Incredibly Interactive Online Lectures for Principles of Economics
(My Big Fat Online Class)

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To see examples of lecture modules, please go here:

http://professorchappell.com/teaching.htm

or here:

http://professorchappell.com/Econ224_f11/schedule.htm

Title Slide

I'm Henry Chappell of the University of South Carolina, and I will be talking about some tools I use in online teaching. I have been using Internet resources in my teaching since the mid-1990s. I have taught classes with large online components using products like Adobe Connect or voiced-over PowerPoint. Several years ago, I opted to retire at the University of South Carolina by 2013, which gave me some incentive to pick up additional skills that I might use in my post-retirement career. So over the last two years I have taken up the task of teaching large sections of principles of economics, our one-semester micro-macro combination class, in blended and online formats.

At South Carolina, the big online class is partly motivated by budget constraints. However, my feeling is that a nicely designed online class might be better in many ways than a large lecture section. Obviously there are people around who can do a great job in a large lecture hall session. But we also know that there are drawbacks to teaching in

such settings. In my case, I don't sing or tap dance. My point is that it takes quite a showman to pull off an engaging class in a large setting. Even the best showman may have a difficult time engaging students, as opposed to entertaining them. Ultimately, I felt that I might be able to do better in an online setting than in traditional classroom, given that my class would be large.

My Big Fat Online Class

I currently teach an online class with about 400 students. The key elements of my online content are listed on this slide. Most important for this talk are the online lecture modules, as advertised in my title. This is where I deliver content that substitutes for what would be the lecture component of most traditional classes, although one might argue that it is more of a textbook substitute. I'll also discuss my use of streaming video and testing and quizzing via Blackboard, and course organization and communication with students.

Adobe Captivate

Obviously, one alternative to an online class, at least at a place like the University of South Carolina, is a large lecture section. How then to deliver content online? I know that online classes come in many varieties. Voiced-over PowerPoint is one option. I have used PowerPoint, and I have used voiced-over PowerPoints. I have found in the past that I am quite capable of putting students to sleep with cost curves or budget lines. I have also found that in a traditional classroom, PowerPoint greatly enhances my ability to induce sleep amongst students. And voiced-over PowerPoints delivered by way of a computer is almost surely even more sleep-inducing. So I wanted something more engaging than voiced-over PowerPoint, if possible.

I eventually settled on using a product called Adobe Captivate to produce what I call lecture modules, my primary replacement for traditional classroom lectures. My course consists of about 50 modules, each about 15 minutes long. Although I see these as primarily lecture replacement, they might also be seen as a substitute for a textbook. Captivate seems mainly to be used in for corporate training; not so often for university teaching. I'm sure someone else out there used Captivate for teaching economics or other university classes, but I don't know of anyone. I think that Captivate can be used to produce very nice content, but the upfront cost of development for a single teacher is admittedly high. I was mainly looking for a tool that was more engaging and interactive than we typically get with PowerPoint. To the extent that is possible, I'm trying to come close to chalk and talk in terms of dynamics of presentation, or perhaps do better than chalk and talk.

This slide lists some of the technical attributes of Captivate and how I use it. It is specifically described as elearning authoring software. It is slide-based in terms of presentation, but has some enhancements that PowerPoint seems to lack. The file format is Flash; it is delivered via the web and housed in a server at the Moore School at USC.

I should also note that Captivate modules are SCORM compliant, although I've had some difficulty running them in the Blackboard SCORM player as implemented at USC.

I Like Captivate

Here's a list of things that I like about Captivate.

First, the produced modules are more engaging and interactive than some others, hopefully including voiced-over PowerPoint.

Second, it seems to me that it can come close to replicating the nice dynamic that one has with chalk-and-talk in a traditional classroom.

Third, Captivate permits me to force students to occasionally respond to questions, and it tracks (and grades) students' progress.

Captivate does a nice job of displaying graphs and animations, and can easily link to web content. I also use it to prompt participation in Facebook discussions.

So, let's take a look at one of these modules.

Examples

Here is what I hope that you see in the modules:

First, I claim that they are not impersonal (as voiced-over PowerPoints often are). My wife has accused me of narcissism for plastering my photos all over the slides. But I feel that it is important that the students recognize that their teacher is a real human; the same one they can visit in problem sessions and office hours.

I also hope you see that arguments unfold much as they do (or should) in class – students see the tables and graphs as I speak about them. Contrast this with a textbook: Students read the text, but my guess is that they rarely look at the graphs or tables when the text asks them to.

Third, I claim that the modules are well-organized. You may have noticed my learning objectives at the beginning and end. And I spent considerable time on storyboarding and scripting, not to mention recording. In class, I can bog down or depart on a tangent, but I have forced myself not to do so here. A result is that modules are also concentrated – they get through key points efficiently.

As for pacing, students can control this by stopping or replaying a slide. I've had a few students tell me that they especially like to have a chance to rewind a discussion if they did not understand or were distracted. This is difficult in a large class, and of course this all students in a class do not like identical pacing.

I find the modules especially useful for working with dull topics quickly. Have you ever entered 7 columns and 10 rows of cost function data in a table on a Blackboard, and then gone over how each entry is calculated with formulas for different cost concepts? That is deadly material, but it can go quickly in a module. (Pull up the module now if needed).

Finally, handouts, calculators, and Facebook discussions are only a click away.

Creating Modules

As you might suspect, a downside to Captivate is the time required to produce a module. Considering everything from scripting, storyboarding, collecting or editing images, piecing the modules together, and recording voice-overs, I estimate that it takes close to one hour of Chappell labor time to produce one minute of Captivate module time. In other words, this is an undertaking that relatively few have the time for, especially young professors who might also need to establish a research record.

