OIT Faculty Spotlight

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My definition of a flipped classroom is one in which the students watch an online video tape before class that goes over high level conceptual ideas. And then in the class we actually work on problems that force them to translate those conceptual ideas into actual programs.

The first semester that I flipped the classroom I had the students complete a Blackboard quiz that was about 20 minutes long before class started. And then when class started I would go over things from the blackboard quiz that seem to have some misconceptions. Then after about half an hour we started having the students write programs using this web based software which name of it was Code Assessor. And students were free to work on these problems either singly or in groups of two or three. After about 10 minutes I go back to the front and I show them solution to whatever it is they're working on.

The issue we came across in the first semester was that we weren't getting live feeds from the laptop and whenever I would compose a program interactively, whenever I do a lot diagraming off the smart tablet we'd have these 15 seconds lags before the students would actually see part of the program or see a diagram and all the sudden half the diagram appears out of mid-air and it's somewhat off-putting when you see it.

The second problem was to start developing some web-based software that was going to.. allows to let the students write programs in class. The web software was incomplete and so I applied for and received a Tennessee
Creative Scholar's grant and over the summer finished the web-based software.

Starting the third semester I now use the video tapes that we had created using project RITE. And the students were asked to view the video tapes before class and then we started using clickers to review the material to test the students' understanding of the conceptual ideas in the videotapes. And then we also had students start taking quizzes before class to make sure they actually watched the videotapes.

So the quizzes were to make sure they watched it, the Clickers were to get more real-time feedback on what was happening.

Now what we discovered early on in the semester was that students would not watch seventy-five minute video tapes. At the end of the semester I actually did a survey and found out they were not willing to watch even 30-minute video tapes.

The second problem that we immediately encountered were students were unable to read programs that were um video taped off that projection screen. And I realized I had to get a live feed using a piece of recording software that allows me to take the real-time feed off of my laptop. Students quickly reported that that was a lot better; they now can see the programs since I was typing them in. In the online lecture they could see what I was doing with the tablets.

My advice to people thinking about doing the flipped classroom is you need to go in with a thick height because it is very likely your teacher evaluations are going to slip the first semester. They slipped for me by about 10 percent. And I know first time it did it, it was not nearly as polished as I would have liked. So you have to go into this with the long-term frame of mind that this is going to be not even be a two-semester thing; it's going to take three or four semesters before you really get it polished to where you're
happy with it. You have to go into this with the mindset of... I'm again a novice instructor. But if you stick with it, then you will start to see the results, you'll get better at it, you'll correct your mistakes, the students are going to show up more, they're going to interact with you more. And it's just nice when you're interacting with students especially in a big class. That's something you don't normally get, but with this you get to interact with the students, and that's part of the joy of it. Teaching for me is seeing it when a student has an aha-moment Oh, that was one thing that I couldn't get, and they see it and their face lights up, and that's really neat, so I think it also makes your teaching experience much better.