Effective study techniques

Some study techniques accelerate learning, whereas others are just a waste of time

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Empirical evidence

**Approach:** Literature review of more than 700 scientific articles on 10 commonly used learning techniques

**Citation:** “Improving Students’ Learning with Effective Learning Techniques: Promising Directions from Cognitive and Educational Psychology,” by John Dunlosky, Katherine A. Rawson, Elizabeth J. Marsh, Mitchell J. Nathan and Daniel T. Willingham, *Psychological Science in the Public Interest* 14(1), pp. 4–58

Highly effective and generalizable

**Self-testing:** quizzing yourself

Flash cards, sample questions, sample tests
Can take notes in 2 columns, one with key words; test yourself later
Don’t view the answer while you are “quizzing”!

**Distributed practice:** spread your study over time

1. Higher recall after spaced study
   - You can spread out textbook exercises
2. Cramming yields very short-term memories
   - To remember for 1 week, learning episodes should be 12-24 hours apart
   - To remember for 5 years, learning episodes should be 6-12 months apart
Sometimes worthwhile, depending on situation

Elaborative Interrogation
Learners produce explanations for facts, such as “Why does it make sense that…?” or “Why is this true?”

Self-Explanation: How Do I Know?
Students generate explanations of what they learn, such as “What new information does the sentence provide for you?” or “How does it relate to what you already know?”

Interleaved Practice
Rather than "blocking" where you do lots of problems that exercise the same ideas, mix it up and do problems that require a variety of different skills.
Poor

Summarization
Students identify a text’s main points
Unknown whether should focus on small or large parts of a text.

Keyword mnemonics
May help with foreign-language vocabulary (la dent = tooth, via “dentist”)
No long-term gains, not worth the time.

Imagery for text learning
Mental picture of each paragraph
No long-term effects
Definitely doesn’t work

Highlighting
Simple, quick, ineffective
Reduces ability to draw inferences

Rereading notes or textbooks
The second reading seems valuable; not so much after that