Are You Flipping Out or Flipping In?: The How’s, Why’s, and What’s of the Flipped Classroom Model

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Learning is More Flipped
One Man, One Computer, 10 Million Students: How Khan Academy Is Reinventing Education, Forbes, November 19, 2013, Michael Noer

The One World Schoolhouse (Twelve, Oct. 2, 2012)
Salmon Khan (2012).
The One World Schoolhouse
“The old classroom model simply doesn’t fit our changing needs. It’s a fundamentally passive way of learning, while the world requires more and more active processing of information.”

Reusable Khan
Lacking Teachers and Textbooks, India’s Schools Turn to Khan Academy to Survive, NY Times, Anupama Chandrasekaran, Oct. 15, 2012

Students at Sree Karpagavalli Vidhyalaya school in Chennai, Tamil Nadu, watching Khan Academy math videos.

Salmon Khan (2012).
The One World Schoolhouse
He explains that if students have consumed learning content before class, “teachers can then carve out face time with individual students who are struggling; they can move away from rote lecturing and into the higher tasks of mentoring, inspiring, and providing perspective.”

The Flipped Classroom
The Flipped Classroom: Lectures at Home and Homework in class

(Video: 2:43)
https://www.youtube.com/watch?v=UZA7eb74-g

May 13, 2014
Exploring the Fringe: Flipping, Microcredentials, and MOOCs

Jeff Cobb and Celisa Steele, Tagoras
http://www.tagoras.com/2014/05/13/flipped-learning-microcredentials-moocs/

flipping

: learning strategy that offers preparatory or foundational content outside of the classroom and uses class time for active learning

March 12, 2014
The Flipped Learning Network

http://www.flippedlearning.org/definition

What is Flipped Classroom?

• A model of learning that rearranges how time is spent both in and out of class to shift the ownership of learning from the educators to the students (The NMC horizon report, 2014).

• The Flipped Classroom inverts teaching methods, delivering instruction online outside of class and moving homework into the classroom.

• Students watch online lectures at home at their own pace, communicating with peers and teachers via online discussion.

Source: Demski, J. (2013), Illustration by Peter Hoey

Freddie Diaz-Batista, Flipped Learning
February 14, 2014, E-learning Blog
http://freddiediazbatista.com/main/

Flipped VS Traditional

Digital distraction in the classroom
July 11, 2012 by Stephanie Chasteen, The Active Class
http://theactiveclass.com/category/uncategorized/
Digital distraction in the classroom

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http://theactiveclass.com/category/uncategorized/

Teacher’s role

Traditional Classroom
- **At home**
  - SAGE in the stage
- **In class**
  - GUIDE on the side
  - Instructor works with students on hands-on and face-to-face work
  - “Guide on the Side”

Flipped Classroom
- **At home**
  - SAGE in the stage
- **In class**
  - GUIDE on the side
  - Maura Singleton, February 2011, University of Virginia
    http://uvamagazine.org/articles/adjusting_the_prescription/

- Flattened Classrooms and Learning Studios
  - Adjusting the Prescription: The School of Medicine overhauls its century-old educational approach.
  - Maura Singleton, February 2011, University of Virginia
    http://uvamagazine.org/articles/adjusting_the_prescription/

- The Learning Studio: First-year medical students work in teams in the learning studio, a radical departure from the lecture hall. “One of the goals of this whole model—of having students do a lot of the learning themselves rather than passively listening—is that they need to be lifelong learners,” says Randolph Canterbury, senior associate dean for education. (called the “flattened classroom”)

- April 30, 2014
  - Flipped learning skepticism: Can students really learn on their own?, Robert Talbert, Chronicle of Higher Education
    https://chronicle.com/blognetwork/castingoutnines/2014/04/30/flipped-learning-skepticism-can-students-really-learn-on-their-own/

  “Unfortunately this is a common misconception about the flipped classroom: That it’s “learning on your own” without any guidance or support from an instructor... A misconception about the flipped classroom itself, that it is a pedagogy of abandonment, where students are loaded up with books and videos but then left to fend for themselves.”
March 12, 2014
The Flipped Learning Network
http://www.flippedlearning.org/definition
April 1, 2014
Toward a common definition of “flipped learning”, Robert Talbert, Chronicle of HE

