

The End of the Lecture?

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This is a challenging environment for the lecture. In recent years, we have seen a welcome degree of ferment and experimentation in teaching, mostly using technology. As innovators make their cases for this or that new way, they often find it useful to push back against the old. And when something is needed to push back against, it's usually the lecture that comes into their sights. In an OpEd in the *New York Times* last fall, Eric Mazur, a Harvard physicist, was quoted as saying, "it's almost unethical to be lecturing." Unethical. That's pretty strong beer.

I take the opposite view. The right lesson to draw from this wide range of experiments is that the long-form presentation of an expert's synthetic thinking remains as important to the craft of teaching as it has always been. I'll start with the disclaimer that I am committed to experimenting with online teaching, and have been doing so for 15 years now (since back when we were broadcasting Real Video and had an 800 call-in line); but I am not within the camp that thinks, "This Changes Everything." It changes some things. MOOCs, for example, have raised the level of interest and scrutiny on teaching well beyond the historical mean; they provide us with an unprecedented tool to disseminate knowledge; and they may even help remediate, on the margins, the harsher aspects of the larger public imagination of what it is we do in here, by making public a reasonable facsimile of it. In addition to these points on the positive side of the ledger, though, I can pretty well attest that there is no particular fairy dust that this medium sprinkles over its content. If live lectures aren't working, putting them online won't make them better.

And more to the point, online classes, in most cases, still rely on good lecturing. But, some will ask, isn't the point of online teaching to make the experience more "interactive"? In my view this is widely oversold. Interactive compared with what? Surely with television, in comparison to which the label got stuck to the internet in the first place, but much less so when lined up against live, face-to-face classroom experiences. And the interactive mechanisms—chat rooms, polls and quizzes—are each focused, nearly always, on content of a type familiar to us all. Students in such courses typically spend most of their time "interacting" over some mix of independent readings and, yes indeed, a lecture—a long-form presentation, now chunked into 5-7 minute pieces. I have no doubt that such courses stand or fall on the quality of these. The interactive tools will help when used with wisdom, and here the experimentation continues to find what works and what doesn't, but they are not the key feature of a successful class.

So what makes for a good lecture in this new environment? Let's start with what it is not.

It should not be a summary of content. In fact, I don't even think a lecture is mainly about conveying information. That's what I would call a bad lecture. There are much more efficient and engaging ways for students to absorb information than having it told to them. (Reading comes to mind.) Further, mere "coverage" is not only boring *in* class, it produces a negative effect on work outside of it. It saps urgency from students' independent work, where the majority of their advances will be made.

In contrast a good lecture should be designed to make a student work harder to prepare for the following one. It will motivate students to carry on the really hard, self-driven work of teaching themselves. It needs to

transform data into knowledge by providing a synthesis and modeling for the students how to do it. It tailors the mass of information on a subject into a comprehensible narrative that picks and chooses, making judgments and subordinating some ideas to others. It animates the raw power of the fresh ideas it conveys. In other words, what makes a good lecture in these new formats is pretty much what makes a good lecture at all. Lectures have always been hard to do well, and we would benefit from more time spent working to improve them, something that will happen only by first resisting anti-lectureism, which, as a side effect, absolves us from the task.

But, some might claim that, in this age of technological wonder, the lecture faces another kind of impediment. This one starts with a vague and disquieting idea that our students are not those of yesteryear. Their habits, and some have even claimed, their cognitive capacities, have been changed so drastically by a technologically drenched environment, it is no longer viable to imagine that they could be moved by whatever good a lecture might aim to do. This is a capitulation argument, one that is heady for the reach of its claims. I've been taught of the brain's remarkable plasticity, but jeez, really? *Incapable* of paying attention to a long-form presentation? If that's at all true, the fate of the lecture is just the start of our problems.

Against this claim I'll present another field report, this time from teaching face-to-face. When I lecture, I like walking around, and I can of course see what's on students' laptops. What I saw wasn't all that surprising, although I confess to a little surprise at once seeing a live soccer game. What was more striking was that the students' peripheral awareness was shrinking until there was not even enough left for them to realize that I could see the screens too. Even when I was standing right behind them. This led to an ah-ha moment.

I hypothesized that it wasn't the wiring of their cortexes that had changed, it was the presence of the devices in front of them; so I experimented with a laptop-free classroom in my live lectures. Steeling for pushback, I did my best to explain that if they were taking the right amount of notes, with pencil and paper, it would take them 15 minutes that evening to transcribe them to their hard drives. A little tedious, but also a good review. And in the meantime they would have some peace and quiet, during in-class time, to do different kinds of thinking. The expected pushback really never came. In fact, when I made my announcement, the students looked like I used to feel at the beginning of a flight when the cabin doors closed, at least before planes had wi-fi. According to their own reporting, at the end of the semester, fully 74% of my students thought the no laptop policy either increased or very much increased what they learned, and only 9% found it really annoying. I ask a similar question about the lectures themselves, and since this policy, the rating for "amount learned" there has gone up too.

These experiences, and others like them, make me think the lecture is alive and well. As we move more deeply into the next stages of experimentation, as we should, we would do well to take down this particular straw man; and direct our energies instead to making lectures better. Ideas, at least if they're any good, take a while to get across. It's not just inertia that keeps the lecture alive. For data to become knowledge, it needs synthesis. This is hard to do; there's no better way I know to teach it than lecturing.

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Below is a link to his whole "Evan C Thompson Forum on Teaching Excellence 2015" talk:
http://www.upenn.edu/ctl/programs_services/faculty_programs/the_ewan_c_thompson_forum_on_teaching_excellence/

This essay continues the series that began in the fall of 1994 as the joint creation of the College of Arts and Sciences and the Lindback Society for Distinguished Teaching. See www.upenn.edu/almanac/teach/teachall.html for the previous essays.