

# Flipping the Classroom:

## How to turn your students' world upside down



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**Slides:** [scholar.harvard.edu/julieschell](http://scholar.harvard.edu/julieschell)



CRAFT PD  
10 November 2012  
Austin, TX

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



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- 2 practice / trial, error
- 3 observation
- 4 other

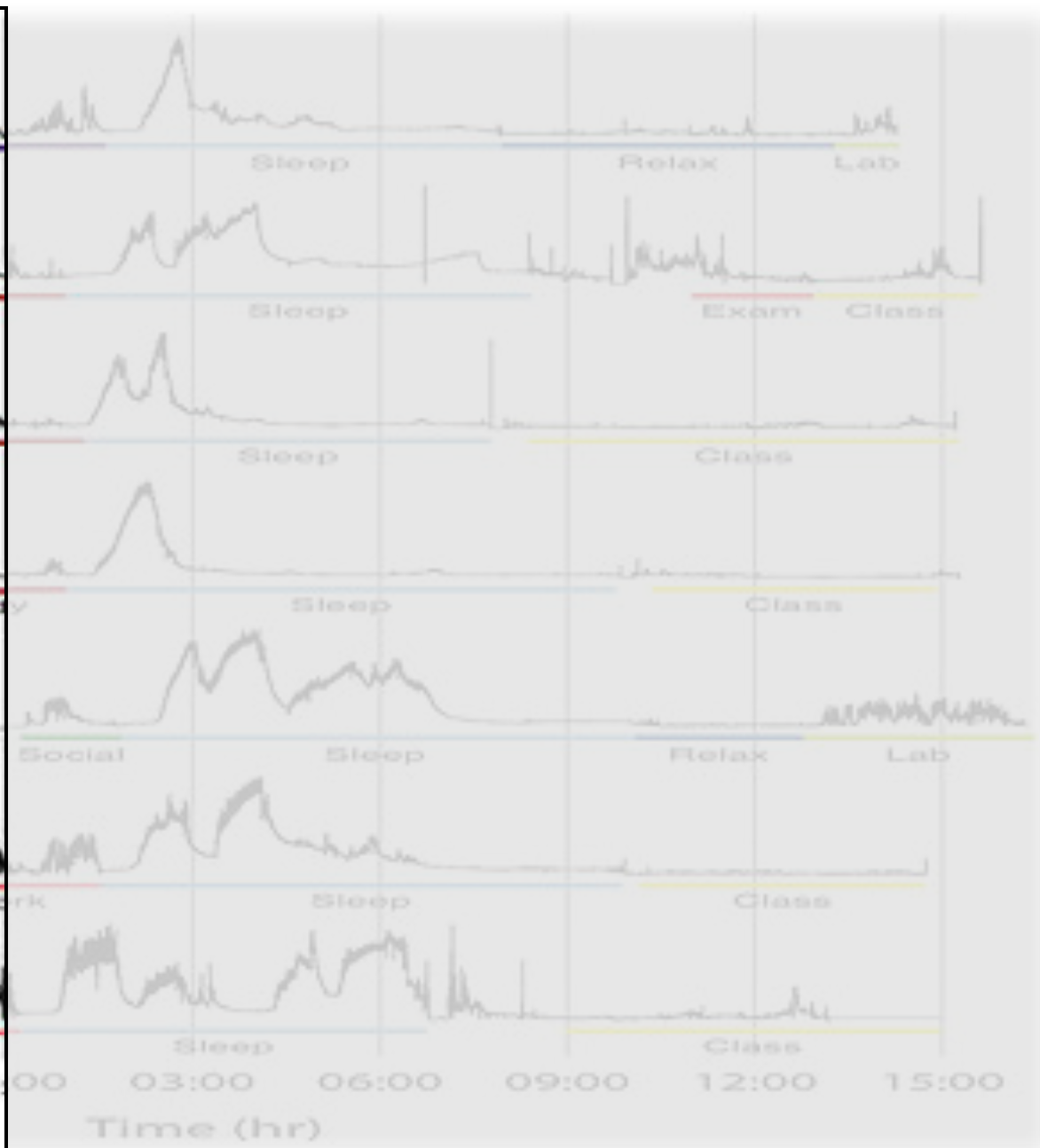
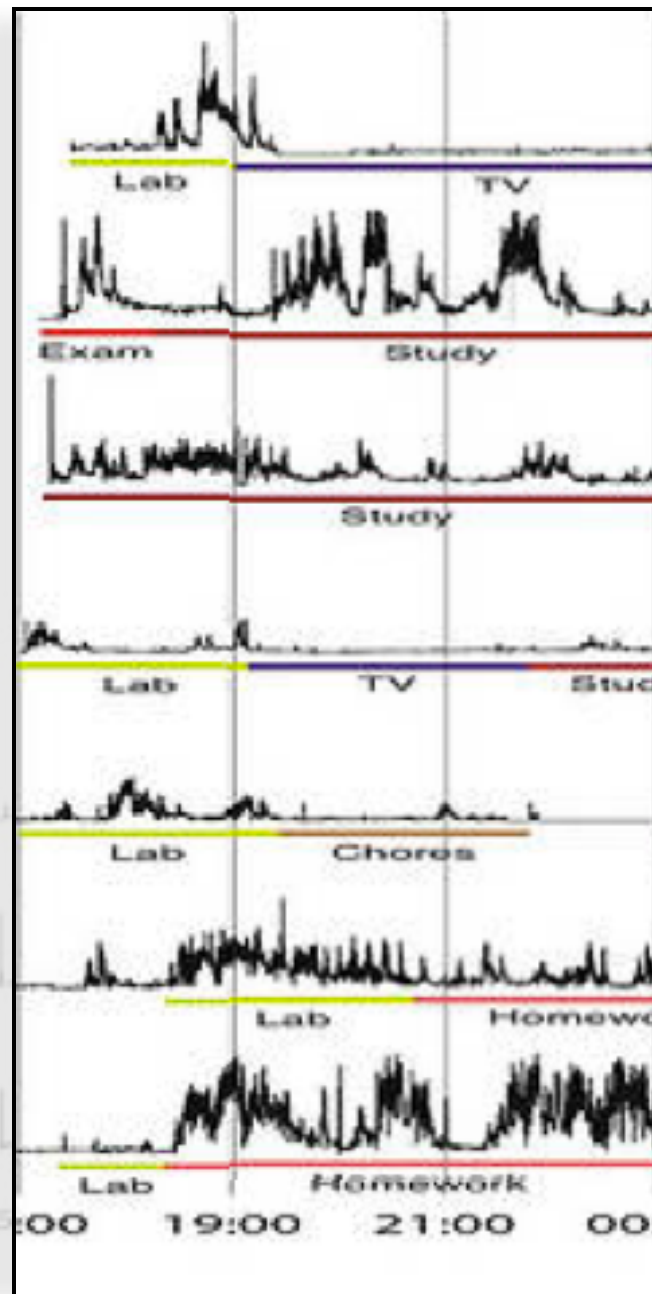
**What is the model of  
learning in most  
classrooms?**

