

## **Flipped Classrooms**

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### ***What is it?***

In a flipped classroom, students do their content acquisition prior to scheduled classroom time, then use in-class time for the more cognitively difficult work of processing that content.

- Rick McGinnon's infographic:  
<http://blogs.kqed.org/mindshift/2011/09/the-flipped-classroom-defined/>

### ***What is it not?***

- A model where you simply make an online lecture, give an online quiz, and walk away. The active learning that happens in the classroom is integral.
- Students working without structure, in isolation, or all class time staring at a computer.
- Replacing class time with videos and then doing the homework in class.

### ***Why do it?***

- The flipped classroom model gives instructors an opportunity to rethink how they might present content to better align with their goals and objectives.
- It increases interaction and contact time between students and teachers, as well as encouraging student to student contact and collaborative learning.
- It creates an environment where students are engaged in, and take responsibility for, their own learning.
- It provides a class where content is archived for review or remediation.
- It allows instructors to deliver content and design activities that are differentiated based on learner needs, supporting Universal Design for Learning principles.  
<http://www.fi.ncsu.edu/project/fizz/pd/differentiationresources/selfpaced>

### ***What do teachers and students think about it?***

- From an interview with Jon Bergmann: <http://www.thedailyriff.com/articles/the-flipped-class-conversation-689.php>
- Aaron Sams explains why he flipped his classroom:  
<http://www.youtube.com/watch?v=2H4RkudFzlc>
- Bergman & Sams "Flipped/Mastery Educational Model: Student Impressions":  
<http://www.youtube.com/watch?v=ijrmsjdcMTY>
- Katie Gimbar's "Why I Flipped My Classroom":  
<http://www.youtube.com/watch?v=9aGuLuipTgw>
- Graham Johnson, student perceptions of flipped classrooms, Masters Thesis and blog posts:  
<http://flippingmath.wordpress.com/>
- Flipped Learning Network, a professional learning community for teachers using screencasting in education: <http://flippedclassroom.org/>
- Additional links at <https://delicious.com/hopegreenberg/search?p=flipped>

### ***Flipping your class: gathering or creating content.***

- Take advantage of offerings already available online. This could include everything from TED lectures to Youtube. See the CTL's collection of links at:  
<http://www.uvm.edu/ctl/?Page=resources-teaching/multimedia/external-list.php>
- Other web sites offer lessons on specific topics. For example, Indiana University's "[How to Recognize Plagiarism](https://www.indiana.edu/%7Eeistd/test.html)" (<https://www.indiana.edu/%7Eeistd/test.html>) provides examples, explanations, a test and a certificate.
- Look for offerings in your discipline. Kevos Spartalian, UVM Physics, has completely flipped his "Fundamentals of Physics" class with SmartPhysics:  
<https://www.smartphysics.com/Content/About/promo.html>

- Provide foundational or scaffolding questions, study guides, or a notetaking system to help students get the most out of video lectures. Ex: Cornell Notetaking: <http://coe.jmu.edu/LearningToolbox/cornellnotes.html>, or this Framing table from David Culler: <http://www.cs.berkeley.edu/~culler/cs262b/reading.html>.
- Help your students understand how the flipped classroom will work. <http://flippedclassroom.org/video/preparing-students-for-a-flipped-classroom>

### ***Flipping your class: In-class activities and beyond.***

- Several of the following are described in Barkley, Elizabeth F. *Student Engagement Techniques (SET): A Handbook for College Faculty*. (SET names and numbers referenced below) Portions of book available at: <http://books.google.com/books?id=muASTyrwyZgC>
- Checking prior knowledge: short focused questionnaires to clarify student's familiarity and presuppositions with concepts and content. (See JITT Warm Ups [http://webphysics.iupui.edu/papers/jcst\\_warmup\\_paper.pdf](http://webphysics.iupui.edu/papers/jcst_warmup_paper.pdf) or SET 1: Background Knowledge Probe)
- Muddiest Point: Ask students to describe one thing that was not clear during the session. This can be done on paper or in Blackboard. Use these responses to plan for the next class meeting. <http://www.southalabama.edu/petal/Documents/muddiestpoint.pdf>
- Reading/viewing response: Insights-Resources-Application (IRAs): Insights: list 3 bullet points; Resources: find one additional article; Application: paragraph that relates it to student experience. (see SET 32)
- Pros/Cons Debate: Split class or groups into pro-group and con-group. Have them state and support their viewpoint. (SET 12: Split-Room Debate)
- Jigsaw: Each member of a group reads/views different content then explains or teaches the other members. <http://digitalsandbox.weebly.com/uploads/5/5/8/8/5588196/jigsaw.pdf>
- Focus worksheet: students gather answers from other students, signing off on questions as they go. [http://digitalsandbox.weebly.com/uploads/5/5/8/8/5588196/focus\\_worksheet.pdf](http://digitalsandbox.weebly.com/uploads/5/5/8/8/5588196/focus_worksheet.pdf)
- Cooperative Checkup: group members work cooperatively to answer quiz questions. Can be used with clickers or paper. [http://digitalsandbox.weebly.com/uploads/5/5/8/8/5588196/cooperative\\_checkup.pdf](http://digitalsandbox.weebly.com/uploads/5/5/8/8/5588196/cooperative_checkup.pdf)
- The peer instruction blog "Turn to Your Neighbor" proposes ways to combine classroom assessment using clickers, peer assessment and instruction techniques: <http://blog.peerinstruction.net/>
- Problem/solution wiki: Students are assigned a question which they post and answer in the wiki. Other students can edit or augment the answer. Teacher makes the final edits. The questions are used on a later exam.
- Concept Maps for brainstorming or making connections: Use a mapping application (ex: <http://www.mindmeister.com/>) or a whiteboard.
- Animated dialog: reframing an explanation in the form of a dialog is a good way to see if you have mastered a concept. Xtranormal is a free online program that let's you supply the dialog and choose avatars to animate and speak it. (<http://www.xtranormal.com>)
- Poster Sessions: An academic poster does not have to be printed to be a valuable learning experience. Students can and present them in class via a projector. (see Tips, Examples and Templates at the UVM Student Research Conference poster help page: [http://www.uvm.edu/~uvmsrc/?Page=students/poster.php&SM=students/\\_studentsmenu.html](http://www.uvm.edu/~uvmsrc/?Page=students/poster.php&SM=students/_studentsmenu.html))
- Students can screencast as well, particularly for activities where they need to "show their work." CTL has a list of screencasting tools and their features: <http://www.uvm.edu/ctl/?Page=resources-teaching/screencasting/index.php>