Turning Your Classroom Inside Out

If you let the Internet deliver your lecture, you can spend more time in the classroom really teaching your students.

Google knows everything these days. We’re not the ultimate authorities anymore. The Internet can provide lessons on vector calculus or Keynesian economics; it knows more about Regency England than I do, and my students can dredge up an online discussion of primogeniture in Pride and Prejudice that’s better than mine. (Yes, they can also come up with far less useful material—I’ll get to that later). Sometimes I’m a little resentful that I never got to be the all-knowing sage like my own professors were, but most of the time I’m relieved that I don’t have to be.

What the Internet cannot do, at least not yet, is provide expert feedback. That’s where we really excel—and where we can enhance students’ learning by simply adjusting how we allocate our time. When we make our “content” available online, we can use class time to have students apply the material, solve problems, and analyze solutions. Meanwhile, we’re on hand to guide and respond. This “inside-out” structure puts more responsibility on students, and also tends to keep them more engaged.

As Grant Wiggins pointed out, “It’s not teaching that causes learning. Attempts by the learner to perform cause learning, dependent upon the quality of feedback and opportunities to use it.” In other words, I could attend a seminar on golf conducted by Tiger Woods, take excellent notes, and dutifully review the material every night, but still miss the ball every time. I’d make better progress taking a few swings with a competent caddy. What we need when we’re learning anything—not just a sports skill—is practice, coupled with targeted feedback. What better place and time for that than class?
How to turn your lecture into homework

We know that audience attention drops off sharply after the first few minutes of any lecture: almost 40 years ago, Donald Bligh generated reams of empirical evidence to indicate that we’re reaching very few students after the first ten or twelve minutes of any lecture. We’ve all heard complaints about students texting or using Facebook during class, and there are more potential distractions lately, but if we’re honest, we probably remember daydreaming in the classes we once took—or even at that last conference. When we make our students responsible for the “content” outside of class, we free ourselves from this dynamic.

You can do this the old-fashioned way, or using technology. Put your lecture into a podcast or take advantage of your school’s course capture media, and students can listen to you at midnight; when the phone rings, the student can click “pause,” rather than miss the most important point. This format actually helps to differentiate instruction. A confused student can replay a puzzling concept or check out supplemental material, while your advanced students can skip ahead without having to wait for the others. Students appreciate this freedom to cover the material on their own schedules, at their own pace, and they’re likely to pay attention to a larger portion of it.

TECHNOLOGY TOOLS

The technology we use for teaching online makes it easy to provide content to students. If you lecture with Power Point, you can record your voice to accompany the slides. If you have a tablet computer, you can make a screen-cast of every step you take as you solve a problem, and unite it with your recorded voice. But you don’t even have to use your own lecture, and the Luddites among us needn’t feel anxious about software—we can assign lessons from Khan Academy or YouTube. (If you

TALES FROM REAL LIFE > CAN YOU STOP TALKING?

I have to admit that I was reluctant, at first, to accept this inside-out strategy, which is paradoxical, since I already ran a discussion-centered classroom and expected my students to complete a lot of assigned reading. But I didn’t want to give up any of my time talking to them. In a British Literature survey, for example, that gallops through ten centuries of assorted prose, poetry, and drama, I was worried about covering the canonical texts. Or maybe the less attractive truth is that I just enjoyed talking about that stuff so much that I hated to cede any of my time to activities.

Part of the problem, I came to realize, was that I wasn’t sure what I wanted my students to be able to do when they left my class. It helped to make a mental list of the skills I wanted students to acquire. Once we know what we want students to be able to do when they leave our classrooms, we have goals we can articulate. The next steps for learning are practice and targeted feedback. If I wanted my students to become expert at close reading, I needed to make them practice delving into passages, not just listen to me doing it. If I say I want students to think historically, I have to ask them to actually do that.
have twenty minutes for a great TED talk, watch Salman Khan: “Let’s use video to reinvent education.”

Students already use the internet to supplement our lectures: if they’re confused or dissatisfied with our classes, they know they can find clearer explanations online. Rather than punish this impulse, harness it. When we assign particular videos, screen-casts, podcasts, etc., we can sift through the dross to make sure they’re getting the best. You might even assign students the task of determining the most effective video resource and explaining the basis for their judgment: this sort of epistemological question can be a great learning experience.

If you don’t want to use video, reading is still a great way to deliver information, especially if we provide context, signposts, questions to ask, and so forth. Faculty often complain that students don’t do the reading; but when we assign pages, and then simply repeat the material in a lecture, we are training them not to read. We need to hold them accountable for paying attention to the online material. Consider that a quick quiz in the first minutes of class can stand in for taking roll and tends to prevent tardiness. If you’re using a course management system, you can administer the quiz online and set the cutoff time for the start of class. In any case, students need to see that we’re serious about them covering the material on their own. Implementing in-class active learning techniques, shows that we expect mastery, not just multiple-choice familiarity.