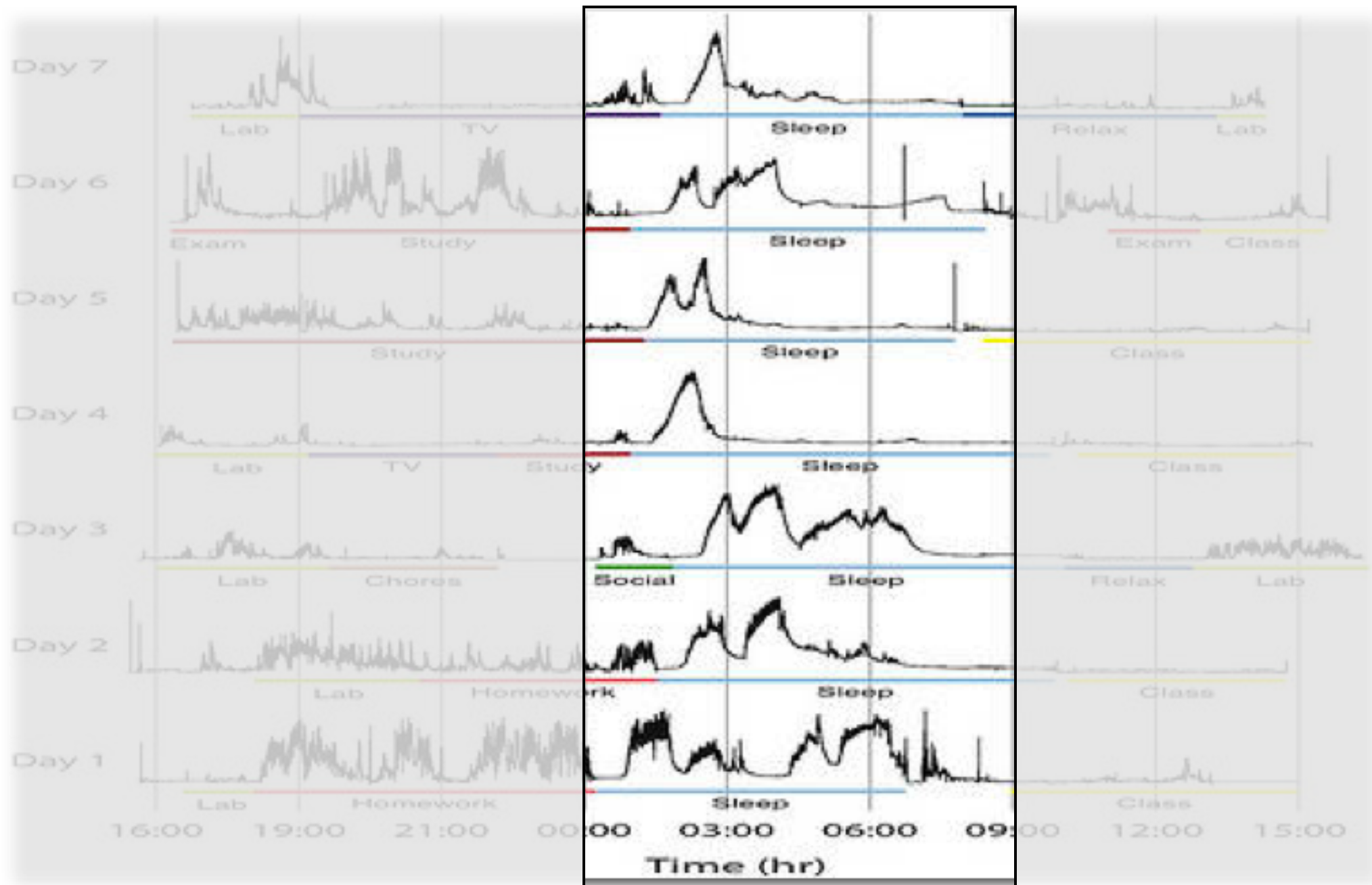




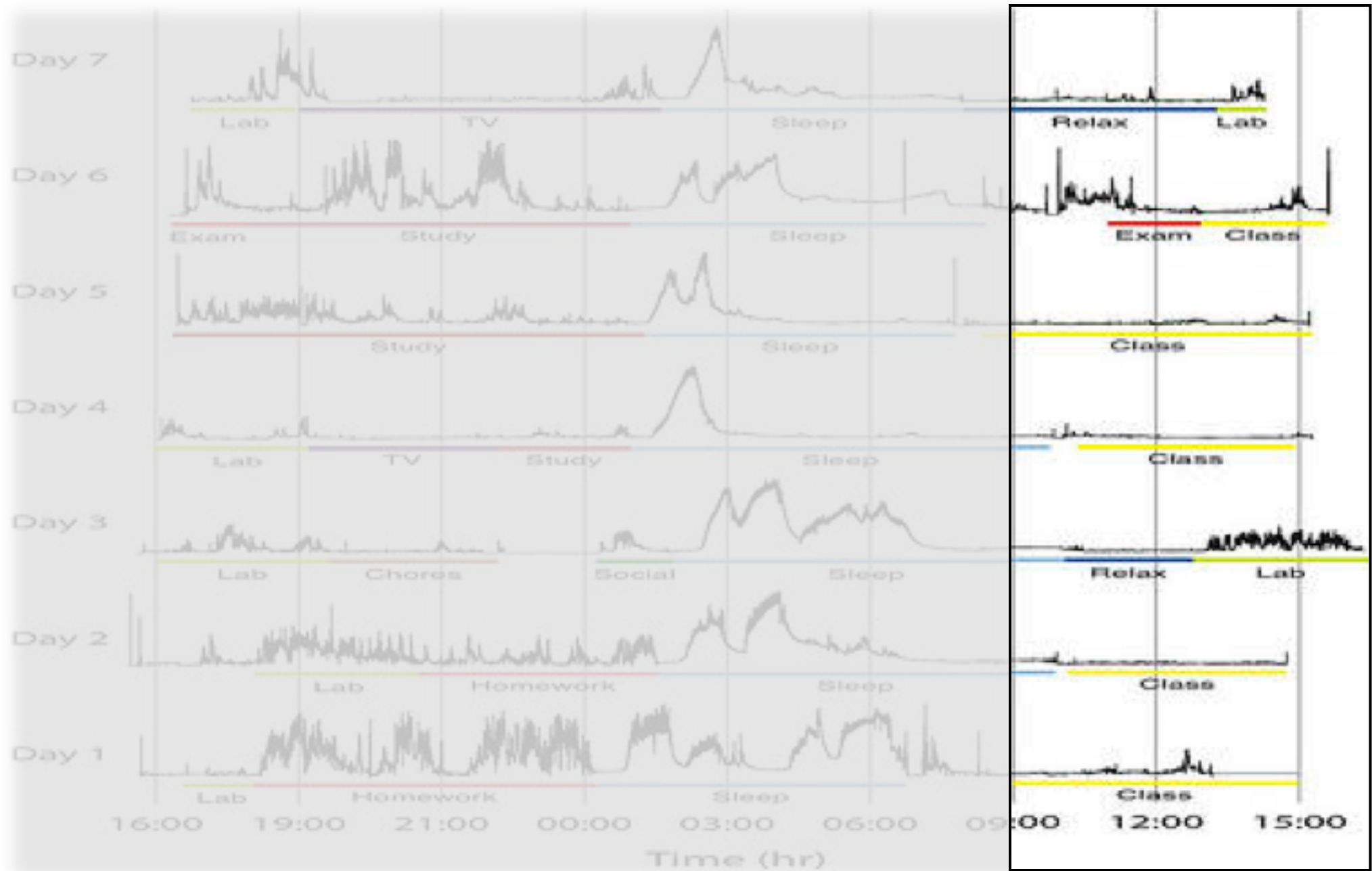


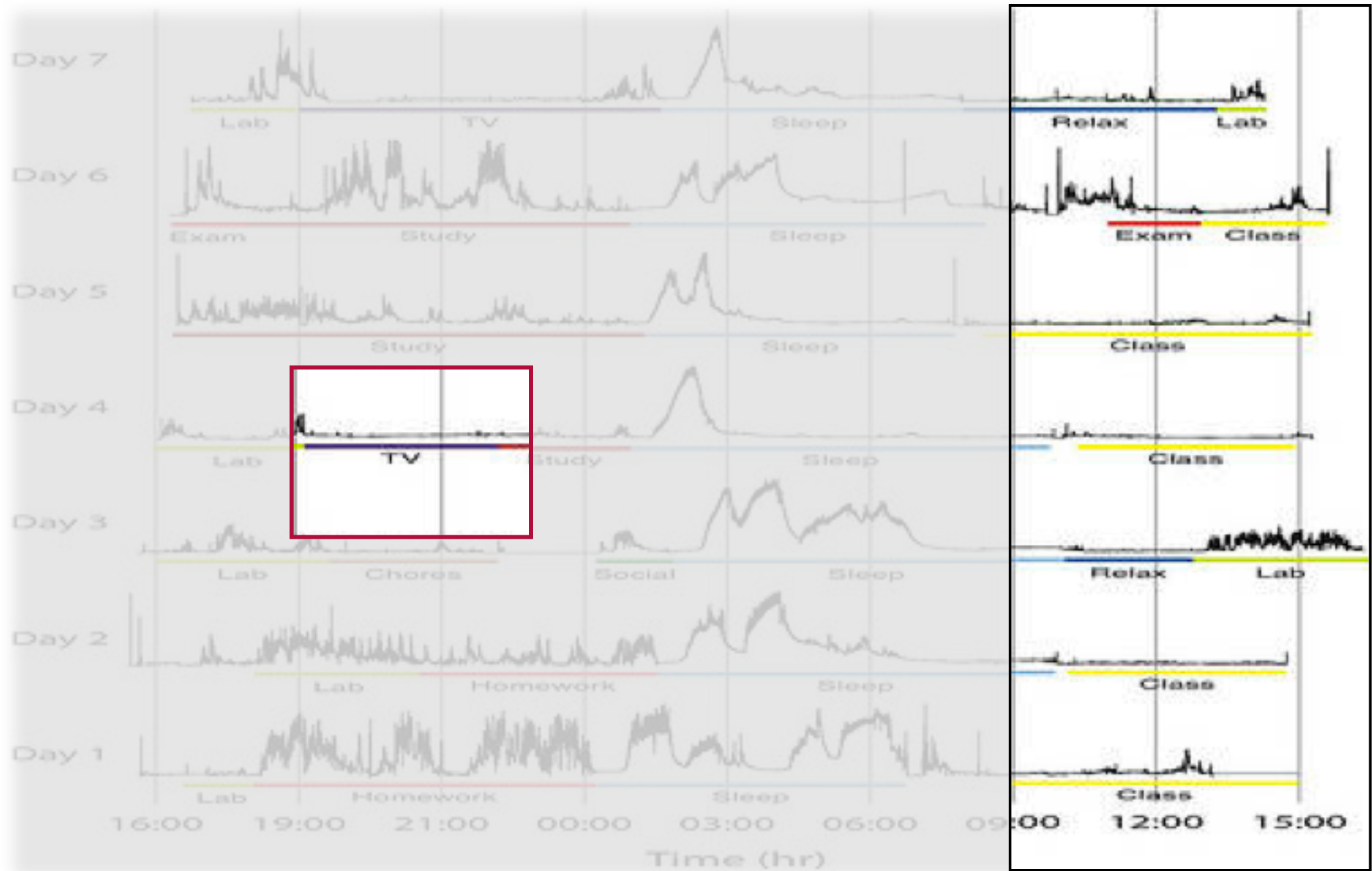






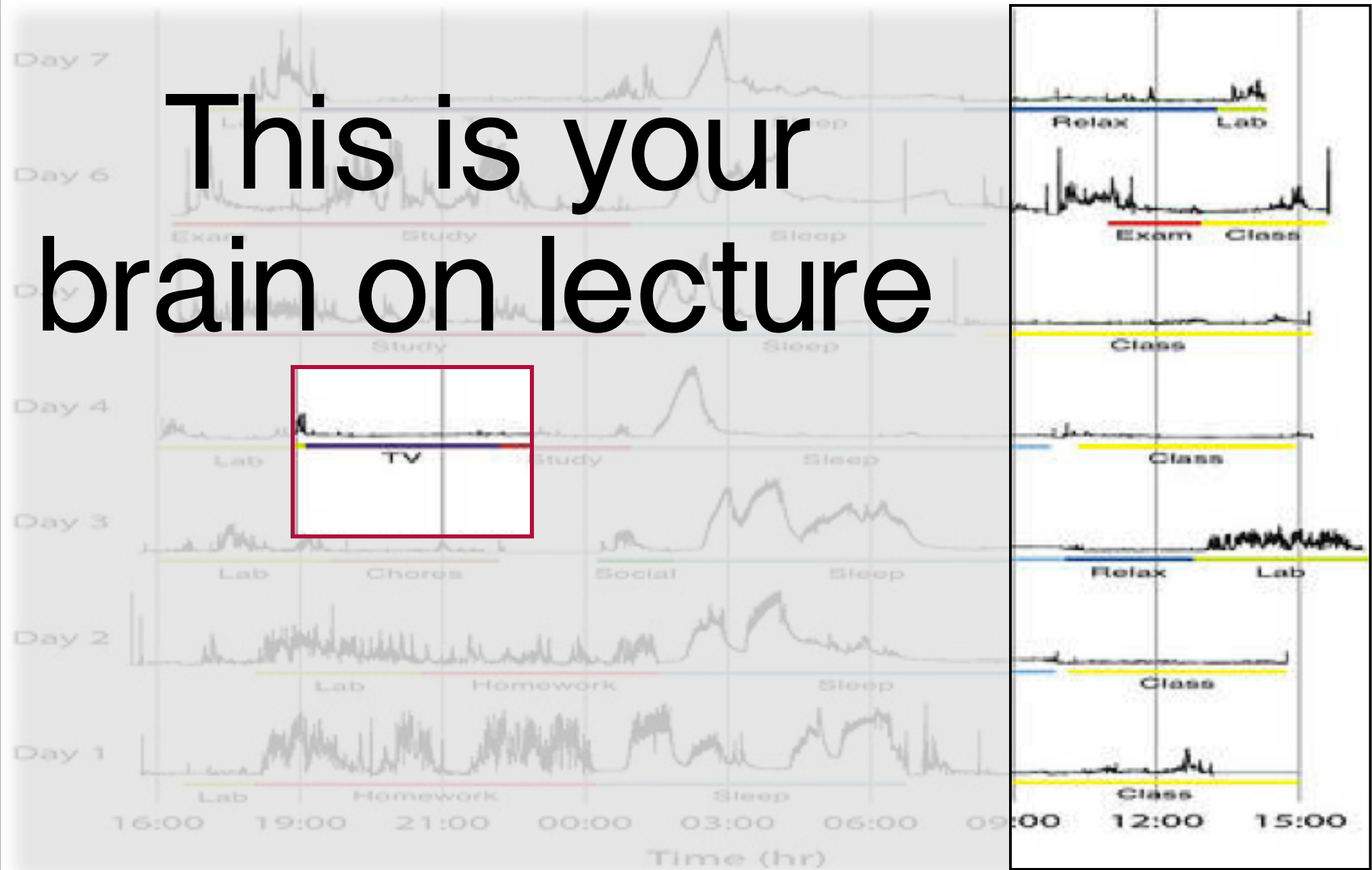








# This is your brain on lecture



**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?



Estimate the shortest distance between third & first base on a professional baseball field, in feet?



