

# The Online Revolution: **Education for Everyone Daphne Koller & Andrew Ng Stanford University & Coursera**

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I've started a database management internship, based partly on my knowledge I gained through your course...

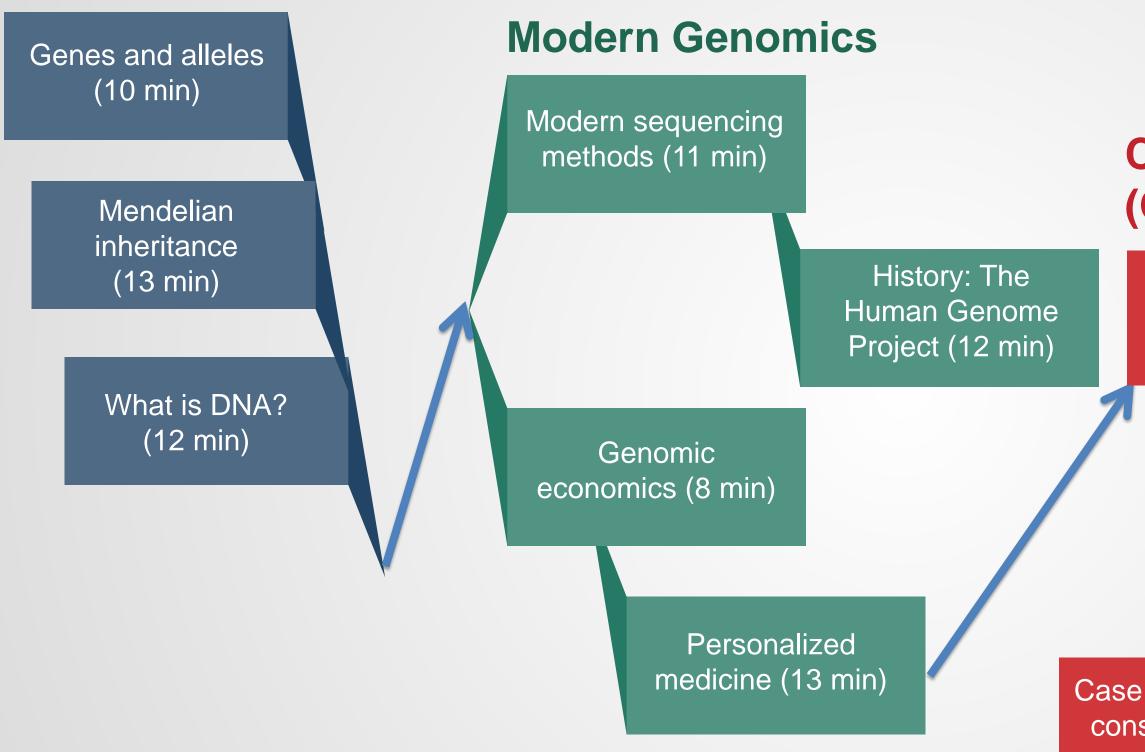






# **Real Course**

## **Basic Genetics Refresher (OPTIONAL)**



# **Personalized Learning**

## Commercial Genomics (OPTIONAL)

Genetic testing in the commercial world (11 min)

> Protecting privacy (9 minutes)

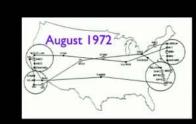
Case study: direct-toconsumer genetics (12 min)

Case study: family planning (13 min)

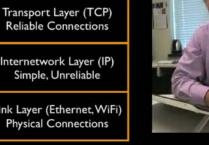


# Sustainability

#### The Architecture of the Internet







#### Press H for keyboard Tablet with PIP (Charles Severance for Internet ...

Internet History, Technology, and Security Gamification

Speed: 1.25x

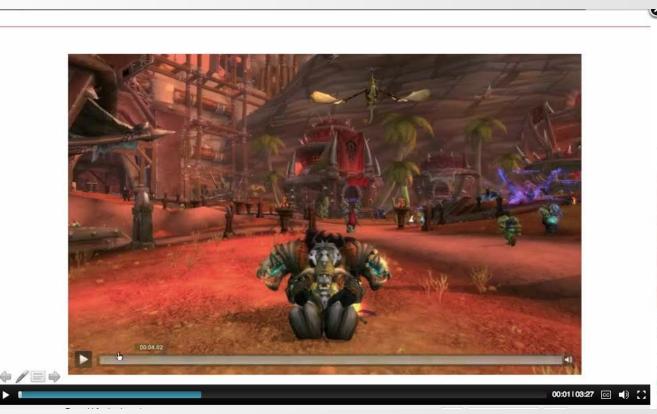
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Elena Prager (course teaching assistant) University of Pennsylvania





