



# Learning Styles, Memory, and Test Taking

## *Making the Grade*

### *Objectives*

By the end of this chapter, you will be able to:

- Explain Gardner's Multiple Intelligences theory
- Describe your preferred learning style(s)
- Improve on a less well-developed learning style
- Select effective study strategies based on your learning styles
- Identify types of memory
- Use effective memory techniques
- Select strategies to improve your test-taking skills
- Develop strategies to interact positively with faculty

### *Why Learn This Skill?*

Students often start college without memory or test-taking skills and without knowing or understanding their own learning styles. Soon they realize they need to improve their skills in these areas, particularly test taking. Exams now are often more challenging: Instructors cover more material in less time, and they ask higher-level questions than many of us experienced in our lives before college. Also, in some classes, your entire grade may be based on only two or three exams.

Developing the skills and knowledge explored in this chapter will help you not only at school but in your career. Once you graduate, learning—and testing—does not end. You will have to learn (and sometimes memorize) new information and techniques for your work. To do so, it is important to gain a new level of self-awareness, particularly when it comes to how you learn and remember new information best.

## 5.1 Introduction

To begin the chapter, we will discuss learning styles. Once you better understand your preferred ways of learning, you can develop the memory and test-taking techniques that work best for you. After exploring learning styles and memory techniques, we'll conclude with effective test-taking strategies and ways to interact positively with faculty.

## 5.2 Learning Styles

Have you ever thought about how you learn? Each of us has preferred styles of learning. Understanding this preference can help make us even better learners. Let's begin by exploring your preferences in Exercise 5-1.

### Exercise 5-1 What Is Your Learning Style?

Answer the following questions regarding your preferences. Remember, there are no right or wrong answers. These questions are designed to evaluate your preferred methods for learning and studying. (Note: If you're a new student and haven't spent much time in a classroom recently, you may have difficulty answering some of these questions. Just put the answer that you think would most closely apply to you.)

1. I prefer classes with
  - a. Lectures
  - b. Visual aids, such as slideshows and videos
  - c. Labs and other hands-on activities
2. I like to learn from teachers who
  - a. Lecture for most of the classes
  - b. Provide handouts, write on the board, and use other visual cues
  - c. Interact with the class and promote group work
3. When I read, I tend to
  - a. Read out loud or start to move my lips as I read
  - b. Highlight or underline main points, using different colors
  - c. Get bored or become restless easily
4. When taking notes, I benefit from
  - a. Recording the class so I can listen to any lecture material again
  - b. Organizing the material in a visually clear and appealing way
  - c. Sitting near the front of the class so I don't get distracted
5. To memorize material, it is best if I
  - a. Recite it out loud a number of times
  - b. See it written down and review it repeatedly
  - c. Use mnemonics (memory aids) or write it out
6. I concentrate best in an environment that
  - a. Is quiet
  - b. Is organized and neat
  - c. Has limited activity around me
7. When studying for a test, I benefit from
  - a. Discussing the material
  - b. Organizing the material in outline or chart form
  - c. Practicing concepts in a hands-on way
8. To learn something, I need to
  - a. Hear it
  - b. See it
  - c. Practice it
9. I understand instructions best
  - a. When someone explains them to me out loud
  - b. When they're written clearly, perhaps with diagrams or charts
  - c. If I can do it myself
10. In class, I like to sit
  - a. Anywhere—it really doesn't matter as long as I can listen to what's going on
  - b. Near the front, where I can see the board or slides
  - c. Near an exit, so I can get up if needed

*(continues)*

## Exercise 5-1 What Is Your Learning Style? (cont.)

### Assessment

There are three primary learning styles:

- **Auditory:** If most of your responses were “a,” your dominant learning style is auditory. **Auditory learners** understand material best by listening. They tend to like lecture classes. If they need directions to get somewhere, they prefer spoken directions to maps or written directions. Sometimes they like to record classes. (Be careful: Sometimes recording can make students less attentive during class if they think they can just listen to the file later; and always get your instructor’s permission to record.)
- **Visual:** If you answered mostly “b,” you may be primarily a visual learner. **Visual learners** understand material best by seeing it. They tend to be organized readers and notetakers, and they like to highlight or write notes in different colors. These strategies can help them to remember material better. If you’re a visual learner, you might get frustrated if a teacher doesn’t write on the board much or provide written directions. You benefit from sitting near the front of the class so you don’t miss any visual aids.
- **Kinesthetic:** If you answered “c” most of the time, you are a *tactile*, or **kinesthetic learner**. In other words, you like to learn by doing. You might find yourself getting restless during lectures, and you may tend to prefer classes with lab work, group activities, and fieldwork.



Which learning styles are represented?

### 5.2a Working with Your Learning Style

Although it is likely that you have one dominant learning style, you probably had answers in all three (or at least two) of the areas. That’s because most of us use a combination of learning styles, and rightly so. Just as there are many ways to learn, there are many ways to teach, and students have to be able to adapt to all of them. You will use similar adaptation strategies in the workplace (and probably have already) when you have supervisors or colleagues with different approaches to working and learning. So, what do you do with this knowledge of your learning style? You can use it to adapt to challenging classroom situations.

