Learning 101: Strategies for Effective Learning

Our brains are like muscles.

If you want to get in shape or to perform well at a competition, you wouldn't wait until the night before and do all your practice at once, right? You'd have workout sessions and drills on a consistent schedule using effective strategies to develop the muscles and skills you'll need. It's the same for learning.

These tips are from the latest research by cognitive psychologists—learning scientists. These strategies will help you retain information longer and apply it to new situations. To see more tips like this or to read the full explanations, see the references at the end.

PLAN FOR SUCCESS:
- In used textbooks, ignore previous highlights or notes—they might be wrong.
- Read syllabi carefully, identifying major assignments, exams and putting these in your planner with reminders a week before due dates. Each week, review upcoming month.
- Schedule study time in your planner—2-3 hours a week for every hour in class BUT space out studying for one class. The brain responds best to short, focused study sessions spread over several days. For each class, schedule study time after lecture.
- GOT SLEEP? If you're sleep deprived, your brain has a harder time processing—learning is harder and slower. Sleep triggers the process to stabilize new memories (learning).

DO THE READINGS AND GO TO CLASS:
- Learning happens when you access new information multiple times in different ways.

WHILE READING:
- Slow down. You need to teach yourself this material, not just "be done."
- *Before* you read: Answer questions before you read—this increases memory by activating knowledge and connecting new information to info you already know
- *As you read*: Make questions or use questions provided in the text. For example, ask "Why is this true?" Questions foster comprehension and give you material for future study guide.
- *After reading*: Summarize the chapters in your own words. Test yourself by answering your earlier questions or and/or use the self-tests provided in textbooks.

DURING CLASS:
- Taking notes by hand is more effective with recall than taking notes on computer. Plus, laptops have too many distractions for yourself and those sitting around/behind you. If you need a laptop, at least turn off WiFi. Turn off phones, and all other distractions.
- Your mind should be active with the information during class. Example: Write in your own words the main concepts; don't try to write word-for-word—that's too passive.

STUDY TIME
- On the same day as lecture, return to your notes. Add info, note what was unclear, rewrite notes from memory, integrate lecture notes with readings. This process helps consolidate the info you learned.

- Quiz self with questions. This is very important! Practice bringing information to mind because it strengthens the information in your memory. It also prepares you for tests because you are practicing answering questions correctly.
- Use mnemonic techniques when possible.
- Explain same concepts in written <u>and</u> visual forms (diagrams, timelines, infographic). Your brain is more likely to remember information that's in different representations.
- Use specific examples from your own experience/knowledge to explain new concepts.

<u>EXAMS</u>

- Sleep, not all-nighters, improve your memory--Helps your brain process and store info.
- Manage your stress: Deep breaths to reduce your body's stress response; figure out what helps you relax right before test handed out. Identify your needs for focus.
- Skim whole test before you start
- Write on exam if permitted—cross out, circle, make notes
- Don't assume first hunch is correct. Research shows we more often change to correct answer than wrong answer.
- Multiple choice—cover answers and try to answer the stem question before
- Essays: brainstorm and outline before start writing to warm up brain
- Don't rush—desire for relief to be done makes you go fast, increasing odds of misreading questions or making careless mistakes. Take your time to show all of what you know

CHANGING ROTE HABITS: A SUMMARY

Instead of ….	Do this
Reading	• **Preview each section and write yourself questions BEFORE you read** • **Use the questions to think while you read and to test yourself after you read**
Copying Definitions	• **Write definitions in your own words**
Memorizing Definitions	• **State definitions out loud as if teaching the terms to someone else**
Copying notes from lecture	• **Elaborate on your notes** • **Connect info from notes to past knowledge or experience** • **Connect terms and concepts within material**
Rereading text or lecture notes	• **Process notes or reading in a different way** • **Self-test with questions you wrote or are in text** • **Test self to repeat in your own words what you just read in text or from lecture**
Taking notes on everything professor said	• **Write in your own words** • **Note of areas of confusion and follow up with professor**
Comparing notes to others, making sure you got everything	• **Discuss your notes with a classmate, explaining to each other the material** • **Fill in gaps in own words**

References and more information

- Video series from Stephen Chew, Ph.D. "How to get the most out of studying" https://www.samford.edu/departments/academic-success-center/how-to-study
- Articles:
  - "Optimizing Learning in College: Tips from Cognitive Psychology" (Putman, et al, 2016)
  - "A Practical Guide to Study Skills" by Amy Himsel (Macmillan Learning/ForeWords)
- Books:
  - Make it Stick: The Science of Successful Learning (Brown, et al, 2014)
  - Brain Rules: 12 Principles for Surviving and Thriving at Work, Home and School (Medina, 2014)
- Website; visual representations of concepts; blog: TheLearningScientists.org