

# MEMORY

**Concentration**

**Recall**

**Memory Tips**



# MEMORY AND LEARNING

Cognitive learning theory pictures the brain as an information processing unit. The theory states that the mind is constantly interfacing with its environment; establishing concepts which are expanded and modified with knowledge, which in turn modify the knowledge gained.

There are two kinds of memory: short-term and long-term memory. Short-term memory is used when we look a number up in the phone book and remember it only long enough to dial it. Long-term memory is the memory needed for school work. We need to remember the information for a quiz next week, for the final exam at the end of the semester and perhaps in our profession for the rest of our lives. The way to activate long-term memory is by repetition.

There are several processes by which information is transferred from short-term memory to long-term memory.

## ROTE LEARNING

This is repetition of information in the form it was acquired. Information learned like this is often learned in a fixed order. It is an inefficient way to learn large quantities of material.

## ELABORATIVE REHEARSAL

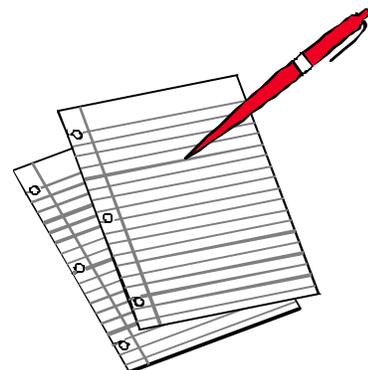
More than simple repetition, this is a thinking process. It involves connecting new material with already learned material, asking questions, and making associations in order to make the material meaningful.

## RECODING

This is a process of rearranging, rephrasing, changing or grouping the material so that it becomes more meaningful and easier to recall. Expressing ideas in your own words, outlining and summarizing are some of these techniques.

*It has been said that we remember:*

- 10 percent of what we read (passive)
- 20 percent of what we hear (passive)
- 30 percent of what we see and hear (passive)
- 70 percent of what we say and write (active)
- 90 percent of what we say as we do (active)



## CONCENTRATION

Set goals for yourself. Before you begin to read or study, decide what you intend to accomplish during that session and about how much time it will take. You might write these on paper and keep it in front of you. By having specific goals to meet, you may find that you feel more like working and you will be less inclined to waste time thinking about other things. For an evening of reading or studying, you might write goals like this:

- a) Complete math problems.
- b) Write rough draft of English paper.
- c) Review psychology notes.

**Read with a purpose.** It increases your comprehension and retention, but it also helps you keep your mind on what you are reading. If you are looking for specific information as you read, it will be easier to keep your attention focused on the material.

**Keep a distractions list.** As you are reading, often you will think of something you should remember to do. You might remember to call your sister or to buy a Mother's Day card. An item like this will often flash through your mind at various times, distracting you from what you are reading. An effective solution to this problem is to keep a distraction list, or you might call it a "To Do" list. Keep a piece of paper nearby, and whenever something distracts you or you are reminded of something, jot it down on the paper. You will find that once you have written the item on paper it will no longer keep flashing through your mind. Your distractions list might look like this:

- a) Call Sam.
- b) Buy lab manual for chemistry.
- c) Get tire fixed.

**Vary your reading.** Most people tire of reading about a particular subject if they spend too long with it. Of course, as you tire or become less interested in a subject, your concentration lessens. To overcome this problem, try to read parts of several assignments in an evening rather than finishing one assignment completely. For example, you might read part of a psychology assignment, then complete a short story assigned for a literature course, and then finish a math assignment. The variety in subject matter would provide needed change and prevent you from losing interest in your reading.

**Combine physical and mental activities.** Although your eyes move across lines of print, reading is primarily a mental activity. Because the rest of your body is not involved in the reading process, it is easy to become restless or feel a need to do something. Many students find it helpful to be physically as well as mentally involved with what they are reading. Activities such as highlighting, underlining, making marginal notes, or writing summary outlines provide an outlet for physical energy as well as serving as useful study aids. You will learn more about each of these aids in the next chapter.

**Take frequent breaks.** Because your attention span is necessarily limited, it is important to take frequent breaks while you are reading. For instance, never decide to sit down and read for a solid three-hour block. After the first hour or so, you will tire and begin to lose concentration, and you will find yourself accomplishing less and less. Although it may seem that taking a break wastes time, you will

see that you "make up" that lost time in increased efficiency and higher levels of concentration after your break.

**Approach your assignment positively.** If you approach a reading assignment with the attitude that you are not interested in it and you feel that reading it is a waste of time, you can be certain that you will have difficulty concentrating. A negative mind set almost ensures poor comprehension and low levels of concentration. To overcome this, try to find some way to become interested in the subject. Try to question or challenge the author as you read, or try to develop questions.

## **CONTROLLING EXTERNAL DISTRACTIONS**

**Choose a place to study that is relatively free of interruptions.** It may be necessary to decide what type of distraction; occur most frequently and then choose a place where you will be free of them. For instance, if your home, apartment, or dorm has many distractions such as phone calls, friends stopping by, or family members talking and watching TV, and so forth, it may be necessary to find a different place to study. The campus library or a neighborhood library is often quiet and free of distractions.

