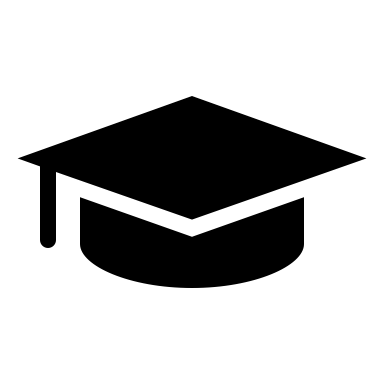
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**University Learning Center:**

**Crash Course Study Skills #3**

**Memory**

Created by Megan Miller

**Overview of the Online Academic Makeover Workshops**

Thank you for taking an interest in the Online Academic Makeover Workshops! The University Learning Center at California State University, Fullerton is passionate about helping students learn how to learn. The goal of the online workshops created by the University Learning Center is to help students understand the value of fundamental concepts that are vital to student success throughout the college experience. In addition to the high impact practice of peer-to-peer tutoring, the online workshops enable students to learn student success secrets virtually anywhere at any point throughout the academic year.

To better support student learning, a workshop packet accompanies each online workshop. Each packet has a pre-reflection, guided notes, and a post-reflection. We encourage students to answer the prompts of the pre-reflection before viewing the workshop video. There are no correct or incorrect responses since the pre-reflection serves as a tool to help the workshop participant to consider themselves and focus on the workshop content that is most relevant to them. The guided notes are intended to help the workshop participant focus on the big ideas presented in the videos. Additional notes are recommended! The workshops are most effective when participants create meaning for themselves. The post-reflection is meant to be completed after the workshop video has been viewed. This section allows the workshop participant to check and see if they understood the main ideas from the workshop and make more personal connections while considering ways to apply what was learned.

The University Learning Center appreciates your interest in our online workshop series, and we hope you learn something new!

Happy Learning!

**The University Learning Center Team**

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**Memory Online Workshop Pre-Reflection**

1. Why should college students learn about the ways in which memory connects to academic success?
2. How many pieces of information do you think working memory can hold onto at one time?
3. What is short-term memory? Long-term memory? What do you think causes information to be stored in long-term memory?
4. How are memory and learning connected? Explain.
5. What questions do you have about memory and student success? What are you hoping to learn from the online workshop on memory?

**Memory Workshop Guided Notes**

* Understanding how your memory works will help you to optimize the way you study

1. *Sensory Memory*
   * Processes pretty much everything your senses detect or experience in the real world
   * Most of what is taken in by sensory memory is lost almost immediately
   * What does stick moves into short-term or working memory

* Unless you continuously rehearse what is floating around in working memory, it’ll pull a disappearing act after about 15-30 seconds
* All of this happens primarily in your brain’s prefrontal cortex but eventually the information has to make its way to other areas of the brain if it’s going to be encoded in long-term memory

Neurotransmitters: transmit details about the information you are processing and learning which leads to the formation of new synapses or neural connections

Synapses: connections between neurons

* The whole process of memory formation causes physical changes within your brain
  + Changes take time!
  + This is partially why cramming rarely works
* “Work involving mental functions, such as analysis and synthesis, need to be spaces out to allow new neural connections to solidify. New learning drives out old learning when insufficient time intervenes”
* One crucial tip: you have to space your learning out over time
  + What is one way you can increase your chances of remembering what you study?

1. *Why We Forget Things in the First Place*

* Your brain doesn’t encode all memories equally
* During the long-term encoding process, the hippocampus will use different levels of neurotransmitters based on how important the information is
* This plays a big role in how strongly information is embedded in long-term memory
  + This also allows your brain to disregard unimportant things
* Unfortunately, you cannot always consciously decide what is important and what is not
* Understand that your brain latches more readily onto things that are tangible, visual, and uncommon than it does with the abstract or mundane

Mnemonics: mental devices that help you associate pieces of information in ways that are easier to remember

* The more connections that lead to a memory, the stronger it will be-especially if learned in different contexts
* You still need to repeatedly access your new memories once they are encoded if you want them to stick around

The Iron Law of Memories: memories fade away unless you repeatedly recall them

* According to the Forget-to-Learn theory, memories have 2 different strengths
  + Storage strength
  + Retrieval strength
    - Will fade with time
    - Unless you recall the memory, you’ll eventually lose track of it
  + After studying a new concept, what is the most important thing you can do to help retain that new information? How might this help you become a more efficient learner?

1. *The Spacing Effect*

* The harder you have to work to recall something, the greater the reward for doing so
* Here’s the catch: if you wait too long, the retrieval strength diminishes so much that you won’t be able to recall the memory at all

1. *The Principle of Desirable Difficulty*

* To maximize the efficiency of your studying, you want to find the point right before you are about to forget something
* To do this, use spaced repetition techniques
  + Steadily increase the amount of time in between each study session for any piece of information

1. *The Leitner System*

Box #1: Every Day

Box #2: Every 3 Days

Box #3: Once Per Week

Box #4: Once Bi-Weekly

Box #5: Review Before the Test

* By using this system, you’ll ensure that you maximize your efficiency by spending more time studying concepts you have the weakest grasp on
* Remember, during any given amount of practice within a day, you will eventually hit a wall where you stop making progress, but if you come back to it a few days later, everything will be more likely to click into place
* Make sure you’re putting focus on recalling information from your own memory
* There are 2 main kinds of memory
  + Recognition
  + Recall

Recognition: What happens when you are exposed to information you have already seen before and remember it

Recall: Involves dredging up information from the depths of your memory without seeing it

* This is what you will have to do in both your exams and real-world situations
* When you study, make sure you are focusing on active recall
* Studying should feel like work and it should challenge your brain
  + How would implementing the Leitner System help you prepare for midterms and finals?

**Memory Online Workshop Post-Reflection**

1. What did you learn from the Memory Online Workshop?
2. What was something from the Memory Online Workshop that surprised you or you found to be the most interesting?
3. Which of the concept, method, or technique discussed in the Memory Online Workshop do you think you would benefit the most from? Why?
4. Describe how you will apply what you learned from the Memory Online Workshop.