

Passive Rereading

Sitting passively and running your eyes back over a page. Unless you can prove that the material is moving into your brain by recalling the main ideas without looking at the page, rereading is a waste of time.

Letting Highlights
Overwhelm You

Highlighting your text can fool your mind into thinking you are putting something in your brain, when all you're really doing is moving your hand. A little highlighting here and there is okay—sometimes it can be helpful in flagging important points. But if you are using highlighting as a memory tool, make sure that what you mark is also going into your brain.

Merely Glancing at a Problem's Solution & Thinking You Know How To Do It

This is one of the worst errors students make while studying. You need to be able to solve a problem step-by-step, without looking at the solution.

Waiting Until the Last Minute To Study

Would you cram at the last minute if you were practicing for a track meet? Your brain is like a muscle—it can handle only a limited amount of exercise on one subject at a time.

Repeatedly Solving Problems of the Same Type That You Already Know How to Solve

If you just sit around solving similar problems during your practice, you're not actually preparing for a test—it's like preparing for a big basketball game by just practicing your dribbling.

Letting Study Sessions With Friends Turn Into Chat Sessions

Checking your problem solving with friends, and quizzing one another on what you know, can make learning more enjoyable, expose flaws in your thinking, and deepen your learning. But if your joint study sessions turn to fun before the work is done, you're wasting your time and should find another study group.

Neglecting To Read the Textbook Before You Start Working Problems

Would you dive into a pool before you knew how to swim? The textbook is your swimming instructor—it guides you toward the answers. You will flounder and waste your time if you don't bother to read it. Before you begin to read, however, take a quick glance over the chapter or section to get a sense of what it's about.

Not Checking With Your Instructors Or Classmates To Clear Up Points of Confusion

Professors are used to lost students coming in for guidance—it's our job to help you. The students we worry about are the ones who don't come in. Don't be one of those students.

Thinking You Can Learn Deeply When You are Being Constantly Distracted

Every tiny pull toward an instant message or conversation means you have less brain power to devote to learning. Every tug of interrupted attention pulls out tiny neural roots before they can grow.

Not Getting Enough Sleep

Your brain pieces together problem-solving techniques when you sleep, and it also practices and repeats whatever you put in mind before you go to sleep. Prolonged fatigue allows toxins to build up in the brain that disrupt the neural connections you need to think quickly and well. If you don't get a good sleep before a test, NOTHING ELSE YOU HAVE DONE WILL MATTER.

© Barbara Oakley 2014, A Mind for Numbers: How to Excel in Math and Science (Even if You Flunked Algebra), Penguin, July, 2014 pp. 257-260; www.barbaraoakley.com