

Chapter 5

ADVANCING THROUGH LISTENING, SPEAKING, WRITING, AND CRITICAL THINKING



- Use active listening techniques in the classroom
- Adjust to different lecture styles
- Ask effective questions during class
- Discuss how participating in group discussions relates to speaking up in class
- Know why it's important for health care professionals to have good writing skills
- Create a schedule for completing a formal writing assignment
- Explain how critical thinking applies to a health care setting
- Describe Benjamin Bloom's six levels of cognitive learning

Listening, speaking, writing, and critical thinking skills are all necessary if you want to succeed as a student. During lectures, it may seem like your only responsibility is to sit quietly while your instructor speaks. This method might even have served you well in high school. But now you have the opportunity to do much more! By using the strategies discussed in this chapter, you'll be able to take charge of your own learning process. And when you're in control, nothing can stand in your way of learning new things and accomplishing your long-term goals. You'll be able to round the bases and slide safely into home!

Listening and Observation Survival Skills

To become an active participant in your own learning process, you'll need to do two things.

1. First, use strategies to help you listen actively in class. These strategies will help you take more effective notes and improve your level of listening.
2. Second, use your observation skills to help you adapt to difficult situations, such as dealing with a lecturer you find hard to follow.

By developing good listening and observation skills, you'll get more out of your courses.

STOP, LOOK, AND LISTEN

Active listening involves thinking about how you are listening and continually working to improve your listening skills. When you are listening actively in the classroom, you're doing more than simply hearing words. You're also deciphering main ideas, deciding which information is most important, and making adjustments in how you listen according to your instructor's teaching style.

In the game of school, an active listener is participating in the game, not just standing on the sidelines. Whether you need to become an active listener or merely improve your active listening skills, all students can follow these guidelines.

- Avoid doing things that can distract you from listening.
- Identify main ideas.
- Pay attention to the speaker's transition cues.
- Mentally organize information as you hear it and devote your attention to the material that seems more important.
- Take effective notes.

Interference!

There are several behaviors that could be sabotaging your active listening game. Make an effort to avoid:

- letting distractions interrupt your train of thought
- tuning out difficult material
- allowing your emotions to cloud your thinking
- automatically assuming the material is boring
- concentrating on the speaker's quirks
- letting your mind wander
- pretending to listen
- listening only for facts and not ideas
- trying to write down every word in your notes

Avoid behaviors that could be hurting your active listening game. Keep your eye on the ball and stay focused!



Identify Main Ideas

Identifying main ideas is another element of active listening. Each lecture you hear will include main ideas even though they may be presented in different ways. Some of the approaches your instructor may take are:

- introducing new topics
- summarizing main points
- listing or discussing a main idea's supporting details
- showing two sides of the same issue
- discussing causes and effects related to a main idea
- identifying a main idea's problems and solutions

Wait for a Signal

Listening for signal words is another way to guide yourself through a lecture. These words are like play-by-play commentary in the classroom. They let you know which direction your instructor is headed.

Signal words can indicate transitions in a lecture. By paying attention to transitions, you'll be able to organize your thoughts and your notes as you listen actively. A few examples of signal words and phrases include:

- *Likewise*. This word indicates that the speaker is about to show how two concepts or examples are similar.
- *On the other hand*. If you hear this phrase or something similar to it, you'll know that the speaker is about to begin discussing an opposing fact or opinion.

- *Therefore.* This word usually indicates that the speaker is about to present an effect in a cause and effect relationship.
- *Finally.* This word lets you know that the speaker is arriving at the end of a point or the end of the lecture.

What Is Most Important?

Being able to separate more important information from less important information is a skill all active listeners need to possess. Instructors tend to have similar ways of communicating important information. Some write key terms and concepts on the chalkboard as they lecture. Other instructors distribute copies of lecture outlines at the beginning of class. By picking up on these clues, you'll have an easier time determining which information your instructor considers most important.

The following behaviors also can draw your attention to important material. Your instructor may:

- pause to allow students to copy information down in their notes
- repeat facts or definitions
- emphasize certain information with tone of voice
- directly tell students what information is important (for example, "Remember this for next Tuesday's test.")
- use gestures and facial expressions to draw attention to key information
- use visual aids, such as films, television segments, life-size plastic models, and information or images on projector screens
- have students turn to certain pages in the textbook

Your instructor might not say, "This information is important." It's more likely that his behavior will give you the clues you'll need to figure out if it's important on your own. One way to pick up on these clues is to listen closely. Pay attention not only to your instructor's words, but to the tone and volume of his voice as well. Another way to notice clues about important material is to observe. Even if you are listening closely to every word your instructor says, if your head is buried in your notebook the whole time, you might miss certain clues. Instead, look up from your notes from time to time to observe your instructor's actions. Hand gestures and facial expressions can indicate important information almost as clearly as words.

If your instructor repeats something, it's probably important information to remember.



LISAN and Learn

One of the benefits of active listening is that it will help you take more effective lecture notes. You learned about different note-taking methods in Chapter 4. When deciding how to format and take notes, make sure your note-taking method encourages active listening. The LISAN method of note-taking includes the following guidelines:

- L** Lead instead of follow. Think about what your instructor might say next.
- I** Ideas. What are the main ideas?
- S** Signal words. Listen for signal words that indicate transitions in the lecture. In which direction is the lecture headed?
- A** Actively listen. Make sure your mind stays engaged. Ask questions or make a note to yourself to seek clarification for difficult concepts later.
- N** Notes. Write down main ideas, key terms, and any other important information. Be selective.

LISTENING LEVELS

Listening has to reach a certain level before it is considered active. Take a look at the chart below to see how well you listen in class. What level are you?

