

Active Learning Strategies for Effective Studying

In your time as a student, you have likely been taught to study, but you may have never been taught how to study. Studying is most effective when it is spaced out into lots of short, intense sessions (rather than cramming the day before an exam) with active strategies like retrieval (rather than passive strategies like re-reading your notes). The list of strategies below will help you study smarter, not harder!



Generation – More Than Guessing: Try to figure out the answer or concept before you go to lecture. The effort put in to struggle with the solution pays off with better learning in class.



Elaborate in Your Own Words: In your review time after class, try writing or explaining the new material in your own words or relating it to something you already know. Creating our own concrete or real-life examples adds meaning to abstract topics and increases the number of connections in our brains for easier recall later.



Two Is Better Than One: The more connections we have to information, the easier it is to find later. Text and writing are one path, but pictures, graphs, and other visuals provide a second path. You don't have to be an artist to do this – pull pictures from online, make a timeline or chart, or draw arrows to connect ideas. The icons on this sheet are an example of this!



Reflection: Within 24 hours of class, try to write down everything you remember from lecture without using any other materials. Visualize the class and ask yourself questions about what you learned. Then go back and fill in the gaps using your notes or other materials.



Retrieval Not Re-Reading: When studying, you can “retrieve” information in your brain by quizzing yourself with flashcards, creating a study guide, working practice problems, or making concept maps. Re-reading is a passive strategy that creates feelings of fluency in the short-term but does not help with remembering in the long-term. Remember to “practice like you play” – your test will ask you to answer questions, not to re-read your notes.



Spaced Out Sessions: Studying longer is not necessarily better – your brain loses focus and needs a break after 30-45 minutes. Time between study sessions also allows your brain to process information and find connections, which helps the information stick long-term.



Interleave Your Practice: On an exam, the order of questions is usually random, not grouped by type. Practice with a mixed problem set or shuffle your flashcards so they are in a different order each time. This variety helps you see larger patterns between concepts and determine similarities and differences in problem types.



Calibration: One of the best ways to determine what you know and don't know is to take a practice test. Review the answers you missed, then focus your studying and practice on the concepts you didn't know.



Mnemonics: Once you have a deep understanding of the concepts, mnemonics can be helpful if you need to recall large amounts of information or specific formulas. We often still remember these phrases, even years later (like “Never Eat Soggy Waffles” for compass directions!)



Become the Teacher: Try teaching the course material to someone else. This strategy involves retrieval from memory and elaborating in your own words, both of which help strengthen the connections in your brain.

Other Tips for Success:

- Don't multi-task – this task-switching increases the time you will spend studying.
- Find a good study environment and put away distractions.
- Plan out study blocks on your weekly calendar or to-do list and set goals for each session.
- Use your resources – go to PAL for review and tutoring or office hours with questions.
- Take care of yourself by getting enough sleep and taking breaks between studying.

Try It Out!

Pick three of the strategies above and describe how you could use them specifically for the courses you are currently enrolled in.

1. _____

2. _____

3. _____

Strategy Reflection

After implementing one of the active learning strategies, use the space below to reflect on the following questions: What did you find beneficial about this strategy? What was challenging about using this strategy? What changes might you make in the future when using this strategy?