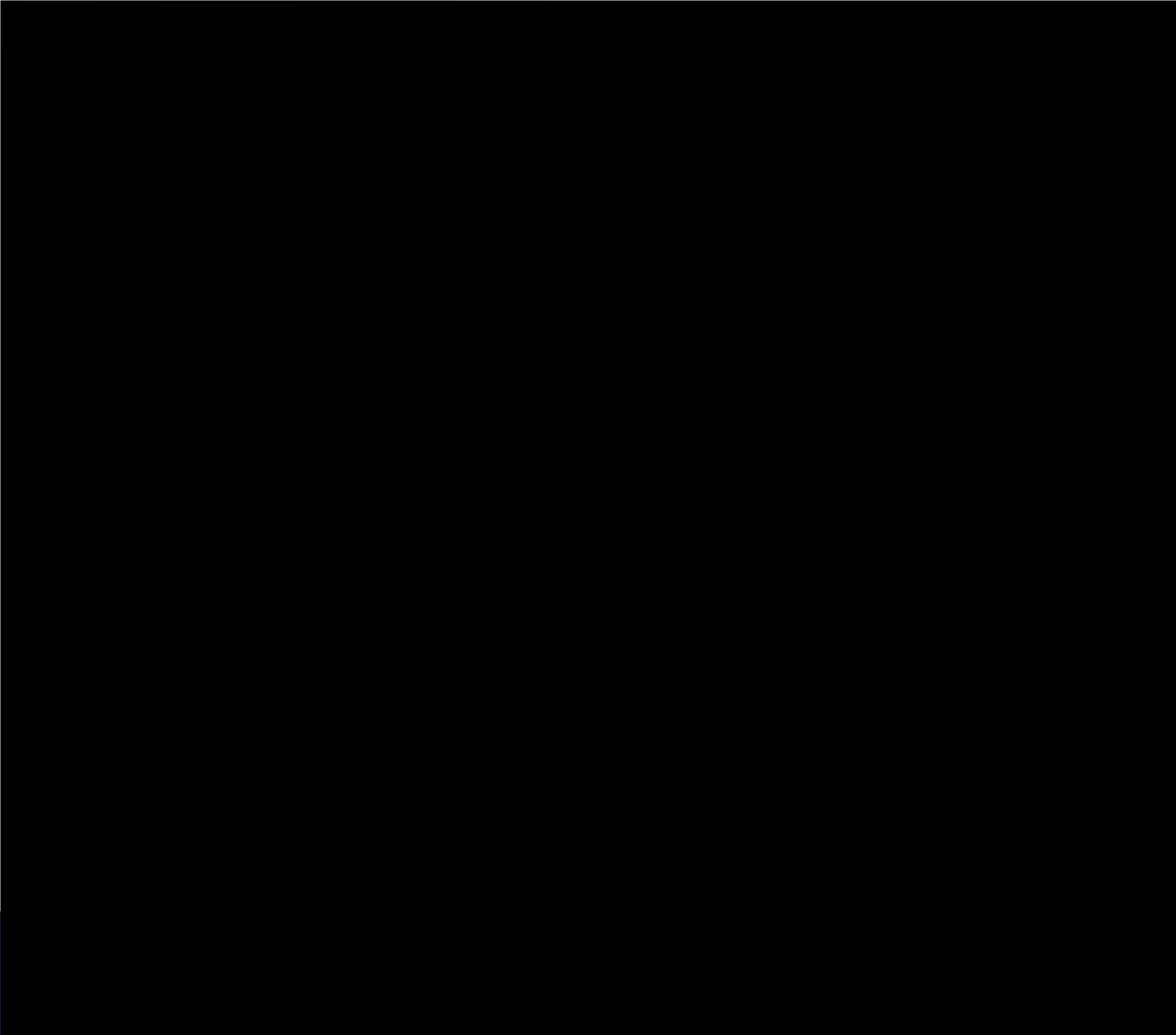
**Many Different Formats** 

PhD Student, Health Care Economics and Manage

**Dr. Ezekiel Emanuel** Chair, Department of Medical Ethics and Health Policy Vice Provost for Global Initiatives **University of Pennsylvania** 

00:03107:32

# Health Policy and the Affordable Care Act



Who discovered the theory of general relativity?