**Auditory Learners** In addition to using visual materials, perhaps you can record material. Caution: Be selective about recording class lectures. Many students record lectures and, because they know they’ll have a recording to go back to later, they zone out during class. You may think, “I’m tired, and I don’t have to pay attention—I can just go back and listen to the recording later.” Unfortunately, “later” may never arrive. Also, you should always ask permission of your instructor to record their class.

A better idea might be to record your own study materials. For example, if you have to learn some new vocabulary terms, record yourself saying each term and its definition and listen to them on your commute to school (or while going to class or while on the treadmill at the gym). Studying in groups and discussing material with fellow students can be helpful as well.

**Visual Learners** You might have difficulty with a lecture class that provides few visual cues, such as board work, slideshow presentations, or diagrams. In addition, you might struggle a bit to organize your notes. Find creative ways to write and organize your notes, such as color-coding or using concept maps (demonstrated later). It can be helpful to rewrite your notes within a day of the lecture so you get additional visual reinforcement.

**Kinesthetic Learners** With your preference for movement and hands-on learning, you should incorporate movement into your studying. Moving a bit while you study and taking regular breaks can be helpful. You might want to alternate active study tasks (writing a paper, doing math homework, completing a lab assignment) with your reading assignments.

Remember, you might have one dominant learning style (or possibly two), but you have the capacity to use all three. Most successful students do. Do Exercise 5-2 to improve one of your less well-developed learning styles.

### Exercise 5-2 Improving a Learning Style

Just like an athlete must have a “balanced game” and work on his or her weaker skills, so must a student to thrive in different learning environments.

Write in your least developed learning style from Exercise 5-1.

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Now, develop a specific action plan to strengthen this learning style.

**Action Plan:**

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## 5.2b Gardner's Multiple Intelligences

Do you have a preference between following a map or following written directions to get to a new destination? Do you enjoy math and science classes more than English and literature, or vice versa? Are you praised as a good listener, or do you tend to shy away from groups?

Your responses to these questions provide insight into the various intelligences you possess. That's right—*intelligences*, plural. Howard Gardner, a university professor, developed a theory of **multiple intelligences**. Basically, he argued that we have different types of intelligences and, within each person, some intelligences are better developed than others. If you are a student who prefers math and science classes over English, you have a well-developed logic/math intelligence. If you communicate well with others, your interpersonal intelligence is better developed.

Please do *not* take any of this to mean that if you struggle in an area, you cannot improve because of your intelligence. We have heard countless students say things like, “I don’t have a mind for math” or “I’ll just never understand chemistry.” Rather than give up, most students need to work on these areas and take steps to develop these skills, perhaps by using what they are already good at.

-  1. **Linguistic Intelligence** Someone with strong *linguistic intelligence* is good at using and understanding *language*. Writers, public speakers, and lawyers typically have great linguistic intelligence.
-  2. **Logical/Mathematical Intelligence** Someone with *logical/mathematical intelligence* works well with *numbers* and *systems*. Scientists, accountants, computer programmers, and mathematicians rely on this type of intelligence.
-  3. **Musical/Rhythmic Intelligence** Someone with *musical/rhythmic intelligence* can recognize *patterns* and *rhythms* with relative ease. Musical performers and composers are the most obvious examples of people who have this type of intelligence.
-  4. **Bodily/Kinesthetic Intelligence** Someone with *bodily/kinesthetic intelligence* often does something *physical* to solve a problem or to learn. Examples include athletes, firefighters, and performance artists.
-  5. **Spatial Intelligence** Someone with *spatial intelligence* is good at imagining and understanding the *three-dimensional world*. Airplane pilots and engineers rely on spatial intelligence in their work.
-  6. **Naturalist Intelligence** Someone with *naturalist intelligence* understands the features of and differences among *living things* and the *natural world*. Farmers, foresters, and others who work outdoors and with animals demonstrate naturalist intelligence.

### Multiple intelligences

A theory by Howard Gardner that we each have many different types of intelligence, some of which are more developed than others

## Food for Thought

We Learn:

10% of what we read  
20% of what we hear  
30% of what we see  
50% of what we both see and hear  
70% of what is discussed with others  
80% of what we experience  
95% of what we TEACH to someone else

— Adapted from “A Word About Study Groups and Active Learning” by Edgar Dale from *Audio-Visual Methods in Teaching*, Second Edition, Austin, TX: Holt McDougal, 1963.

Although some may argue the percentages, the general concepts are still true today based on what research on learning has shown. The more senses you can involve in the process, the more you will learn. Therefore, text illustrations, website animations, and videos enhance the learning process. Lab experiences and interactive games and exercises will also increase learning.

Group or study discussions are highly beneficial. Effective study groups can help you in achieving academic success. An excellent method for learning material is to explain concepts to each other. If you have to teach the group a concept, you will really learn what it is all about. *You'll soon learn that there is no better way to learn something than having to teach it to someone else.*



7. **Intrapersonal Intelligence** Someone with *intrapersonal intelligence* has strong *self-awareness*. Those with intrapersonal intelligence are very aware of their own strengths and weaknesses and often work at self-improvement. Researchers and philosophers demonstrate this intelligence.



