

Note Taking for an Effective College Experience

Raymond Phinney, PhD
Wheaton College
School of Psychology, Counseling and Family Therapy

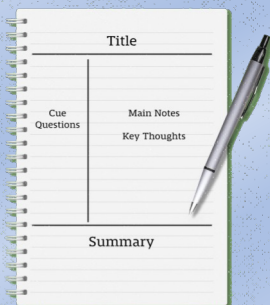
Nov 1, 2023

1

Powerpoint notes



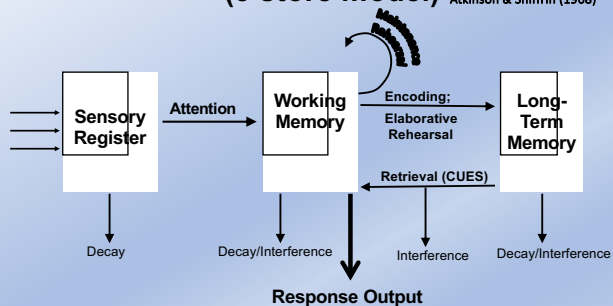
Paper Notes



2

Traditional Model of Memory (3 store model)

Atkinson & Shiffrin (1968)



3

More Practice = Stronger Memory

Strength: how easily and accurately an item can be retrieved.
What is "good practice" though?

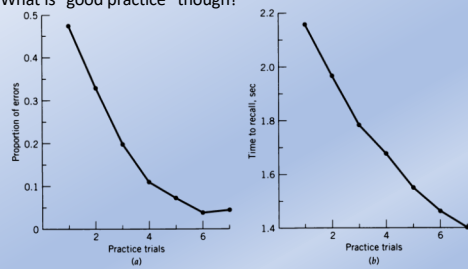
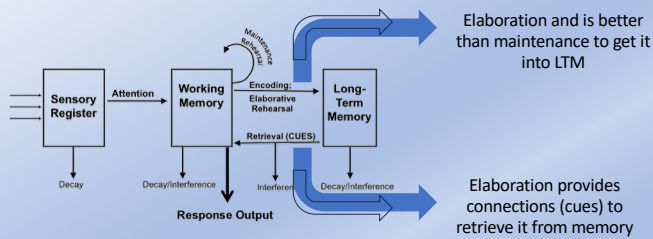


FIGURE 6.1 (a) Probability of recall and (b) time to recall paired associates as a function of amount of practice. (From Anderson, 1981.)

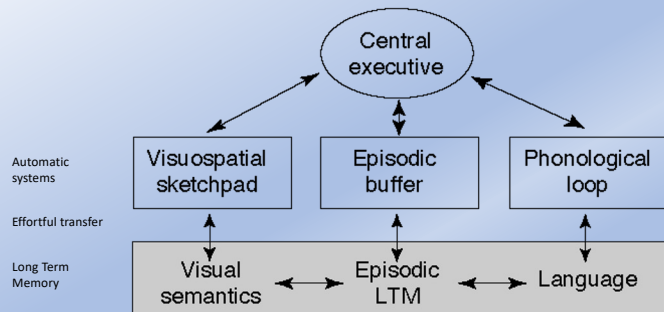
4

Repetition vs Elaboration

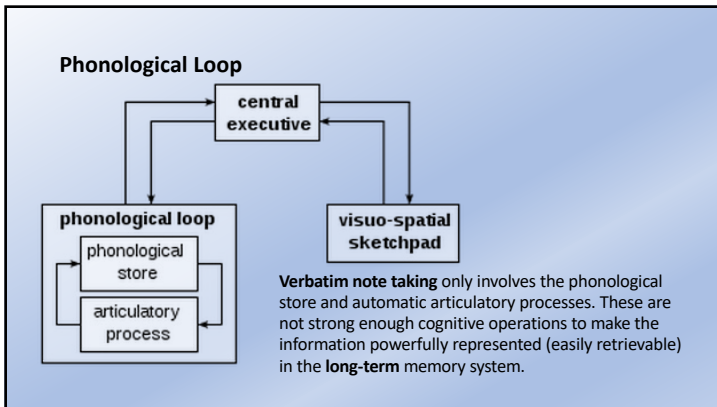


5

Working Memory



6



7

Spaced Practice is Better than Massed Practice

Bairick (1984)

Study 50 Spanish-English word pairs

1 study cycle, followed by 5 test-study cycles

3 conditions:

1. All studying in one day
2. All sessions separated by one day
3. All sessions separated by 30 days

Each condition tested on 5 study cycles, then once 30 days after last cycle.

Condition	Interession Interval (days)	Days of Delay					30
		1	2	3	4	5	
1.	0	82	92	96	96	98	68
2.	1	53	86	94	96	98	86
3.	30	21	51	72	79	82	95

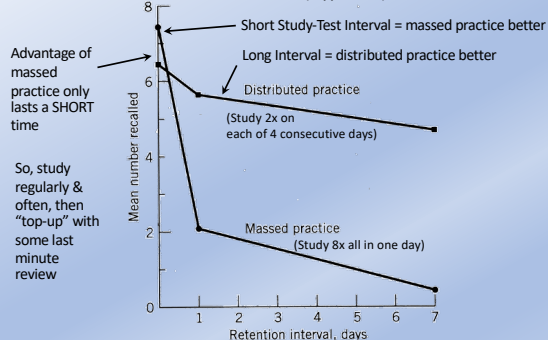
More spaced practice = better scores over time (initial better score for cramming)

Best when interstudy interval (30) equals retention interval (30)

8

Cramming works but it is better AFTER spaced practice

Paired Associate Recall (Keppel, 1964)



