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Advice

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In Defense of the Lecture

A good lecturer doesn't just deliver facts but models how an expert approaches problems

By Alex Small

I shall say this without shame: I lecture in my courses.

Yes, I know, in every discussion of "flipped classes" we are reminded that lecturing as a means of transferring basic factual information is a poor way to teach. I agree. I want my students to learn basic information *before* coming to my class. I can either assign reading before class (the old-school way) or require them to watch a video ahead of time (since proponents of flipped classes assure us that online video lectures are a good way to transfer information). What is important is that students be held accountable for learning that basic information when they come to class, either with a short quiz or written assignment (old school) or with an online assessment (hip and flipped).

We're also told that learning requires students to engage in activities, solve problems, discuss and debate ideas, and so forth. Again, I completely agree, which is why I assign homework problems, lab reports, papers, computational projects, etc. It's also why I integrate my lecture with discussion and questions.

However, I maintain that lectures have virtues in their own right, apart from the flexibility to incorporate elements similar to a flipped class.

First and foremost, I lecture so that I can model how an expert approaches problems. If my students have read the book (or, for the flippers, watched the video) before class, they have (I hope) obtained some basic facts and also have at least the beginnings of an understanding of how those facts fit together. If I assign them problems or questions to grapple with, they will eventually work toward a deeper understanding of the topic at hand. What the in-class lecture adds is a model of how an expert approaches

questions.

What I remember most from my college courses is not any particular fact delivered by a professor, but the processes by which they reasoned through complex issues, and the methods of problem-solving that they demonstrated. Certainly the textbook should provide examples of sophisticated reasoning and analysis. But even if students do the reading ahead of time, how likely is it that they have deeply grasped all of the pertinent points?

In lecture I try to sketch out the book's line of reasoning in a manner that emphasizes its strengths, focuses on areas of common difficulty for my students, and plugs gaps that I (or previous groups of students) have noticed. I also try to follow with a complementary perspective, saying, "OK, we've seen one way to understand this issue, now let's discuss another approach." Often I'll make analogies with approaches that I take in my own research, to put the lesson in a wider context.

Second, despite what gets said in many critiques of lecturing, when I am presenting an expert take I am not simply ignoring students while talking and writing on the board for the entire time. (Seriously, why does that awful style get dragged out as a response to anybody who notes that lectures can be done well?)

My class often begins with "While grading the homework, I noticed this issue ..." or "You just handed in a short assignment on today's reading; could somebody tell me what they found most challenging?" That leads into a discussion, which I eventually steer into today's lecture topic. Introducing a subject does require a review of some basic information, but I focus less on stating facts and more on highlighting their interpretation. I will often say things like, "The book makes this statement, and on the surface it's straightforward, but let's delve into what it really means."

Similarly, once I've moved to an analytical approach to a problem, I rarely just profess about it. Rather, I ask my students questions: "What are some principles that will apply to this scenario?" I wait for suggestions, I gently explain why the wrong responses won't help us solve the problem and why the right responses will.

Then I take the correct suggestions and go through my reasoning,

asking students to comment on different steps throughout my analysis. This approach won't directly engage every single person in the room (that's what more formal activities and discussions are for), but it will involve many of them, and it helps me pace the lecture. By calling on people, I avoid the dominance of discussion by the "usual suspects" and can make sure my lecture is dealing with the needs of a representative swath of students.

When I don't get responses, I've been known to stand in front of the class with my arms folded and say, "I just discussed something rather complex, and I refuse to believe that this is so clear that everybody understands it perfectly and has no questions. I shall stand here and say nothing until somebody asks a question." I usually get a question within 10 seconds, and then we move forward in a more engaging mode.

So, OK, I admit that lecturing is a significant component of my classes. I break up the lecture with questions, discussions, and activities, and I try to shift much of the lower-level information delivery outside of class. But I still lecture quite a bit. I make no apologies for that, largely because the style that I've outlined here bears little resemblance to what I read in critiques of lecturing.

Not every lecture is a person spending an hour talking nonstop to deliver facts. A good lecture is engaging, it naturally invites discussion and dialogue, it operates at a level much higher than raw information delivery, it is a natural setting for the expert to act as a role model, and it can be integrated with more formal activities (e.g., clicker questions, small-group discussions, etc.).

Lecture should not be the sole means of instruction, and bad lectures are a plague demanding eradication, but we err when we too strenuously inveigh against the lecture.

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