Level	Explanation
Reception	hearing words without thinking about them
Attention	passive listening; not making an effort to understand the information
Definition	entering into active listening; attaching meaning to certain facts and details but not yet organizing the material in your head
Integration	relating new information to your background knowledge
Interpretation	putting information into your own words; paraphrasing
Implication	thinking about how different pieces of information fit together; drawing conclusions
Application	considering how the information applies to you personally; using it in new situations
Evaluation	making judgments about the accuracy and relevance of the information

Remember that active listening is a learned skill. By following the tips in this chapter, you can learn to listen at a higher level. And once you know how to apply and evaluate information as you listen, you'll be that much further on your way to becoming a successful student!

LEARN TO ROLL WITH THE PUNCHES

In Chapter 4, you learned how to get the most out of your time in the classroom, regardless of the pace of each lecture or your instructor's speaking ability. This section discusses more tips for dealing with different lecturing styles.

During your time in school, you will come across many different types of instructors. One instructor may seem disorganized, whereas another doesn't cover the material in your textbook. Some instructors might not tell you exactly what you'll need to know for tests and quizzes. Although these situations may seem frustrating at first, you shouldn't use them as excuses to give up. To become a successful student, you'll need to learn to roll with the punches!

When faced with these difficult situations, use them as opportunities to engage in your own learning process. When you're an active participant, you can achieve goals other than simply learning the required material. You can accomplish things such as:

- *Improving your learning skills.* You'll use these skills not only in school but in your future career as well. Remember, learning is a lifelong process!
- *Recognizing how lecture content is organized.* Whether your instructor follows the textbook, lectures independently of the text, or uses other media will determine what your learning focus should be in a particular class.
- *Discovering how to measure up to your instructor's expectations.* This also will be a useful skill to have once you become a practicing health care professional. In the future, you may not have to answer to an instructor, but you will want to know if you're meeting your supervisor's expectations.



Improve Your Learning Skills

Part of learning to roll with the punches involves improving your learning skills. Learning skills include:

- memorization
- the ability to apply new knowledge
- interpretation of difficult material
- the ability to identify different teaching styles

It may be that an instructor isn't necessarily an ineffective, or bad, lecturer, but one who presents material in a different way

than your other instructors. Or, it may be that the material in a particular class requires a different style of teaching than you're used to. When this happens, look for clues to discover your instructor's teaching style. Then, use your different learning skills to help you adapt to the class.

Memorize It!

You'll probably find that a lot of memorization is required in your introductory courses. However, your instructors may not always specifically tell you which information to memorize. In these cases, look for clues to identify important information and commit it to memory.

For example, if your instructor writes a new concept or a definition on the chalkboard, you should make an effort to memorize it. Likewise, if your instructor distributes a handout depicting a diagram or a list of facts, it would be wise to remember that information as well. By learning early on to pay attention to your instructor's clues, you'll know exactly which material to memorize before the first quiz or test.

Apply It!

Some instructors focus on getting students to consider how the course material will apply to their future careers. If this is your instructor's goal, you'll do well in the course by showing that you can apply new knowledge. There are several ways in which your instructor might encourage you to do this.

- If your instructor gives many written assignments, be prepared to give examples of real-life applications in writing.
- If your instructor has students work through case studies during class, expect to see similar case studies on tests.
- If your instructor often calls students to the board to solve problems, be prepared to explain to the rest of the class how you would apply your new knowledge.

Interpret It!

In advanced science and health classes, instructors may ask students to interpret new information. This means you'll be expected to put ideas into your own words to show how well you understand the material. You'll recognize instructors who focus on interpretation by the fact that they often use

Don't sit on the bench during class discussions. Be prepared so you can participate!



class periods to ask questions and provide guidance on student responses. If your instructor uses this particular method, be sure to complete all assigned readings before class. Being prepared will allow you to participate in class discussions.

Know When to Shift Gears

Learning how to identify shifts in your instructor's teaching style will keep you alert and help you follow along with the lecture. For example, the notes you take during a class discussion will be different from the notes you take when your instructor gives you key terms and definitions to memorize. During a group discussion, you're focused more on ideas and the relationships between them. You won't be writing down every word that is said in class. In contrast, when your instructor gives you a definition to memorize, you'll need to either highlight the definition in your textbook or copy it word for word into your notes.

So, the next time your instructor interrupts a class discussion to write an important date or key term on the board, you'll know she's switching from an interpretive style of teaching to a memorization mode. You'll be able to adapt to this shift in teaching style by switching gears and recording the information from the board into your notes.

By listening actively, you'll soon become more familiar with your instructor's behavior. Pay attention to patterns in the way your instructor teaches. She may tell students directly that a particular concept is important. But she may give less obvious clues as well, such as becoming animated or using gestures while explaining important points. Once you can recognize shifts in your instructor's teaching style, you'll begin to get more out of each lecture.

Discover How Lecture Content Is Organized

The content in lectures can be organized in one of two ways:

1. *Text-dependent.* In lectures where the content is text-dependent, the material is presented very similarly to how it's presented in your textbook.
2. *Text-independent.* In these lectures, your instructor cites resources other than the text when presenting the information he considers most important.

Regardless of how closely their lectures follow the text, many instructors use media as well, to help them present lecture content.

A Textbook Case

If your instructor often conducts text-dependent lectures, it's especially important that you complete the assigned reading

before class. If you're somewhat familiar with the material already, you'll have an easier time following along.

It's also important to bring your textbook to each class. As your instructor teaches, note important ideas in the margins of your text. You should highlight any passages or definitions your instructor reads aloud. If your instructor mentions that a particular section is unimportant or that you won't be required to know the information it contains, cross it out.

Some students don't like to mark up their books by writing in the margins or highlighting sections of text. This is because some college bookstores will buy back used textbooks at the end of the semester, and they'll only pay top dollar for books that haven't been marked in. At first, this may sound like a good plan for the budget-conscious student. However, carefully consider whether it's really worth it. Being able to highlight and quickly refer back to important lecture points may be well worth the few lost dollars. Also, by keeping your textbooks throughout your time at school, you'll find you have a terrific reference library to use later on in your professional career.

