Flipping the Classroom: How to turn your students’ world upside down

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Think of something you are very good at.
How did you get good at this?
1. listening to lectures
2. practice / trial, error
3. observation
4. other
1 listening to lectures
2 practice / trial, error
3 observation
4 other
What is the model of learning in most classrooms?
This is your brain on lecture
Think about your classroom experiences......
How many of you can say, I remember a classroom that changed my life!

A. Yes
B. No
We need to rethink the purpose of a classroom.
Estimate the shortest distance between third & first base on a professional baseball field, in feet?
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1. 45 ft
2. 90 ft
3. 130 ft
4. 180 ft
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90 ft

\[ a + b = c \]

? ft
Most high school students cannot apply Pythagorean theorem on standardized tests.
Why???
We Tell

\[ a^2 + b^2 = c^2 \]

We Test

They Repeat

\[ C = 127.7 \quad A+ \]
Our classroom models are doing an incredible job of preparing students for the 20th Century!

Cathy Davidson, 2012
Pedagogy of the Oppressed, Paulo Freire

"Education is suffering from narration sickness."
Education doesn’t have to be this way.
Goals

- Flipped Classroom Introduction
- 2 ways to flip your classroom
- Resources for learning more
Flipped Classrooms...
“What exactly are they?”
“Flipping the classroom is...[a] mindset redirecting attention away from the teacher and putting attention on the learner and the learning.”

Sams and Bergmann
Traditional Class

Today’s class: Lecture
Homework: Problems 22–30

“Traditional” Flipped Class

Today’s class: Problems 22–30
Homework: Watch Lecture
When do you think we first heard the call for flipped classrooms?
~450 BC

Socratic Dialogue
1st Flipped Classroom
How do I flip my classroom?
Method 1

Traditional Flipped Class
Instructor Protocol

Out-of-Class
- Record Lecture
- Put Online

In-Class
- Discuss video
  - ~10 mins
- Guided Practice
  - ~50 mins
Lesson Highlights

Lesson Title
Use this title or choose your own.

Press Play
Video can play while working through lesson.

Meet the Creators
View profiles of the experts who made this lesson.

Think
Multiple choice and short answer questions. Pick from the questions provided and/or create your own.

Dig Deeper
Resources for discovering more about the topic.

What does “Flip This Lesson” mean?
"Flipping" a video allows you to turn a video into a customized lesson that can be assigned to students or shared more widely. You can add context, questions, and follow-up suggestions to any video on TED-Ed or YouTube. Learn more about flip teaching.
Let's Begin...

What is a flipped classroom, anyway? In a traditional flipped class, teachers capture lectures on video and have students watch those videos as "homework." Then, during class time, instructors help students apply what was learned at home and guide more complex work, rather than lecturing. Peer instruction is one proven method to boost higher-order thinking during class time, developed at Harvard.

Watch

Think

Dig Deeper

...And Finally
Method 2

JiTT+Peer Instruction
“It would be really nice if they would read the text before class so that I am not talking to a group of zombies who have no information upon which to base an intelligent conversation or discussion regarding the subject matter.”
Pre-Class
Pre-Class

1. Read topic 1 reading assignment.
2. Complete online assignment.
3. Address difficulties in class.
4. Review feedback.
5. 1 feedback question.
6. 2 conceptual questions.
7. Repeat with next topic.
How do I keep my students involved during class time?”
Thermal Expansion
When metals heat up they expand
When metals heat up they expand
Consider a metal plate with a hole in it...
Consider a metal plate with a hole in it...if you heat it up uniformly what will happen to diameter of hole?

A. increases  
B. stays the same  
C. decreases
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A. increases  
B. stays the same  
C. decreases
Peer Instruction

1. Sets the stage for learning at desirable difficulty

2. Engages students in conceptual & knowledge transfer practice

3. Resolves with explanation
Peer Instruction

- Brief presentation
- Question
- Student poll 1
  - <30% correct: revisit concept
  - 30-70% correct: peer discussion
  - >70% correct: explanation
- Student poll 2
- Repeat from start
Peer Instruction

brief presentation

Question

Student poll 1

<30% correct

revisit concept

30-70% correct

peer discussion

Student poll 2

>70% correct

explanation

repeat from start

Goldilocks Range of Desirable Difficulty
Flip Your Class With Proven Methods

CREATED BY JULIE SCHELL USING TED Ed Beta
VIDEO FROM BokCenter YOUTUBE CHANNEL

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Watch
Think
Dig Deeper
...And Finally

Systematic Moral Analysis
Gert’s Moral Rules

1. Do not kill.
2. Do not cause pain.
3. Do not disable.
4. Do not deprive of freedom.
5. Do not deprive of pleasure.
6. Do not deceive.
7. Keep your promises.
8. Do not cheat.
9. Obey the law.
10. Do your duty.
Heinz’s wife was near death, and her only hope was a drug that had been discovered by a pharmacist who was selling it for an exorbitant price. The drug cost $20,000 to make, and the pharmacist was selling it for $200,000. Heinz could only raise $50,000 and insurance wouldn’t make up the difference. He offered what he had to the pharmacist, and when his offer was rejected, Heinz said he would pay the rest later. Still the pharmacist refused. In desperation, Heinz broke into the store and stole the drug.

**Should Heinz have broken into the store to steal the drug for his wife?**

A. Yes  
B. No
JiTT+Peer Instruction

1. Engages students in meaningful activity in and out of class

2. Easy to implement

3. Gets us closer to purpose of education
Resources
#1 Tip

Find a Mentor
Peer Instruction Network

Turn to Your Neighbor
Official Peer Instruction Blog - blog.peerinstruction.net
Try to flip your classroom...it may just turn your students’ worlds, upside down.
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Drive, Daniel Pink

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