

Make it Stick

The Science of Successful Learning

Book Notes

My notes for the "Make it Stick" book by Brown, Roediger III, and McDaniel. The book's premise: Evidence shows that people generally learn the wrong way. The most effective learning strategies being counterintuitive doesn't help. A group of scientists worked for ten years to translate cognitive science into educational science. - *Jugurtha Hadjar*

1 Learning is Misunderstood

What are the immutable aspects of learning covered?

1. Useful learning requires memory to have the skill readily available when needed.
2. Learning and remembering is a lifelong journey.
3. Learning is an acquired skill with its most effective strategies often counterintuitive.

1.1 Claims We Make in This Book

Briefly describe the claims made in the book

- Effortful learning is deeper and more lasting.
- We're clueless as to when we're learning well or not.
 - ★ We do things that make us feel we're learning.
- Rereading & massed practice are the most popular but the least effective.
- Retrieval practice is more effective than rereading.
 - ★ Periodic practice mitigates forgetting.
 - ★ Spaced out and interleaved for better results.
- Trying to solve problems on your own leads to better learning.
- Screw your *learning style*. Auditory/Visual sissy.
- Inferring differentiating underlying principles leads to more success solving unfamiliar problems.
- Testing helps shatter the illusion of knowing, identify and handle knowledge gaps.
- New knowledge rests on anterior.
- Elaboration is explaining new knowledge with the old and connecting the dots. Encode differently.
- Extracting key ideas from new material and organizing them with the old in mental model.

1.2 Empirical Evidence versus Theory, Lore, and Intuition

- How we currently learn relies too much on intuition
- The book contains serious, scientific, research
- **People Misunderstand Learning**
 - ★ Slightly changing wrong methods wins big.
 - ★ Multiple exposures don't cause remembering.
 - ★ Making learning easier doesn't make it better.
 - ★ Result of massed practice is ephemeral.
 - ★ Rereading is seldom efficient:
 - ◇ Time consuming.
 - ◇ Doesn't result in durable memory.
 - ◇ Makes familiarity pass as mastery.
 - ★ Learning is better when it matters.
 - ★ Repetition learning is not automatic.
 - ★ Master ideas, not text.
 - ★ Be aware of what you know and don't.
 - ★ Mastery is having the knowledge and the knowledge of how to apply it.
- **Testing: Dipstick vs. Learning Tool**
 - ★ Reframing testing as a Learning Tool.

2 To Learn, Retrieve

2.1 Reflection Is a Form of Practice

How exactly is reflection a form of practice?

- Retrieving knowledge.
- Connecting the dots. Early and new knowledge.
- Rehearsing the old & imagining something new.
- Reflecting involves doing things that strengthen memory:

2.2 The Testing Effect