According to the authors, a slew of studies refute the view that rereading textbooks or sets of terms, and underlining or highlighting passages, the strategy used by the vast majority of students and endorsed by parents and teachers, burns them into memory. In fact, repetition, and focusing on one thing and one thing only, is time-consuming, does not result in durable recall, and induces an "unwitting self-deception," because familiarity with the prose feels like mastery of the content.

Active retrieval produces far better and more long-lasting benefits; the more effort is involved, the stronger the results. The authors recommend allowing intervals to lapse between lessons involving the same material because lasting learning requires processes of consolidation. And they advocate interleaving practice on two or more skills (instead of concentrating on one at a time), even though students initially do not respond well to "jumping around."

Although the authors acknowledge that testing has become a lightning rod for critics of American education, they make a compelling case that frequent "low stakes" quizzes stimulate students to study at home, be more attentive in class, and accurately assess what they know and do not know; they enable teachers to adapt instruction to fill in gaps in understanding. And the authors maintain that memory is enhanced when students are forced to supply an answer instead of selecting from multiple choice options.
Frequent testing is especially valuable, Brown, Roediger, and McDaniel indicate, because students (and, for that matter, all of us) tend to overestimate their competence (or, in some cases, embrace "learned helplessness"). "The answer to illusion and misjudgment," they write, is to replace subjective experience with objective gauges outside ourselves. The "dynamic testing" proposed by psychologists Robert Sternberg and Elena Grigorenko, the authors suggest, can identify weaknesses and measure progress from one exam to the next. The "upper limits of performance" may be set by factors outside the control of the individual, "but most of us can learn to perform nearer to our full potential in most areas."

Aimed primarily at students, parents, and teachers, Make It Stick also offers practical advice for learners of all ages, at all stages of life. Instead of hitting forty-five pitches, divided into three sets (fifteen fastballs, fifteen curveballs, fifteen changeups) during batting practice, the authors suggest, players should make sure that the three types of pitches are randomly interspersed in the session. This approach, the authors report, strengthened batting skills at California Polytechnic State University, at San Louis Obispo. And Brown, Roediger, and McDaniel show that mnemonic devices are useful not only in rote memorization, but in organizing large amounts of knowledge for easier retrieval.

Valuable for its information and insights, Make It Stick deserves a special commendation for acknowledging the limitations of research in the field. The authors cite one study, for example, that confirms the view that "brain training games" improve "fluid intelligence" (the capacity for abstract reasoning) as well as "crystallizing intelligence" (the storehouse of knowledge individuals accumulate). But they admit that the study had a small number of participants and its results have not been replicated. And they alert readers to the web site PsychFileDrawer.org, which lists studies whose results have not been confirmed by other scholars.

As the authors imply, cognitive psychologists still have a lot to learn about learning. And the pedagogical techniques advanced by Brown, Roediger, and McDaniel are not a panacea for what ails education in the United States. That said, with its credible challenge to conventional wisdom, Make It Stick does point the way forward, with a very real prospect of tangible and enduring benefits.