



ACADEMIC SUCCESS PROGRAMS



STUDY TIPS - PART 2

● Put Your Cell Phone in Another Room -

Studies show the closer your phone is to you, the worse you perform on thinking tasks, even if your phone is in airplane mode or completely turned off.¹

● Use Flashcards Better -

Flash cards are a great way to study many types of information because they can combine the *generation effect*, *distributed practice*, and free-recall:

- **Create Don't Copy -** Making your own flashcards with definitions in your own words will help you remember the information better than if you simply copy definitions out of the book or use someone else's flash cards, this is called the generation effect.²
- **Bigger Is Better -** Using a larger rather than smaller deck of cards puts increased time between when you see each card, this is a great way to get the benefits of distributed practice within a single study session, increasing long-term learning.³
- **No Peaking -** Studies show that recalling information from memory, rather than simply re-looking at the answer, is an important part of long-term learning.⁴

● Study At Least One More Time -

Even when you feel that you aren't learning any new information. Students often quit studying too soon due to poor judgment on how much they have learned.⁵ Don't fall victim to these biases:

- **Hindsight Bias -** (a.k.a the "I-knew-that" bias) Can't remember the answer when tested, but think you know it because you recognize it after it has been revealed.⁶
- **Foresight Bias -** (a.k.a the "I'll-know-it-when-I-see-it" bias) Believing that because you know an answer while you're studying, you'll remember it on the test. However, on the test there will be other answers to distract you.⁷
- **Stability Bias -** (a.k.a the "Forgot-that-I-forget" bias) Not accounting for how much information you forget over time; also, the assumption that further studying will not provide any benefits for you.⁸

● Match Studying to Testing -

Conditions during studying should match those during testing as close as possible; meaning, if you drink caffeine while studying, drink a little caffeine before the test – or – listen to a particular song before and after each study session while thinking about the material, then listen to that song before you take the test – or – eat a particular flavor of mint while studying, and eat that same flavor of mint while taking the test.⁹

¹ (Ward, Duke, Gneezy, & Bos, 2017) ² (Jacoby, 1978) ³ (Cepeda, Pashler, Bul, Wixted, & Rohrer, 2006; Dunlosky, Rawson, Marsh, Nathan, & Willingham, 2013) ⁴ (Roediger & Butler, 2011) ⁵ (Bjork, Dunlosky, & Kornell, 2011) ⁶ (Fischhoff, 1975) ⁷ (Koriat & Bjork, 2005) ⁸ (Kornell & Bjork, 2009) ⁹ (Tulving & Osler, 1968)

References

- Bjork, R. A., Dunlosky, J., & Kornell, N. (2013). Self-regulated learning: Beliefs, techniques, and illusions. *Annual Review of Psychology*, 64, 417-444.
- Carpenter, S. K., Cepeda, N. J., Rohrer, D., Kang, S. H. K., & Pashler, H. (2012). Using spacing to enhance diverse forms of learning: Review of recent research and implications for instruction. *Educational Psychology Review*, 24, 369-378.
- Cepeda, N. J., Pashler, H., Vul, E., Wixted, J. T., & Rohrer, D. (2006). Distributed practice in verbal recall tasks: A review and quantitative synthesis. *Psychological Bulletin*, 132, 354-380.
- Dunlosky, J., Rawson, K. A., Marsh, E. J., Nathan, M. J., & Willingham, D. T. (2013). Improving students' learning with effective learning techniques: Promising directions from cognitive psychology. *Psychological Science in the Public Interest*, 14, 4-58.
- Fischhoff B. (1975). Hindsight is not equal to foresight: The effects of outcome knowledge on judgment under uncertainty. *Journal of Experimental Psychology: Human Perception & Performance*, 1, 288-99
- Jacoby, L. (1978). On interpreting the effects of repetition: Solving a problem versus remember a solution. *Journal of Verbal Learning and Verbal Behavior*, 17, 649-667.
- Koriat A., & Bjork R. A. (2005). Illusions of competence in monitoring one's knowledge during study. *Journal of Experimental Psychology: Learning, Memory, & Cognition*, 31, 187-194.
- Kornell N., & Bjork R. A. (2009). A stability bias in human memory: Overestimating remembering and underestimating learning. *J. Exp. Psychol.: Gen.* 138, 449-468.
- Roediger, H. L., & Butler, A. C. (2011). The critical role of retrieval practice in long-term retention. *Trends in Cognitive Science*, 15, 20-27.
- Tulving, E., & Osler, S. (1968). Effectiveness of retrieval cues in memory for words. *Journal of Experimental Psychology: General*, 77, 593-601.
- Ward, A. F., Duke, K., Gneezy, A., & Bos, M. W. (2017). Brain drain: The mere presence of one's own smartphone reduces available cognitive capacity. *Journal of the Association for Consumer Research*, 2, 140-154.