Four pillars:
Flexible environment (various modes of learning)
Learning culture (student-centered inquiry)
Intentional content (direct instruction b4 class)
Professional educator (reflective and accessible; collaborates and perfects one’s craft)

Flexible Environment

F.1 □ I establish spaces and time frames that permit students to interact and reflect on their learning as needed.
F.2 □ I continually observe and monitor students to make adjustments as appropriate.
F.3 □ I provide students with different ways to learn content and demonstrate mastery.
Learning Culture

- L.1: I give students opportunities to engage in meaningful activities without the teacher being central.
- L.2: I scaffold these activities and make them accessible to all students through differentiation and feedback.

Intentional Content

- I.1: I prioritize concepts used in direct instruction for learners to access on their own.
- I.2: I create and/or curate relevant content (typically videos) for my students.
- I.3: I differentiate to make content accessible and relevant to all students.

Professional Educator

- P.1: I make myself available to all students for individual, small group, and class feedback in real time as needed.
- P.2: I conduct ongoing formative assessments during class time through observation and by recording data to inform future instruction.
- P.3: I collaborate and reflect with other educators and take responsibility for transforming my practice.

Audience Polling Q#1: How get learners to do the work before class?

- Model it
- Points awarded
- Test on it, email back 2-3 answers
- Make it an expected part of the community
- What else?

Audience Polling Q#2: How else motivate to flip?

- Grade their prework
- Inspire
- Share the purpose, rationale, objectives
- Use it
- Bring back former students for testimonials
- Build on it (not a one-off activity)

6 Expert Tips for Flipping

1. Use existing technology to ease faculty and students into a flipped mindset.
2. Be up front with your expectations.
3. Step aside and allow students to learn from each other.
4. Assess students' understanding of pre-class assignments to make the best use of class time.
5. Set a specific target for the flip.
6. Build assessments that complement the flipped model.

Source: Jennifer Demski, Campus Technology, 23 January 2013
May 13, 2014
Exploring the Fringe: Flipping, Microcredentials, and MOOCs
Jeff Cobb and Celisa Steele, Tagoras
http://www.tagoras.com/2014/05/13/flipped-learning-microcredentials-moocs/

**May Require:**
- More time and effort to prepare.
- Resource investments.
- Prepared learners.
- A different instructional philosophy.
- Active participation.

May 13, 2014
Exploring the Fringe: Flipping, Microcredentials, and MOOCs
Jeff Cobb and Celisa Steele, Tagoras
http://www.tagoras.com/2014/05/13/flipped-learning-microcredentials-moocs/

**Class time spent:**
- Problem solving activities;
- Case studies;
- Facilitated discussion;
- Other.

Freddie Diaz-Batista, Flipped Learning, February 14, 2014, E-learning Blog
http://freddiediazbatista.com/main/

“One of the big mistakes we made when we pioneered this model is that we focused too much on video. We now like to use the term “learning object” when we talk about the flipped classroom. A learning object can include videos, but it also can be resources such as online simulations, books, and periodicals.”

The Flipped Classroom Enables Personalized Learning
Microsoft Educator Network
http://www.pilenetwork.com/HotTopics/personalizedlearning/flipped-classroom-enables-personalized-learning#comments

Aaron Sams and John Bergmann’s book Flip Your Class: Reach Every Student in Every Class Every Day; “15 Reasons To Flip Your Classroom” speak to personalized learning:
- Helps struggling students
- Increases instructor-learner interaction
- Allows for different learning rates or speeds

Teaching for Tomorrow: Flipped Learning (2:52)
https://www.youtube.com/watch?v=4a7NBUr1q_Y
The Flipped Classroom (2:14)
https://www.youtube.com/watch?v=2H4RkufDQzc
"Flipping", TechSmith's e-learning trainers series part 5 (Video: 2:54)
https://www.youtube.com/watch?v=BXSBcM0R1DQ&feature=relmfu

Why is flipping significant?
1. Students can watch, rewind, and fast-forward.
2. Stop and reflect.
3. Devote class time to application of concepts.
4. Better opportunity to detect errors in thinking.
5. Encourage social interaction and peer support.