8. **Interpersonal Intelligence** Someone with *interpersonal intelligence* understands and relates well to other people. Educators, politicians, counselors, health-care professionals, and salespeople demonstrate interpersonal intelligence.

Applying Gardner's theory means using as many intelligences as possible when learning or teaching new information. For example, when learning about interest rates for borrowing money, you could read about it (linguistic), do mathematical problems (logical/mathematical), construct graphs (spatial), make up a song (musical), relate it to your personal finances (intrapersonal), discuss it with a group (interpersonal), and physically demonstrate with real money (kinesthetic). You don't have to use all eight to learn a concept, but the more intelligences you use, the better you will understand the material. Find out what intelligences are strongest for you in Exercise 5-3.

### Exercise 5-3 Test Your Intelligences

Put a checkmark by those words or phrases that most closely describe you and then add up the total for each category.

#### Linguistic/Verbal Intelligence

\_\_\_\_\_ I am an effective communicator.  
 \_\_\_\_\_ I enjoy reading.  
 \_\_\_\_\_ I enjoy writing.  
 \_\_\_\_\_ I like word games.  
 \_\_\_\_\_ I like learning new words.

\_\_\_\_\_ Total

#### Logical/Mathematical Intelligence

\_\_\_\_\_ I like to discuss things logically.  
 \_\_\_\_\_ Math comes easily to me.  
 \_\_\_\_\_ I like science classes.  
 \_\_\_\_\_ I enjoy logic puzzles.  
 \_\_\_\_\_ I like to understand how things and systems work.

\_\_\_\_\_ Total

#### Musical/Rhythmic Intelligence

\_\_\_\_\_ I love music.  
 \_\_\_\_\_ I keep time with music.  
 \_\_\_\_\_ I create rhymes to remember things.  
 \_\_\_\_\_ I play music in my head.  
 \_\_\_\_\_ I notice when someone sings or plays off key.

\_\_\_\_\_ Total

#### Bodily/Kinesthetic Intelligence

\_\_\_\_\_ I like to exercise or play sports.  
 \_\_\_\_\_ I prefer a hands-on approach to learning.  
 \_\_\_\_\_ I enjoy lab classes.  
 \_\_\_\_\_ I learn by doing.  
 \_\_\_\_\_ I get restless easily.

\_\_\_\_\_ Total

(continues)

### Exercise 5-3 Test Your Intelligences (cont.)

#### Spatial Intelligence

- \_\_\_\_\_ I can draw things to scale.
- \_\_\_\_\_ I understand how parts fit into a whole.
- \_\_\_\_\_ I understand charts and diagrams.
- \_\_\_\_\_ I understand cause and effect.
- \_\_\_\_\_ I enjoy figuring out how things work.
- \_\_\_\_\_ Total

#### Naturalist Intelligence

- \_\_\_\_\_ I love spending time outside.
- \_\_\_\_\_ I am realistic.
- \_\_\_\_\_ I enjoy nature.
- \_\_\_\_\_ I learn well in a “real-world” setting.
- \_\_\_\_\_ I prefer not to be indoors.
- \_\_\_\_\_ Total

#### Intrapersonal Intelligence

- \_\_\_\_\_ I need privacy.
- \_\_\_\_\_ I have strong self-awareness.
- \_\_\_\_\_ I am reflective.
- \_\_\_\_\_ I question things.
- \_\_\_\_\_ I am selective about friendships.
- \_\_\_\_\_ Total

#### Interpersonal Intelligence

- \_\_\_\_\_ I am communicative or talkative.
- \_\_\_\_\_ I am understanding.
- \_\_\_\_\_ I love spending time with others.
- \_\_\_\_\_ I am cooperative.
- \_\_\_\_\_ I enjoy talking things over with friends.
- \_\_\_\_\_ Total

What are three of your stronger intelligences?

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Now identify your most challenging course this semester: \_\_\_\_\_

Name three ways you can use your stronger intelligences to achieve success in this course:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

## 5.3 Aiding Your Memory

Although the purpose of education is to encourage thinking skills rather than memorization, memory is still important. The best way to measure what a student has learned is to test them on what they can remember. Therefore, a good memory makes it easier to succeed. Your memory can be broken down into *short-* and *long-term memory*. Things that are happening now or that have happened recently are stored in short-term memory. These memories aren't around for very long. For example, you can probably remember what you ate for lunch yesterday, but you might not remember what you ate for lunch this time last week. Long-term memory, as the name implies, stores experiences and knowledge for months, years, or even decades. Ideally, what you learn in school will be stored in long-term memory. To make sure you're using long-term memory storage, *focus* on the material and *engage as many senses* as you can while learning it. This is why effective discussion and study groups help long-term memory and test performance. Test your memory in Exercise 5-4.



## Exercise 5-4 Test Your Memory

Time yourself for one minute and try to memorize the following food items. Then, try to recite them from memory.