In case you wondered, I took the photos of myself, and had the backgrounds clipped out by a commercial service. In some other modules, I also make use of commercially licensed images. Occasionally, I also import objects or images originally created in Microsoft Word or PowerPoint. For example, my graph paper in the drawings is really a Word table with light blue gridlines. And Captivate's drawing options are

limited; in some cases PowerPoint is better – so I create them in PowerPoint and copy and paste into Captivate.

Hosting Modules

I mentioned before that the modules themselves run on a university server, but that they do not run inside of Blackboard, at least for properly recording student scores. I have tested the modules in other LMSs, and they work perfectly in those.

Testing

I'd like to leave lecture modules and talk about a few other topics now. Testing is a problem for online classes. For that matter, it is also a problem in large lecture classes also.

I give tests and quizzes through Blackboard. I adopted Mankiw's principles book, and I've imported selected test bank questions into Blackboard. I have separate question pools for each textbook Chapter section, and quizzes and tests draw questions randomly from the appropriate pools. For each graded quiz or test, students have access to an identical practice assessment, meaning questions are drawn in the same proportions from the same pools. Students can also take these repeatedly, so those who are really motivated can, with enough effort, almost succeed in seeing almost the complete question pool. Unfortunately, some believe that this is a good way to prepare for tests.

Security is an issue for testing. Students can take quizzes on their own and in any location, but tests are taken in a lab with proctors. I do have a TA who takes on most of the proctoring burden. Students are scheduled for an evening test time over a period of three nights. In a room with about 45 computers, I normally schedule about 15 hours of test time to give a one hour test to 400 students.

Another issue with testing when you draw questions from massive test banks is the quality of the test bank questions. I like Professor Mankiw's book, but I am not happy with the test bank, and I am considering switching texts just to get a better test bank.

Problem Sessions

In addition to the online lectures and quizzes, I hold live problem-solving sessions one night per week. In these sessions I pick a few key problems from the test bank and

sovle them on a blackboard. I video-record these sessions and then stream the recordings from the web. I do not need much technical support with this. My TA normally serves as camera man, using a modestly priced camcorder and a wireless microphone for me. Sometimes I have recorded myself, which means that I fix the camcorder on a spot and then try to avoid walking around.

Attendance at the live sessions is poor, and I have the sense that students rarely watch the videos. So, some improvement, or change in student incentives, might be needed with this part of the course.

Communication

Anyone who teaches a large class, especially an online class, knows that managing e-mail is a key for an instructor who needs to manage his or her own time. The large majority of e-mail inquiries do not concern course content, but rather organizational matters (what assignment is due when; what is covered on the test; why isn't my grade showing up in Blackboard yet? etc.) Almost always the answer to a question is already posted on my course website, but for students, it is easier to send a quick email to ask a question than it is to look for an answer online. Here is how I try to cope with this:

First, I have a course-specific email address so student e-mail about the class is separated from other e-mail I get. Second, my TA and I both monitor this e-mail, however, he answers the routine inquiries. I ask him to be polite – sometimes my own inclination is to get a little snippy, so it is better that he answer. Third, we monitor this e-mail account with G-mail, which has a very nice canned response function. With a click, you can give a standard response. Finally, we often answer the e-mails, with some delay, by sending the student to the course website or FAQ page.

I maintain a web page for the class that is independent of Blackboard. I regularly post announcements, course schedules, the syllabus, links to modules and videos here. Blackboard could be used for this, but Blackboard is very cumbersome, especially for someone who has content in the amounts that I do.

I am particularly pleased with my elaborate FAQ page, which contains answers to most questions that I am asked. I am proud of this one:

> Q: I have read about all of the rules and policies; however, I am special. Do these rules really apply to me?
>
> A: I know that you are special. However, this class has so many special people enrolled that it is necessary to apply the same rules to everyone.

Facebook Page

I created a Facebook group for class discussion. I myself am not much of a Facebook user, but the fact is that the students are usually close to Facebook, so if you want to have some interaction, it is probably the place to have it.

In my class Facebook has two functions. I have shown you that lecture modules sometimes ask student for comments on a question posed. I get fairly good responses to these queries, probably because Facebook is probably open already as most students complete modules. The second function is for posting questions about economics.

You may recall that through my practice tests and quizzes, students can randomly explore the test bank. With 400 students browsing 5000 test bank questions, you can generate lots of cries for help on the night before a test. Suddenly, everyone needs a private lecture delivered to them by e-mail. This of course is a very bad outcome for me. Therefore, I have asked students to post these questions on the Facebook page. Sometimes my TA and I respond there, and sometimes students reply to each other, which is good.

Finally, I should mention that sometimes the students use the Facebook page on their own to set up study sessions, seek tutoring, and other things.

Possible Improvements

I've mentioned that Blackboard does not automatically grade my modules; rather grades are recorded on a distinct server hosting my modules, and I later transfer grades to Blackboard.

Also, Captivate allows me to do much more than I've done so far. For example, it is possible to have branching paths that offer feedback to students who might be stumped by a question. (Most questions in the modules are easy, but a few may not be).

My videos are a bit amateurish, and also sometimes tedious. After all, I'm working out problems on a chalkboard. I think that these could be shortened, focused, and made more interesting. Maybe I could find an econ-drama double major who is interested in making short videos with some character.

Also, video could be embedded in or linked to lecture modules. When the module brings up a topic, why not let students see a short problem solution then and there? If video is converted to Flash, it can be displayed inside of a captivate presentation.

Thanks for your attention. I of course would be interested in any comments or suggestions you have.