Beyond the Text

For lectures in which the content is text-independent, the focus shifts from your textbook to your notes. It's important to take effective notes during these lectures since you won't be able to refer back to your textbook for information you missed. After class, be sure to organize the lecture content by reviewing or outlining your notes. To gain a better understanding of the information, you may want to discuss each lecture with a classmate—you could take turns "teaching" each other the material, which will help cement it in your brain. You also could use supplementary material, such as computer software or online articles, to review concepts presented by your instructor. (See *Using Supplemental Material* in Chapter 4.)

Before you sit down to study the material, set a few study goals to remind yourself what pieces of information you need to learn. This is essential when dealing with content that doesn't appear in your textbook. You'll need to create your own learning objectives for the information in your lecture notes, as the chapter objectives from your textbook may not apply.

A Media Frenzy

A third element that affects lecture content is the use of media. Handouts, films, slide or PowerPoint presentations, plastic models, and other forms of media give students new ways of learning about the material. For example, a movie might cause you to have an emotional response to a certain topic while a

plastic model might give you an opportunity to practice your clinical skills. With each form of media, you're able to connect to the material in a different way. Often, this allows you to learn and understand more information than you would by simply hearing your instructor discuss it.

When dealing with media in the classroom, there are two things on which you should focus. Ask yourself:

- Why is the instructor using this particular medium?
- How does this medium meet my learning needs?

For instance, suppose your instructor plays a television segment during class. If the segment is about a topic you've already covered, it can help you review necessary information. But if the segment introduces a new topic, it can meet your learning needs by providing you with background knowledge.

Find Out How to Measure Up

It's a good idea to set up a conference with your instructor at least once during the semester or term. A student-teacher conference gives you the opportunity to ask questions about lecture content, learn about your instructor's expectations of students, or discuss any other important issues related to the course.

Here are a few tips to consider when scheduling a conference.

- Decide on a specific topic to discuss, such as your first test or a confusing concept from a recent lecture.
- Write down any questions you'd like to ask about that topic, putting your most important questions at the top of the list. Your instructor may have a limited amount of time to meet with you.

If you're organized and prepared for the meeting, you'll have a better chance of getting the information you need in that short period of time.

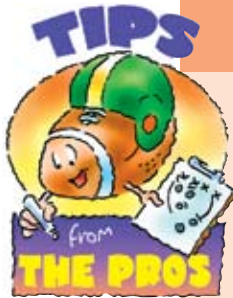
Also, if the idea of a student-teacher conference makes you nervous, having questions already written out will put your mind at ease and help you stay focused.

By taking initiative and meeting with your instructor one on one, you'll demonstrate that you're concerned about your success as a student. You'll also gain a better understanding of your instructor. This will help you make sure you're

Schedule a student-teacher conference to learn more about what your instructor expects of students.



on the same wavelength—it's always better to be aware of your instructor's expectations than to blindly assume you're doing well in a course.



TAKING UP THE SLACK

If a speaker is hard to follow, pick up the slack in the lecture by using the strategies listed below.

If your instructor doesn't...

- explain goals for the day's lecture
- go over information covered in the previous lecture
- provide an introduction or summary at the beginning and end of a lecture
- supply students with an outline of each lecture
- give students enough time to write notes before moving on to the next topic
- speak in a clear, loud tone of voice
- answer students' questions without being sarcastic or discouraging
- stay on topic and instead begins talking about personal experiences
- explain the chapter and instead reads directly from the textbook
- provide the main points of the lecture
- clarify confusing information or provide examples
- write key terms and definitions on the chalkboard

You should...

- set goals yourself by referring to your textbook or syllabus
- review your lecture notes for a few minutes before each class
- write a brief summary of each lecture after class
- review the assigned reading before class or outline your notes after the day's lecture
- speak up!; politely ask your instructor to repeat or clarify information
- politely ask your instructor to speak louder, or move to a closer seat, as long as you don't disrupt the class
- avoid taking your instructor's remarks personally
- think about how the instructor's stories relate to the topic
- follow along by highlighting the text your instructor reads; outline or summarize the text in your notes
- reread your textbook after class and locate main points
- ask your instructor to provide an example or come up with an example on your own
- look up key terms in a dictionary or in the glossary of your textbook

The Essentials of Expressing Yourself

To succeed as a student, you'll need to learn how to express yourself through speaking and writing.

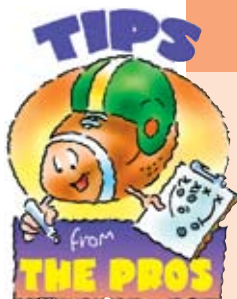
SPEAKING

During your time as a student, you may be required to give a few speeches or oral presentations. However, most of the public speaking you do will be on a more informal level. Whether you're asking a question during a lecture or participating in a group discussion, you should use good public speaking skills. By being able to express yourself, you'll obtain sufficient answers to your questions and you'll also get more out of group discussions.

Me? Speak in Public?

If speaking to a group of people makes you feel nervous, nauseous, or as if you'd rather stay in bed and avoid the situation altogether, know that you're not alone. *Glossophobia*, or the fear of public speaking, is considered by some to be the most common phobia.

Researchers aren't sure exactly what causes this fear. However, most agree that having a bad or embarrassing experience with public speaking is usually a major contributor. There's nothing like the embarrassment of getting up in front of a group of people and stumbling over your words (or forgetting them altogether) to make you want to avoid doing so ever again.



LEARNING TO SPEAK UP

Follow this step-by-step process to relax yourself before speaking up in class.