Digital distraction in the classroom
July 11, 2012 by Stephanie Chasteen, The Active Class
http://theactiveclass.com/category/uncategorized/

"I no longer go to work to 'perform' five times a day; instead, I look forward to going [to class] and interacting with my students all day," says high school teacher Jonathan Bergmann…In the flipped class, instructors create video podcasts for students to watch — either of lectures, or solving a problem, or demonstrations — and post those for the students to watch at home.

Happening in College Too!
http://www.washingtonpost.com/local/education/more-classroom-flipping-in-colleges/2013/03/11/0c425758-8a7f-11e2-98d9-3012c1cd8d1e_story.html

"Flipping The Large Enrollment Psychology Classroom - NC State
(Video: 3:45)
https://www.youtube.com/watch?v=QTDQaaVWEzT

Ohio State Chemistry Flips the Classroom
(Video: 1:10)
https://www.youtube.com/watch?v=6FA_hCmfsp8
My First Attempt to Flip

- Ask students to watch weekly lectures.
- Reflect on key concepts.
- Instructors help moderate it.

Flipped Classroom Research

February 5, 2014
Lessons Learned from 1,125 Flipped Classrooms
It’s been 40 years since the Army first experimented with competency-based learning, Peter D. Lenn
The solution they decided to test was what we now call the “flipped classroom”. After initial successes, the Army opened 1125 learning centers in every combat arms battalion worldwide. They also converted Advanced Individual Training schools to the flipped model. The result was the army was able to train over 500,000 soldiers for highly technical jobs with 85% reaching A-level competence in 40% less time than the prior conventional courses.

February 12, 2014
DODDS-Europe teachers find success with 'flipped classroom' approach
Stars and Stripes, Jennifer H. Swan
KAISERSLAUTERN, Germany
Tried PBL and Cooperative Learning but students not coming to class prepared. After the first year of flipping math...
- Traditional Approach: 77 D’s and F’s out of 265 students (2010-2011).
- Flipped: 29 D’s and F’s (2011-2012.)

Influences on cooperation, innovation and task orientation
Compares learning environments of an inverted introductory statistics and traditional introductory statistics classes at the same university.
- Less satisfied with the structure of flipped classroom than the traditional one,
- More comfortable and open to cooperative learning and innovative teaching techniques,
- The stability and connectedness of classroom learning communities higher.

How to embed inquiry and design projects
Faculty at California State University flipped one introduction to Digital Engineering course with the goal:
1. Increasing quality of learning for collaborative PBL.
2. Address the prevalence of passive learning in engineering classroom and limited professor-student interaction in the large-scale classroom.
Findings: Flipped was effective in general, especially:
1. Improving understanding of course materials
2. Developing design skills.
Inverted classroom model in engineering statistics

Flipped engineering statistics. Findings:
1. Students more cooperative each other
2. Progressed faster thru learning materials;
3. Greater depth of understanding.
4. The student test scores higher than those in the traditional learning environment.

May 21, 2014
Missouri State U Improves Learning Outcomes With Flipped Course, Leila Meyer
http://campustechnology.com/Articles/2014/05/21/Missouri-State-U-Improves-Learning-Outcomes-with-Flipped-Classroom.aspx?

Introductory Psychology (changed fall 2012).
Old Version = 30 percent improvement.
Flipped Class = 76 percent improvement
DFW rate from 24 percent to 18 percent

“and this is a much more rigorous course now” said Hudson. “When you think about it in terms of dollars and retention, that’s pretty significant.”

May 21, 2014
MyPyschLab from Pearson

April 21, 2014
Microflipping: a Modest Twist on the 'Flipped' Classroom
Chronicle of Higher Education, Sam Buemi
http://chronicle.com/article/Microflipping-a-Moderst-Twist/145951/

Microflipping includes:
• Lecture of 5 minutes maximum;
• Clickers, mobile apps, videos, activities, conversation, etc.;
• Constant balance between lecture and activity is by creating a script that outlines what content and activities I will be covering during class, and which technological tools I’ll be using.

