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A telling experiment reveals a big problem among college students: They don't know how to study.

By **Valerie Strauss**

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Why do kids drop out of college? Yes, some can't afford to keep going with skyrocketing tuition costs. But as cognitive scientist Daniel Willingham explains in this piece, there are other reasons — and some of them are easily and inexpensively fixable before the students walk onto campus.

Willingham is a professor of psychology at the University of Virginia, where he has taught since 1992. Until about 2000, his research focused on the brain basis of learning and memory, and today, it concerns the application of cognitive psychology to K-16 education. He is the author of [“Why Don't Students Like School?”](#) and [“When Can You Trust the Experts?”](#) and [“Raising Kids Who Read.”](#) He [blogs here](#), and his posts have been appeared frequently over the years on this blog, including [“What is developmentally appropriate in learning,”](#) and [“Why kids lose interest in reading as they get older.”](#)

By Daniel Willingham

Policymakers are intent on making college more affordable, calling for changes to student loan programs and lower (or no) tuition. Such measures would likely increase access to college, but they wouldn't address an even more pressing problem: college completion.

[Forty percent of students](#) who will begin work on a four-year college degree this September will finish in four years. If you allow six years, the figure rises to 59 percent. For two-year degrees, the completion rate is 30 percent. Before spending billions to get more kids in college we should make sure that won't simply lead to a boom in college failure.

Most students (66 percent) don't leave college for financial reasons. And recent research suggests we can easily and cheaply address the problems that prompt them to quit.

Some students leave college because classes just aren't going well. However, most students have never been taught how to study and the strategies they devise on their own don't work. For example, they highlight their textbooks to signal what they should review later, but if you're reading difficult material for the first time you probably can't identify what's important. When preparing for an exam, students reread their highlighted textbook and their lecture notes, but rereading doesn't make information stick because it's so easy to repeat something mindlessly. Think of the last time you tried to remember someone's name by saying it to yourself again and again.

Instead of highlighting, posing and answering questions as they read forces students to think about meaning, and helps them recognize whether they really understand. To prepare for a test, self-quizzing actually boosts memory more than studying does. For example in one recent experiment, college students read 36 facts taken from a freshman biology course. Then some took a quiz on the facts while others restudied them for an equivalent amount of time. Memory for the facts was tested two days later and those who took the quiz outperformed the re-studiers, 61 percent versus 39 percent.

Researchers have even made headway on one of the most pernicious of student weaknesses, poor planning. In one telling experiment, students enrolled in a regular college class were given set due dates for three papers, evenly distributed through the semester. Others were told they could submit the papers at any time. Predictably, those students didn't plan, submitted all their work at the end of the semester, and wrote inferior papers. Most interesting was a third group, who were asked to set due dates of their choice at the start of the semester. About half distributed dates across the semester; the other half made all three papers due on the last day, and again, wrote inferior papers. So left to their own devices students don't plan, but even when professors require them to plan, half don't know how.

Still other research has shown that beliefs — in particular, beliefs about belonging at college — can be as important as planning and study skills. Feeling out of place is usually triggered by a setback freshman year: the student fails a test, for example, or feels he doesn't have any close friends. Any student would be discouraged, but a student who is the first in his family to attend college, or is a member of minority stereotyped as “not academic” may construe the experience as evidence he's not college material.

Students can be protected against this destructive feeling if more realistic beliefs about college are substituted. One procedure is to show them videos of seniors describing their own freshman-year experiences. The stories emphasize that all students have setbacks, and that things improve as you gain experience with the demands of college life. A recent study provided this simple intervention to thousands of students over the Internet, and even this brief, remote experience increased the probability of at-risk students staying at school months later.

It's incredible that students could have made it through 12 years of school without learning how to study and plan their time, and with a fragile sense of themselves as students. More incredible, the problem is not limited to struggling undergraduates; the studies I've described were conducted at elite schools like Massachusetts Institute of Technology.

Clearly, one solution is retention programs in higher education that better target the reasons that students leave school. But why wait until students are in college? These issues could be addressed in middle or high school. There are likely two reasons they are not, and each calls for a different solution.

First, if K-12 educators are to impart this knowledge to students, they must know the research findings themselves, as these practical solutions can run counter to intuition. The U.S. Department of Education has attempted to disseminate research findings, but has had limited success. The teacher's unions would be better choices. As associations of practitioners, they have credibility with educators, and in-house expertise to make research findings practical in classrooms. As yet, however, the unions have shown little interest in this work.

Second, even if teachers know about these research findings, teaching them to children could easily fall between the cracks. Study skills and planning don't obviously belong to the English teacher, the math teacher or anyone. Further, there's not a distinct time that it become relevant, as does, for example, driver's education. Teaching this content will require curricular planning, and that is most likely to be successful at the district level, where other curricular decisions are made.

Policymakers' focus on the high cost of college is understandable, as tuition has grown excessive. But addressing that problem will take time and the resolution of conflicting interests. Meanwhile, methods to help ensure students get their money's worth are available and cheap, and it would be bad planning indeed not to take advantage of them.