- 1. 45 ft**
- 2. 90 ft**
- 3. 130 ft**
- 4. 180 ft**

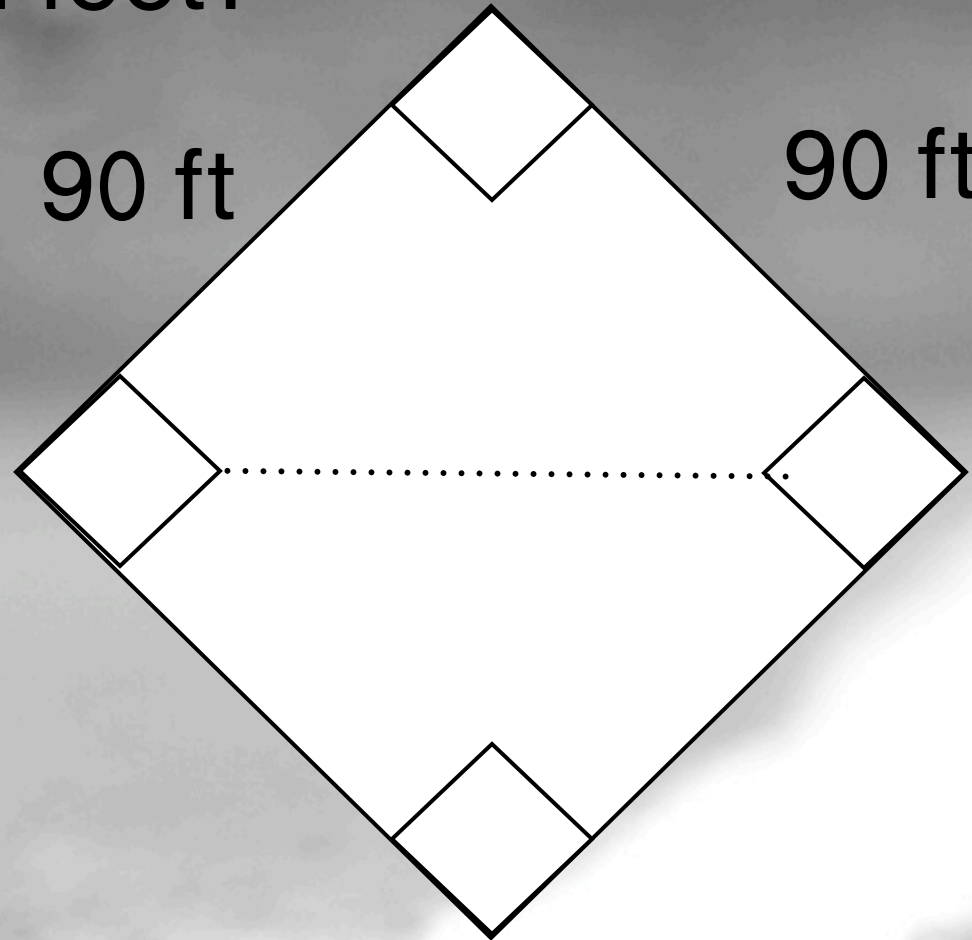


Estimate the shortest distance between third  
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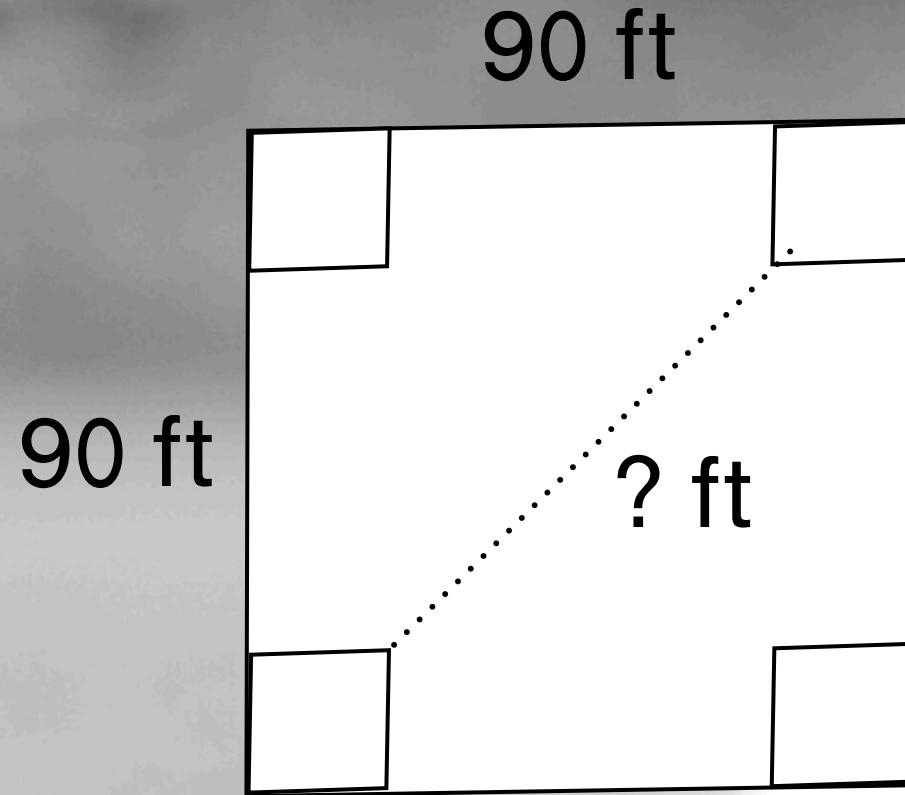
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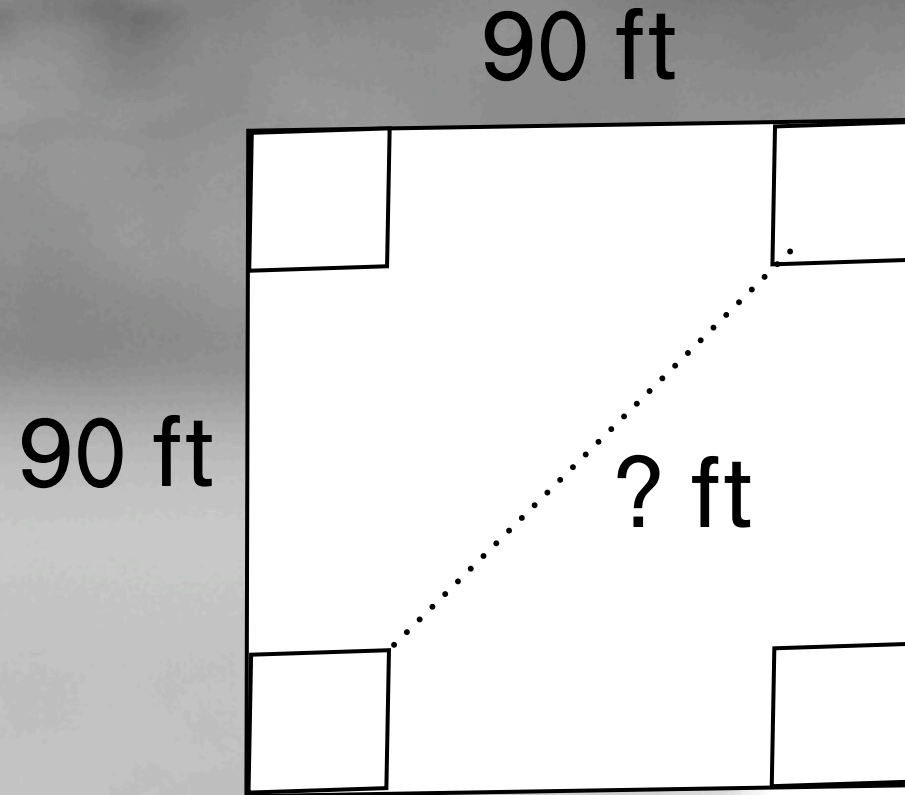




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$$a^2 + b^2 = c^2$$

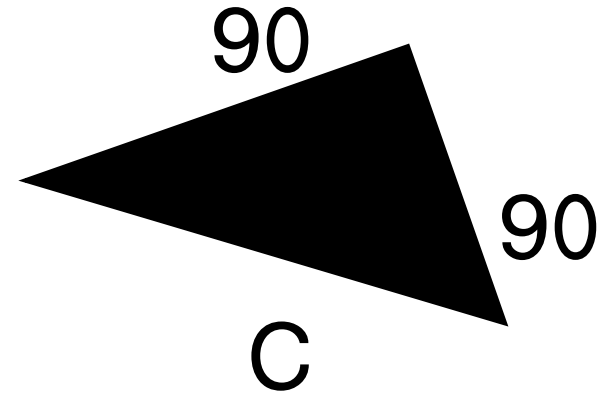
Most high school students cannot apply Pythagorean theorem on standardized tests.