**Choose a place free of distractions.** Although, for example, your living room may be quiet and free of interruptions, you may not be able to concentrate there. You may be distracted by noises from the street, the view from a window, the presence of a TV, or a project you are working on.

**Do not study where you are too comfortable.** If you study in a lounge chair or lying across your bed, you may find it difficult to concentrate. Reading and studying requires close attention, and placing your body in a relaxing position will do nothing to encourage concentration; in fact, it may have a negative effect. You may find that you feel more inclined to relax than to study or that you may become drowsy or fall asleep.

**Study in the same place.** Once you have located a good place to study, try to study in this place regularly. You will find that you will become familiar with the surroundings and will begin to build up associations between the place and the activity you perform there. Eventually, as soon as you enter the room or sit down at the desk, you will begin to feel as though you should study.

**Choose a time of day when you are mentally alert.** Give yourself the advantage of reading or studying when your mind is sharp and ready to pick up new information. Avoid studying when you are hungry or tired, because it is most difficult to concentrate at these times.

**Establish a fixed time for reading or studying.** Studying at the same time each day will help you fall into the habit of studying more easily. For example, if you establish, as part of a schedule, that you will study right after dinner, soon it will become almost automatic to sit down to study as soon as you have finished dinner. You will find that, if you follow a schedule, the routine will make it easier to concentrate.

## CONCENTRATION TECHNIQUES

The following list summarizes other techniques that have helped students concentrate. Try one or two at a time to see whether they are for you.

***Have a positive attitude.*** Try to look upon studying as an opportunity to learn, rather than as an unpleasant task to complete. Also, since you may be spending a great deal of time in your room, do not make it a prison; rather look to your room as a sanctuary. Remember, you are always free to take a well-earned break.

***Confine your shifts in attention.*** It is quite natural for your attention to shift frequently. Probably this is an inheritance from our cave-dwelling ancestors, who had to be constantly aware of what was going on around them. There will be shifts in attention, but try to confine these shifts to the subject matter at hand.

***Use the spider technique.*** A vibrating tuning fork held close to a spider's web will set up vibrations in the web itself. After the spider makes a few hurried investigations and finds no fly in the web, it learns to ignore the vibrations.

The next time that you are studying in the library and the door opens, don't look up. Controlling your impulse to look up will disturb your concentration the first few times. But very soon, like the spider, you'll learn to ignore these external disturbances.

***Ignore noise around you.*** There will always be some noise around us. Avoid disturbances if you can, but do your best to ignore the noise you cannot avoid. By all means do not let yourself become annoyed. The internal irritation that you create has a more devastating effect on concentration than the external noises themselves.

***Make sure you have everything.*** Before sitting down to study, make sure you have everything: sharp pencils, fresh paper and cards, necessary books. Then stay in your chair until you have studied an hour or so. In that way, you'll remain in the driver's seat - that is, in control.

***Use the no-room principle.*** Imagine that the pathways of your mind are completely filled with thoughts about the subject in front of you. Then there will be no room for extraneous thoughts, and they will be turned away.

***Use the checkmark technique.*** Have a sheet of paper handy by your book; then, when you catch yourself not concentrating, put a check-mark on the sheet. The mere act of doing this will remind you to get back to work. Students report that when they first tried this system, they accumulated as many as twenty checkmarks per textbook page; after one or two weeks, they write down to one or two checkmarks per page.

***Don't rely on willpower!*** Will power alone can't make you concentrate. You will be breaking concentration whenever you remind yourself "I must use will power to concentrate!"

***Don't fight hunger.*** Hunger is such a basic and persistent state that there is no sense trying to overcome it. Give in! Feed yourself, then go back to work.

## MEMORY TIPS

### **BE ORGANIZED**

- a) Learn from the general to specific - Get a broad overview  
Skim chapters in textbook before reading
- b) Make it meaningful relate to goals relate to previously learned material
- c) Create associations

### **BE PHYSICAL**

- a) stand up
- b) pace
- c) draw pictures
- d) use pencil
- e) visualize
- f) recite, repeat

### **BE CLEAR**

- a) reduce interference - study place must be free of distraction
- b) allow sufficient time - 15 - 20 minutes after you start a topic is the when the most efficient learning is accomplished.
- c) study most difficult subjects during daylight hours
- d) take a break every 40 - 50 minutes
- e) over learn - learn more than you have to, make up you own problems
- f) be aware of attitude if you believe a fact is true, you'll remember facts to back it up.

### **BE SMART**

- a) distribute learning - bit sized chunks
- b) remember something else that is related - if you can't remember uncle's name, remember aunt's
- c) make and use 3 x 5 cards for formulas and vocabulary tape to the frig or mirror, portable, check out line or doctor's office moral booster - 3 x 5 cards at a time - pile changes size one piece of information at a time.
- d) use mnemonic devices acronyms - HOMES songs - alphabet song poems - I before e, except after c

## FORGETTING



- The greatest amount of forgetting occurs directly after finishing the learning task! (46 % forgotten in one day)
- Forgetting is still sizable during the first fourteen days - (79% forgotten)
- Forgetting slows down after 2 weeks, but there is not much left to forget! (82% forgotten after 21 days)
- How do you try to stop forgetting? Study skills!!