How to Create...?
I Flip, You Flip, We All Flip: Setting Up a Flipped Classroom
(Vide: 24:08)
https://www.youtube.com/watch?v=ZRvmjejZSCA

Joe Zisk: http://teacheronline.us/screencapture/

• Screencasting software for iPads includes:
  – Replay Note ($4.99), Explain Everything ($2.99), Screencomp (free), and ShowMe (free).
• Screencasting software for a laptop or desktop includes:
  – Jing (free), Snagit ($29.95), Screencast-o-matic (free), Camtasia Studio ($179), Camtasia for Mac ($75 for a single educator license), and aTube Catcher (free).
Lessons on iPad
(i.e., Flip the class)
(e.g., ShowMe: http://www.showme.com)

April 21, 2014 (6:52 video)
Multimedia Assignments: Not Just for Film Majors Anymore
(student and instructor produced videos)

April 21, 2014

May 18, 2014
Harvard goes all in for online courses
The stress is on production values, props, and, yes, scholarship
The Boston Globe, Marcella Bombardieri

May 18, 2014
Harvard goes all in for online courses
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• Two professors who teach an undergraduate course on China completely replaced in-class lectures with materials from their MOOC, to be reviewed by the students as part of their homework. Class time is now dedicated to discussion, and participation is being graded for the first time—not always to students’ liking.
• Videos are only the beginning. HarvardX is building interactive mapping and timeline tools and a program that allows students to post comments inside videos uploaded by their classmates.

April 14, 2014
The New Academic Celebrity
Why a different kind of scholar—and idea—hits big today,
Chronicle of Higher Education, Christopher Shea

Why Use Video?
1. David Ausubel (1978) argued that knowledge was hierarchically organized.
2. New learning concepts and ideas to be subsumed under or anchored within prior learning experiences (i.e., meaningful info must be related to what already know).
3. Advance Organizers: Per Ausubel, we must provide a context, richer, deeper learning.
Why Use Video?

4. Dual coding theory (learning information verbally and visually is more richly stored): Alan Paivio.
5. Anchored instruction and macrocontexts: John Bransford and colleagues.

Online Video Anchoring

Online videos are used as an anchor or advance organizer of a class lecture.

Which of these video sharing sites do you use?

1. BBC News Video and Audio
2. CNN.com Video
3. MSNBC.com
4. Google Video, Yahoo Video
5. Current TV
6. Fora TV
7. MIT World
8. YouTube, YouTube Edu
9. TeacherTube
10. Link TV, Explore, Global Pulse, Latin Pulse
11. Howcast, Big Think, WonderHowTo, Explo.TV, NASA TV, ClipChef, TV Lesson, BookTV, Edutopia videos, MonkeySee, doFlick, the Research Channel, iVideosong

Educational Video Anchors


Video is Popular in the UK

(Videos of the Periodic Table, Univ of Nottingham)

BookTV on C-Span2

(author interviews)
EDUCASE
7 Things You Should Know About...
Flipped Classrooms

Life in a Drop of Water (Video 1:19)
https://www.youtube.com/watch?v=Gg6Mw60pwBI&feature=share&list=TLvseCJWHG9ucfbwmxmecnHruIu8VEoyBY
10 must-watch videos for flipped learning,
April 21, 2014, eSchool News
http://www.eschoolnews.com/2013/10/24/flipped-learning-190/2/?ast=123&astc=11015

USING TECHNOLOGY TO IMPROVE STUDENT LEARNING: The Flipped Classroom – Strategies and Tips
Professor Joe Zisk, June 16-July 7, 2014
California University of Pennsylvania, zisk@calu.edu
http://teacheronline.us/mooc/microcourse-flyer.pdf
To register: www.teacheronline.us/mooc

Next Steps for you...
And Next Steps for me...

Audience Poll Q#3:
But is this a revolution?
A. Yes
B. Maybe
C. No

Slides at: TrainingShare.com
Papers: PublicationShare.com
Free book: http://tec-variety.com/
cjbonk@indiana.edu

Questions, Comments, Share Ideas
(Will Work, might work, won’t work)