Meat loaf	Eggplant parmesan	Jam	Iced tea
Grapefruit	Kiwi	Lemonade	Hummus
Burrito	Frankfurters	Diet soda	Cherries

Were you able to memorize and recite them all? \_\_\_\_\_

If not, don't worry. This seemingly random list of foods would be hard for anyone to memorize. For one, the list is a little long. Also, some of these items might be more familiar to you than others. Finally, these foods don't necessarily "go together"—they aren't connected by anything in particular other than being edible. All these factors would make these items harder to remember.

At times, we all have to memorize information. The key is to have a system for memorizing things and it is even more important, to make sure you *understand* what you were meant to learn rather than simply being able to repeat it. Returning to Exercise 5-4, take the same items and place them in alphabetical order and in groups of three:

burrito, cherries, diet soda

eggplant parmesan, frankfurters, grapefruit

hummus, iced tea, jam

kiwi, lemonade, meat loaf

This memorization technique is called clustering, or grouping.

### 5.3a Grouping

There's a reason our phone numbers are written 555-1234. The dash in the middle helps make it easier for us to remember the numbers! Rather than remembering them all in one chunk, we can more easily remember two smaller groups of numbers (555 and 1234).

In the case of our food list from Exercise 5-4, we first grouped the items in alphabetical order and in clusters of three. We can also group the items by category:

*Main course:* burrito, eggplant parmesan, frankfurters, meat loaf

*Fruits:* cherries, grapefruit, kiwi

*Drinks:* diet soda, iced tea, lemonade

*Spreads:* hummus, jam

### 5.3b Mnemonics

Another effective memorization technique is the use of **mnemonics**, which are words, rhymes, or other devices that aid your memory. For example, did you ever have to memorize the names of the eight planets in order (Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune)? If so, perhaps you heard this mnemonic (or a similar one):

**My Very Educated Mother Just Served Us Nachos.**

#### Mnemonics

Words, rhymes, or other devices that help you remember



This type of mnemonic is known as an **acrostic**: You take the first letter of every item to be memorized and form a sentence that will help you to remember vocabulary, terms, or concepts, especially when those items should be remembered in a special order.

Another mnemonic device is an **acronym**, which is like an acrostic. Acronyms are words or abbreviations formed from the first letters of the terms you need to memorize. For example, the ABCs of CPR remind you to A establish **A**irway, B rescue **B**reathing, and C establish **C**irculation. This mnemonic helps you to remember the steps and their proper order in a life or death situation. Another classic mnemonic is the word HOMES to memorize the names of the Great Lakes (Huron, Ontario, Michigan, Erie, and Superior). See Figure 5-1 for an illustration of the ABCs of CPR acronym. Can you think of any others?

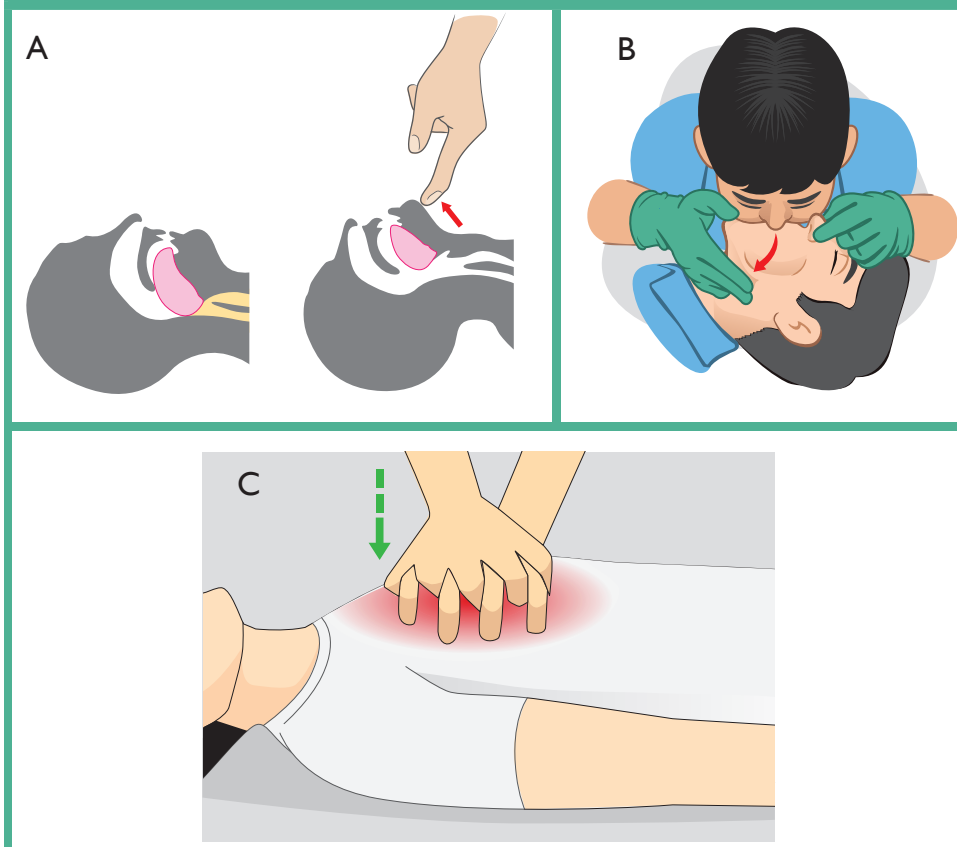
### Acrostic

Traditionally, when the first letter of each line of a poem or other written work together spell out a word; also when you take the first letter of each word you want to memorize, often in a specific order; and use them to create a sentence where all the words start with those initial letters