- Acknowledge your fears and admit to yourself that you're nervous. It's very difficult to overcome a fear that "doesn't exist."
- Reassure yourself that you have something important to say and that your instructor and your classmates are interested in hearing it.
- Think about what you are going to say. This will give you a chance to calm your nerves.
- Be confident. This will command everyone's interest.
- Speak loudly and clearly. If everyone hears you the first time, you will avoid having to repeat yourself.

Fortunately, there are tips you can use to improve your ability to speak up in a group setting.

Organize Your Thoughts

The first thing to remember is to organize your thoughts. During lectures, pay attention and listen closely to make sure your instructor hasn't already addressed the question you're about to ask. Then, ask directly. There is no need to beat around the bush. Go ahead and ask for clarification of an idea or challenge a statement that seems contradictory. In most classrooms, it's acceptable and even encouraged for students to participate in this way.

Before speaking up in class,
take a moment to organize
your thoughts.

Come to the Point

As you learned in Chapter 4, there's a right way and a wrong way to go about seeking clarification during a lecture. The wrong way would be to interrupt class with a vague statement such as, "I don't get it." Here's the best way to ask a question.

1. State briefly and in your own words the part of the material you *do* understand.
2. Then, come to the point by asking a specific question.

For example, suppose your radiology instructor is explaining how to position patients for different types of x-rays. If you need clarification, you could say, "I understand that in both the recumbent and supine positions, the patient should be lying down. But what is the difference between the two positions?" This statement clearly shows that you understand at least part of the information. It's an effective question because it comes to the point and tells your instructor exactly which part of the material you don't understand.

On the other hand, suppose you encounter a situation where you want to challenge a statement that seems to contradict your background knowledge of a particular topic. Let's say your class is having a discussion about patient privacy rights. Your instructor says, "State law requires that if a patient is diagnosed with a sexually transmitted disease, that information must be reported to the local health department." In a previous course, however, you learned that a patient's diagnosis is confidential. Your instructor's statement seems to contradict what you've already learned about patient confidentiality. How would you form a respectful question to challenge your instructor's statement?





SPEAKING UP

Hi, my name is Suki. I'm studying to become a lab technician. In one of the first courses I took, it was really hard to keep up with the instructor. But I was afraid to ask questions in front of everyone else in class. The few times I tried, I was so nervous that I raised my hand and then completely forgot what I was going to say.

But then I started writing down my questions so I could read them after the instructor called on me. It was so much easier! Writing down what I wanted to say gave me the time I needed to organize my thoughts. It also kept me from being too nervous and having my mind go blank.

Participate—Group Discussions

A good way to practice speaking up in class is to participate in group discussions with your classmates. These situations provide you with lower stress opportunities to express your thoughts and ask questions. Once you become comfortable with speaking to a group of your peers, you'll gain confidence to speak up in other situations, such as asking your instructor for clarification.

For Future Use

The speaking skills you develop as a student will be useful throughout your career. When the situation arises where you need to clarify a physician's instructions, you'll be thankful for all the practice you had in class communicating with your instructors! As a health care professional, you'll need to apply the same principles you used in class when asking your supervisors for clarification.

1. First, organize your thoughts in order to ask a direct question.
2. Then, come to the point while remembering to be respectful and to use your critical thinking skills.

You'll also need to have good speaking skills to help you communicate with patients. For example, when gathering a patient's medical history, you'll be required to ask direct questions and clarify the patient's responses. In this case, you'll need to be able to form clear, easily understandable questions to obtain the information you need. It also will be important

to make sure you understand the patient's responses correctly before recording the information in a medical chart.

Good speaking skills, and good communication skills in general, are very important in health care professions. Eventually, you'll be required to use your skills on a daily basis. Just remember that the best way to develop good skills is to practice!

WRITING

As a student, you'll most likely be required to write essays, reports, and research papers. The writing skills you develop in school can be carried into your professional career as well. As a health professional, you'll need to have solid writing skills for the purpose of recording accurate and concise information in patient charts and medical records.

Writing skills can be helpful for a number of other reasons, one of which is securing your first job. A well-written resume and cover letter can help you get your foot in the door and get an interview. Another practical application of your writing skills would be sending e-mail messages. Being able to express yourself well through your writing shows that you are intelligent and competent. It also effectively gets your message across to the person with whom you are communicating. Good writing skills help you avoid the misunderstandings that can result from poor communication.

Structurally Speaking

Whether you're writing a 15-page paper or a brief essay, your writing assignments should be structured in roughly the same way. Formal writing includes an introduction, a body, and a conclusion.

Introduction

Make sure your formal written assignments always begin with an introduction. The introduction should interest the reader in the topic you're about to discuss. Your introduction can be structured in a number of different ways. It can:

- be centered on a thesis statement (a thesis statement is a statement of the opinion or idea to be discussed in your paper)
- present a problem or ask a question that you intend to answer
- describe a dramatic event or incident
- provide interesting statistics
- set a scene
- relate a short story

For example, in a persuasive essay, your introduction could begin by presenting a topic. Then, your thesis statement could include the main point you intend to prove about that topic.

One important thing to keep in mind about your introduction is that it doesn't have to be the first thing you write. Even if you start with a basic outline and have a general idea of how you'd like to approach your topic, it's easy to get stuck on the introduction. If this happens, try working on other portions of the paper for a while and come back to it. Your introduction will be easier to write once you have a clear purpose in mind.

In terms of length, the introduction should be roughly 5 to 15 percent of the length of your entire paper. It needs to be informative, but to the point. It should be interesting without giving away too much detail. Because of these reasons, it takes time and effort to write a good introduction. You may want to look over it again and make any necessary revisions after you've completed your paper.

Spice up your introduction by beginning with a brief story, asking a question, or presenting an interesting fact.



