

# Legal Communication & Rhetoric: JALWD

Fall 2017 / Volume 14

---

## BOOK REVIEW

Peter C. Brown, Henry L. Roediger III, & Mark A. McDaniel

*Make It Stick:*

*The Science of Successful Learning*

Brenda D. Gibson, reviewer

# If Only We Could . . . Make It Stick . . .

*Make It Stick: The Science of Successful Learning*

Peter C. Brown, Henry L. Roediger III, & Mark A. McDaniel  
(Belknap Press 2014), 313 pages

Brenda D. Gibson, rev'r \*

In a time when most law-school professors and administrators are searching for ways to assist our students to better learn and apply the law, *Make It Stick: The Science of Successful Learning*, looms large. This book, a collaborative effort between two cognitive scientists<sup>1</sup> and a storyteller,<sup>2</sup> covers quite weighty theorems and information about the science of learning, but does so with the ease of a good novel. In its preface, the authors note that the book “explain[s] how learning and memory work . . . less by reciting the research than by telling stories of people who have found their way to mastery of complex knowledge and skills.”<sup>3</sup> I, for one, am eternally grateful for this well-written, intellectually stimulating read for teaching me how to better assist my students in “mak[ing] it stick.”

The book is well organized into eight chapters, which oftentimes appropriately “interleave”<sup>4</sup> with each other. In each chapter, an anecdote illustrates the concept being discussed, and data explains that concept and

---

\* Brenda D. Gibson is a Senior Legal Writing Professor and Director of Legal Writing at North Carolina Central University School of Law in Durham, NC. She tips her hat to Shakira Pleasant, Associate Professor of Law at Savannah School of Law, for encouraging her to write this review.

**1** Authors Henry Roediger and Mark McDaniel are cognitive scientists.

**2** Author Peter Brown is a storyteller.

**3** PETER C. BROWN, ET AL., *MAKE IT STICK: THE SCIENCE OF SUCCESSFUL LEARNING* (2014).

**4** The authors use the term “interleaving practice” throughout the book to discuss a learning strategy that includes the mixing of information and/or topics during practice retrieval to improve learning. Here, I use the term to mean a similar “mixing” of concepts in various chapters to make those concepts stick for the reader.

supports a particular strategy or learning technique. Significantly, at the end of each chapter is a “takeaway,” in which the authors summarize the materials of the chapter and give some practical tidbits for applying those materials.

The “hook,” the book’s first chapter, details some of the mistakes that many of us make (or previously made) in the learning process—thinking that rote memorization and rank repetition are effective learning tools. However, the authors encouragingly note that with a few changes, we can make a big difference in our abilities to remember what we are attempting to do. They set out in the remaining chapters to detail the mechanisms that can be employed to improve our ability to remember and apply the information that we use professionally, whether in the courtroom or in the classroom.

Most of the remaining chapters methodically explain how best to make the changes that will improve retention and learning. The authors introduce various studies that illustrate the importance of retrieval by way of “the testing effect.” As several studies have shown, mere rereading or cramming does not help much with retention, but quizzing and other “effortful retrieval” assist in retrieving information. “Effortful retrieval” is premised on the theory that the more effort the mind must put into retrieving information, the more learning is strengthened as to that information. The authors explain throughout the book that retrieval should be not only repeated, but also spaced to increase the effort to retrieve the information and, therefore, retention. In addition, practice exercises should be cumulative and varied in topic and form (multiple choice, essays, fill-in-the-blank, etc.) to be most effective.

Probably most affirming for one trying to remember information is that this testing (i.e., practice), does not have to be initiated by another; we can put ourselves—or encourage our students—to the task of completing practice tests on our own and so gain the same benefits as being tested by another. It’s not just knowledge that improves, but one’s sense of success: “Students who take practice tests have a *better grasp of their progress* than those who simply reread the material.”<sup>5</sup> Moreover, when such testing is reviewed by a mentor or instructor, gaps become apparent and can be closed through corrective feedback, preventing repeated errors and encouraging better, and more accurate, learning.<sup>6</sup> Such testing also helps to keep what we actually know aligned with reality, helping us avoid the “illusion” of knowing more than we actually do, a common trap for us all.<sup>7</sup>

---

<sup>5</sup> BROWN ET AL., *supra* note 3, at 44.

