Similarly, note prefixes and suffixes. For example, *anti-* means "against" and *pro-* means "for."

- Use the glossary/index of this text, a dictionary, or **http://www.m-w.com/netdict.htm** (*The Merriam-Webster Dictionary Online*) to locate the definition. Note any multiple definitions and search for the meaning that fits this usage.
- Take every opportunity to use these new terms in your writing and speaking. If you use a new term, then you'll know it! In addition, studying new terms on flash cards or study sheets can be handy at exam time.

YOUR PERSONAL JOURNAL

Here are several things to write about. Choose one or more. Or choose another topic related to this chapter.

1. How can you use the suggestions in this chapter, along with those in the previous chapter on taking notes in class, to improve your study skills? What should you do first?
2. This chapter makes a number of suggestions for reading textbooks. Which ones strike you as most important? Which will be toughest for you to follow? Explain.
3. Try following some of the suggestions in this chapter the next time you are reading a homework assignment. Then write how it felt to use them.
4. What behaviors are you willing to change after reading this chapter? How might you go about changing them?
5. What else is on your mind this week? If you wish to share it with your instructor, add it to this journal entry.

READINGS

New Words, 7 Drops at a Time*

Vocabulary boosts can energize writing—or overload it

By Arthur Plotnik

The label on my Schultz Plant Food, a sea-blue slosh of nutrients in a bottle, reads: "7 drops per qt water every time you water."

*This article appeared in *The Writer,* June 2003, v116, i6, p. 15(3). Copyright 2003 Arthur Plotnik. Reprinted courtesy of *The Writer* magazine and Arthur Plotnik.

Years ago, I tossed a grapefruit seed in a pot, and the rest is limp-leaved history—except when I pump an eye-dropper-full of Schultz into the plant's water. Overnight, foliage snaps to. Jessant shoots erupt like green starbursts.

This is not a product plug, but a Schultzy spin on infusing a writer's vocabulary. Writing piece after piece exhausts the loam of expression. Sentences, descriptive passages, lines of poetry start to droop. The brain cries for invigoration, and the eye-dropper approach—seven new words or so weekly—may be just the ticket.

Who has not resolved to master a dictionary or jumbo vocabulary-builder? Most such enterprises fizzle—which may not be a bad thing for readers. An overdose of new words can create a garden of monstrous locutions. Drop-by-drop enrichment allows one to savor and test a word, integrate it into one's style before sounding like Thomas Pynchon on Miracle-Gro.

WRITERS' WORDS

The planet groans with word resources, many of them targeting language hobbyists or "logophiles." In *The New York Times Dictionary of Misunderstood, Misused, Mispronounced Words,* lexicographer Laurence Urdang wisecracks that an "enchiridion of arcane and recondite sesquipedalian items will appeal to the oniomania of an eximious Gemeinschaft"—and who could disagree? Translation: Certain admirable types like to buy collections of big, unusual words.

Writers appreciate recondite items as much as the next word junkie, but they don't want to gag readers on them. An asphyxiating vocabulary flirts with what Jonathan Franzen calls the "status model" of authorship: the uncompromising artiste who disdains broad appeal and for whom "difficulty tends to signal excellence." In the opposing "contract model," Franzen says, the author makes a deal with readers, a promise to connect with them for their efforts. When contract readers "crack a tooth on a hard word," maybe they oughtta sue.

Those who want to connect, then, stock their journals with writers' words—not always the plainest or best-known, but somehow rewarding to the reader. Franzen himself uses words such as "pemmican" and "solipsistic" in his article ("Mr. Difficult," *The New Yorker,* Sept. 30, 2002), but they turn out to be pretty good chaws in context.

For special purposes, a writers' word can be anything from firkin to floccinaucinihilipilification. But to earn a place in one's general writing vocabulary, the word should meet at least one of these criteria:

Precise: e.g., *tor* (hilltop rock heap)
Concise: *mulct* (defraud, as of money)
Euphonious: *fanfaronade* (bluster)
Onomatopoetic: *williwaw* (violent squall)

Forceful: *fulgent* (dazzlingly bright)
Evocative: *mojo* (charmed object)
Fun: *cachinnate* (laugh immoderately)
Fresh alternative: *nimiety* (an abundance, instead of "plethora")

A word outside the reader's active or half-known vocabulary should have some seductive aura, like majesty or mystery. Perhaps it reveals itself in context—"steam purled up from the pavement" (flowed in curls)—or begs to be looked up, like scumble (to soften brilliant color).