**USE YOUR FREED-UP TIME!**

Once we’ve consigned the lecture to homework status, we free up class time for the guidance and feedback that students crave, and that enables transformative learning. Students really need us when they’ve hit a sticky spot with a concept, when they’re struggling to make sense of a tough application problem, or when they’re wondering whether a thesis is incisive or self-evident. This is the stuff that needs to happen in class, when we’re on hand to coach them—not at midnight, when they’re bewildered and solitary. We can pose more challenging problems, demand more critical thinking, ask students to grapple with more complex issues, and then guide them with immediate feedback. We tend to think that the reading is too tough for students. They can’t muddle through initial exposure to these concepts on their own, can they? But we forget that application is the harder part. We can help more when we see where they get stuck, and coach them past the learning thresholds. We’ll also get better work from them this way, so that reading those papers will be less painful, and reviewing those projects more gratifying.

Turning your classroom inside out makes better use of your time and your students’ time. We already know that learning is significantly enhanced when we can offer frequent, timely, individualized feedback, but who has the time to provide it? By flipping the script, we can use class time to answer questions, identify and clear up misconceptions, respond to performance, evaluate arguments or evidence, and do a million other useful things. We can have students write, think, apply, analyze, respond, develop, create, critique... all the many tasks that are so much more useful than simply listening.

Angelo and Cross’ perennially valuable Classroom Assessment Techniques is a treasure-trove of activities that generate learning, tell us how much students are getting, and help them see where they stand. If everyone has to produce an argumentative thesis statement during class, students can practice evaluating other claims and get feedback on their own, without handing you a hefty stack of extra grading. Everyone can solve a word problem and compare solutions and approaches, or assume the role of historical figure in a debate; pairs can critique each other’s work; groups can design a machine or a business plan; students can leave the classroom to collect and identify plant species, and reassemble to compare results. You can circulate, asking and answering questions, so that students

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**BEST PRACTICES > TEACH LIKE A PHYSICS PROFESSOR!**

Last spring I attended a colleague’s Physics class and suddenly I was wistful about the science classes I avoided as a college English major. Not a single student was texting or updating Facebook. Instead, students spent their time applying the class content. My colleague never lectures! And his labs are designed so that students feel they’re discovering the laws of physics. When I slipped in, a group of students let me join their project and explained what was happening. To my amazement, I understood; and even more surprising, I was fascinated. The number of Physics majors is skyrocketing at our university—as it is in other schools around the country, owing to innovative approaches to teaching. These students are not being spoon-fed: instead, they’re becoming rigorous critical thinkers. We don’t have to do labs every day, or ever, in order to make use of this model. The rest of us also can move in this direction. We all teach concepts that we want students to be able to apply. We too can demote the lecture and use class time for interaction. One of my colleagues in Linguistics has freed himself from delivering lectures on arcana, and developed cool, creative exercises to have his students apply the principles to everyday speech. Now instead of dreading his class in advanced grammar, his students are excited to come to class—and so is he.
can receive and use immediate feedback both from their peers and you. This way learning is reinforced, misconceptions are caught before they become entrenched, and the important skills are exercised. Plus no one falls asleep.

This approach will sound familiar to many in the Humanities, where we frequently use a discussion format. In the sciences, it may sound more radical. Nonetheless, faculty across the spectrum are using it to great effect. About a decade ago, a group of Economics faculty, Lage, Platt and Treglia, described this technique in the Journal of Economics Education and labeled it “the inverted classroom.” There’s even a social network called “The Flipped Class Network: A Social Network Dedicated to Educators Interested in the Flip,” where faculty can post and respond to questions from colleagues. There’s a thrilling movement toward the inverted classroom going on in Physics departments, where, despite the copious and intensely challenging content, many faculty are devoting their class time to labs and experiments. (See Best Practices on page 8.)

The inside-out model is informed by the same basic principles that motivate Team-Based Learning, and Just-in-Time Teaching (JiTT), but anybody can use it. It doesn’t demand classroom teams or the pre-class exercises involved in JiTT, and it doesn’t require a full-semster commitment. It’s made easier by the ready availability of high-quality online material, but it works with textbooks too. All we need is a little flexibility and trust that our students, deprived of our presence, can get the main ideas on their own—if we make it necessary that they do so.

We all say we want to teach critical thinking, but the average lecture doesn’t exercise higher-order cognitive skills. Critical thinking isn’t just handed over along with the diploma; it doesn’t strike like lightning when students graduate. We have to be coaxing, training, scaffolding, and rewarding it all the way. If we want our engineers to be able to design sound structures, our nurses to react effectively in emergencies, then they need to be designing and reacting in our classes.

We’re busier and busier lately, and students feel increasing demands on their time too. At my school a huge percentage work full-time jobs, and even more work part time. If we want them to devote time to class, they need to be able to see value in the work they’re doing there. When we invert our classes, and make active learning the primary instructional strategy, we keep our students involved day to day. They’re less likely to miss class, less likely to bomb an exam, less likely to disengage. Their time is used wisely, and so are our talents.

**REFERENCES:**


A website for the Flipped Network, where faculty can ask each other questions: http://vodcasting.ning.com/

Another resource, by two faculty members at the University of Northern Colorado: http://www.flippedclassroom.com/

Salman Khan’s inspiring talk about making content available online, and creating classroom space for activities: www.ted.com/talks/lang/en/salman_khan_let_s_use_video_to_reinvent_education.html