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Best Way to Take Notes In Class Isn't On Your Laptop, Research Finds

by Amy DiLuna

Bottom of Form

For incoming college freshmen, one of the biggest academic challenges is learning ... well, learning how to learn. And experts say that using a laptop to take notes in class is a step in the wrong direction.

The research is clear: Typing out your notes results in decreased comprehension of lecture material.

For one, we're not paying as much attention to the actual words we're typing. Last year, [a study out of Princeton and UCLA](http://pss.sagepub.com/content/early/2014/04/22/0956797614524581) found that when students take notes on laptops, their "tendency to transcribe lectures verbatim rather than processing information and reframing it in their own words is detrimental to learning."

And the Internet is just so much more fun than a lecture. In 2003, Cornell researchers let half of students browse the Web during a lecture while the other half had to keep their laptops closed. Not surprisingly, the ones who weren't online did better on a post-class quiz.

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Worst of all, laptop note-takers may be hurting the learning of their classmates. A [2013 study](http://pss.sagepub.com/content/early/2014/04/22/0956797614524581) found that those who could even catch a glimpse of a "multi-tasking" peer's laptop performed 17 percent worse on a comprehension test after the lecture.

As a result, professors are practically pleading with students to ditch the Macbooks and pick up a pen.

Dartmouth College professor Dan Rockmore, who made headlines by banning laptops in his classroom, wrote [in the New Yorker](http://www.newyorker.com/tech/elements/the-case-for-banning-laptops-in-the-classroom) that "the act of typing effectively turns the note-taker into a transcription zombie."

And while there's an argument to be made that if students are so easily distracted these days, maybe lectures should be more interesting (as one [NYU student argued in a 2012 article](http://nyulocal.com/on-campus/2012/09/13/nyu-professor-put-away-your-laptops-or-go-enroll-in-the-university-of-phoenix/)), even educators who are working towards a more dynamic lecture experience make the case for pen and paper.

At the University of North Carolina, professors in the sciences are experimenting with intro classes, using "high-structure, active learning" to change up lecture formats and testing the results on students' engagement.

Dr. Kelly Hogan is a senior science, technology, engineering and math lecturer who is leading the charge.

"I keep them busy," she said. "They will have a question where they'll need to respond either by writing something out or using the technology. Every three to five minutes, they're busy."

Hogan's preferred technology is the smartphone, which can be easily stowed back in a bag.

"My very strong recommendation and suggestion to my students lately is that they take notes," she said. In Hogan's introductory biology and genetics and molecular biology courses, 200-400 students are crammed into one room, and a laptop can barely fit on a desk.

She also includes a "digital etiquette" guide cribbed from a colleague in her Biology 101 syllabus.

"This course will require you to use your laptop and/or cell phone during class time. While I recognize that you are an excellent multi-tasker, research suggests that your peers are not," it reads. "Please be respectful of your classmates and restrict your use of digital devices to course content."

Though class monitors will ask distracted students to move desks, college students are young adults who are expected to take responsibility for their own learning.

"The way that we're teaching now, we ask students to come prepared, and they're accountable for being prepared," Hogan said. "The class offers them something they can't do on their own, which is practice with an expert and their peers. I think we're showing them that the classroom experience is special."

Hallie Waletzko, a rising sophomore at Hampshire College, takes notes by hand to get "the material to stick in my brain."

"I have a system for my math classes where I keep two separate notebooks. One is for in class to get down the basics of what is being taught that day, and the other is a supplemental notebook where I re-write everything neatly and in color coding while referencing the textbook to make sure I'm understanding correctly," she said.

Professor Jeremy Littau, who teaches journalism for LeHigh University, spoke extensively about his choice to ban laptops in the classroom back in 2010. Today, however, he's changed his mind for two reasons: Making some exceptions for students with learning challenges led to more and more exceptions for everyone. And feedback from students suggested the ban took away their autonomy.

"They have to make choices and making those choices for them isn't necessarily the best," Littau said. These days, anyone with a laptop (usually three out of 10 students) sits in the back, so they don't distract the others.

"It kind of caused a little bit of blowback in my own field," he said of his controversial policy. "Because people were like, why are you so afraid of tech? I'm clearly not. I'm a multimedia teacher. I love technology. I don't buy the argument that this is anti-tech, per se. Certain courses just are note-taking courses. There are ways to do interactive things with (a computer) but that doesn't mean the laptop needs to be be out the entire time."

Take note, incoming freshmen. Seriously.

"Take notes on pen and paper," Littau said. "Keep taking notes, don't stop, and then digitize them with a scanner. I think without fail the students who do that are the ones who tend to succeed the most in my classes. It's not even a case of better grades. They're better thinkers."

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