Where does one find writers' words not yet trampled to death? Self-help compilations such as Word Smart or 1000 Most Important Words house a few, but big lists can be overwhelming. I favor collections with narrative to slow things down—e.g., Word Watch, Anne H. Soukhanov's riffs on modern coinages such as "mamou" (something big and important).

Swarms of writers' words appear in thesauruses and specialized glossaries, especially in the sciences (see *Syntax,* October and December 2002); in obscure and antiquated works, including old slang dictionaries; and in such loopy Web sites as the Rap Dictionary http://www.rapdict.org. Desk novelties like The Mavens' Word of the Day Block Calendar deliver a few winners among their daily doses, but it's hard to pay attention as days and desktops pile up.

Choice items are more likely to surface in the world's flow of expression—literary, journalistic, ethnic, and subcultural. So what if Sunday pundits and other word mavens snap up the lunkers? Individual writers with keen eye and notebook will net their share. Anyone is free to snatch isolated words from what they read and hear. Outside of trademarked names, no one owns a word, not even poets associated with, say, "darkling" or "diverged."

My recent pickings include "flense" (to skin a whale or, figuratively, to flay) from Michael Chabon, "peridot" (green transparent gemstone) from Sandra McPherson, and "camorra" (secret society) from Anne Fadiman. I'll keep them handy for some inspired use.

WEB OF WORDS

These days, the most overwhelming word source is the Internet, where some sites offer useful vocabulary in delayed-release doses, and others overwhelm the frontal lobes with Scrabble babble, blogger chat, and link madness.

Among daily infusions, the most renowned is A.Word.A.Day http://wordsmith.org/awad/index.html. Loaded with features and claiming more than half a million devotees, it produced a bestselling book, *A Word a Day,* from its archives last fall. Subscriptions for a selected word and commentary emailed each weekday are free.

In most word-a-day services, many selections will be technical, silly, arcane, or ordinary (though with interesting background). Only a few each month will be writers' words; but here's the point: You will see them, and see them at a reasonable pace for building your vocabulary. When eager for more, you can dive into the sites' archives of prior words and swim among the momes (boors) and bonces (heads).

The big-mamou question: Should you use a word you fear will stump your readers? Absolutely—if you adore it, believe it to be what Mark Twain would call the "intensely right word," and haven't used too many puzzlers elsewhere. After all, what sweeter lagniappe for readers than a new word for their delectation?

Internet Word-a-Day Sources

Vocabulary sort of spavined (over the hill)? Get some revitalizing words each day from sites like these personal favorites. Each offers emailed words by free subscription unless otherwise noted. Sample words (*in italics*) are only partly defined.

A Definition a Day
http://www.vocabula.com
Selects words with "an aura of fun or majesty." Stellar columns, quizzes, and random words.
Weanling (a newly weaned child or animal).

Merriam-Webster's Word of the Day
http://m-w.com
Solid, informative. Etymology, usage examples. Archive. Free e-mail delivery.
Quidnunc (a busybody).

Spizzerinctum: The Quiz of Breaking News & Obscure Words
http://www.spizzquiz.net/index.html
Cool site that retrieves juicy forgotten words, lets you guess meanings from three choices, and then uses the word in a rewrite of current (linked) news. Archive. Free e-mail delivery.
Creachy (dilapidated, sickly).

A Vocabulary Word of the Day
http://www.americanliterature.com
Created by the late Aaron Rene Ezis. Superior words and partial backlist.
Gobbet (a fragment or piece of raw flesh).

A.Word.A.Day
http://www.wordsmith.org/words
By Anu Garg. The granddaddy of word-a-day sites. Free e-mail delivery.
Hobbledehoy (an awkward young fellow).

Word of the Day from Lexico Publishing
http://dictionary.reference.com/wordoftheday
Well organized; archives, quotes. Free e-mail delivery.
Wayworn (travel-weary).

The Word Spy
http://www.wordspy.com
Paul McFedries' sharp-eyed collection of recent coinages; context, background, sightings, quotes, indexed archives.
Invacuate (to hold people in a building for safety).

Worthless Word for the Day
http://home.mn.rr.com/wwftd
Anything but worthless. Its exchange of "obscure, abstruse, and/or recondite words" are often writers' words. Archive. Free e-mail delivery.
Muzzy (muddled, confused).

