Flipping Your Classroom: A Ticket to Increased Classroom Collaboration?

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Introduction to CTL Services

Link: http://www.youtube.com/watch?v=lbAzOpCAVgk
Who We Are and How We Can Help!

• One director
• Four associate directors specializing in:
  – peer consultation programs
  – assessment
  – educational technology
  – writing
• Four educational developers specializing in:
  – course design
  – teaching & learning research
  – educational technology
  – blended/online learning
• Faculty associates
• Technical support and services staff
• Administrative staff
• A network of connections across campus

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Flipping Your Class
The flipped classroom inverts traditional teaching methods, delivering instruction online outside of class and moving “homework” into the classroom.

**THE INVERSION**

**The Traditional Classroom**
Teacher’s Role: Sage on the Stage

**The Flipped Classroom**
Teacher’s Role: Guide on the Side

**WHAT A FLIPPED CLASSROOM MODEL DOES**

- Students watch lectures at home at their own pace, communicating with peers and teachers via online discussions.
- Concept engagement takes place in the classroom with the help of the instructor.

Source: http://www.knewton.com/flipped-classroom/
Flipping the NFF

• Yes, I am going to lecture about not lecturing in class
• Let’s flip it!
• [http://www.screencast-o-matic.com](http://www.screencast-o-matic.com) (one of many tools that can be used for lecture capture: Screenr, Captivate, Camtasia, Adobe Connect, etc…)

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Flipping IS

• A complete re-conception of traditional lecture courses
• Moving active engagement into the classroom
• Placing lectures where they most appropriately support learners
• Shifting the instructor from “sage on the stage” to “guide on the side” in-class
• Flipping the instructional strategies in-class, not just the instructional medium
Flipping is NOT

• Lecture capture
• Creating videos
• Assigning videos as homework (instead of readings)
• An anti-lecture movement

• http://www.youtube.com/watch?v=26pxh_qMppE
Bloom’s Taxonomy of the Cognitive Domain

- Benjamin Bloom (1956)
- Educational objectives of the cognitive domain
  (note: also affective and psychomotor)
The Real Flip: Traditional Classroom

Generally done out-of-class

Higher Order Thinking Skills
- Evaluation
- Synthesis
- Analysis
- Application
- Comprehension
- Knowledge

Generally done in-class

Lower Order Thinking Skills

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The Real Flip: Flipped Classroom

- Generally done in-class
- Generally done out-of-class
The Real Flip: Flipped Classroom

Generally done out-of-class

- Knowledge
- Comprehension
- Application
- Analysis
- Synthesis
- Evaluation

Generally done in-class

Yes, some of you have flipped classrooms already!
The Flipped Classroom

Done at home
• Foundational knowledge (scaffolding activities)
• Readings
• Watching lectures
• Exploring online content
• Reflection questions
• Some level of accountability (e.g., quizzes, tweets, etc…)

Done in-class
• Construction and connection of new knowledge
• Discussion
• Group work
• Case studies
• Games & simulations
• Experiments
• Debates
• Problem solving
• Community projects
Videos

• Videos are often a part of flipping (but don’t have to be and don’t have to be fancy)
• Many instructors do a term of lecture capture in preparation for flipping
• Videos allow one instructor with a deep understanding of the material and effective communication skills to present concepts to all students
• Decreases pressure on sessional instructors
• Students can review videos throughout the term
• Content is delivered in more digestible chunks
Videos

• Don’t feel you have to create videos; curation can be just as effective (existing videos, courses, etc…)
  – TED Ed: http://ed.ted.com/
  – YouTube Edu: https://www.youtube.com/education/
  – MIT Video: http://video.mit.edu/
  – MIT Open Courseware: http://ocw.mit.edu
  – Academic Earth: http://academicearth.org/
  – Open Yale: http://ocy.yale.edu/
  – Openculture.com: http://www.openculture.com/
  – OERcommons.org: http://www.oercommons.org
  – Class Central (MOOCs): https://www.class-central.com/
Cautions

• Don’t add videos to at home work without taking something else away
• Textbook as (optional) resource
• Consider your space issues, but don’t let them constrain you
• Don’t assume your students will understand why you’re doing this; explain it to them!
Challenge: What To Do With Class Time?

A wee bit of cognitive theory…

• Learning is distributed
• Learning is embedded
• Learning is socially distributed

(Hutchins, 1995)

• Learning is explicit (codified)
• Learning is tacit (non-codified)

(Polanyi, 1958)
Class Time

• Accountability means students come to class prepared
• Students have often had more time to reflect on course content
• Instructors can focus on higher order thinking (Bloom’s) and development of tacit knowledge (Polanyi)
• Students can benefit from working in distributed, embedded, socially distributed contexts
Class Time Resources


- Interactive Classroom Activities: [http://brown.edu/about/administration/sheridan-center/teaching-learning/effective-classroom-practices/interactive-classroom-activities](http://brown.edu/about/administration/sheridan-center/teaching-learning/effective-classroom-practices/interactive-classroom-activities)

What Does the Research Say?

• Initial adoption based on theory, not evidence
• Research is now emerging
• Caution 1: NSD phenomenon in researching delivery modes (Thomas Russell)
• Caution 2: Confounding in delivery research (e.g., flipping vs active engagement)
• Caution 3: Much experience is *anecdotal*
• It’s not “flipping”, it’s the characteristics of how it’s used: Research should, as always, be viewed critically (e.g., [NYT Article Debate](#))
Case 1: UWWashington

- Freeman, Haak & Wenderoth (2011)
- Large section Biology courses at the University of Washington
- Decreased failure rates (17% to 4%)
Case 2: UBC

- DesLauriers, Schelew & Wieman (2011)
- Large section Physics courses at the University of British Columbia
- Increased Attendance (20%)
- Increased engagement (40%)
- Improved test scores
Case 3: University of Puerto Rico

- Papadopoulos & Roman (2010)
- Electrical Engineering course at the University of Puerto Rico
- Increased rate of information processing
- Increased depth of understanding
- Increased peer assistance
- Increased student achievement

Case 4: MTSU

- Strayer (2012)
- Introductory statistics course at Middle Tennessee State University
- Decreased student satisfaction in the flipped classroom
Case 5: Harvard

- Mazur (2009)
- Large section physics courses with peer teaching at Harvard
- Increased achievement
- Improved problem solving skills
- Increased engagement (associated reduced gender gap)
Back to Screencast-o-Matic…

• [http://www.screencast-o-matic.com](http://www.screencast-o-matic.com)
General Advice

• Start small: Flip a unit/week, etc…
• If you’re creating videos, focus on content that doesn’t change frequently (foundational knowledge)
• Focus on content that can be used across multiple sections and/or courses
• Be a true “guide on the side” (mentor, coach, mediator, sage) and let students do the work
• Let flipping be an iterative, reflective process
How CTL Can Help

• Consultations on flipping your specific course
• Introductions to technology tools used for flipping
• Discussions of what to do with in-class time
• Connections with instructors already flipping (e.g., large sections, sciences/humanities, etc…)
• Peer consultations
• Mentorship circles on flipping
• Featuring your experiences at events
Thank You!
References