#### Albert Einstein

Submit

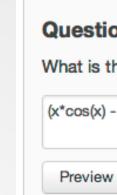
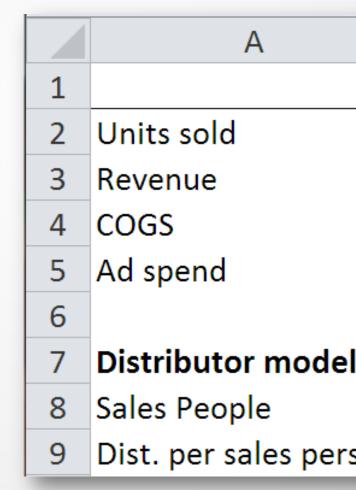


image = new SimpleImage("puzzle-copper.png"); 1 for (pixel: image) ( 2 // your code here pixel.setRed(0); 3 pixel.setGreen(pixel.getGreen() \* 10); 4 pixel.setBlue(pixel.getBlue() \* 10); 5 6 7 print (image); 8 Rue 9



# **Autograded Homeworks and Exercises**

#### **Question 1**

What is the derivative of  $\frac{\sin(x)}{x}$  w.r.t. x ?

(x\*cos(x) - sin(x)) / x^2

Your submission is equivalent to:  $\frac{x \cos(x) - \sin(x)}{x^2}$ 

	В	С	D
	2012	2013	2014
	20,000	30,000	35,000
	400,000	600,000	700,000
	100,000	150,000	175,000
	30,000	40,000	40,000
el			
	1	2	5
son	3	5	8





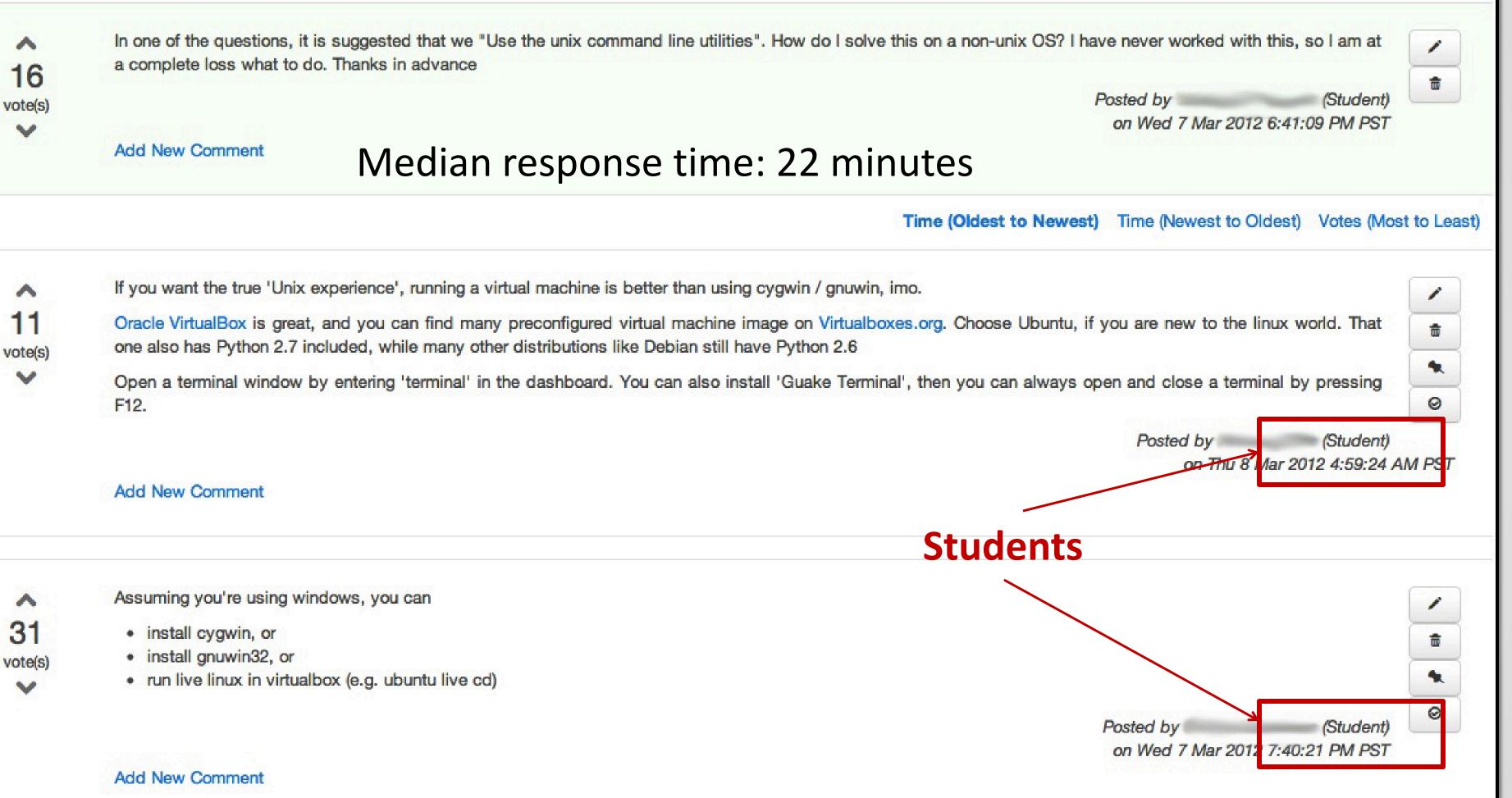
The key requirement of the project is that it is linked to multiple themes covered in the course. Beyond that, there is enormous flexibility. You might:

- Create a presentation for your local government
- Develop a policy plan for your place of work
- Write an article or textbook module
- Set-up a specialized wiki
- Formulate a lesson plan for students
- Make an interactive website
- Produce a miniature video documentary



I want to let you be as creative as possible with this project. If you have a different idea, share about it in the Project Discussion forum. While I can't approve every plan personally, it would be a good idea for you to run your idea by a few of your peers as they will ultimately be reviewing the project.

# Creative, open-ended assignments



#### Coursera

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	Student Author					3 hours ag

# **Open discussion around assignments**

## (Posted via the peer assessment system) Student Author on Mon 8 Oct 2012 12:11:05 AM PDT

#### on Mon 8 Oct 2012 12:11:05 AM PDT

### on Mon 8 Oct 2012 10:23:32 PM PDT

t	Votes	Posts	Views	
thor go	41	60	872	



## 1500 communities 1344 cities





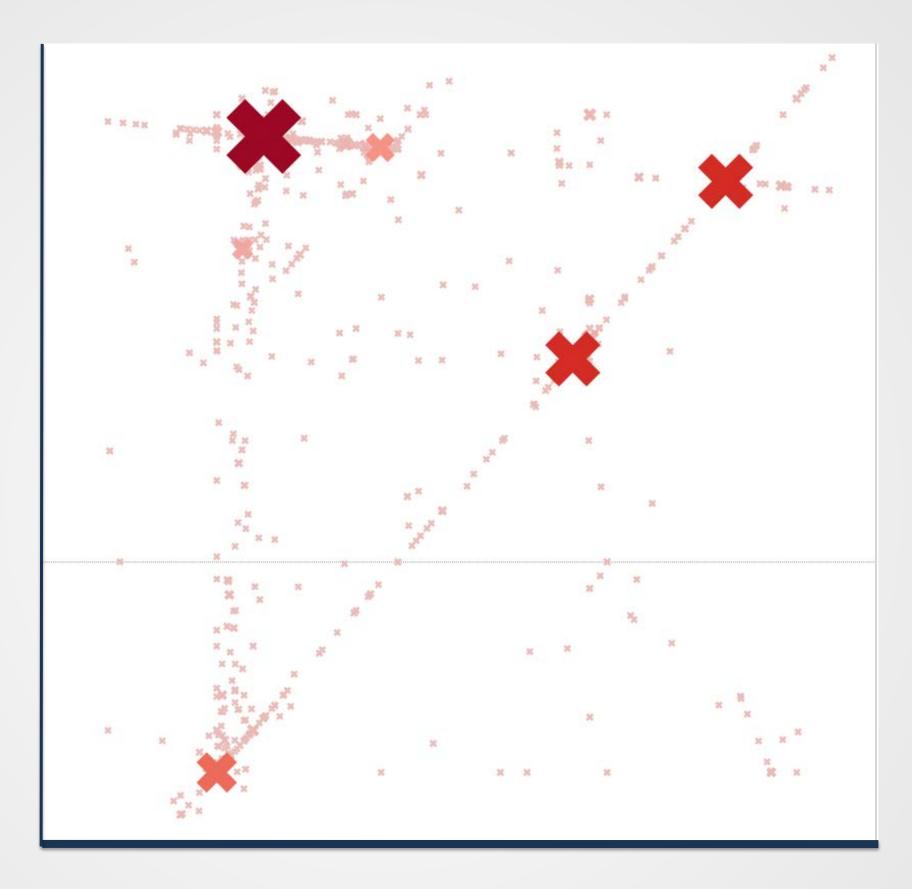
Russian

# Guatemala A multilingual universal study group

# **Student Study Groups**

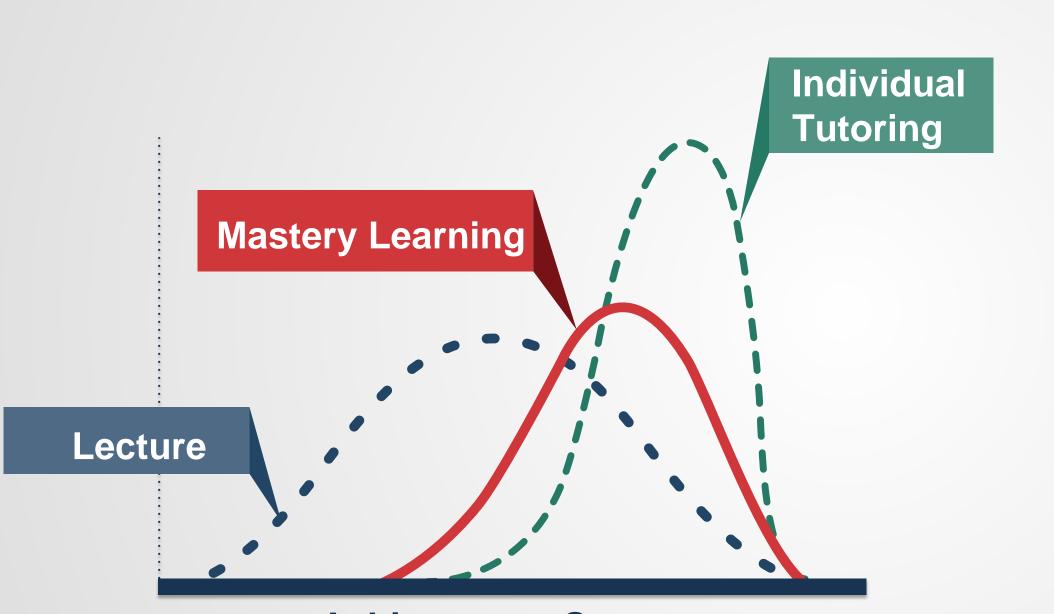
# Nigeria Miami Austin, Texas speaking students Minnesota **Arabic speaking students Athens Nepal Kenya**

## Wrong student answers



# New Window into Human Learning

"The 2 Sigma Problem: The Search for Methods of Group Instruction as Effective as One-to-One Tutoring." *B. Bloom, Educational Researcher* (1984).