**Why???**

# We Tell

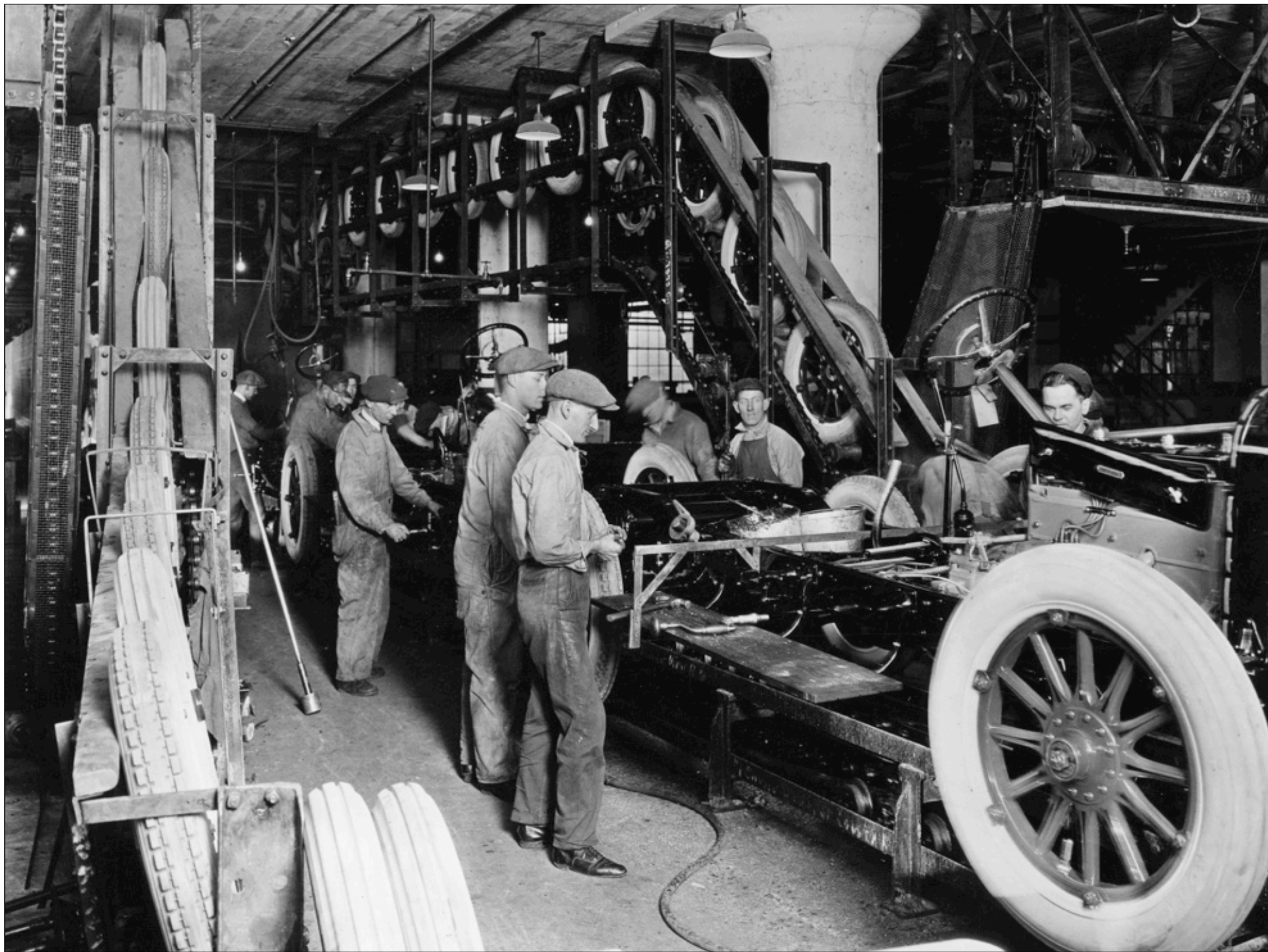
$$a^2 + b^2 = c^2$$

# We Test

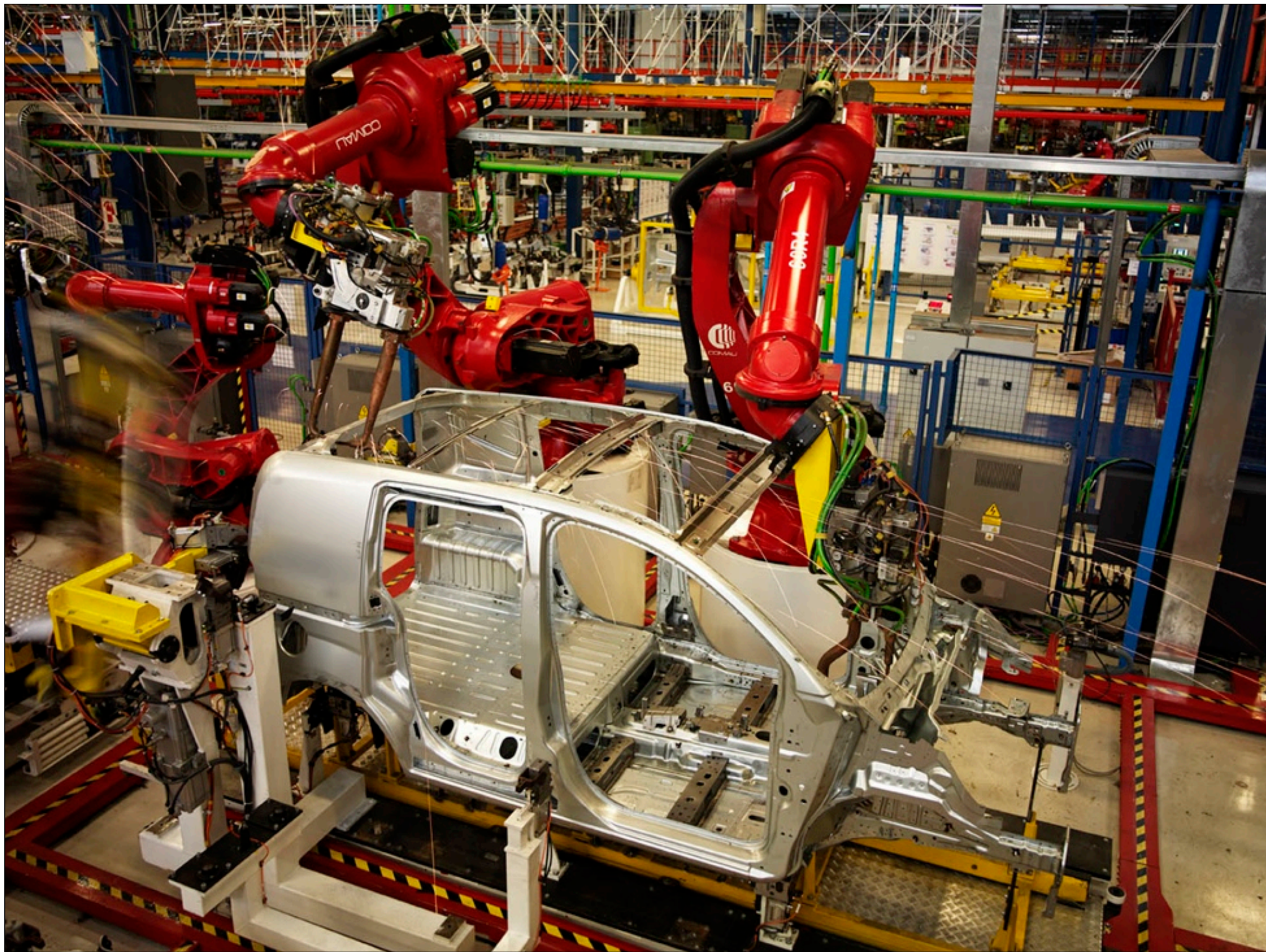


# They Repeat

$C=127.7$   $A+$









Our classroom  
models are doing an  
**incredible** job of  
preparing students  
for the **20th Century!**





Education doesn't  
have to be this way.

# Goals

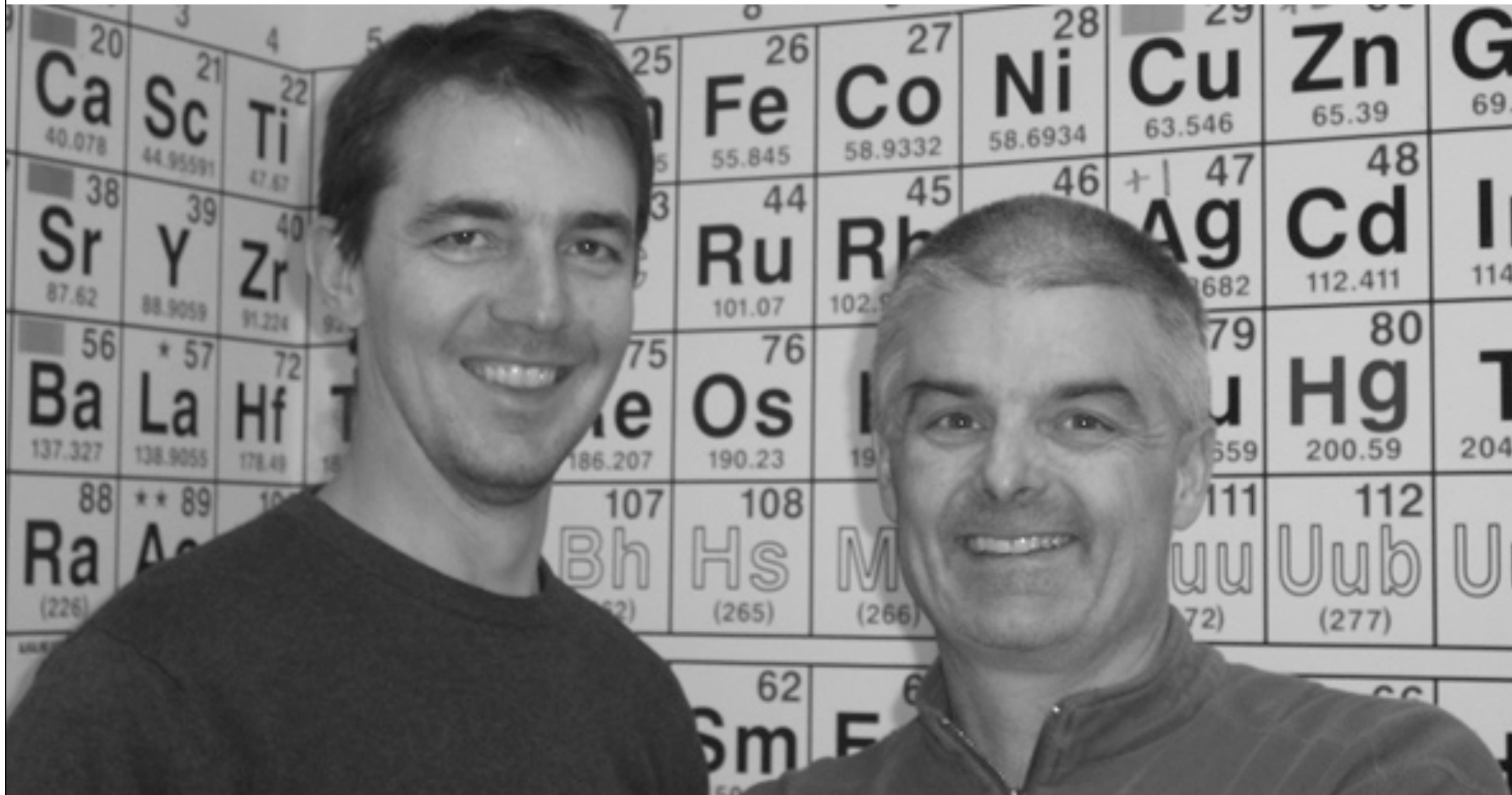
- Flipped Classroom Introduction
- 2 ways to flip your classroom
- Resources for learning more

# Flipped Classrooms...

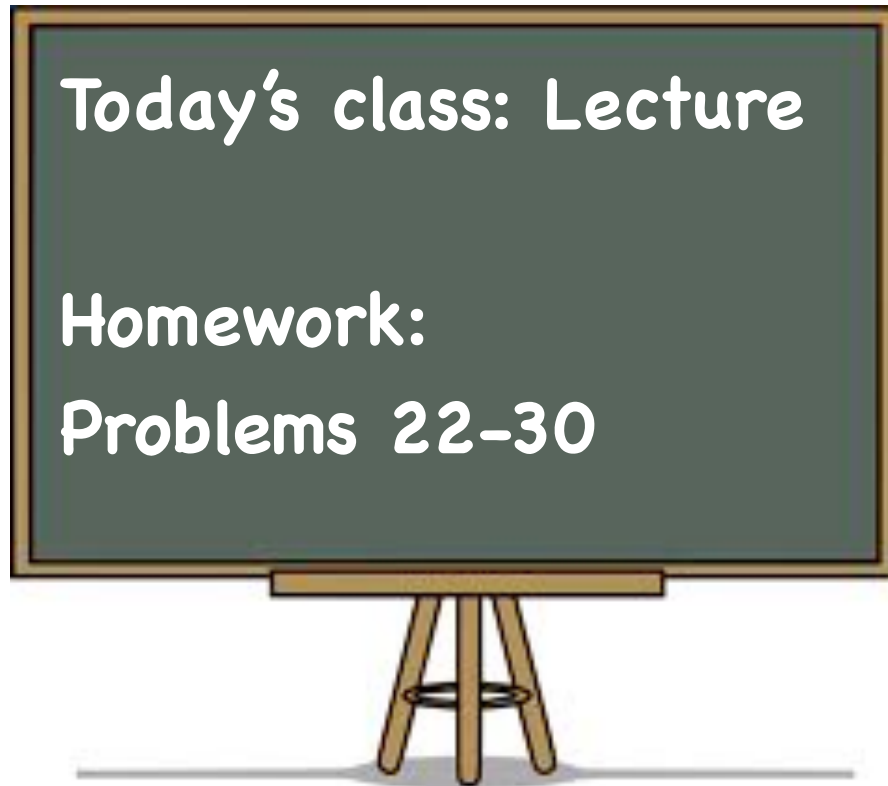
*“What exactly  
are they?”*

“Flipping the classroom is...[a] **mindset** redirecting attention away from the teacher and putting attention on the learner and the learning.”