### Acronym

When you take the first letter of each word you want to memorize and put them together to form an abbreviation or new word

**Figure 5-1** An acronym and illustration of the ABCs of CPR



Rhymes are also helpful mnemonic devices. “In 1492, Columbus sailed the ocean blue.” Many students in the United States are familiar with this age-old mnemonic. Formulas that appeal to your sense of logic can also help memory. For example, “Spring forward, fall back” helps us adjust our clocks accordingly for daylight saving time. You can also make up silly stories to help remember facts. In fact, the sillier the story, the easier it can be to remember. Try your hand at mnemonics in Exercise 5-5.

### Exercise 5-5 Working with Mnemonics

Take the following list of animals: tiger, eagle, aardvark, snake. Create mnemonics to remember the items on the list. Use at least two of the strategies described under the mnemonic section.

#### Action Plan:

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## 5.4 Taking Exams

One area that concerns most students is how to do well on exams. Developing your personalized test-taking strategies will improve your end results. However, let's start with an initial assessment of your test-taking skills in Exercise 5-6.

### Exercise 5-6 Assess Yourself: *How Good Are You at Taking Tests?*

Check all that apply to you:

- ☐ I feel prepared when I go to take an exam.
- ☐ I study at least four or five days in advance for an exam.
- ☐ I use hands-on strategies such as writing answers from study guides and predicting and answering test questions.
- ☐ I feel calm, if not confident, when I take an exam.
- ☐ I finish exams without feeling rushed.
- ☐ I rarely get an exam back only to see that I missed questions I actually knew the answers to.
- ☐ I use my own strategies for taking exams.
- ☐ I have strategies for taking multiple-choice exams.
- ☐ I have strategies for taking essay and short-answer exams.

- ☐ I keep old exams (when I have the option) to use as study tools later.
- ☐ Total number of items checked

**Evaluation:** If you checked nine or ten items, you're pretty good at taking tests. A total of seven or eight items means you're doing all right, but this chapter will definitely help you. A total of five to six items indicates you would greatly benefit from the techniques in this chapter. A score of four or fewer checked items shows that you have a lot of work to do. Regardless of your score, most of us can improve our test-taking strategies. You should address any unchecked item with a strategy for improvement.

## 5.4a Active Test-Taking Strategies

Just as there are active reading, listening, and studying strategies, there are also active test-taking strategies. Do Exercise 5-7 to assess your current strategies.

### Exercise 5-7 What Test-Taking Strategies Do You Use?

In which class have you most recently had an exam?

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Identify the strategies you used to prepare for the exam:

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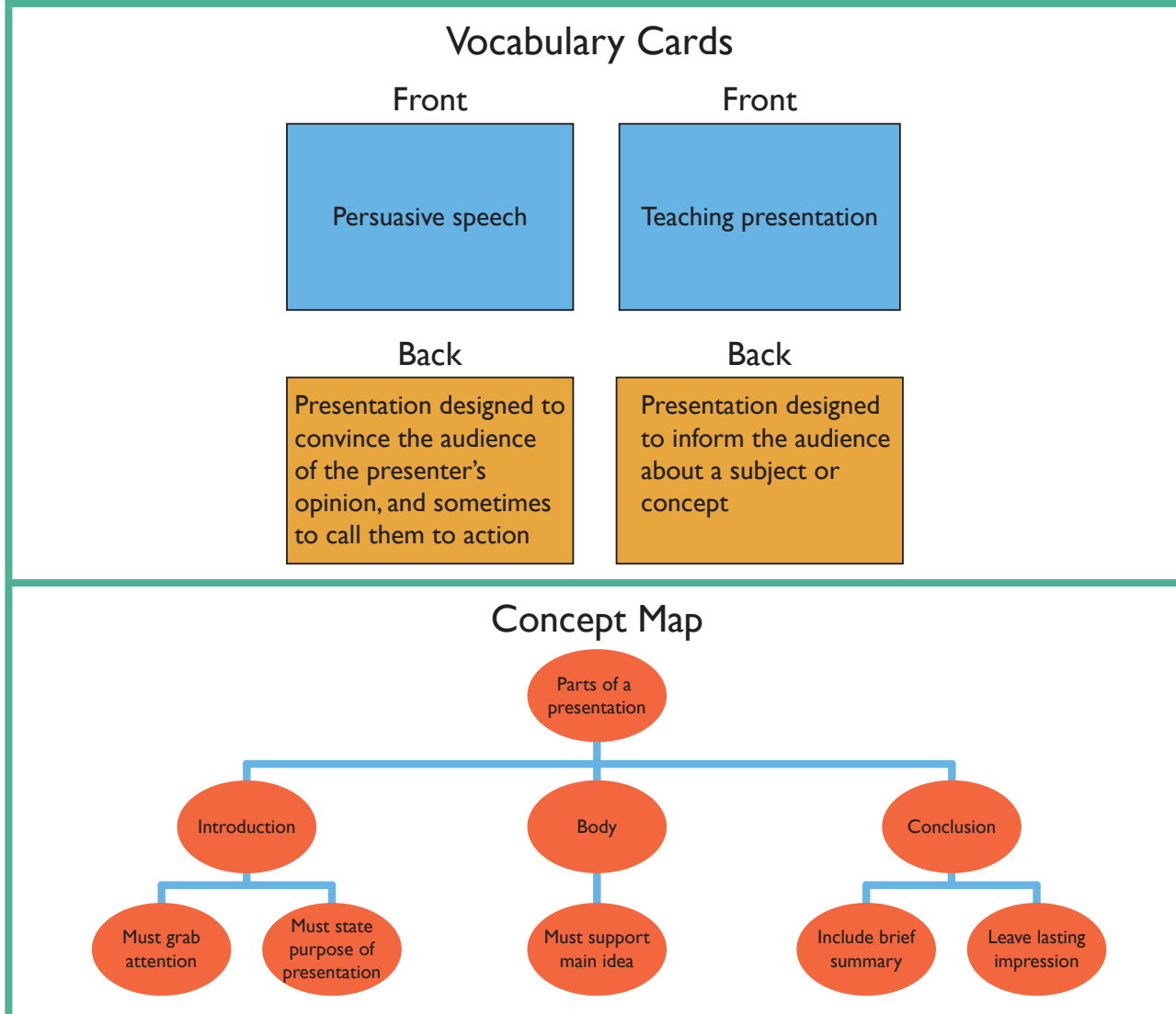
For Exercise 5-7, most students might provide the following answers: “I looked over my notes” or “I read the textbook.” These strategies will only get you so far, even if you feel they worked for you in the past. It’s better to use active strategies, which require you to do more than just “look at” or “read over” materials.

*Active* study strategies require you to *write* and *rehearse* materials—for example, by constructing flash cards and reviewing them—rather than merely “looking at” notes and other materials. The following are some examples of active strategies:

- Creating flash cards, problem/solution cards, or vocabulary cards (see Figure 5-2)
- Developing your own study guide
- Studying in small groups
- Outlining your chapters
- Drawing concept maps (see Figure 5-2)
- Creating charts or tables using the material
- Developing your own practice questions or mock exam

Developing these study materials and reviewing them at least a week before the exam will help you do well and can also help your stress levels because you will have a greater feeling of control. Use three or more different active strategies, preferably a week or so in advance, to prepare for your next exam.

Figure 5-2 Example of vocabulary cards and a concept map



### 5.4b Before an Exam

To reduce test anxiety, there is no substitute for simply being prepared. Preparing properly and using good study habits should help with how nervous you feel on test day. However, it is normal to have some anxiety about taking an exam, no matter how much you have prepared.

Begin to study at least a week before an exam, and schedule study time each day. Make sure you study all the material. Sometimes it is tempting to do what's comfortable and focus on the material you already know well instead of what is challenging. It is certainly important to study material you already "know" because *overlearning* (continuing to review material even once you know it) will help you do well on the test even if you're nervous. However, students sometimes avoid studying material they don't know as well, which is a mistake. Don't avoid difficult topics or ignore feelings of frustration and confusion. Seek assistance from your teacher, tutors, and classmates.

### Exercise 5-8 Exam Action Plan

In the previous exercise, we asked you to reflect on a recent exam. Now we ask you to look to the future. Name a course in which you will have an exam soon.

Course: \_\_\_\_\_

If you know the date of the exam, write it here: \_\_\_\_\_

Which strategies do you think will be most helpful in preparing for this exam? The answer depends on you. For example, some students like to use flash cards, while others prefer outlines. The key is to use *active* rather than passive strategies and to use more than one strategy. For this next exam, commit to using three active strategies. Write them here:

#### Exam Preparation Strategies

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Use time management strategies to prepare for your exam. Set aside time each day on your weekly and daily schedules to study. If you're a full-time student, you may notice that exams seem to happen all at once. It is common to have no exams one week and several exams the next. Time management is key to making sure you can prepare for all of them. Exercise 5-9 can help.

### Exercise 5-9 Prepare a Schedule to Study for an Exam

Write down a subject for which you have an upcoming exam: \_\_\_\_\_

How many days do you have to prepare for the exam? \_\_\_\_\_

In the space provided, write down tasks you will complete each day leading up to the exam. These tasks can include studying particular materials, re-marking information in your text, completing practice tests, and so on.

