**The Atlantic**

[**The Future of College?**](http://www.theatlantic.com/features/archive/2014/08/the-future-of-college/375071/)By Graeme Wood, September 2014

**Excerpts:**

He (Ben Nelson, founder and CEO of Minerva University) is prone to bombastic pronouncements about Minerva, making broad claims about the state of higher education that are at times insightful and at times speculative at best. He speaks at many conferences, unsettling academic administrators less radical than he is by blithely dismissing long-standing practices. “Your cash cow is the lecture, and the lecture is over,” he told a gathering of deans. “The lecture model ... will be obliterated.”  
(Stephen M. Kosslyn, a cognitive neuro­scientist and former Harvard dean) … points to a 1972 study by Fergus I. M. Craik and Robert S. Lockhart in *The Journal of Verbal Learning and Verbal Behavior*, which shows that memory of material is enhanced by “deep” cognitive tasks. In an educational context, such tasks would include working with material, applying it, arguing about it (rote memorization is insufficient). The finding is hardly revolutionary, but applying it systematically in the classroom is. Similarly, research shows that having a pop quiz at the beginning of a class and (if the students are warned in advance) another one at a random moment later in the class greatly increases the durability of what is learned. Likewise, if you ask a student to explain a concept she has been studying, the very act of articulating it seems to lodge it in her memory. Forcing students to guess the answer to a problem, and to discuss their answers in small groups, seems to make them understand the problem better—even if they guess wrong.

Kosslyn has begun publishing his research on the science of learning. His most recent co-authored article, in *Psychological Science in the Public Interest*, argues (against conventional wisdom) that the traditional concept of “cognitive styles”—visual versus aural learners, those who learn by doing versus those who learn by studying—is muddled and wrong.

**More Information**Read the full Atlantic article at <http://www.theatlantic.com/features/archive/2014/08/the-future-of-college/375071/>.

For much more in-depth verification of and expansion on Kosslyn’s views, read *How We Learn: The Surprising Truth About Where, When, and Why It Happens* by Benedict Carey (Random House, New York, 2014). In the book Carey refers to academic study after study that reinforces and expands on the notion that the lecture is an ineffective teaching tool, that frequent quizzes are an excellent learning tool, and that expressing and defending ideas in small group discussions are highly effecting in developing critical thinking.