How to Study*

Even though she claims she hates studying, consultant anaesthetist Leyla Sanai has passed all her many exams at the first sitting. In this article she shares her tips for success.

By Leyla Sanai

Studying for exams is a nightmare. There is no easy way of doing it—it is a relentless grind. Two of the worst things about medical school are the frequency and enormity of the exams. No sooner have you finished one and had a breather for a couple of months when another looms forebodingly on the horizon, with its whispered threats of doom. . .

**Student BMJ,* October 2001, p. 378. Copyright 2001 BMJ Publishing Group. Reprinted with permission from the BMJ Publishing Group.

When I was a student there seemed to be people who could breeze effortlessly through all their exams with minimal effort. Some of these people boasted about how they had barely picked up a textbook, and bragged about nights spent in the pub instead of studying. These individuals were telling huge porkies. It's impossible to make it through medical school without working hard—the sheer volume of facts to be learnt mitigates against luck or brains as passports to exam success. Any successful medical student who pretends that they have never studied in their life deserves an Oscar. I think that their motivation for spinning these webs of fiction is, firstly, a wish to be seen as a genius who never needs to study; secondly, a wish to be viewed as a life and soul type who rarely stops partying, and, thirdly, it is a desperate insurance scheme. So if they fail, despite their secretive hours of cramming, they can swagger in and drawl that it is no surprise they failed since they did no work, and exclaim about what miserable swots everyone else is.

Once you have accepted that, sadly, your desk is not just somewhere to park your butt when looking out the window, and the library is not just a place to meet your pals before the midweek night out at the union, it is essential to devise a method of study which is effective for you.

MAKE A TIMETABLE

Plan your study carefully. There is no point in flicking through your anatomy book with such lack of enthusiasm and boredom that you get through only one chapter in three months. On the other hand, do not be ridiculously overambitious in your aims: setting yourself two hours to learn the entire physiology of the respiratory and cardiovascular systems is a trifle optimistic. Once you have made your plan, try and stick to it—if you keep taking a week longer for each chapter than you had intended you will have a huge panic at the end. Remember, it is better to know everything moderately well than to be an expert in only 1 percent of the syllabus. It is futile knowing the anatomy of the dorsum of the upper limb digits like the, er, back of your hand, if you would not recognise a lower limb if you fell over one.

THINK IN TERMS OF AMOUNT LEARNT, NOT HOURS

As a student, I wasted many, many months sitting staring at the same page of some vast volume, daydreaming about what I would buy from the supermarket, or where I would go that weekend. I equated being miserable and torturing myself with virtuous study, surmising that if I was having a hideously dull time then it must be doing me some good. Sadly, the adage "no pain, no gain" is not necessarily true in reverse—that is, pain does not automatically lead to gain. I was also envious of my best mate, who could sit and study intensively for hours at a time, then pack her books up and go and have fun. My method involved self-punishment. When I caught myself daydreaming, I would forgo

little treats like the late night drink in a pub or the movie at the weekend and spend these times staring at the same page. Again. This was not constructive.

GIVE YOURSELF REWARDS

If you have something to aim for it is far easier to motivate yourself. Tell yourself that if you learn the chapter really well, then you will allow yourself a treat. Whether this is a night out, some new clothes, a day off at the weekend, or whatever is up to you. But be strict with yourself. If you spend the day skiving off instead of studying, then you must forgo your treat. No cheating.

DON'T BE TEMPTED TO TRY FADDY METHODS

I found studying so immensely painful that I always believed there was some secret trick that would suddenly render it all easy. This was not the case then, nor tragically, is it now. My flatmate and I amassed many different systems that would miraculously change our lives, making studying a doddle. Highlighter pens were one—the idea was that you would go through your notes or the textbook, highlighting salient points so that they would lodge themselves stubbornly in your memory.

Unfortunately, my highlighter pen did not stop me from daydreaming, and I ended up with many textbooks in which every second word would be religiously highlighted, whether it was a key word or just "and" or "a." My flatmate fared no better. She spent hours poring over filing cards on which she wrote important facts, but ended up with a floor littered with hundreds of little cards and little else.