Body

You will do most of your writing in the body. This part makes up about 70 to 90% of a paper's total length. The body of a paper presents details that support your thesis. These details may include:

- background information about your topic
- facts and supporting research
- explanations of key terms or phrases used throughout the paper
- quotes from other credible sources
- different arguments against your thesis and your responses to those arguments

Conclusion

A strong conclusion ends the discussion presented in the paper and makes the reader think. To accomplish this, the conclusion needs to do more than blandly summarize main points. To write a strong conclusion, consider including:

- a quotation that relates to or sums up your thesis
- a question for the reader to consider
- encouragement for the reader to act in support of your idea
- one last example or story to reiterate your point

Bibliography

The bibliography is a list of the sources you used to write your paper. It's important because it helps you back up the information included in your paper and gives credit to the people whose research or quotes you cited. Whether you gathered information from a book, a Web site, a television program, or a magazine article, each source must be included in your bibliography.

Appendix

You probably won't need to include an appendix with each formal writing assignment you complete. An appendix is only necessary when you need to include other supportive materials that do not belong, or cannot fit, in the body of your paper. A few examples of such materials are:

- a list of key terms and definitions
- photos, illustrations, or figures
- tables, charts, maps, and other graphic elements

The Writing Process

So you've decided on the type of paper you're going to write. You know it needs to have an introduction, a body, and a conclusion. What next? There are several steps to follow in the process of writing a paper.

1. Determine a schedule.
2. Select a topic.
3. Collect information.
4. Organize the information.
5. Evaluate the information.
6. Create an outline.
7. Write a first draft.
8. Revise the first draft.
9. Finalize the paper.

Scheduling

A good way to set up a schedule for writing a paper is to work backwards. First, look up the due date for the paper in your syllabus. Then, mark the following on your school calendar:

- due date for the paper
- amount of time you need to revise the paper
- amount of time you need to write the first draft

- date you should complete your research
- date you need to begin research

When scheduling your time, be generous! Unexpected problems can arise, making certain steps take longer than you anticipated. For example, you may go to the library to find that a book you need has already been checked out. Or you may find that you need extra time to evaluate and organize the materials you gathered. Whatever the case may be, you can avoid stress by allowing yourself enough time to plan for delays during the writing process.

Use the required page length to help you figure out how long it will take you to write the paper.

Another aspect that may affect your writing schedule is the paper's length. Sometimes it's hard to predict how much work you'll need to do to complete the assignment. When considering how much time to allow yourself to write the paper, keep the following in mind:

- the required length of the paper
- the amount of time you have before the due date
- the amount of research you're expected to do
- the number of references your instructor requires you to have

Selecting a Topic

If your instructor assigns a specific topic, you won't have to worry about this stage of the writing process. If not, your instructor may provide you with a list of acceptable topics or with guidelines for creating your own topic. When thinking about possible topics for your paper, select one that captures your interest. By writing about a subject that interests you, you'll be better motivated to work on the paper. Also, be sure to select a topic that you'll be able to research adequately. You'll have a hard time completing an assignment that requires a lot of research if your topic is very obscure.

Good places to search for topic ideas include:

- the table of contents in your textbook
- your lecture notes
- brainstorming sessions with your study group
- magazines, newspapers, or television



Just remember to keep your topic fairly narrow. A more focused topic means a more focused writing process and a better paper. When looking for a topic, try to find a balance. Your topic should provide you with enough material to complete the assignment but it should be focused enough so that you can explain it fully in your paper.

One way to see if a topic is well defined or focused enough is to think about your thesis statement and the title of the paper. A good title should be clear and appealing. The reader should know what the paper is about just by reading the title. However, if you come up with a title before writing the paper, keep in mind that the title isn't permanent. You can always change the title after the paper has been completed. Sometimes, it's simply a good exercise to think about the main point you'd like to communicate in your paper. Doing so may help you decide on a particular topic.

Collecting Information

When gathering information for your paper, it's probably wise to begin at the library. Start by looking up your topic in the library's computer system. Another good reference is the *Reader's Guide to Periodical Literature*. This book lists the titles and subjects of magazine and journal articles. Your library also should have a set of encyclopedias and some specialized dictionaries in its reference section.

If you have trouble locating these resources at the library, the reference librarian is there to help. He can offer you research tips as well as educate you on how to use the library.

OTHER SOURCES OF INFORMATION

Aside from the library, other excellent sources of information are:

- *Interviews with professors or experts in the field.* Conducting interviews will prepare you for future clinical work, when you may have to conduct information-gathering interviews with patients. In both cases, the process is similar.
 1. First, be prepared. Make a list of the questions you'd like to ask. Make sure the most important questions are at the top of your list.
 2. During the interview, keep the conversation focused. If you only have a limited amount of time, try to avoid talking about things unrelated to your questions.
 3. Finally, when gathering information for a paper, you may wish to audiotape the interview in addition to taking notes. This can help you remember quotes accu-

rately. It also gives you a way to review any information you may have missed. Just remember to ask permission first. You can do this when scheduling the interview to avoid putting your interviewee on the spot when you meet; not everyone is comfortable with being recorded.

- *Surveys and statistics.* You can use the results of professional surveys when collecting information for your paper. But you can conduct your own surveys as well. Statistics can be calculated after you receive responses to your survey. For example, suppose you surveyed 50 subjects and 15 of those individuals answered *yes* to a particular question. The other 35 subjects answered *no*. Your statistics for that question would be 30 percent ($15 \div 50 = .30$) of subjects answered *yes* and 70 percent ($35 \div 50 = .70$) answered *no*. These results could then be used in your paper to prove or disprove a particular point.
- *Resources on the Internet.* When searching for information online, there are two very important guidelines to keep in mind.
 1. First, make sure the material you find is reliable. (See the *Web Sites* section in Chapter 4.)
 2. Second, remember to cite any online information you use in your paper. Your instructor will be able to tell you which format to use when citing information. You'll most likely need to include the Web address, site owner, date the site was last updated (if available), and the date you accessed the information.
- *Unbiased observations.* Your unbiased observations can be used as a source of information for your paper. However, the key word here is *unbiased*. There are several methods you can use to avoid allowing your own opinions to cloud your observations. For example, you could create a checklist of things to look for as you observe a certain situation. During your observation, use the checklist to guide your note-taking. Having a checklist and thorough notes will add reliability to your observations.
- *Personal experiences.* Some instructors will allow you to use information gathered from your own experiences. Just be sure the experiences you draw from are directly related to the topic of your paper. Also, back up your experiences with more objective information from sources you trust, such as reference books or articles in academic journals.