9

Encoding/Transfer

Why is Spacing superior to Massed Practice?**Varied learning contexts****Alternative strategies/cues for encoding**

enriched elaboration/schemas

Consolidation begins earlier**REM sleep cycles increase consolidation**

disrupt REM = no improvement in visual search task vs

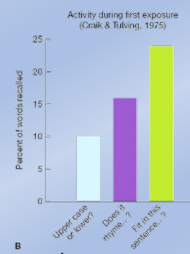
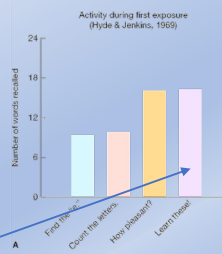
undisturbed REM

hippocampus active during REM sleep

10

“Deciding” to learn isn’t enough

- **Incidental learning**—learning in the absence of an intention to learn
- **Intentional learning**—deliberate, expecting that memory will be later tested
- **We learn when we perform the proper cognitive processes (deep processes), not when we “decide” to remember.**



No improvement for DECIDING

But in the real world “deciding” to learn helps us engage better methods

11

- Deciding too hard to remember something can make you forget it! (mental pressure increases errors and poor execution).
- Relax!! And pay attention to the information. Let yourself be consumed or immersed in it.



12

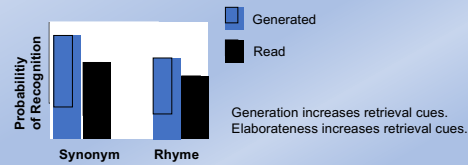
The Generation Effect (Slamecka & Graf, 1978)

People tend to display better memory for material they generate themselves

Are the words in this pair synonyms/rhymes?

Make up a synonym/rhyme that begins with the letter ____.

e.g. Generate a synonym to sea that starts with o.



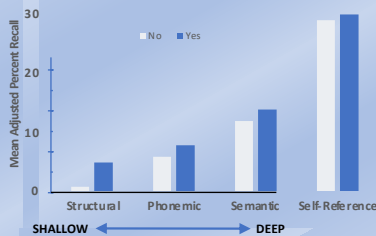
Active processing is itself a deep process and increases retrieval even if it does not involve semantic (deep) processing (i.e. generation improves recall at all depth levels)

13

Self-Reference Effect

- Rogers, Kuiper, & Kirker (1977)
 - Encoding with respect to oneself increases memory even over semantic reasoning.
 - Self assessment is a very deep process

What does it mean to me?
How does it apply to me?



14

Transfer Appropriate Processing (Watkins & Tulving, 1975)

- Learn 24 paired associates:
stimulus word - response word
e.g. *ground-cold, crust-cake*
 - Perform irrelevant task
 - Recognition test: circle word seen in #1 from list with actual response words and distracters
 - Cued recall Task: Given stimulus words, supply response
- 73% correct in #4 --- only 60% correct in #3
RECALL was BETTER than RECOGNITION!!!!!!
because processing in pairs was the encoding task and was ALSO the recall task

Better recall when process at test matched process at study

Rabinowitz, Mandler, & Barsalou (1977) found that reversing the recall task – giving response word and asking subjects to recall the stimulus word, decreased performance.

Study like you will test!!!! Test yourself. Have others test you.

15

15

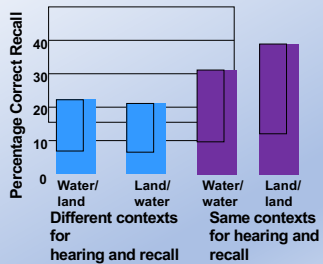
So how do YOU take notes best?

- Pay attention!
- Ask questions!
- Not verbatim
 - Transform into your vocabulary
 - But that is hard
 - So **prepare** by reading, and thinking about the day's topic beforehand
 - Recode your notes SOON after class
 - Review them periodically (Test yourself, don't simply visually skim)
- Connections (elaboration)
 - Think about what it is like or dislike; what it causes or what causes it, etc.
 - Mnemonics (but be careful)
 - How might it apply to me?
- Transfer appropriate process
 - Test simulations
 - Thinking "How would Prof X test that?"
- Be there!



16

Context Dependent Memory



GO TO CLASS OFTEN!

At test, think about your study environment
Consider studying for different classes in different places

Remembering in the same context that one learned in boosts recall
Mental context reinstatement also helps

17

17

Cornell Method

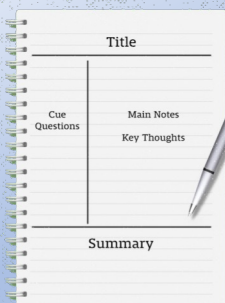
Elaboration

Transformation

Generation

Recode

Review



2/3 of page in 2 columns

[You can buy preformatted paper](#)



Bottom 1/3 for summary

18

PQ4R

Best practice for
reading text also
applies to
generating it
(taking notes)

Preview: Scan the title, section headings, and visual aids. Read the first and last paragraphs

Question: Convert headings into questions or draw upon past experiences to form questions. Look for answers to the questions while reading in the next step.

Read: Carefully read the complete text, recording notes in the margin or underlining important information that answers the predicted questions.

Reflect: think about how this new info relates to things you already know and what it reminds you of. Think about what test questions could be created to test such knowledge.

Recite: speak back to yourself a paraphrase of what you've read, what it means, notable definitions, etc. The more time between reading & reciting while still performing well, the better.

Review: practice answering questions (flashcards, etc.), reorganize notes, reread review sections, headings, etc., practice mnemonics

19

19

Questions/Concerns

Filling in the gaps of things you don't catch at first

How do I take notes when my Professor is teaching and lecturing at an extremely fast-paced rate?

Computer/digital vs paper note taking?

How can we take notes from readings in the sciences, and also, in the biblical and Christian Formation and Ministry classes?

20