RELATE FACTS TO FUNCTION

The best way of remembering something is to understand it. Okay, so this is not always possible as some things need to be memorised parrot fashion—the Krebb's cycle, for instance. The friendly biochemist will not wave you through the viva just because you understand its concept, he still wants the mind-numbing details of the numbers of adenosine triphosphates, etc. However, in many other areas, facts are far more easily remembered if they are understood. Anatomy is one example. In my experience ploughing through *Cunningham's Anatomy* (a manual for dissection) was like the worst form of self-flagellation. Never has a book been written before or since that was so dull, verbose, opaque, difficult to plough through, unimaginative, unenlightening, tedious, and unrelated to function. Some of the sentences would drone on for what seemed like days, veiling any potentially memorable facts in a surfeit of heavy medical terminology and Latin. It was a great cure for insomnia but carried the risk of inducing narcolepsy. Far, far better are the books which explain things in as simple a way as possible, and, better still, relate dry fact to function. It is much easier to remember the effects of different muscle groups

if you have visualised the results of their malfunction. Similarly, textbooks that show pictures of patients with particular medical conditions make it far easier to recall the sequelae of these conditions. A picture is worth a thousand words, especially if they are cloaked in pompous medical terminology.

DO NOT COMPARE YOURSELF WITH OTHERS

People who claim that they have done no work will try and convince you that the clavicle will come up, the first rib is a "dead cert." Do not listen. Others will work but for a fraction of the time you need to. They may have partially photographic memories. They may have far better concentration. Their neurons may be more supple and adept. However, you cannot hone your brain by sending it to the gym. You are stuck with your grey cells. They may be greyer and more dingy than your best mate's, but deal with it.

CATEGORISE AND COMPARTMENTALISE

When a chapter is fresh in your mind, 10 minutes after reading it for the 67th time, it may seem as if all the facts contained within it will spring forth effortlessly the next time you summon them. However, three months down the line, your only memories of it may be that it was a large and fact-filled chapter of which you have no recollection. Because of this, it is a good idea to categorise and compartmentalise whenever you can. If the chapter gives you a load of different drugs that can be used in a particular disorder, categorise them into their different methods of action. Then, if you just understand these different modes, you will be able to recollect the categories at a later date and give an example of a drug in each group. Similarly, if a particular disease has effects on many different parts of the body, try and compartmentalise these into different organ systems. If you remember the headings the small print will follow. And the headings are much easier to recall if they are filed away in some logical order.

TEST YOURSELF

As studying is so unpleasant, it is tempting to just cram facts into your cerebrum without testing whether they can be retrieved. My motives for not testing recall were an ostrich-like reluctance to face the possibility of retrieval failure. This is not a good approach. You want to make sure the traffic is two-way. Trying to extract stringy bits of knowledge from your brain for the first time in the exam is stressful and doomed to failure.

PRACTICE THE RELEVANT FORM

If the exam will include multiple choice questions (MCQs)/essays/short answers/vivas/spot dissections, make sure you practise these endlessly. When I started swotting for my part 1 MRCP [Membership of the Royal Colleges of

Physicians of the United Kingdon], I read and learnt *Kumar and Clarke,* my favourite textbook, three times. Then I attempted an MCQ and got about 20 percent. For the next few months, I abandoned the textbooks and practised MCQs endlessly. It was the right thing to do.

As a final word of encouragement, despite my loathing of study, I have passed all parts of the MRCP and the FRCA (fellowship of the Royal College of Anaesthetists) the first time simply by sticking to the rules above, in particular the last one—that is, practising the relevant type of questions over and over. The only test I have ever failed is my driving test. I did not practise the format I was tested on—that is, driving!

DISCUSSION

1. Using this textbook as a point of contrast to the required texts in other courses, discuss the following with your classmates:
   a. Did you actually purchase the text?
   b. When do you use it—frequently and in conjunction with class meetings?
   c. What suggestions do you have for other students on how to get more value out of this particular text?
2. Of the other texts you are using this term, which poses the greatest challenges for you? Which of the specific suggestions in this chapter can you use to improve your understanding and ability to use the textbook? Share these in discussion with other students.
3. Compare and contrast how your instructors are using their required texts in terms of material presented/discussed in class and the materials for which you are held accountable in examinations. What patterns did you discover? Bottom line: do your textbooks help you learn? Defend your answer.
4. The reading selection "How to Study" relates the experiences of a British student. Compare its advice to that contained in this chapter from your American authors and share your reactions with fellow students. Are your courses as dependent on "studying" text materials as this British student's would appear to be?