## **MEMORY NEEDS TIME TO CONSOLIDATE LEARNING**

**Here are the ten principles or methods for learning in summary form:**

*Motivated interest.*

You need a realistic goal and a strong thirst for knowledge.

*Selectivity.*

Select principles and laws which, like powerful magnets, draw the details around them.

*Intent to remember.*

Learn for permanency, not only for exams.

*Basic background.*

The more you learn, the easier it is to learn more.

*Organization.*

Learn and memorize ideas and facts in clusters and groups.

*Recitation.*

Saying the facts and idea aloud makes you think and makes you remember.

*Consolidation.*

Like a warm rain, facts and ideas need time to sink in.

*Distributed practice.*

Several short sessions of intense concentration are more productive than one long grinding-it-out session.

*Imagery.*

Mental pictures and actual diagrams enable you to use 100 percent of your brainpower and memory power.

*Association.*

Make a link between a new fact and some well-established old fact. Then, you will recall the old fact, which will pull the new fact up from the depths of memory.

## **THE ROUTE TO A BETTER MEMORY**

### **BASIC STEPS:**

- Recite at the end of every passage, problems, new rule, lesson, etc.- tell yourself what you have just learned.
- Review - at the end of the study period recite again all the ideas you recited as you worked.
- Recite again within 24 hours.
- Plan additional recitations to keep the memory strong until test time.

## **USE SPECIAL METHODS TO BOOST YOUR MEMORY**

- recite aloud
- reproduce details of charts/diagrams
- use chaining in learning lists, steps, etc.
- use backstepping in learning lists, etc.
- organized group study
- recite before going to sleep and first thing in the a.m.
- mnemonic devices
- close eyes and visualize
- Study cards or lists
- pictograms
- time lines

## **FIVE TIPS TO IMPROVE YOUR MEMORY**

**REPEAT:** When you meet someone, repeat her name immediately. Ask her to spell it, or if it's an easy name to spell, mention something about it. Then say, for example, "Nice to meet you, Susie Smith." Within a two-minute exchange, you will have heard or said the name three or four times.

**RHYME:** If possible, make up a simple rhyme for the name of a new acquaintance. For example, if you've just met Ken Hanson - think Handsome Hanson. Or even better, link a name with something about the person - Alan Ferrago comes from Chicago.

**ASSOCIATE:** Dream up a mental picture about a name. The more ridiculous the image, the easier it will be to remember. If you've just met Don Bacon, imagine him getting up at dawn to fry bacon. Or if you've just met Lee Perrin, imagine her leaning over to peer in a window.

**STACK AND LINK:** To memorize a list, associate one item with the next to form a chain of images - remembering one will recall another. For example, you want to buy laundry detergent, ice cream, celery, tomatoes, string, etc. Imagine a laundress scrubbing clothes in a washtub with one hand and holding an ice cream cone in the other. Stuck in the ice cream is a bunch of celery tied with string. On the end of each stalk is balanced a tomato, etc. Here again - the sillier the images, the more vividly you'll recall them. This method can also be used to remember speeches. Make up mental images that correspond to key words or sections of your speech and link them together in a particular order.

**ACRONYMS:** Another method for memorizing speeches, lists or facts is to make acronyms from the first letter of key words. For example, the word "homes" contains the first letter of the names of all the Great Lakes.

## CLASSIC MNEMONIC DEVICES

These are some mnemonic devices that have been handed down and used by generations of students:

Astronomy: In astronomy the favorite of students is the sentences that reminds them of the order of the planets (Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto).

*Men /ery Easily Make Jugs Serve Useful and Numerous Purposes.*

Biology: The first letters of the words in the following sentences stand for kingdom, phylum, class, order, family, genus, species, variety.

*Kings Play Cards On Fairly Good Soft /elvet.*

Geography: Here is a mnemonic device that organizes the Great Lakes from West (Superior, Michigan, Heron, Erie, Ontario)

*Super Machine Heaved Earth Out.*

History: The royal houses of England can be remembered (Norman, Plantagenet, Lancaster, your, Tudor, Steward, Hanover, Winsor) by using this sentence.

*No Plan Like Yours To Study History Wisely.*

Medicine: Doctors and pharmacists have jingles to keep certain chemicals straight. To distinguish between cyanides which are harmless and cyanides which are extremely poisonous, they use this device.

--I a t e, I ate; ---I d e, I died.

Spelling: Here is how to remember the correct way to spell two words that confuse people:

A principal is a pal.

A principle is a rule.

Another device is: E is the sailor that follows the C (seal).

In using mnemonic devices, you must make certain to memorize the sentence, word or jingle thoroughly, for the slightest error can throw you off completely.

They say that  
elephants never  
forget!