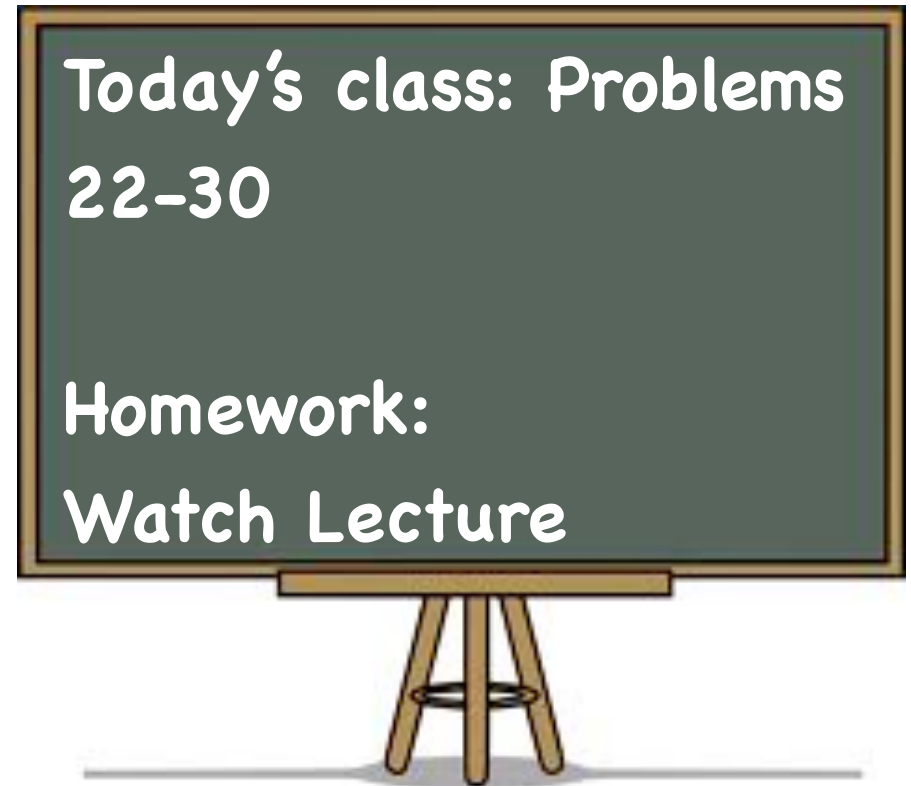
Sams and Bergmann



## Traditional Class



## “Traditional” Flipped Class



When do you think we  
first heard the call for  
flipped classrooms?



A

21st century

B

20th century

C

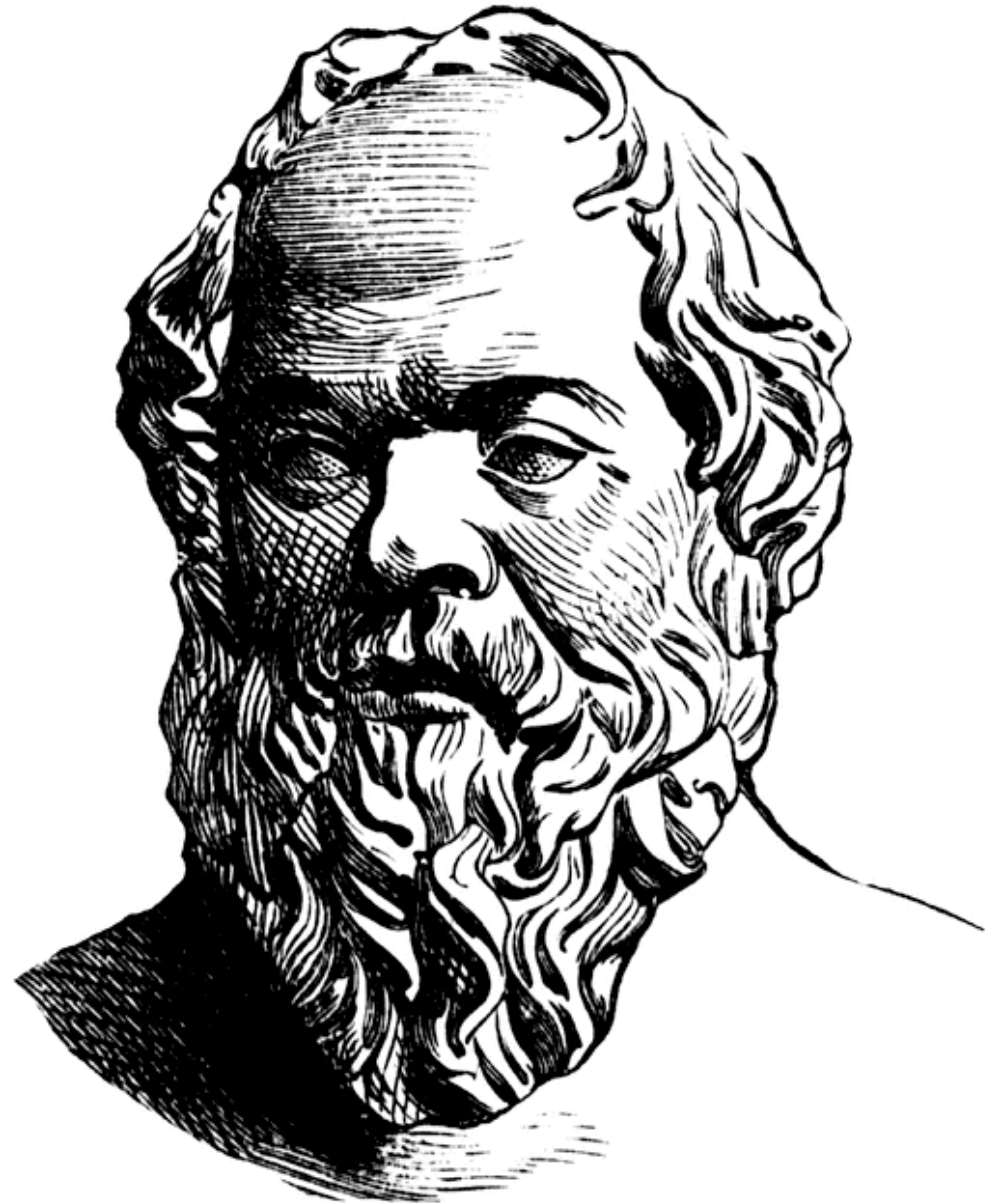
19th century

D

Way early

~450 BC

Socratic Dialogue





# 1st Flipped Classroom







How do I flip my  
classroom?

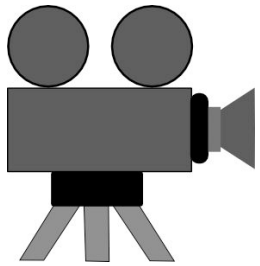


# Method 1

Traditional Flipped  
Class

# Instructor Protocol

## Out-of-Class



**Record  
Lecture**

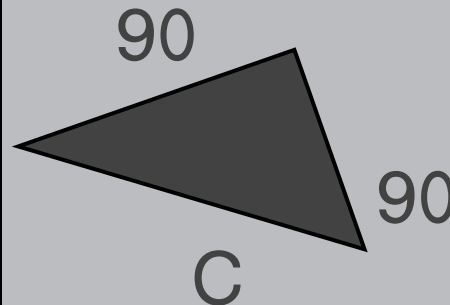


**Put Online**

## In-Class



**Discuss  
video  
~ 10 mins**



**~50 mins  
Guided  
Practice**

# 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.](#)

# Flip Your Class With Proven Methods

CREATED BY **JULIE SCHELL** USING **TEDEd** Beta

VIDEO FROM **BokCenter** YOUTUBE CHANNEL

## 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



Flip This Lesson



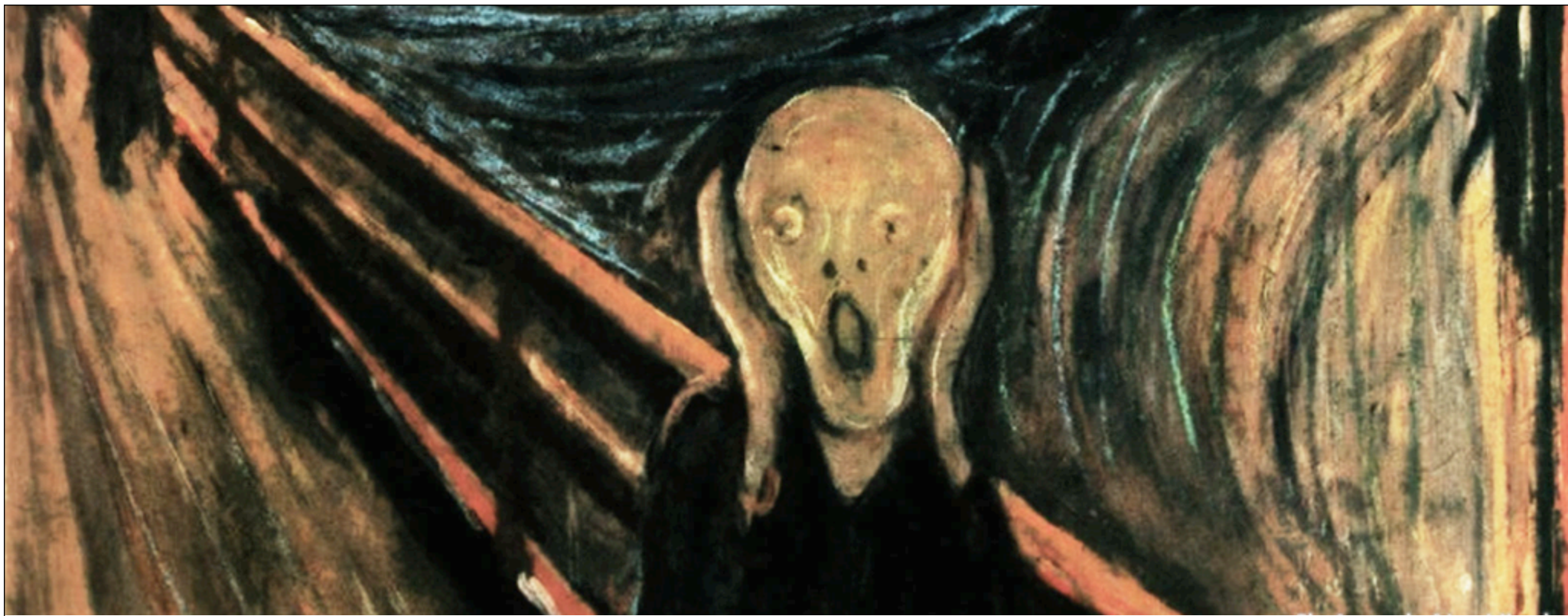
[Create Your Own Lesson](#) | [Send Us Feedback](#) | [Flag As Inappropriate](#)

