Flipping Your Course

"Flipping" is the latest buzzword student-centered instruction. Done well, it encourages student preparation for class, deepens student work and embeds that work in authentic (real world) practice, and uses social media to encourage greater student collaboration. It should be much more than just putting one's lectures online and then hoping that they will be so entrancing that students will watch them. Flipping a course well means organizing the course well, using technology well, and acting as an effective coach for the students.

What is a Flipped Course?

"Flipped" classes became popular after an article by Daniel Pink in *The Telegraph* (http://www.telegraph.co.uk/) in 2010. The term "class flip" had been around since 2000, and had been applied to a variety of student-centered teaching approaches (such as peer instruction, inverted instruction, reverse instruction, etc.). The idea is probably best exemplified by Alison King's article "From Sage on the Stage to Guide on the Side," in which she described the shift taking place in the 1990s (King, 1993; Baker, 2000).

The media emphasized "flipped classes" as being the use of online lectures as a means of preparing students for a face-to-face (f2f) class. They did so largely because of the success of Salman Khan's collection of math instruction videos that grew into the Khan Academy and the belief that Khan's method was something new. Instead, Khan's method was essentially a fulfillment of B.F. Skinner's "teaching machines." His method is classic Programmed Instruction, a method that chiefly benefits dedicated and capable students (Skinner, 1958). It is not for everyone, because his videos are essentially books that talk. And not everything can be learned from books, although they certainly help.

Student-Centered Instruction

At the heart of student-centered instruction is a recognition that students need to learn more than declarative knowledge. Such book learning, particularly if it is not seen as directly related to one's intended role in life, will be quickly forgotten after the class is done. Even learning that is related to the student's future role is best learned through social interaction and practice, not by listening to lectures. Those who have succeeded with flipping courses have done so because they adhered to effective practices for student-centered instruction. These include:

1. Students need to prepare for class discussion or they won't have anything to talk about. Students who do the most work are doing the most learning. And they will do that work if they receive useful feedback on it from the instructor.
2. Students need to practice skills in as authentic context (as close to real life) as is feasible to promote transfer.

3. Students should be "moderately challenged." This requires them to improve but allows them to succeed enough that they do not fall into "learned helplessness."
4. Students should be encouraged. Give three positive criticisms for every one negative criticism. There must be some negative criticism, or students will fall into "unconscious incompetence."
5. Students will gain confidence in their knowledge through small group work. The bottom half of the class will benefit the most.
6. The instructor is an important model for the acquisition of skills and of values. Design the class to address multiple modes of communication and to demonstrate the value of diversity.

How Does One Flip a Course?

Just-in-Time Teaching (JiTT): JiTT was developed in the 1990s as a result of the growth of the web. JiTT is the idea that email eases communication between instructor and students, and allows better control of the time between classes. Homework is used more to prepare students for class rather than to test how well they understood past work. Students should be doing twice as much work outside of class as inside of the class. Student work can be submitted weekly, a couple of days ahead of the class meeting time. This gives you an opportunity to read through their work and prepare for the upcoming class based on your knowledge of what the students understand. With JiTT, homework becomes "warm-up" exercises that allow you to address each class's specific needs. Give individual feedback only on the most important assignments or to students who need extra help. Even on important assignments, give a minimal amount of individual feedback (ex. no more than three comments or corrections in each paper) but encourage students to talk further with you, and give them opportunities to do so. When class meets, give generalized feedback to the class as a whole rather than to individuals.

Using Technology Well: Use technology with which you are comfortable, and be prepared to help the students use the technology as well. Every piece of technology you add to the class is one more thing the students need to learn. Pick the technology you use carefully. Here's some of the most popular software packages:

- **Camtasia:** This can be used to develop online lectures, to give feedback on course exercises, or to simply introduce yourself and develop a sense of community in the classroom. As with anything, give the students a reason to watch the lectures. Have them write response papers on them, and then give feedback on them. Use light grading.

- **Discussion Forums:** These are probably the most commonly used online tools. They can be used to share student work in the class, to expand a visiting lecturer's opportunities to talk with your students, or to engage in an enlarged conversation. Watch out for stealing the heat from the f2f class with the online discussion.

- **Blogs:** Blogs can be used to distribute information, to give feedback, and to share student work with the rest of the class (or the world, if that is desired). Blogs can be public or private. As with any writing, the prompts should be carefully designed.

- **Twitter:** Twitter can be used to distribute announcements, or to establish a backchannel for enlarging in-class conversation.

Class management: Reduce your lectures to the bare minimum, the concepts and ideas that cannot be gotten from the readings or material in which students have demonstrated a lack of understanding through their JiTT homework. Compose individual, small group, and large group exercises that keep students practicing the desired skills while working with the desired declarative knowledge. Online exercises are easiest to build for individuals. Asynchronous online work is also easy, but requires a greater amount of time for everyone to respond. Synchronous online work is very difficult to schedule, and should be done primarily with very small groups (partner work of 2-3 students). Build rapport between yourself and your students, and among the students themselves. Encourage them.

Why Flip a Course?

Flipping a course means that the students prepare for class, so there is more participation and hopefully deeper thought in the classroom conversation. Because the students do much of their work preparing for the class session, the f2f time can be spent watching the instructor model the things being taught or practicing skills under the eye of the instructor. Flipping the classroom means that the instructor can concentrate on coaching the students in whatever practice he/she feels is most important. Class time becomes more important. The students work harder and learn the material more thoroughly, and that is also highly correlated with high Student Surveys of Satisfaction at the end of the semester.

There are benefits for the faculty as well. They know their students better, and their students have greater opportunities to share their pre-existing knowledge in class. Each semester becomes a different experience, because the students are different. When one teaches the same class for twenty years, that difference can be invigorating!

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