**Name and date of exam** \_\_\_\_\_

Date:	Tasks:
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Now review the tasks in the right column. Have you covered all the exam material? Have you missed anything that may be on the exam? Have you given yourself enough time to learn more difficult material without forgetting about the easier concepts?

## 5.4c During an Exam

Your strategies do not end once you begin taking your exam. Several strategies can be used during an exam to maximize your chance of success. These strategies begin with time management and include determining what kind of exam you will be taking.

**Time Management Revisited** Arrive at the exam a few minutes early so you don't feel rushed. Pace yourself during the exam: Allow enough time to complete each section, but don't take so long that you run out of time and don't complete the entire test. If you finish early, use the extra time to review your answers. However, be cautious about making changes if you're not sure. It is usually a bad idea to change answers unless you know with 100 percent certainty that your original response was a mistake. More often than not, when students change answers, it turns out they had the right answer to begin with. Trust your gut.

**Where to Start** Some people develop their own test-taking strategies. For example, they may do all the easy questions first and then return to the more difficult ones. Make sure you mark the questions you skipped or you may forget to return to them. Finally, do not destroy your old exams: Keep them and learn from them!

### Objective exam

A test where your answers are either right or wrong, including multiple-choice questions, true or false questions, and other items where your answers are either correct or incorrect

**Hints for Objective Exams** An **objective exam** involves questions with definite right or wrong answers. Types of objective exams include multiple choice, true or false, matching, and other tests where the questions have answers that are either correct or incorrect. When taking objective exams, be sure you understand all the directions. Usually, your first idea about the answer is your best. Here's one good technique for multiple-choice questions: Read the question, but cover the options with your hand or a piece of paper. Answer the question in your head before looking at the options; then select the option that most closely matches the answer you came up with. Be aware of *qualifiers* in the question. These are words like *all*, *most*, *none*, *never*, and *mainly*. If the question asks if something is *always* true, the answer might be *no* even if that thing is *sometimes* true. For example, does March 1st *always* follow February 28th? The answer is *no* because during a *leap year*, February 29th would follow the 28th. These words are very important when it comes to figuring out the right answer.

### Subjective exam

A test where your answers will be judged on more than whether they're right or wrong, including essay questions, where *how well* you make your point can be as important as whether you are correct

**Hints for Subjective Exams** A **subjective exam** can involve short-answer and essay questions, and is a test where *how* you answer can be as important as *what* your answer is. When taking subjective exams, plan your time. Questions asking for longer answers won't just take longer, they'll probably be worth more points as well, so plan accordingly. For short answers, stick to the main points that directly answers the question. Essays require more writing and usually more work. It almost always helps to take a few minutes and do some *prewriting*: Sketch out information you need to include, perhaps in an informal outline. You can then concentrate on writing without worrying that you'll forget important information. Organization is important in writing for exams. Look to the question for clues as to format. For example, essays often involve comparing and contrasting (see Exercise 5-10). For this type of essay question, first compare (write about similarities between the concepts) and then contrast (write about their differences). Here are some other key words that you will find in exam questions:

- **Explain** This means you need to *demonstrate your understanding*.

- **Define** This means you need to *provide a definition and precise description of a term or concept*.
- **Discuss** This means you need to *consider possible points of view on a topic, usually more than one*.
- **Summarize** This means you need to *present the main points of a topic*.
- **Argue** This means you need to *present an opinion in an informed way* (you need to back your opinion up with facts or information from other sources).
- **Compare** This means you need to *identify similarities*.
- **Contrast** This means you need to *identify differences*.
- **Apply** This means you need to *use a concept or show how it can be used*.

Some additional hints on essay exam questions:

1. Choose a title for your essay even if you don't use it. This helps to focus your thoughts and narrow your response.
2. Outline or map your response before you write it.
3. Make sure you have a good introduction, a body that supports your answers, and a strong conclusion.
4. Proofread your answers for spelling, grammar, sentence structure, etc.
5. Make sure you write clearly! If you make the instructor work harder to read and grade your paper, it usually means point deductions.

### Exercise 5-10 Planning an Essay during an Exam

In this exercise, you'll practice writing informal outlines for essay questions. Compare your outlines with ones written by a classmate. Would this material satisfy the requirements of the essay?

Example from an Introduction to Literature course: Compare and contrast the modern and postmodern periods of American literature.

Introduction → Similarities between modern and postmodern periods. (Comparison) → Differences between modern and postmodern periods. (Contrast) → Concluding thoughts.

Now provide your own essay exam outlines for these possible exam questions from the content in this chapter:

1. Define and describe the three primary types of learning styles discussed in this chapter.

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2. Define the various types of memories and provide three or more examples to illustrate how you can use memory aids within your study strategies.

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3. Compare and contrast objective and subjective test-taking strategies.

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Which question(s) asks you to consider differences and similarities? Which question(s) asks you to describe a concept? Which question(s) asks for specific examples to illustrate your point? The same structure will not work for each essay. You have to consider the kind of question being asked.



## 5.4d After an Exam

After an exam, some students eagerly look up the answers to questions they think they might have missed. Others avoid doing this, not wanting to face the facts. Regardless, many students do not take advantage of post-exam strategies that can enhance their learning over the long term.