**TEDEd** Beta

# Method 2

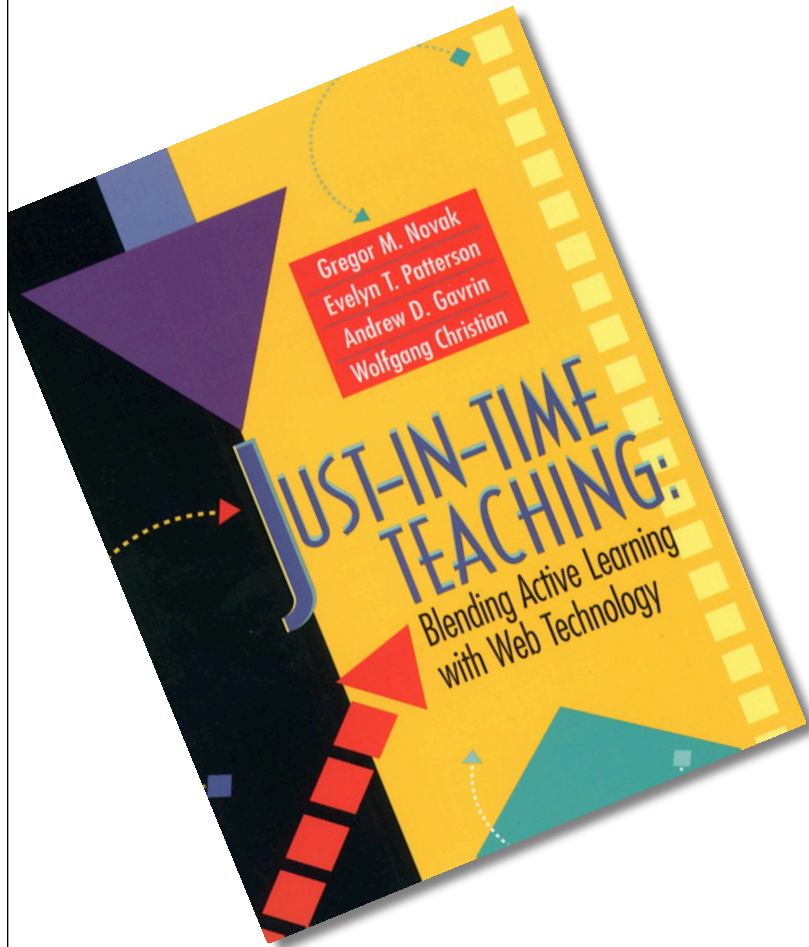
JiTT+Peer Instruction



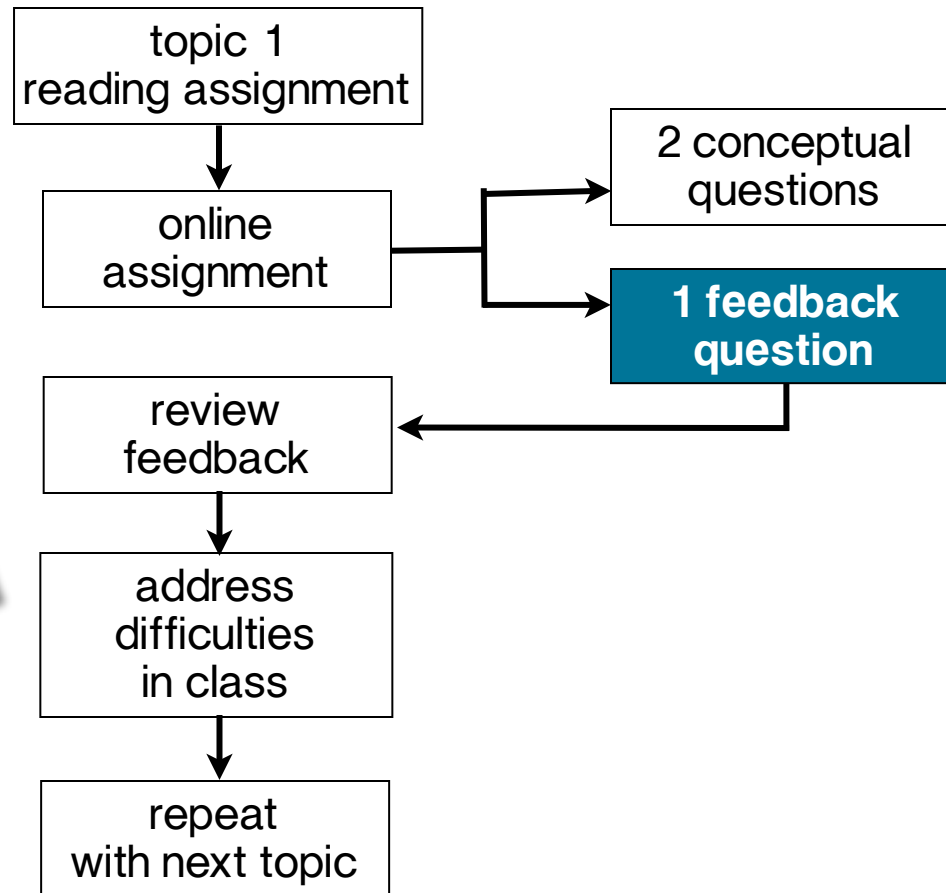
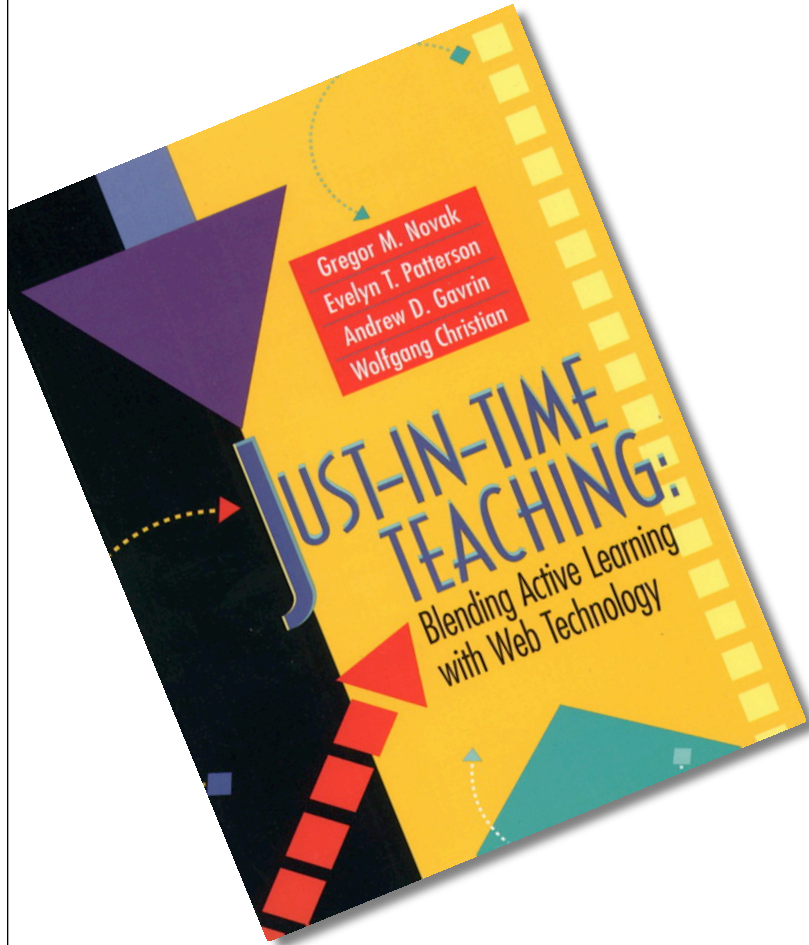


*“It would....be really nice if they would read the text before class so that I am not talking to a group of zombies who have no information upon which to base an intelligent conversation or discussion regarding the subject matter.”*