Organizing Your Information

To begin organizing your information, use index cards. Fill out one index card per source, including main ideas and references to page numbers. (You'll need to know page numbers when creating your bibliography or citing sources within your paper.)

Start by creating cards for your general sources and then move to more specific sources. This is a good time to take notes on each source and look for quotes as well. Be sure to copy down quotes word for word and cite them accurately on your index cards. In the sources themselves, use sticky notes to mark relevant chapters or sections. For photocopied pages, you can use colorful highlighters to mark important information.

Next, organize your index cards according to topic. If you have several sources that provide the same information, discard the ones you won't need. Also, begin thinking about the basic layout of your paper at this point. Separate your cards into three stacks.

- The first stack will be for information that belongs toward the beginning of your paper.
- The second stack will be for material you plan to use toward the middle of your paper.
- The third stack will hold the cards you'll need to consult when writing the end of your paper.

Try using a color-coding system or symbols to keep your index cards organized. Just be creative and use a method that works easily for you.



Evaluating Your Information

After you've organized your sources, you'll need to check each one for relevance to your topic. This includes:

- checking the publication date (if possible, try to avoid using sources published more than 5 years ago)
- making sure each source contains supporting information

If you find a source that argues against your thesis, it may still be relevant to your paper. You can write a stronger paper by including differing points of view and defending your thesis. Sources that contain counterpoint material also help you determine how well your thesis holds up against arguments. If you find that your thesis is too weak, this is a good point in the writing process to rethink the focus of your paper. It would be much easier to rewrite your thesis than it would be to try and write an entire paper about an idea you're unable to support.

Once you've separated out the relevant sources, make sure the information they contain is reliable. As you review each source, ask yourself:

- *Is the author biased?* Does the author merely present her personal opinions without backing up her statements with facts or research? Does the author criticize certain ideas without giving solid reasons why those ideas are faulty? Have statistics been presented in a misleading way to further the author's opinion?
- *Is the source primary or secondary?* A primary source contains first-hand information. A secondary source restates material from a primary source. Occasionally, secondary sources reproduce quotes made in primary sources. Out of context, those quotes may take on different meanings, which affect their reliability. Whenever possible, use primary sources.

Remember that statistics can be manipulated. Even if information is presented as fact, you still need to evaluate it!



After evaluating your sources, keep only those that contain reliable information important to your topic. Then, set aside those index cards for sources you've decided not to use. Later, when you're sure you're not going to need those sources, you can discard them.

Creating an Outline

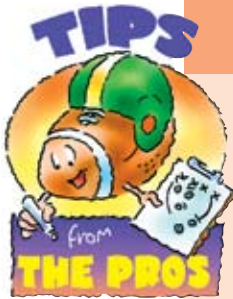
The next stage in the writing process is creating an outline. Your thesis statement can serve as the outline's introduction. This will help you stay focused on your main point as you write the rest of the outline. Another way to keep your writing focused is to write a brief conclusion. You can expand this conclusion later when you write the first draft of your paper.

Next, refer to your index card notes as you map out the body of the outline. If you're required to submit a title page, table of contents, appendix, or bibliography with your final paper, use simple one-line entries to note these items on your outline as well.

When deciding how to organize the body of your outline, think about your three different stacks of index cards.

- The cards in the first stack will provide you with material for the beginning of your paper.
- The cards in the second stack will be used for writing the middle.
- The cards in the third stack will provide information for the end.

As you write your outline, and even as you write your paper, you're free to move sections around and reorganize information. The purpose of having an outline is to give yourself a guide. But it isn't set in stone. An outline allows you to see the organization of your paper at a glance and make necessary changes before you begin writing your first draft.



ANATOMY OF AN OUTLINE

Follow these tips when creating an outline for your paper.

I. Creating an outline

A. Sections

1. Introduction (use thesis statement)
2. Body (consult index cards)
3. Conclusion
4. Other items (one-line entries)
 - a. title page
 - b. table of contents
 - c. appendix
 - d. bibliography

B. Organization

1. Use index cards to organize info in the body
 - a. beginning of paper (first stack of cards)
 - b. middle of paper (second stack of cards)
 - c. end of paper (third stack of cards)
2. Move sections around as necessary

Writing a First Draft

The first draft of your paper is just that—a draft. Don't worry about editing and polishing your writing at this point. There will be plenty of time for that later. The most important thing is to begin putting your ideas into sentences and paragraphs.

While writing the first draft, you'll develop the introduction and body of your paper. You'll need to begin keeping track of footnotes (if they are required by your instructor) and bibliographic references. You'll also expand on the brief conclusion you wrote for your outline.

Another important part of writing a first draft involves developing the tone you'll use throughout your paper. To do this, think about your audience. Is this paper intended for your instructor? Will you be presenting it to the rest of the class? To have a consistent tone in all sections of your paper, keep your audience in mind as you write.

Your outline will guide the process of writing a first draft. As you begin writing, however, feel free to make changes if the organization of your outline isn't working. If you use a computer to type your first draft, it will be easy to move sections of text. Just remember to save your work often! It's also a good idea to back up your writing on disk or by some other method.

