Memory Principles

Below is a list of memory or learning principles with a brief definition of each.

Practical applications are also included.

Interest--In order to remember something thoroughly, you must be interested in it. You must have a reason to learn it.

Think of some ways you might create interest in a class in which you are confused or bored:

√ Find a study partner.

√ Get to know the professor better.

√ Do some extra practice or research.

(We tend to be uninterested in things we are not good at.)

√ Teach an assignment to someone else.

√ Seek a way to make the information personal.

√ Find a way to make it kinesthetic--make something--do something with it.

Intent to Remember--has much to do with whether you remember something or not. A key factor to remembering is having a positive attitude that you will remember.

How many times have you gone to class or read an assignment with something else on your mind?

When you employ the principle of intent to remember, you use **concentration** techniques that help you pay attention. You have the **attitude** that you will learn this **now**, not wait until later.

Here are some tips that might help:

√ Pretend that there will be a quiz when you finish. The reward will be $10 for every answer you get correct.

√ Use a concentration check sheet. When you feel yourself wandering from the subject, put a check on this sheet. Do this every time you find yourself not concentrating. You will program your mind to pay attention.

√ Use a rubber band on your wrist and do the same as above!

√ When reading an assignment talk back to the writer.

√ When listening to a lecture, ask frequent questions.

Basic Background--Your understanding of new materials depends to a great degree on how much you already know about the subject. The more you increase your basic knowledge, the easier it is to build new knowledge on this background.

√ What do you do well? Basketball, cooking, drawing, sewing, soccer?

√ You didn't become really good without practice.

√ Consider your best academic area. Isn't this an area that you know something about--probably, a great deal?

√ The more you know about something, the easier it is to learn more.

Here are some basic tips to employ this principle:

√ Before you read an assignment, preview it. Find out as much as you can before you read. Survey the title and headings. Study the pictures and charts. Read the summary. Familiarize yourself with the study questions. Think about what you already know about the subject. Try to recall what you already know. Then read the assignment.

√ Before you go to class, do all homework assignments and readings. The more you know about the subject, the easier it will be to take notes during the lecture.

√ Begin with basic level courses in the subject. Don't skip prerequisites.

√ Do extra research. Explore the internet. Create ways to experience the subject.

Selectivity--You must determine what is most important and select those parts to study and learn.

The mind can absorb only a certain amount of new material at a time. You can't learn everything about everything. The solution, then, is to be selective. Choose what's

important. Learn the important things and then build on that knowledge (basic background).

Here are some tips in choosing what's important.

√ Look for clues when reading a textbook assignment. Use a survey method before you begin. Look at headings, graphics, and bold print. Study the summary and review questions before and after you read.

√ During a lecture, listen for verbal clues such as emphasis and repetition. Pay attention to non-verbal clues such as the lecturer's body language and information written on the board or given as handouts.

√ Make yourself the test maker. Constantly ask yourself, "If I were giving a test on this material, what would I ask?"

√ Making flash cards for information you need to learn is an excellent way to employ this principle.

Meaningful Organization--You can learn and remember better if you can group ideas into some sort of meaningful categories or groups.

We usually remember only five to seven items as a time. Of course, we seldom take tests with that limited information.

The key is to organize larger blocks of information in ways that are meaningful to you. If you can organize 25 items into five groups of five you will find it much easier to manage.

Sometimes categories are obvious. Greek, Roman, Egyptian; nouns, verbs, adjectives; kingdom, phylum, class, order; or in the case of a grocery list, meats, vegetables, beverages.

Here are some tips when the categories are not obvious:

√ Search the information for something that is personally meaningful to you.

√ Alphabetize the list.

√ Use a mnemonic device. Take the first letter of each item and spell a word or make a sentence. For example to remember the great lakes, remember HOMES: Huron, Ontario, Michigan, Erie, Superior.

√ If at all possible, do not have more than seven items in any one category.

Recitation--Saying ideas aloud in your own words is probably the most powerful tool you have to transfer information from short-term to long-term memory.

Most of us learned the multiplication tables or practiced spelling words in elementary school reciting aloud, but we have forgotten just how powerful it can be.

Recitation works for several reasons:

√ First, when you know you are going to recite something in your own words, you pay more attention. It forces you to employ the principle of intent to remember.

√ Second, you get immediate feedback. You know if you are able to explain something in your own words out loud, you understand it.

√ Third, when you hear something, you have used an entirely different part of the brain.

Some tips for recitation:

√ Make use of flashcards of anything you need to learn.

√ When you finish reading a paragraph in your reading assignment, stop and recite. You will soon see that understanding what you read and explaining it out loud are very different. If you can explain something out loud, you are well on your way to learning it.

√ Find a partner and ask each other questions and answer out loud.

Mental Visualization--Another powerful memory principle is making a mental picture of what needs to be remembered. By visualizing, you use an entirely different part of the brain than you did by reading or listening.

Most of us remember what we see much longer (and better) than what we read or hear.

We, therefore, need to make an effort to visualize everything we learn.

No matter how abstract, determine a way to visualize each new concept:

√ Will it convert to a chart or graph?

√ Can I draw it out.

√ Can I make a mental video of the process? (If you used a mnemonic devise to learn something, you might make a mental video of the word or sentence.)

√ Do I know what each person I am learning about looks like? (If you can't find out, make it up!)

Association--Memory is increased when facts to be learned are associated with something familiar to you.

By recalling something you already know and making a link to the "brain file" that contains that information, you should be able to remember new information more efficiently. Ask yourself:

√ Is this similar to something I already know?

√ Is the number similar?

√ Is the sound similar?

√ Can I use it for something similar?

√ If I were filing it in my brain "filing cabinet," is there an existing file I can use instead of creating a new one?

How do you remember… your PIN number? your telephone number? where you parked your car? your instructor's name? the name of the person you just met?

You can probably see that the memory principles are interrelated. When you use the principle of association, you will probably want to use such principles as visualization, interest, meaningful organization and intent to remember in addition.

Consolidation--Your brain must have time for new information to soak in. When you make a list or review your notes right after class, you are using the principle of consolidation.

New information takes time to soak in. Most people agree that short term memory will only hold five to seven bits of information. We are usually bombarded with much more information than we can remember. We must, therefore, allow time for consolidation to take place. In fact, we must cause consolidation to take place.

Here are a few ways to consolidate or allow information time to soak in:

√ Taking notes in class

√ Asking questions in class

√ Reviewing notes

√ Stopping after each paragraph you read and writing a question in the margin which identifies what the paragraph is about

√ Visualizing

√ Reciting

√ Making flash cards

√ Designing practice tests

Distributed Practice--A series of shorter study sessions distributed over several days is preferable to fewer but longer study sessions.

We tend to remember things at the beginning of a list or study session and things at the end. By using distributed practice, we can optimize our learning.

Let's suppose that you remember what you learned in the first twenty minutes you study and you remember what you learn in the last twenty minutes. Which would be more effective? You study four straight hours. You study four different sessions of 50 minutes each. Compute the amount you would likely learn using each method. Distributed practice allows time for things to consolidate and for you to build a basic background. It also uses what we know about the nature of short-term memory.

This is an easy principle with which to experiment and for you see the effects. Here are a few tips:

√ Take 10 minute breaks after each hour of study and review what you just learned before you begin again.

√ Have a scheduled time to study each subject.

√ Make use of daylight hours and time that you normally waste.

√ Use flash cards.

√ Mark each paragraph of your text book with a question or label. (This way you can read bits and pieces and put them together when you've finished.)

√ Study immediately before and after classes.