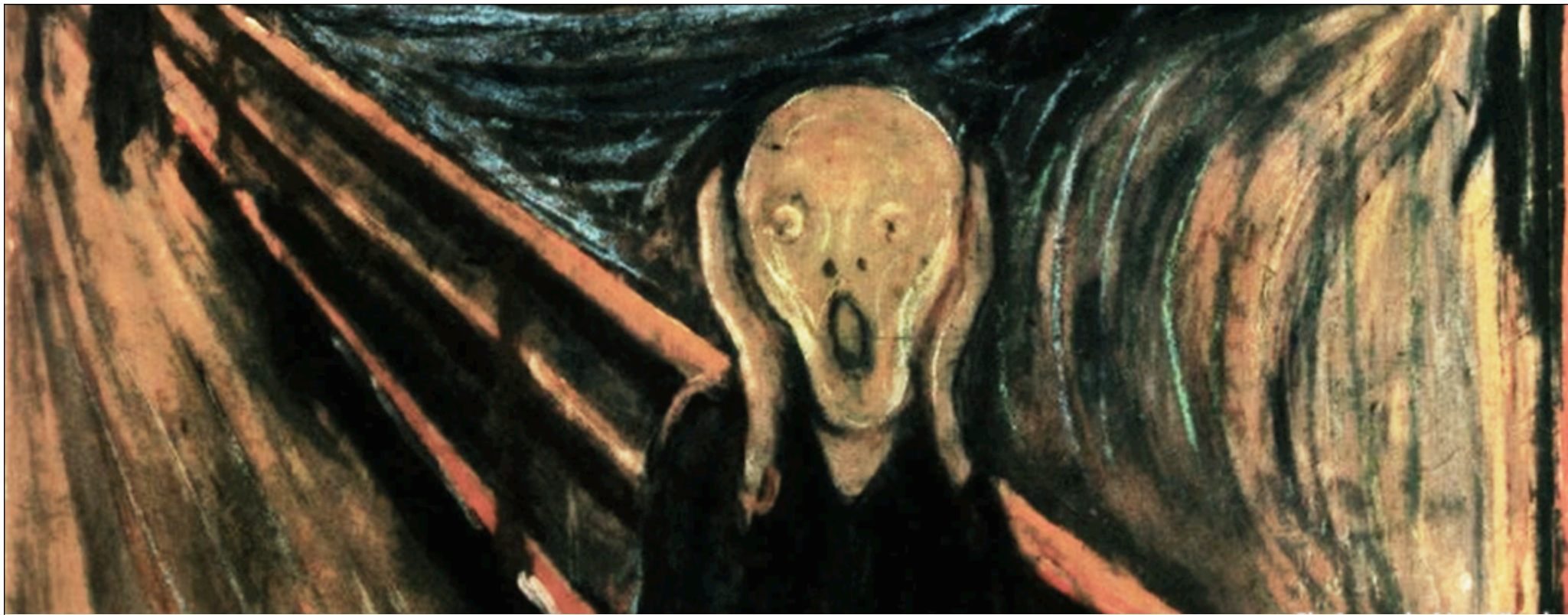
# Pre-Class



# Pre-Class







*How do I keep my students involved during class time?"*

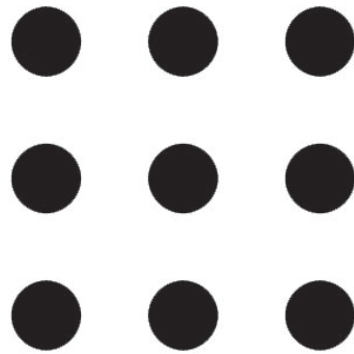
# In-Class



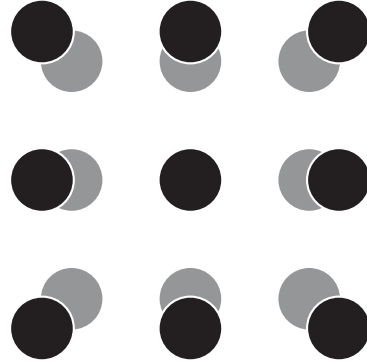
# Thermal Expansion



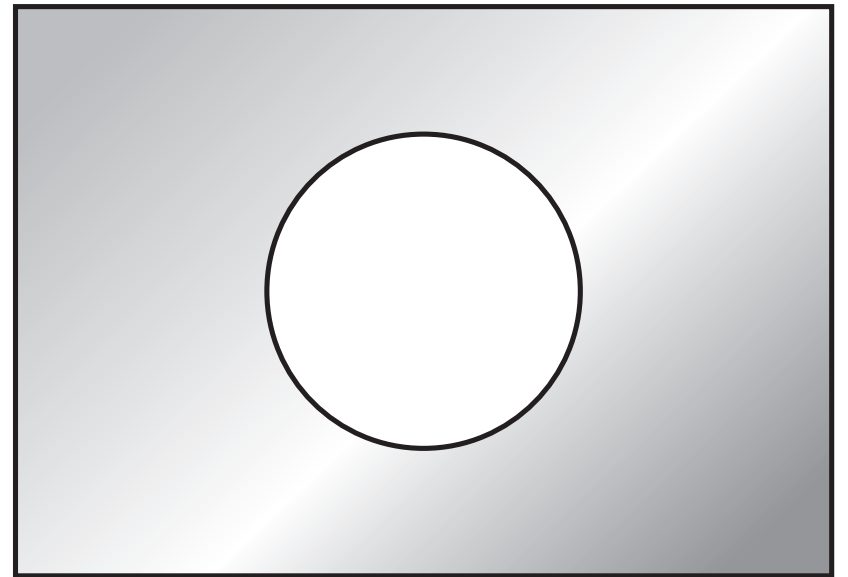
# When metals heat up they expand



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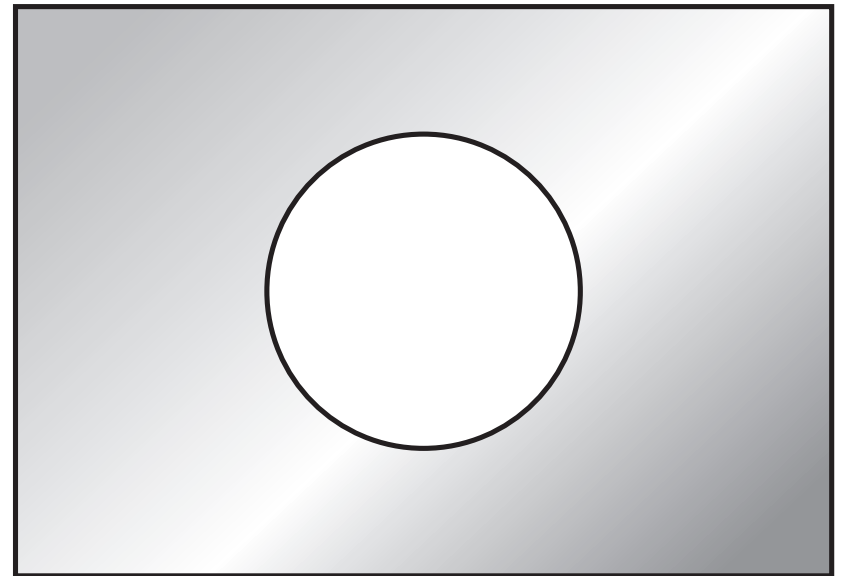


Consider a metal plate with a hole in it...



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



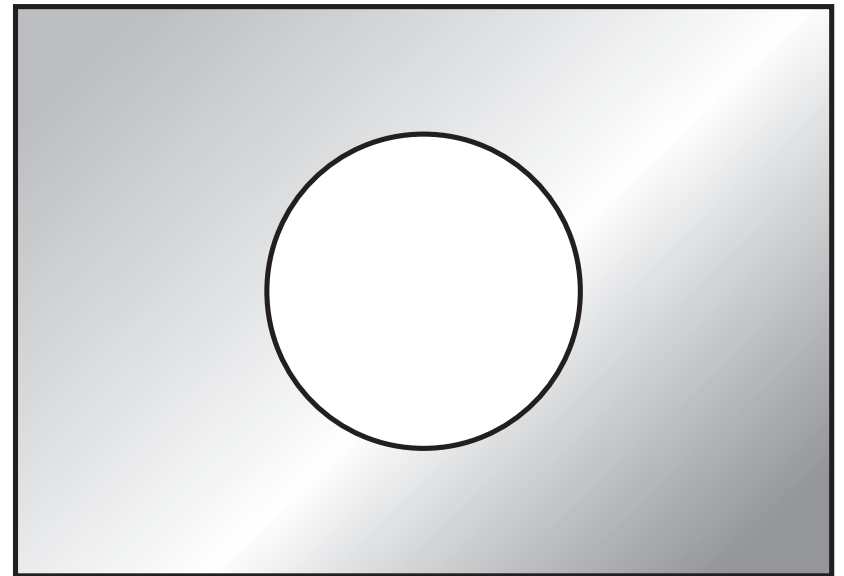


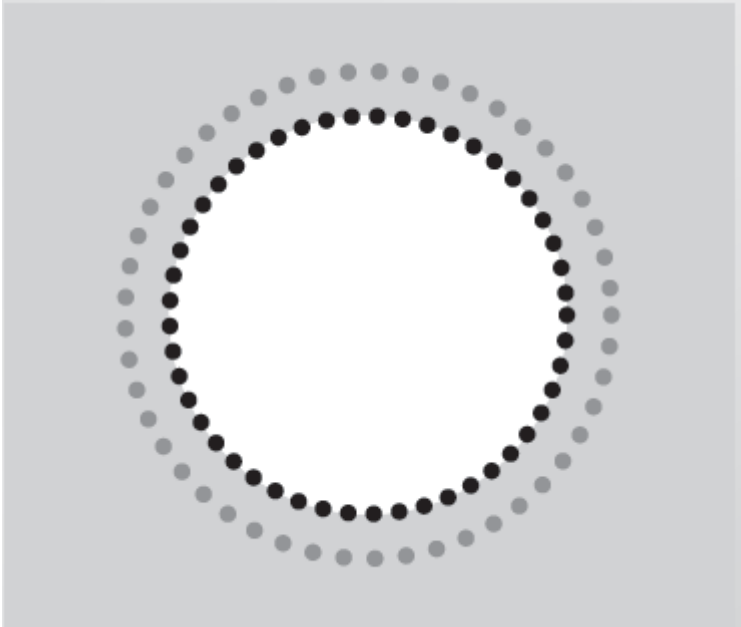
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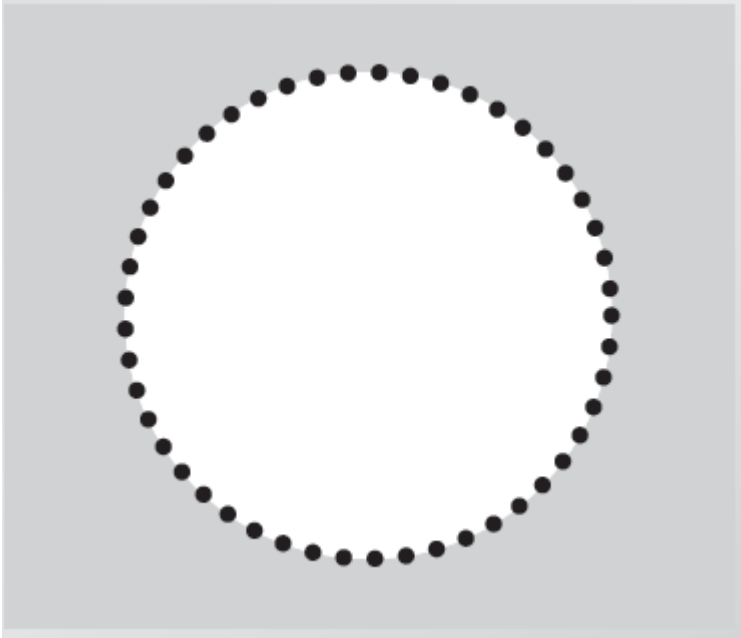
**A. increases**

