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

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**What is Flipped Classroom?**

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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

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**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.”

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**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.”

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

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Students at Sree Karpa gavalli Vidyalaya school in Chennai, Tamil Nadu, watching Khan Academy math videos.
The Flipped Classroom

March 12, 2014
The Flipped Learning Network
http://www.flippedlearning.org/definition

2013 and 2014
10 Pros And Cons Of A Flipped Classroom, Mike Acedo, TeachThought
The Teacher's Guide To Flipped Classrooms, Edudemic

Pros:
1. Greater student control
2. Work at own pace
3. Learner-centered--engaged
4. Collaborative projects
5. Enhanced discussion
6. Increase access to content
7. Can share content ideas
8. Learning efficiencies
9. Pedagogical opportunities
10. Personalized attention

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

June 2, 2014
University of Wollongong Moodle Lab
Wendy Meyers
http://www.uowblogs.com/moodlelab/tag/flipped-classroom/

LiveTiles
https://www.livetiles.nyc/education-flipped-classroom-vs-traditional-classroom/
2016-2017
"Flipping" a class
University of Texas at Austin
https://facultyinnovate.utexas.edu/teaching/strategies/flipping (video: 37)
https://facultyinnovate.utexas.edu/sites/default/files/what-is-flipped-comparison-120516.pdf

December 21, 2012
Flipping the Classroom: Explained
https://www.youtube.com/watch?v=kLyud3 artificially (video: 1:48)

September 28, 2015
The Flipped Classroom Model
https://www.youtube.com/watch?v=qdtKZig_Bfk (video: 3:00)

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
July 11, 2012 by Stephanie Chasteen, The Active Class
http://theactiveclass.com/category/uncategorized/

At home In class
Students watch videos or screencasts from instructor to get oriented to content
Instructor works with students on hands-on and face-to-face work "Guide on the Side"
Teacher’s role

Traditional Classroom

Flipped Classroom

- SAGE in the stage
- GUIDE on the side

Source: Jeremy F. Strayer, Ohio State University, Flipped Class Conference 2011 (KNEWTON)

The Teacher’s Guide To Flipped Classrooms, Edudemic


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

http://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.”

Instructor Role Changes
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. |

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.

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
https://www.pil-network.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=4a7NUf7r_iQ
The Flipped Classroom (2:14)
https://www.youtube.com/watch?v=2H4RKudF2ic
Flipped-Learning Toolkit: 5 Steps for Formative Assessment
Edutopia, GLEF
https://www.edutopia.org/blog/five-steps-formative-assessment-jon-bergmann (1:40)
https://www.edutopia.org/blog/flipping-the-non-flippable-class-jon-bergmann (2:31)
https://www.edutopia.org/blogs/tag/flipped-classroom

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.

Flipping the Class, Penn State (3:23 video)
https://sites.google.com/site/flippingclass/

Ohio State Chemistry Flips the Classroom (Video: 1:10)
https://www.youtube.com/watch?v=6FA_hCm6sp8

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

Flipping The Large Enroll/Psychology Classroom - NC State
Flipped Classroom Research

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


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

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.”

October 13, 2016
Sherry Turkle Says There’s a Wrong Way to Flip a Classroom
Jeffrey Young, EdSurge

EDUCAUSE
7 Things You Should Know About...
Flipped Classrooms

How to Create...?
I Flip, You Flip, We All Flip: Setting Up a Flipped Classroom
(Video: 24:09)
https://www.youtube.com/watch?v=ZRvmjjeZ9CA
How to Create...?
Creating videos for flipped learning, eSchool News
http://www.eschoolnews.com/2013/09/09/educators-video-flipped-008/2/?ast=123&astc=11015
Joe Zisk: http://teacheronline.us/screencapture/

- Screencasting software for iPads includes:
  - Replay Note ($4.99), Explain Everything ($2.99), Screenchomp (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).

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
Laurel Thatcher Ulrich, a Harvard historian, was filmed in the HarvardX studio for her class, “Tangible Things.”

April 21, 2014 (6:52 video)
Multimedia Assignments: Not Just for Film Majors Anymore (student and instructor produced videos)
Chronicle of Higher Education, Danny Ledonne
http://chronicle.com/article/Multimedia-Assignments/145939/?cid=at&utm_source=at&utm_medium=en
Part 2:
The Rise of Shared Online Video, the Fall of Traditional Learning
Dr. Curtis J. Bonk, cjbonk@indiana.edu
Professor, Indiana University

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.
January 20, 2017
The Changing Earth (Aaron Doering)
http://thechangingearth.com/

April 2, 2017
Weekly 1 minute Video Updates
(e.g., Pinkcasts from Daniel Pink)
http://www.danpink.com/pinkcast/

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

There’s so much video that...

Big Think (April 2, 2017) (short topical video interviews and blogs posts from famous people)
http://bigthink.com/
https://www.youtube.com/watch?v=TAYhj-gekw

Big Think (April 1, 2017) (short topical video interviews and blogs posts from famous people)
http://bigthink.com/
http://bigthink.com/
August 3, 2017
See the exquisite fossil that revealed the colors of a giant armored nodosaur
Ben Gaurino, The Washington Post


Video: 01-20: http://curtbonk.com/dinosaurs2.html

Collaborative Video Annotations and Discussions (Craig Howard, IU)

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

Want to Repeat this Talk on Flipping
Bonk in HD: https://www.youtube.com/watch?v=qg4p2fAdoMFU (20:16)
Bonk in Regular: https://www.youtube.com/watch?v=Y2LeFYwSPF4 (20:16)

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

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)