<sup>6</sup> *Id.*

Such illusions are particularly likely to develop when we rely on such ineffective learning techniques as rereading and rote memorization: we think we know more than we actually do.

Because learning is a multi-step process,<sup>8</sup> it requires one to deliberately build connections to prior knowledge and experiences.<sup>9</sup> To do so, there must be effort. In chapter 4, the authors explain that in order to strengthen learning and memory, practice must be effortful by engaging in short-term impediments, such as spaced retrieval or “interleaved” practice—i.e., mixing information or topics during the retrieval process. The authors call these short-term impediments “desirable difficulties,” noting that to be desirable, difficulties must be ones the learner can overcome but only with some effort. They suggest that arduous retrieval both strengthens the routes to memory and makes the memory pliable again, updating it with new information and more-recent learning. In addition, “effortful practice” or retrieval helps integrate related ideas or a sequence of motor skills into a meaningful whole that can be applied automatically in the future. The authors provide examples such as complex chess moves or the perceptions and movements required to drive a car.

Interestingly, though the authors concede that learning differences do matter, they debunk the theory that people learn best from instruction that matches their learning style, saying such theories lack empirical support. They suggest that beyond learning styles is a person’s prior knowledge, language fluency, and determination, which all affect learning. People learn better if they can detect underlying rules that differentiate types of problems, then apply these rules later to categorize new problems. Accordingly, the more-active learner will take charge of her education by taking on new challenges, so she can “draw[] lessons that improve[her] focus and judgment,” combining what she learns into “mental models of investing.”<sup>10</sup> These she can then use to access more complex problems. Psychologists call this process “rule learning” and “structure building.”<sup>11</sup> Ultimately, this skill or process contributes to concept learning and complex mastery.

In that same vein, the authors debunk the myth that somehow our intellectual prowess is set from birth by our genetic wiring. Scientists are now discovering that, indeed, “effortful learning” builds new connections

7 Chapter 5, titled “Avoid Illusions of Knowing,” speaks about perceptual illusions, cognitive biases, and distortions of memory that often lead people to think they know more than they actually do. *Id.* at 102–30.

8 Successful learning (or knowledge acquisition) requires encoding, consolidation, and retrieval. BROWN ET AL., *supra* note 3, at 100.

9 *Id.*

10 BROWN ET AL., *supra* note 3, at 133.

and mental abilities, making the brain much more changeable than originally thought. The authors discuss several “environmental ‘multipliers,’” such as socioeconomic status, the nutrition of children during gestation and infancy, education, etc., that can affect a person’s IQ.<sup>12</sup> Beside these, the authors set out three “cognitive ‘multipliers’”—“*embracing a growth mindset, practicing like an expert, and constructing memory cues*”<sup>13</sup>—that they posit will similarly increase a person’s IQ. Our intellectual abilities rely more, they conclude, on discipline and persistence than on genetic gifts. So it’s our “game to win.” The more active a person is as a learner, i.e., the more she is willing to adopt a “growth mindset” and show persistence and determination, the more likely that person is to be successful in school and in her later pursuits.

In the final chapter, after laying out “the big ideas from the empirical research and illustrat[ing] them well through examples”<sup>14</sup> the authors lay out specific and very practical advice on just how to “make it stick.” There is a little something for everyone in this chapter—for high-school- through graduate-school- or law students, for lifelong learners, teachers, and trainers. The authors explain that “[w]hile the fundamental principles are consistent across these groups, the settings, life stages, and learning materials differ.”<sup>15</sup> Their tips are set out by category of the audience and encapsulate the concepts discussed earlier in the book, which is most helpful if one wants to refresh her memory regarding a particular concept discussed earlier. This last chapter is like a quick-tip guide to the entire book. Coupled with the notes and suggested reading that follows, this final chapter is a perfect bookend for this book, which could have been quite dense, but for the well-timed anecdotes, which assist the reader with application and the informative “take aways.”

All in all, *Make It Stick: The Science of Successful Learning* is a great tool for any of us to have in the toolbox. I cannot recommend it enough. Though I have explored it as a legal writing professor, its application is appropriate for primary- through professional-school educators and administrators, for judges and lawyers, for parents and students—for us all. As we know, and the authors reinforce, learning is a lifelong process.

11 *Id.*

12 *Id.* at 173–78.

13 *Id.* at 179–98.

14 *Id.* at 200.

15 *Id.*