The last step in writing your first draft is to put it away for a while. Depending on your schedule, this may mean 24 hours or several days. This gives your brain time to process what you've written. During the time you spend away from writing, you may think of ways to improve your paper. Whether you come up with the perfect introduction or a better way to state your conclusion, these ideas are valuable. Write them down so you can incorporate them later as you make revisions to your first draft.

Revising the First Draft

After you've given yourself some time away from your paper, you can begin writing the second draft. By this time, you should have a better idea of how the overall organization of your paper is working. If any big organizational changes need to be made, now is the time to make them.

Again, if you're working on a computer, remember to save often! Another helpful tip for computer users is to rename each draft (for example, Draft 1, Draft 2, Draft 3, etc.). That way, you'll always be able to refer to a previous version of your paper if you delete a section by mistake or if you decide to go back to your original organization plan.

The wheels in your head will keep turning even after you take a break from your paper. After you finish the first draft, put it away for a while and let your brain keep working.



With each draft, your paper should resemble more closely how it will look in its final stage. But how many drafts is enough? Reading your entire paper aloud is one way to help you notice parts that may need improvement. As you read, look at the following qualities:

- *Organization*. Does the overall organization make sense? Does the paper move forward in a logical and clear way?
- *Paragraph structure*. Does each paragraph have a main idea and supporting details? Does the paper include transitions from one paragraph to the next?
- *Sentence flow*. Do the sentences flow smoothly from one to the next?

As you consider how many times to revise your paper, also keep the due date in mind. Be sure to allow yourself enough time for editing.

Once you're satisfied with the body of your paper, it's time to create the title page, table of contents (page numbers can be inserted after your final edit), bibliography, appendix, and any other items required by your instructor. Then, have someone else read the paper—it's always a good idea to have a fresh pair of eyes look for anything you may have missed. Your reviewer can look at things, such as spelling, grammar, organization, logic, and any other elements your instructor may use to grade the paper. But keep in mind that any suggestions made by your reviewer are merely suggestions. In the end, you decide which changes to make to your paper.

Well, I'm satisfied with this paper. Now I just need someone else to review it.

Finalizing the Paper

The final stage in the writing process involves editing, formatting, and proof-reading your paper.

1. During editing, it's helpful to consult other resources, such as a dictionary, thesaurus, and an English grammar and usage guide. These resources should be available in the reference section of the library. As you edit your work, follow these guidelines.
 - Check the paper's tone to make sure it remains consistent.
 - Make sure terms are used consistently throughout the paper. For example, if you used *congestive heart failure*



in one paragraph, avoid changing it to *heart failure* in another paragraph if it refers to the same condition.

- Spell check your paper. Check any words the spell checker doesn't recognize (such as scientific terms).
 - Check your grammar. Make sure all singular subjects have singular verbs and all plural subjects have plural verbs.
 - Check your punctuation. All sentences should end with a period or other punctuation mark. All text in quotes should have both opening and closing quotation marks.
 - Check the spacing between lines of text. Most instructors require students to use double spacing to allow plenty of room for marks and comments.
 - Make sure the font size is appropriate (12 pt. font is standard).
2. The next step in finalizing your paper is formatting. Use the following tips as you format your paper.
 - Follow your instructor's formatting guidelines. If specific guidelines aren't provided, your instructor may require you to adhere to a particular style manual instead (such as the *Publication Manual of the American Psychological Association*). Style manuals can answer questions you may have about specialized terms and industry style and formatting standards. These resources also can be found in the reference section of the library.
 - Print a hard copy of your paper. Reviewing a hard copy will be easier on your eyes than looking at your paper on a computer screen. Additionally, formatting errors become much more visible in a printed copy.
 3. Take a short break before you begin the last step—proofreading. If you're too familiar with the text of your paper, your eyes might begin to skip over errors. By allowing yourself a break, you'll come back refreshed and ready to read your paper closely. Here are some proofreading tips.
 - Read your entire paper aloud (if possible).
 - Be on the lookout for any errors in punctuation or capitalization.
 - When you come across an unfamiliar word, look it up in the dictionary to check its spelling and meaning.

After this last step has been completed, you can hand in your final paper feeling confident about your work!

Participate—Group Projects

When group writing projects are assigned, your main focus should be on acting as a dependable teammate. Not only will you need to contribute quality written material, you'll need to offer your input to the rest of the group and complete your work on time.

As you learned in Chapter 2, study group members need to be *committed contributors* who are *compatible* with one another and *considerate* of each other. The same is true when working with a group of your classmates on a writing assignment.

1. First and foremost, everyone in the group needs to be committed to the project.
2. Second, each person is responsible for bringing something to the table by supplying ideas and written material.
3. Third, even if your instructor assigned you to work with a group of people you don't get along with, you should find a way to overlook your differences and focus on the project.
4. Finally, if everyone in the group makes an effort to speak politely and be considerate of each other's time, the project will go smoothly.



Critical Thinking—Why Is It So Important?

It's especially important for health care professionals to have solid critical thinking skills. When you think critically, you analyze information to form judgments about it. The information may be gathered from your observations, personal experience, reasoning, or communication. In your profession, you may be required to gather and analyze information and evaluate results on a daily basis. If you're able to think critically and make good judgments based on the information you can gather, you'll have a positive impact on your patients' health.

DIRECT YOURSELF TO LEARNING

Individuals who are successful in both school and the workplace have achieved their success by becoming self-directed



CRITICAL THINKING SKILLS IN THE WORKPLACE

My name is Derek. I've been working as a certified medical assistant for about a year now, and I've definitely had to put my critical thinking skills to the test! I work in a family practice office, so our patients are all ages and they come in for a lot of different reasons.

