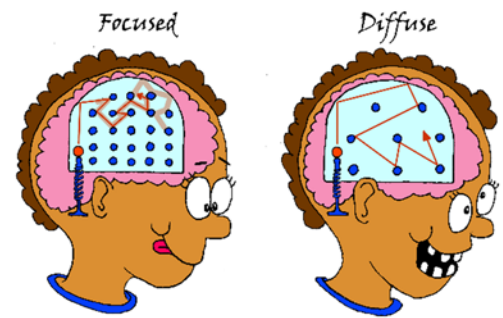


10 Top Ideas to Help Your Learning

1. Make use of both the intense **focused** and relaxed **diffuse** modes. If you are getting frustrated, it's time to switch to another topic. Or get some physical exercise!

2. Create **brain-links** with practice, repetition, and recall. Practice important problems so you can easily recall each step. Solutions, concepts, and techniques should flow like songs in your mind.



3. **Interleave.** Don't just keep practicing with slight changes in the same basic technique. Switch back and forth between different techniques. This will allow you to see when to use a technique. Books usually don't help you interleave. You will have to practice skipping back and forth between the ideas in different chapters yourself.

4. **Space out your learning.** Practice over at least several days. This gives time for your new synapses to form.

5. **Exercise!** Exercise feeds your neurons. It also allows you to grow new and stronger synapses.

6. **Test yourself.** Have others test you. Teach others. All of these are related to recall. Testing and recall are the best ways to strengthen your learning.

7. **Use funny pictures and metaphors** to speed your learning. Start using memory palaces.

8. **Use the Pomodoro Technique** to build your ability to focus and relax. Just turn off all distractions, set the timer to 25 minutes, focus, and then reward yourself.

9. **Eat your frogs first.** Start your most difficult work first. That way you can either finish it or take a break to let your diffuse mode help you.

10. **Find ways to learn *actively*, outside of your usual classes.** Look online for other explanations. Read other books. Join a club. If you don't find a club in the subject that interests you, see if you can start one.



Ten Pitfalls to Avoid in Your Learning

1. Not getting enough sleep. Sleep makes your brain-links stronger. It washes away toxins in your brain. If you don't get a good night's sleep before a test, *nothing else you have done will matter.*

2. Passive reading and rereading. You need to practice *active recall*, not just let your eyes pass over the same material.

3. Highlighting or underlining. Don't be fooled! Just highlighting or underlining big chunks of text doesn't put anything in your head. Make brief notes about the key concepts you are reading. Do this in the margin or on a piece of paper. These notes help you *create a set of brain-links of* the key concepts.

4. Glancing at the solution to a problem and thinking you understand it. You need to solve the problem yourself.

5. Cramming. Last-minute learning doesn't build solid sets of brain-links.



6. Lazy learning. Don't just practice easy material. That's like learning to play basketball by focusing on your dribbling. Use deliberate practice—focus on what you find most difficult.

7. Ignoring your book. If you are using a textbook in your studies, remember to take a picture walk through your book or course notes before you get going. And be sure to read about how to do problems before trying to solve problems!

8. Not clearing up points of confusion. Are there just a few points you don't get? Chances are, these are precisely the points that will be asked about on the test. Be sure to get help from your teacher or your friends.

9. Distractions. Choose somewhere you can focus when you study. It's often a good idea to leave your smartphone turned off and out of reach.

10. Chatting with friends instead of studying with them. Good study groups can be a great way to help you learn. But "study groups" that mostly gossip instead of study aren't much use.