### Food for Thought

Remember that a little bit of stress is good; it can get you geared up for the test. However, if during the test you start to feel yourself losing it, take a moment to refresh, recharge, and refocus. Simply close your eyes and take a slow, deep, cleansing breath and visualize the bad stress leaving as you exhale. This relaxation technique can calm your mind enough to refocus on the task at hand.

Whether or not you did well on an exam, you should note the items you answered easily as well as those you struggled with or missed. This information will help if you have a comprehensive final or if the material comes up in other courses.

Right after an exam, evaluate the strategies you used. Did you spend enough time studying? Did you study everything you needed? Are there particular content areas where you were stronger (or weaker) than others?

## 5.4e If You Did Poorly on an Exam

When one of your instructors returns an exam, take note of the types of questions you got right and those you answered incorrectly. Look at the areas where you did poorly. Were there particular ideas or sections that you got wrong? Were there specific areas where you could have studied harder? In addition, look at the types of questions you missed. If you struggled with particular types of questions, your instructor may be able to give you some suggestions for studying next time.

Psychologist Benjamin Bloom identified six types of test questions. **Bloom's taxonomy** provides a helpful framework for many students as tests become more advanced and complex. After you read about the method, do Exercise 5-11 to practice it.

Finally, if you do poorly on an exam, take the time to meet with your teacher. Reviewing the exam with your instructor may help you to improve in the future. Most instructors have office hours when they are available to meet with students. Many students do not take advantage of this opportunity. Showing positive concern about your performance on the exam will show that you care about your academics, as long as you make a good impression and avoid making excuses or coming off as defensive.



# Bloom's Taxonomy

## Six Types of Test Questions

**Knowledge:** These questions typically only require you to *recognize* information, like on a multiple-choice test.

**Example:** SMART stands for:

- a. Specific, Measurable, Achievable, Realistic, Time-bound
- b. Standard, Measurable, Action-oriented, Repeatable, Time-bound
- c. Specific, Measurable, Approachable, Reasonable, Targeted

**Comprehension:** Similar to knowledge, comprehension questions require you to remember information.

**Example:** People with emotional intelligence

- a. Manage their emotions well
- b. Are geniuses
- c. Are overwhelmed by their feelings

**Application:** This type of question requires that you apply what you have learned to a new situation.

**Example:** It's your first day at a new job and your boss hands you a list of tasks to complete. What organization and time management techniques can you use to ensure they all get done?

**Analysis:** Analysis questions require you to break a complex system or process into its parts.

**Example:** What are the parts of the Cornell method and how do they work together for effective note-taking?

**Synthesis:** Synthesis questions, like analysis, are often found in essay questions. Here you bring information and ideas together from different sources.

**Example:** This text has walked you through how to improve your stress management, attitude, and handling of resources (like time and money). How do these areas affect *one another* positively or negatively?

**Evaluation:** An evaluation is an informed opinion, "informed" being the key word. You have to explain your opinion by backing it up with information from the course.

**Example:** Are mnemonics a helpful tool for studying?

You might see all six of these types of questions on one exam or over the course of one course, but often, courses and professors will use one or two types more than the rest. As you take an exam, try to note the types of questions being asked.

### Exercise 5-11 Applying Bloom's Taxonomy

Take another look at a course in which you will soon have an exam. Write a question for each area of Bloom's taxonomy based on material from that course. You'll gain a better understanding of the types of test questions, and you'll have the beginnings of a study guide.

Knowledge Question: \_\_\_\_\_

Comprehension Question: \_\_\_\_\_

Application Question: \_\_\_\_\_

Analysis Question: \_\_\_\_\_

Synthesis Question: \_\_\_\_\_

Evaluation Question: \_\_\_\_\_

### 5.4f Faculty and Student Interaction

Positive communication with your instructor is important for your success. You can *interact positively* in several ways. For example, sitting near the front of the room, showing a genuine interest in the class, and actively participating in classroom discussions will go a long way toward establishing a good relationship with your teacher. Instructors are willing to help, but most expect you to be the one to ask for assistance. Don't be afraid to make an appointment or meet with faculty during office hours to discuss your concerns. Be sure to prepare by coming up with specific questions. Here are ten things instructors are looking for in a student:

#### Top 10 Qualities of Successful Students

Successful students...

1. Have a positive attitude
2. Actively participate in class
3. Are willing to learn and work hard
4. Take responsibility for their behavior and their learning
5. Have creative problem-solving abilities
6. Are dependable (they have good attendance and are on time)
7. Are respectful
8. Have the ability to work well with others
9. Have effective communication skills
10. Make education a priority

How many would your instructor check off about you?



A positive faculty and student interaction will enhance the learning process and your academic performance.



## Healthy Decision-Making

Mary knows she has a strong preference for visual learning and scored high on musical intelligence. However, one of her classes is all lecture with no slides and very little written on the black-board. Mary feels there is a lot of information to know in this course but is finding it difficult to retain it. What suggestions would you have to help Mary succeed in this course?

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