Last week, one of our patients made an appointment because he was experiencing abdominal pain. He arrived early for his appointment, and said he was still experiencing pain and that he was feeling nauseous, too. I could tell he was in obvious distress—his skin was pale and he was holding his stomach in pain. Even though his appointment time wasn't for another 20 minutes, I decided to take him back to wait in an empty exam room. Then, I gave the physician a heads-up about his symptoms, in case he needed to be examined right away. It's a good thing I did, because as it turned out, the patient had appendicitis!

learners. Being a self-directed learner means that you take responsibility for your own education. You've already read about several ways to accomplish this.

For example, if you're having a hard time understanding a particular concept in class, you can find other resources, ask your instructor for clarification, or meet with your study group. Although test scores are important, your main goal in school should be to learn the material. Being a self-directed learner means not only studying in order to do well on tests and quizzes, but also studying in order to store information in your long-term memory. It also means being able to apply that information to new situations once you become a practicing health care professional.

Likewise, successful professionals must be self-directed learners. Once you are no longer a student, you'll have to take even more responsibility for your own learning. This may mean keeping yourself up-to-date on the latest research by reading articles related to your field. Or it may mean requesting to observe a procedure you've been struggling to learn. In these cases, you should be aware of what you need to learn and how you can go about increasing your knowledge and improving your skills.

Regardless of your past experience as a student, you can achieve success now by becoming a self-directed learner. You have clearly chosen to be here today because of your motivation toward a particular career goal. Contrary to how you may feel at first, you *can* control a great deal of what you learn and how your educational experience will unfold.

Learning is a process. By understanding how the process works, you can begin to develop the learning skills you'll use as a student and later in your professional career.

Learning is a process. You have to start at the bottom and work your way up to the next level.

BLOOM'S LEARNING LEVELS

Cognitive learning, or critical thinking, occurs in several stages. Benjamin Bloom, a noted neuropsychologist, assigned names and descriptions to these stages in the 1950s.

- knowledge
- comprehension
- application
- analysis
- synthesis
- evaluation

Although other psychologists have developed new theories about critical thinking since the 1950s, most theories are similar to Bloom's. In other theories, the stages may be named or ordered differently, but their descriptions remain relatively the same.



Knowledge

During the knowledge stage of critical thinking, you memorize information and repeat it word for word. At this point, you don't necessarily have to understand the information to memorize it. Some examples of things you may need to memorize are:

- formulas in a math class
- people's names, addresses, and phone numbers
- simple instructions

Comprehension

In the comprehension stage of critical thinking, you're able to understand information enough to restate it in your own words. If you take effective notes during class, your notes should reflect your comprehension. You can accomplish this by:

- drawing charts and diagrams
- summarizing and paraphrasing information
- describing how concepts are related
- explaining the material to someone else

Application

During this stage, you use the information you've memorized and comprehended to accomplish a task. Examples of application include:

- using a mathematic formula to solve a problem
- using a rule or principle to classify information
- successfully completing a project by following directions

Analysis

Analysis involves taking information and breaking it into parts to understand how those parts are organized and related to one another. For example, when you read an article in a magazine, you first look at the different pieces of information presented. An author may provide several anecdotes to illustrate a single main point. Then, you analyze the different pieces of information by thinking about how they are related. How does each anecdote relate to the author's theme or main point? What message is the author trying to get across?

Synthesis

In the synthesis stage of critical thinking, you put your analysis to use by developing a new idea. In a sense, you take parts of information and put them together in a different way to form a new concept. This stage of learning is more creative than the others. It includes:

- building on the pieces of information contained in your notes and writing a paper or presentation
- forming a plan for conducting a lab experiment
- writing a poem or short story

Evaluation

During the last stage in the critical thinking process, you evaluate information. This means you use other methods, such as comprehension and analysis, to determine whether or not information has value or relevance. Evaluation can include:

- determining which conclusions are actually supported by facts and research

- judging the value of a work of art or a piece of writing based on specific standards
- determining the value and relevance of information presented in a textbook, lecture, or class discussion



- Avoid behaviors that can interfere with active listening.
- When listening actively, identify main ideas and pay attention to signal words.
- Make appropriate adjustments when you notice shifts in your instructor's teaching style.
- Schedule student-teacher conferences to ask your instructor for clarification, discuss your academic performance in a course, or learn more about your instructor's expectations of students.
- Use techniques to compensate for different lecture styles and become an active participant in your own learning process.
- Improve your ability to express yourself by speaking up during class and participating in group discussions with your peers.
- Develop good writing skills now for later use in a health care setting, such as writing accurate and concise reports in patient charts.
- Create detailed schedules to help you complete formal writing assignments properly and meet deadlines set by your instructor.
- Be a dependable team player when group writing projects are assigned. Participate by giving your input, completing your work on time, and being sure to contribute quality written material.
- Use critical thinking to assess and judge information before making a decision about the facts. By improving your critical thinking skills now, you'll have a positive effect on your patients' health once you become a health care professional.
- Become a self-directed learner by taking control of your education and reaching for your goals.

Remember, critical thinking is a tool used not just by students, but by health care professionals as well.



Review Questions



1. What are at least five behaviors that could be interfering with your ability to listen actively in class?
2. When gathering material for a paper, what are several sources of information you can use aside from the library?
3. Write a definition for critical thinking in your own words.

Chapter Activities

1. Critical Thinking Exercise: Review *Bloom's Learning Levels*. Draw a pyramid, set of stairs, skyscraper, or another image to illustrate Bloom's six levels of learning. Then, label each level and provide a practical example. For instance, a practical example for the lowest level of learning, knowledge, could be memorizing the definition of a key term and repeating it word for word.
2. Group Discussion: Begin with a warm-up exercise to get everyone participating. Think of something, aside from family and friends, that you value (such as a painting, CD collection, book, etc.). Then, in 1 to 2 minutes, share with the rest of the class what that object is and why it's important to you. After everyone has had a chance to participate in the warm-up exercise, discuss as a group several reasons why people may have a fear of public speaking. Why is the ability to speak up particularly important in a health care setting?