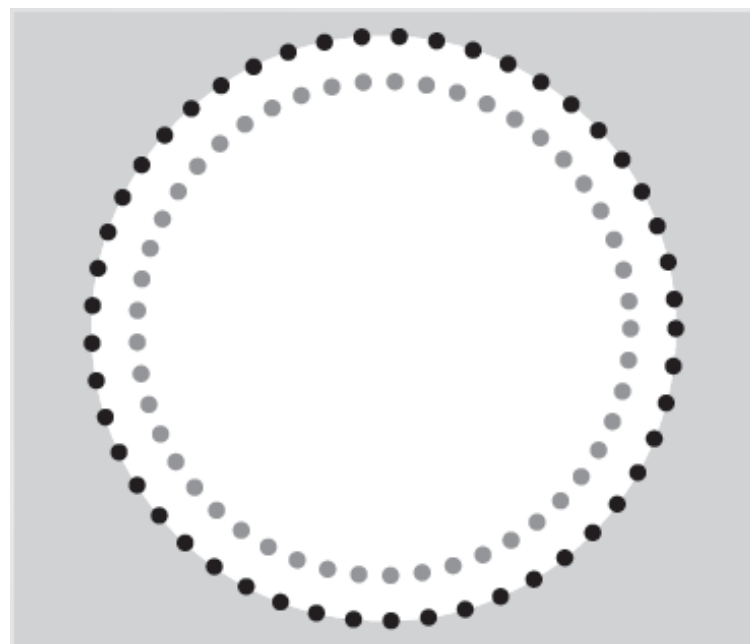
B. stays the same

C. decreases







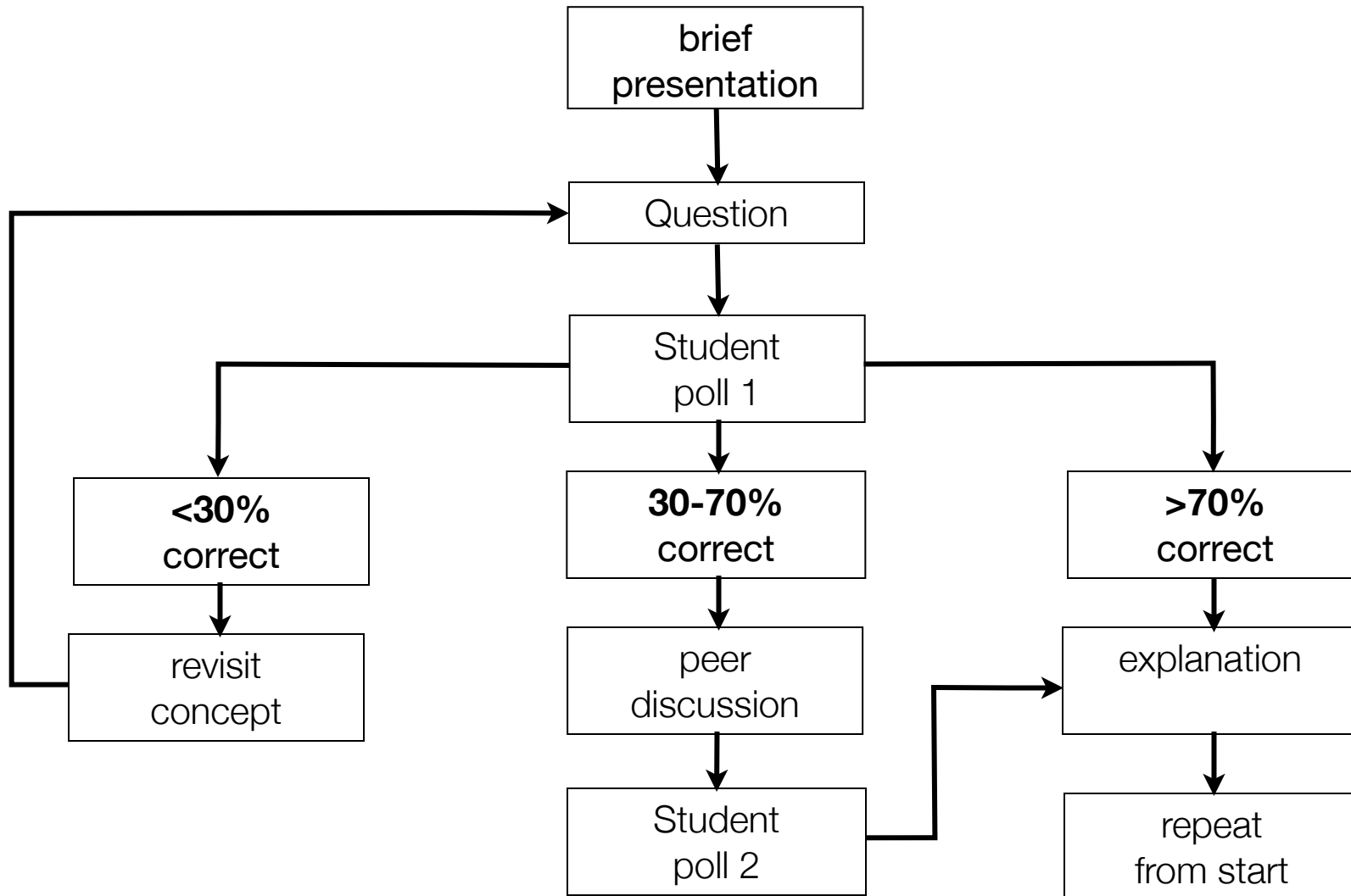


# Peer Instruction

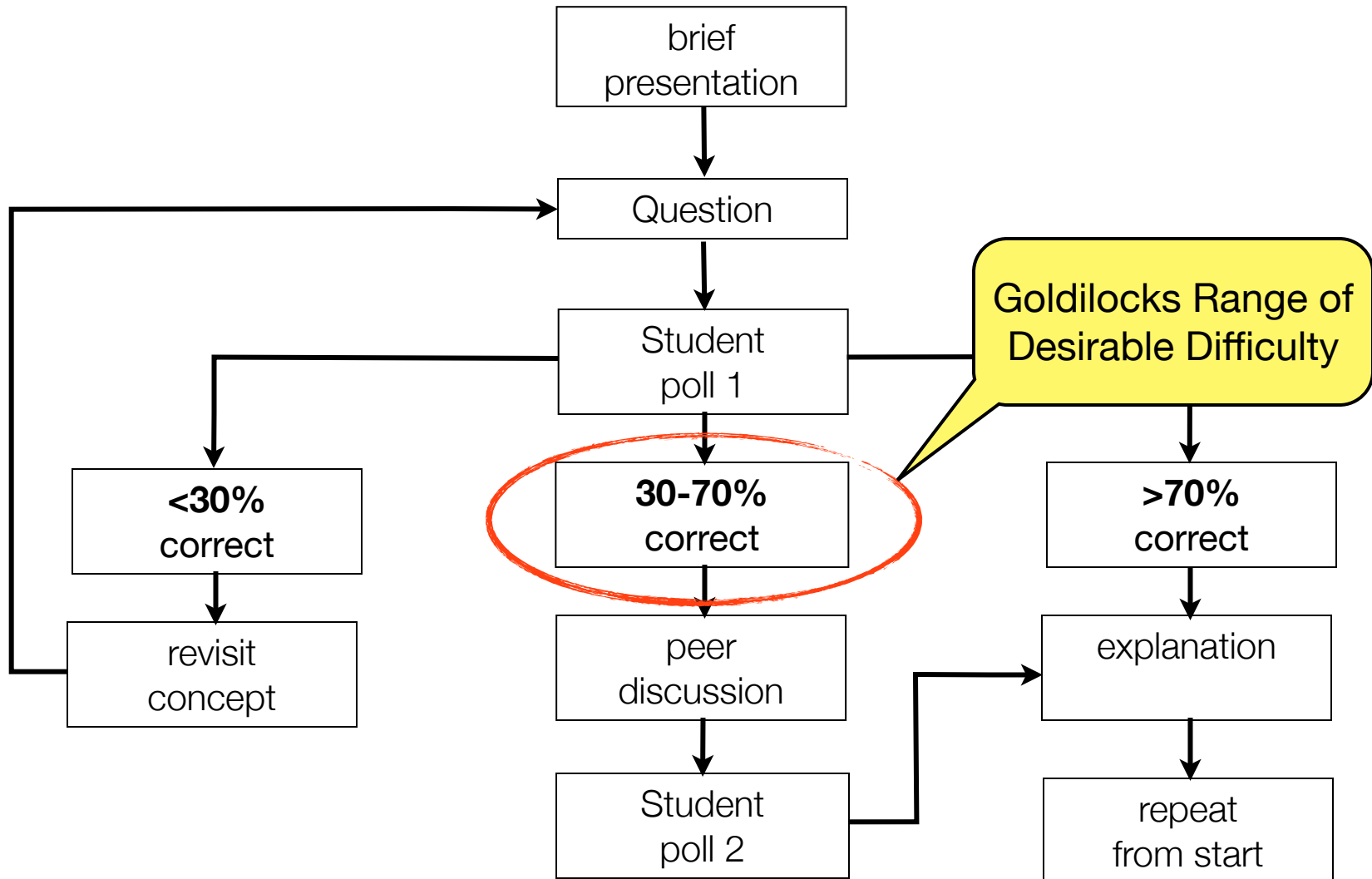
1. Sets the stage for learning at desirable difficulty
2. Engages students in conceptual & knowledge transfer practice
3. Resolves with explanation



# Peer Instruction



# Peer Instruction



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...And Finally

<http://bit.ly/tedflip>

# 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



A

B

C

D

# JiTT+Peer Instruction

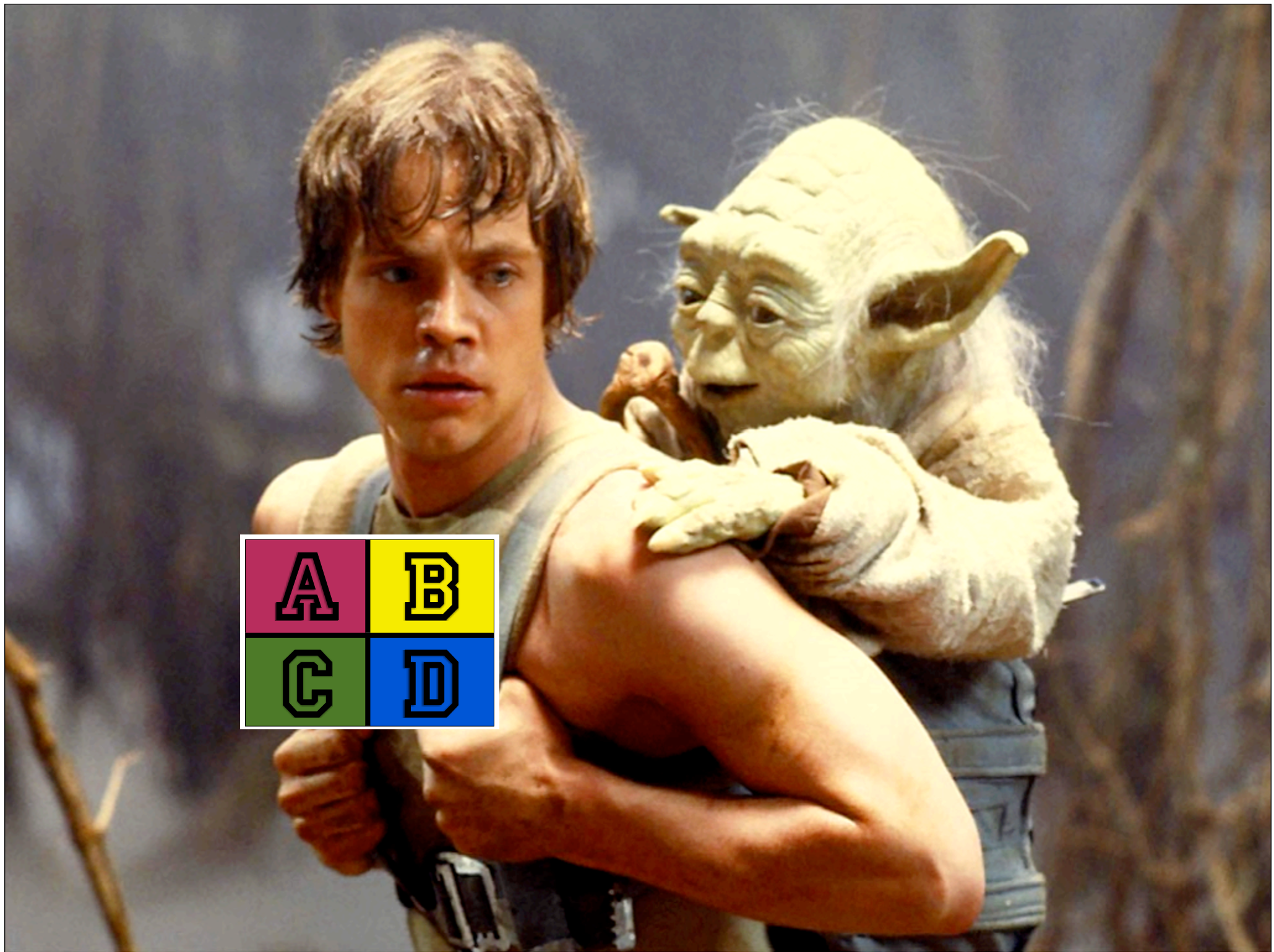
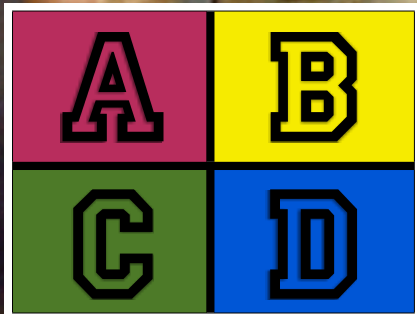
1. Engages students in meaningful activity in and out of class
2. Easy to implement
3. Gets us closer to purpose of education



# Resources

# 1 Tip

Find a Mentor



# Peer Instruction Network

Connect. Share. Learn. [www.peerinstruction.net](http://www.peerinstruction.net)

## Turn to Your Neighbor

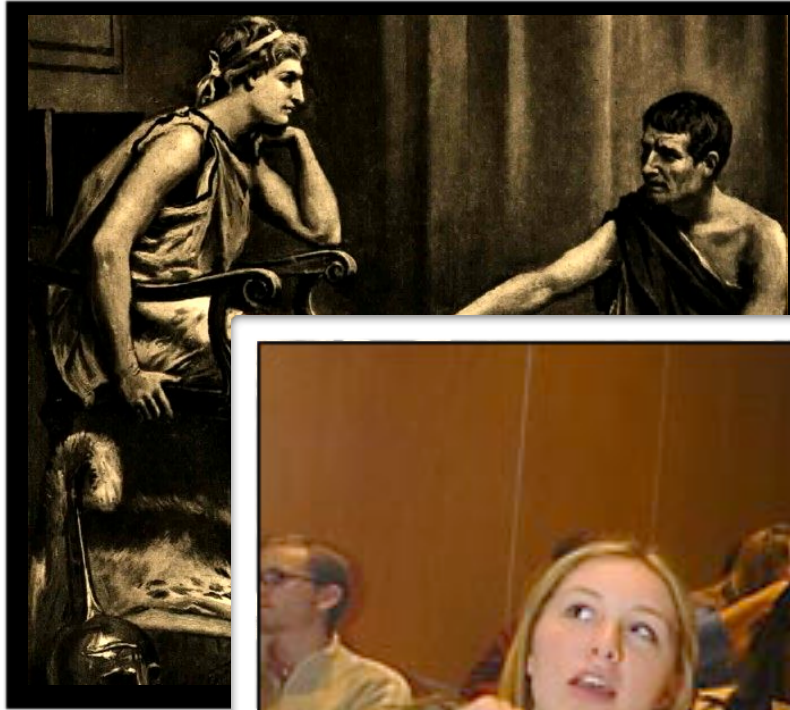
Official Peer Instruction Blog - [blog.peerinstruction.net](http://blog.peerinstruction.net)











Try to flip your  
classroom...it may just  
turn your students'  
worlds, upside down.















# Acknowledgements

**Eric Mazur  
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Why don't students like school?, Daniel Willingham  
Drive, Daniel Pink**

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