**Achievement Score** 

# The 2 Sigma Problem

T 

# **33 Universities 196 countries** 207 courses 6.5 million enrollments 2 million students



























THE UNIVERSITY OF BRITISH COLUMBIA

































# **Courses from Top Universities**







UCSF University of California San Francisco



The Hebrew Jniversity of Jerusalem





School of Medicine



# The Humanities, Sciences, Engineering, Business, ....

	Jan 28th 2013	
Sinclair	5 weeks long	
gi D	Jan 28th 2013	
Matthew		
ness	Jan 28th 2013	
	6 weeks long	
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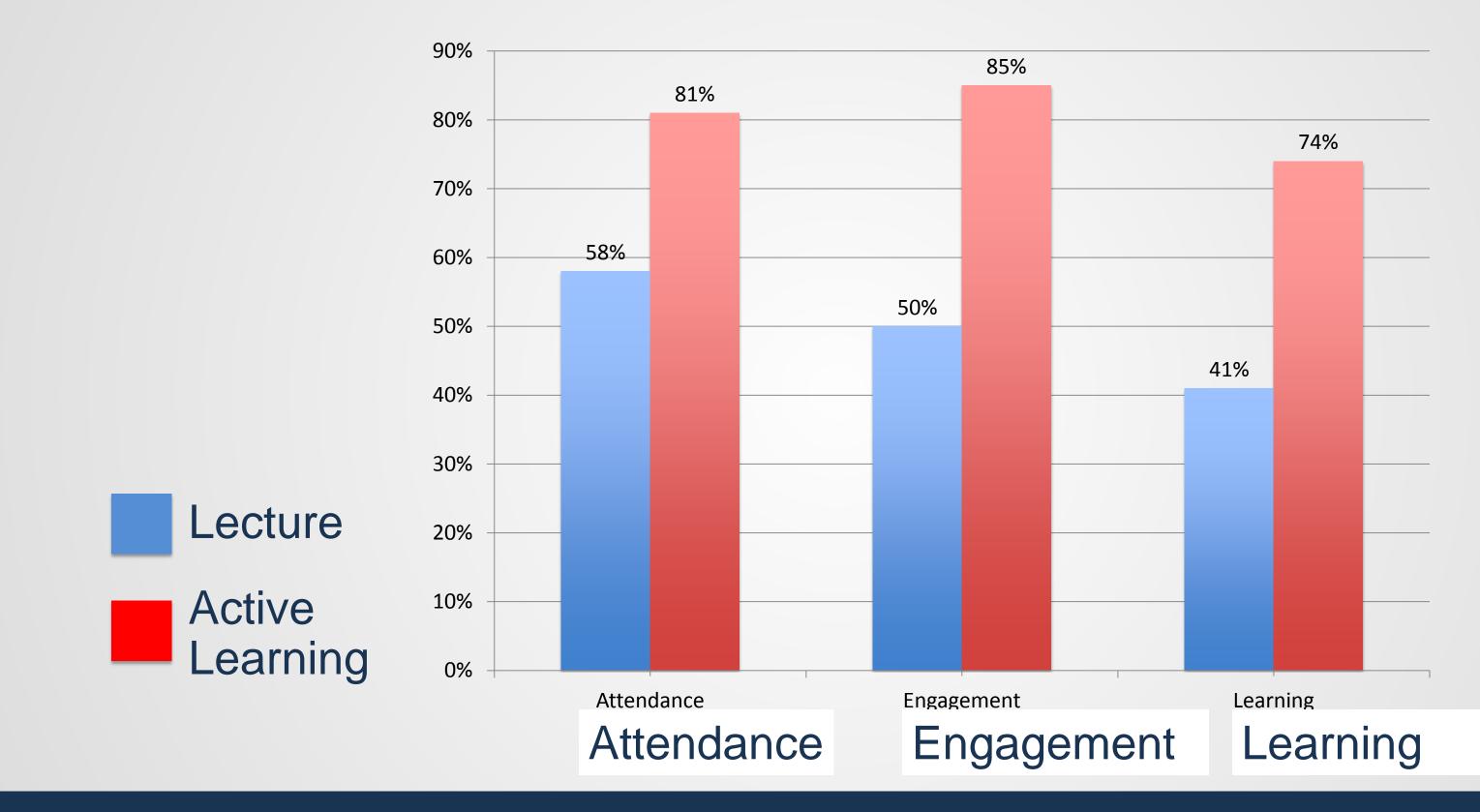
College is a place where a professor's lecture notes go straight to the students' lecture notes, without passing through the brains of either.

The mind is not a vessel that needs filling, but wood that needs igniting.

> —Plutarch from Ian Kidd's translation of Essays

## —Edwin Emery Slosson

"Improved Learning in a Large-Enrollment Physics Class." L. Deslauriers, E. Schelew, and C. Wieman. *Science* (2011).



# Active Learning in the Classroom

# Using courses taken online

- Risk-free exploration allows informed choices
- Reduced course load to completion
- Increase completion rate, reduce completion time

- Online courses in on-campus instruction Increase breadth of offerings to registered students Improve learning via active learning in classroom Decrease costs using blended learning

# The best of both worlds



# **Universal Access to Education**