Mental Manipulation: The Key to Remembering

If you haven't been mentally manipulating what it is you have to learn, and then you don't remember when it comes to test and quiz time, stand up and take a bow…you are normal!

For information to be learned and remembered, it is ***ESSENTIAL*** that information be mentally manipulated. In a way, mental manipulation means *repeatedly* getting the hands and fingers of your mind on material to be learned and then do something with that material.

You get better at that which you practice, if you practice not doing things that increase learning and recall, you get better at that also.

1. Practice by Self-Testing

If you want to learn and remember material in the shortest time possible, use the techniques for mental manipulation below as you study. One way to begin is to set up your notes so that you can test yourself on the material to be learned. A way to set up your notes to make self-testing easier involves the use of questions and answers on notecards.

How to formulate questions

Take a main idea and make a question out of it ***based on the type of details*** you are given with that main idea in textbooks and lectures.

Types of details	Possible questions or statements to make from details
DEFINITIONS	**Details consisting of definitions answer the question of "What is…"** **Make questions that require a presentation of what is such as:** "What is the definition of..?" "What is…?"
LISTS: Causes, characteristics, effects, elements, parts, phases, processes, sections, stages, steps, summaries	**Details consisting of lists answer the question of "What are……" Make questions or statements that require a presentation of what are such as:** "What are the characteristics of…?" "Outline the causes and effects of…" "What are the {steps, stages, or phases} in…?"

Adapted from: Congos, Dennis H. (2011) Starting Out in Community College.Chicago, Il: McGraw-Hill

Types of details	Possible questions or statements to make from details
APPLICATION: Analyzing Summarizing Describing Predicting Translating Criticizing Justify	**Details consisting of application of knowledge answer the question of "What is happening…"** **Make questions or statements that require a presentation of what is happening such as:** "What is happening when…?" "Summarize the actions you see in…" "Describe what happens when…" "Translate this statement according to…" "Criticize the performance of…" "An example of this is…"
HOW SOMETHING WORKS	**Details consisting of how something works respond to the statement of "Describe how _____ works"** **Make statements or questions that require presenting how something works such as:** "Describe how _____ works when…" "What are the {steps, stages, phases, etc.} in…?" "What are the essential roles of each character as…?"
2 OR MORE SETS OF INFORMATION	**Details consisting of 2 or more sets of information respond to the statements of "Compare…" and "Contrast…" and "Connect…"** **Make statements that require presenting similarities, differences, and relationships such as:** "Compare the…" "Contrast the…" "Compare and contrast…" "Make connections between…" "What is the relationship of… to …?"
SOLUTIONS TO PROBLEMS	**Details consisting of solutions to problems respond to questions of "What are the steps in…?"** **Make questions that require presenting solutions step by step such as:** "What are the steps in solving _____ type problem?" "What are the steps to solve {list the problem here}?" "What are the steps for solving gas law problems?"

Once notes are rewritten and better organized, here is what you do to speed your learning. Notecards are used in the description below:

1. Look at a question and then *recite aloud and without looking*, as much of the detail as you can. If you are looking at a problem, work the solution out on scrap paper.

2. Next, turn the card over to check for completeness and accuracy of your recitation or solution on scrap paper.

3. If your recitation or solution was correct, put that card in the "I know this" pile.

4. If your recitation or solution was incorrect or incomplete, read the answer out loud or correct your solution, then turn the card over and read the question or problem, again. Recite the answer aloud or write it out again, without looking, and then check. Do this as many times as you have to get the answer correct and then place that card in the "I don't know this, yet" pile. Don't move on to the next notecard until the present one is recited or written correctly.

5. Review your "I don't know this, yet" pile every day or at least every other day to speed your learning and remembering. Go over your "I know this" pile every 2 or 3 days to prevent forgetting.

2. The Difference between Recognition and Recall

Remembering is divided into two basic types: recognition and recall. Each requires a different type of practice to optimize learning and memory.

You are ***recognizing*** something when:

- You can spot information and pick it out of a set of similar pieces of information such as among options in multiple-choice questions.
- You need to see all or most of the actual information in order to remember it

But you are ***recalling*** something when:

- You can produce larger amounts of information from memory from key words, mental cues, essay questions, speech outlines, or when needed in responses to conversational cues.
- This kind of remembering portrays knowledge and intelligence.

You must learn something before you can remember or forget it and learning requires mental manipulation!

3. Ways to Mentally Manipulate Material

Pay attention in class and while reading textbooks.
Take notes in lectures and from textbooks.
Use a neat & organized format for notes that speeds, not impedes learning.

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Visually separate main ideas from other main ideas and each main idea and its details from other main ideas and their details.
Paraphrase main ideas and details in your own words as much as possible
Condense lectures & textbook material into short phrases and abbreviations.
Relate something to learn to something similar that you already know.
Discuss what you have learned with a colleague or in a study group.
Practice remembering by looking only at main ideas or questions you made and recite answers aloud, without looking, as if you are lecturing a class.
Have someone quiz you or you quiz someone else.
Include diagrams, charts, sketches, and pictures in notes on material to be learned.
Tutor someone on the subject matter that you have to learn and remember.
Practice recalling what it is you need to remember when you are not in class.
Make mnemonics out of details.
Explain to someone else using as many of your own words as possible.
Go into an empty classroom, conduct a lecture from memory and use your notes to check your recall.