

Remembering Information

This information sheet will cover the importance of:

- ✓ Reviewing information
- ✓ Linking new information to content with which you are already familiar
- ✓ Avoiding the use of weak associations
- ✓ Using similar strategies to study and recall information
- ✓ Reviewing information that is different than your beliefs or expectations
- ✓ External factors that can impact memory

Background

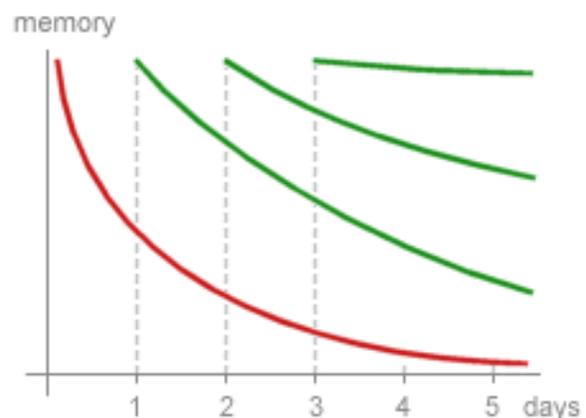
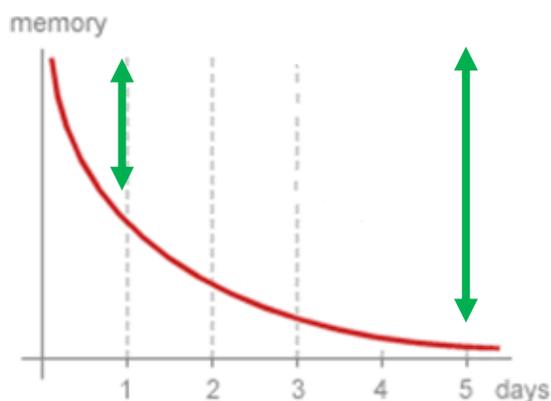
Elizabeth Loftus, famous Canadian memory researcher proposed 4 main reasons why people forget. These include: a) Retrieval failure, b) Failure to store, c) Interference, and d) Motivated forgetting. Although her research is not directly linked to studying, much can be learned by looking at these 4 explanations. Understanding the process of forgetting can be valuable when attempting to remember your class material.

Retrieval Failure

The theory of decay was first discussed by Hermann Ebbinghaus in **1885**. According to this theory, a memory trace is created every time a new theory is formed. Decay theory suggests that over time, these memory traces begin to fade and disappear. If information is not retrieved and rehearsed, it will eventually be lost.

How should this research impact your studying?

- Concepts will be forgotten with time.
- The faster you learn information, the faster that information is lost.
- As concepts are repeated, they become engraved more deeply and indelibly in your memory.
- The re-learning of a concept requires about 35% of the work required of the first recital.
- You are more likely to make permanent your repetitions if you space them over time, then if you mass them into one effort.
- Every time you review the information, you change the result of the forgetting curve.



2

Failure to Store

We also forget information that never actually makes it into long-term memory (*encoding failures*), or it made it into long-term memory, but we simply cannot retrieve it (*encoding specificity*).

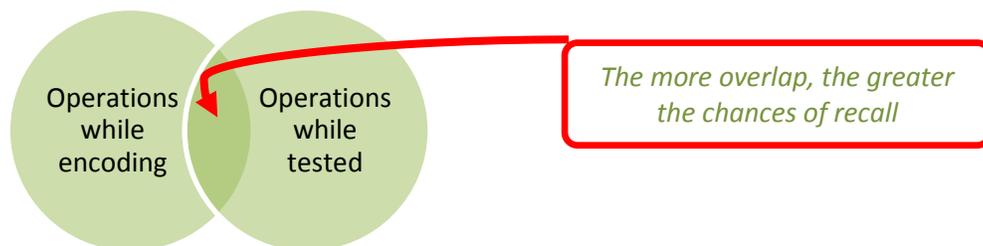
Encoding Failure:

In one well-known experiment, researchers asked participants to identify the correct U.S. penny out of a group of incorrect pennies (Nickerson & Adams). People were able to remember the shape and color, but not the other minor details. The reason for this is that only details necessary for distinguishing pennies from other coins were encoded into their long-term memory. You want to ensure that you are using cues that will help you to recall the details, and not simply recognize the differences among the information presented in the course.

Encoding Specificity:

You will be far more likely to recall information that has close association between the cues you have studied and concepts in which you are being tested. To give a simple example of associations, the word 'white' is a colour strongly associated with the word 'black'. Although you could train yourself to associate other concepts, colours or ideas with the colour white, the word black may be a stronger association. (Tulving, E. & Thompson, D. M., 1973)

Your studying will be more effective if you adopt a strategy that includes elements similar to what you will experience in a test. If you are writing an essay exam, study by creating outlines for potential questions. If it a multiple choice exam, work on recalling the answer to questions you ask yourself. You can use a variety of strategies for self-quizzing including cue cards, charts, and even when reading your notes/textbook.



3

Interference

Interference theory (Loftus, 1900; Benjamin, Hopkins, & Nation, 1994) suggests that some memories compete and interfere with other memories. When information is very similar to other information that was previously stored in memory, interference is more likely to occur. There are two basic types of interference:

- **Proactive interference** is when an old memory makes it more difficult or impossible to remember a new memory.
- **Retroactive interference** occurs when new information interferes with your ability to remember previously learned information.

How should this research impact your studying?

- When you are taking a course in which you have some background information, or you find yourself disagreeing with the professor, you may have greater difficulty remembering the core content that she/he is trying to teach.
- In many cases, you may need to **unlearn** topics by forming new connections. The process of unlearning is sometimes harder than the initial learning process, but with effort, you can be successful in these circumstances.

4

Motivated Forgetting

When Loftus discussed motivated forgetting, she was referring to phenomena where external situations would contribute to forgetting. Examples of this include memory repression and amnesia which are not as relatable in the context of remembering academic information.

There are, however numerous external factors that can impact memory. Sleep, food, stress, mood etc. are all things that can impact memory. Although some of these factors may be out of your control, it is important limit counterproductive behaviours such as 'all-nighters,' excessive caffeine consumption, or other ideas that violate your common sense. Please that individual assistance is available if you should so require.