

Make It Stick: The Science of Successful Learning

By Peter C. Brown, Henry L. Roediger III & Mark A. McDaniel. Cambridge, MA: Harvard Univ. Press (2014), 313 pages, ISBN: 9780674729018.

In school, the night before a history exam, I studied by memorizing my notes. Like most students, I believed that reciting dates and details of the Salem witch trials meant mastery of its content.

I should have read Make It Stick, which explains how successful learning works. It turns out that people both vastly overestimate their mastery of a subject and practice some of the least productive learning methods. Rather than just memorize, I should vary my study methods: summarize my notes without looking at them, use flashcards, or answer sample test questions. Instead of short-term cramming, I should study over several days, so I forget what I learned and must retrieve that information. The same applies to my daily studying: I should do math homework, then review American history chapter concepts and answer a few mock questions about Salem, then finish my biology homework, then review Salem trial flashcards.

Fortunately, my teacher utilized the concepts in Make It Stick, making us act out portions of the Salem witch trials in class, such that I still remember many details about Salem's trials. My high school teacher also used those concepts, when she asked us to determine which era in American history most paralleled McCarthyism and forced us to struggle to connect McCarthyism and the Salem witch trials. In doing so, though, we built upon our previous knowledge, extracted broad historical themes to create a "mental model" of American history, and solidified our learning.

In Make It Stick, a storyteller and two cognitive scientists detail the above learning methods and explain why they work. We miss broad concepts when we simply memorize; if we create "desirable difficulties," we retain and connect to previously-learned information. If we vary our practice, we "forget" what we learned, which forces us to retrieve, which crystallizes learning. If we figure out the solution, we better understand concepts, connect those concepts to previously-learned information, and start to build "mental models," which grow as we gain expertise in a specific area. If we hear concrete stories about relatable people, we remember concepts more easily.

Anyone who teaches should read this book, but if you must triage, read the introduction and the last chapter, which summarize the authors' research and explain how to translate that research to best help students, teachers, and trainers. Becoming a better learner and, by extension, a better teacher, starts with understanding how to make learning stick.

Reviewed by Taryn Marks, Reference librarian, University of Florida Legal Information Center, in 2016.