

# Georgia Tech

**Nelson Baker, Ph.D.**

Dean

July 22, 2014

# Georgia Tech Context

- Professional Education (annually)
  - 13,500 individuals from half world's countries
  - 3,000 companies
  - \$28.5M revenue (~50% back to GT)
- Coursera
  - ~750,000 enrollments in 2 years
  - 20+ courses, ~10/year created
  - Past year has seen many flipped classes
- Online Master Science Computer Science
  - With Udacity and AT&T
  - Fall 2014: 1,200 students; Spring 2015: 2,000 students
  - Non-credit courses also available

# Higher Education: Changing Context

- Public pressure on higher education
  - Student loan debt exceeds consumer credit debt
  - No longer just great graduates; must be employable
  - No longer initial job; interact for lifetime career
  - No longer just world class research; create companies/jobs and move research findings to industry faster
  - No longer just local impact; influence global activities
  - Qualities of graduates: innovative/creative problem solvers
- Changing federal/state/endowment budget landscapes
- Partnerships benefitting local economies and their workforce, global implications
- Compliance/governance more complex
- More emphasis on bottom line ROI

# Global Influences

- Technology rapidly influencing jobs
- Technology enhancing learning
  - Online around for some time, as has cognitive aids
  - New abilities, for residential and online
- Power of the human network
  - Circa 2010, Global ‘think tank’ at Aalto University
    - A new sociology of learning & work
    - Not only personal, but for network gain
    - Not random encounters, but meaningful networks
- Return on investment
  - Internal: recover costs before next technology
  - External: recover education cost through impacts

# Concrete Next Steps

If faculty interested:

- Consider focused/measurable partnerships
  - External, augment capabilities
  - Internal, seek out potential expertise
- Seek industry support
  - Changing workforce & corporate strategies
  - Alternative to federal research programs
- Provide student services for online (campus partner)
  - Adult learners have different needs
  - Showcase relevancy
  - Course/program completion may not be right metric

# Stanford ONLINE

John Mitchell

Vice Provost for Online Learning

# Pivotal moment in higher education

- Educational demands of an info-based society
- Rapidly improving digital technology
- Vibrant public debate about the cost, means and ends of higher education

# Distance learning is decades old



## Stanford Instructional Television Network

“Largest single university provider of live graduate courses in the world” (1993)

<http://news.stanford.edu/pr/93/931129Arc3033.html>



[Learn with OLI](#)[Teach with OLI](#)[Get to Know OLI](#)

## WHAT WE DO

The Open Learning Initiative offers online courses to anyone who wants to learn or teach.

Our aim is to combine open, high-quality courses, continuous feedback, and research to improve learning and transform higher education. [Learn More](#)



## Active Learning

Throughout our courses, students encounter activities, simulations, and virtual labs to help them apply and test their learning.

[Learn More](#)

## RECENT NEWS, EVENTS + MEDIA

[Updated Webinar Dates](#)[OLI Anatomy & Physiology Faculty Webinar](#)[Candace Thille at UCLA for "Leveraging Innovations in Online Education"](#)[See all News, Events + Media](#)

## FEATURED



## WHAT PEOPLE ARE SAYING

I recognize in these difficult times that there is no silver bullet. That no one thing is going to solve our education problems...but, I'm telling you this is a huge step forward, the work coming out of OLI.

Dr. William E. "Brit" Ekin, Chancellor, University System of

# Change takes time



Apple Newton, 1987



Palm Pilot, 1997

iPhone, 2007



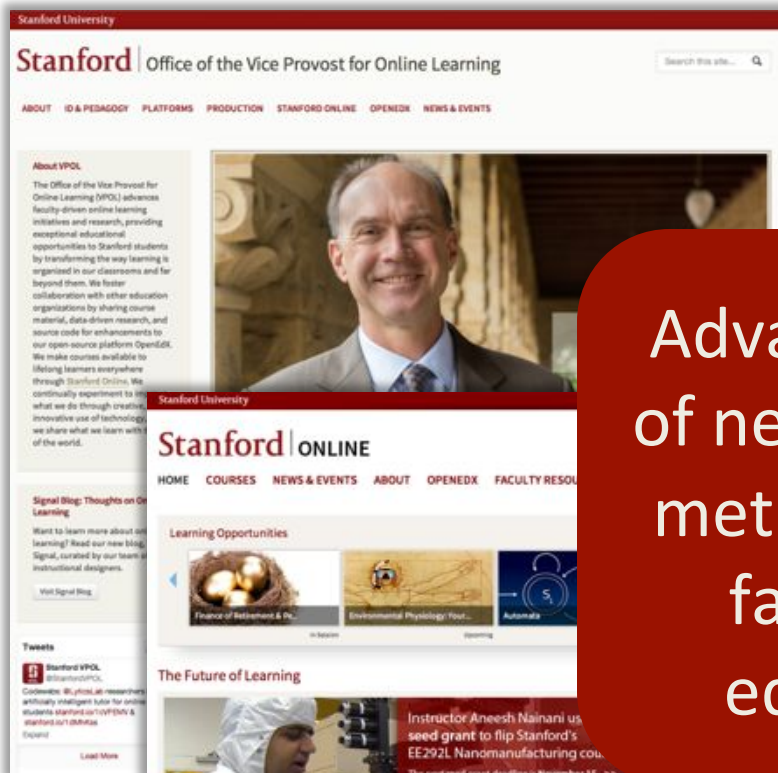
# CS has much to offer

- Forward-looking interdisciplinary field, open to new frontiers, new applications
- Know how to manage teams, address scale
- Our technology is everywhere

As academics we can

- Help advance learning for our institutions, broadly
- Improve teaching and learning of CS

# Vice Provost for Online Learning (VPOL)



Advance the understanding and use of new technologies and pedagogical methods, for Stanford students and faculty and in service to higher education and lifelong learning



## Transformation of Teaching



## COURSE DESIGN AND PRODUCTION

The Office of the Vice Provost for Online Learning (VPOL) provides support to Stanford faculty and staff for course design and

## Incubation

### VICE PROVOST FOR ONLINE LEARNING

Sharing as we innovate, Stanford Online is a university-wide initiative coordinated by the Office of the Vice Provost for Online Learning (VPOL). As we develop new capabilities to enhance teaching and learning on our physical campus, we're sharing our work worldwide through publicly available courses, teaching strategies, and research findings on digitally mediated instruction.

[More About VPOL >](#)

## Education Reimagined - Sal Khan

November 14, 2013

## Public Future - the art and science of online learning environments

November 18, 2013

## VPOL Information Session #3

December 5, 2013

## VPOL Information Session #4

January 21, 2014

[See More Events >](#)

## Speaking Engagements

### UCLA Marshall Collapsium

November 6, 2013

### Surviving the 'Tide of Higher Education': Technology and Pedagogical Innovation

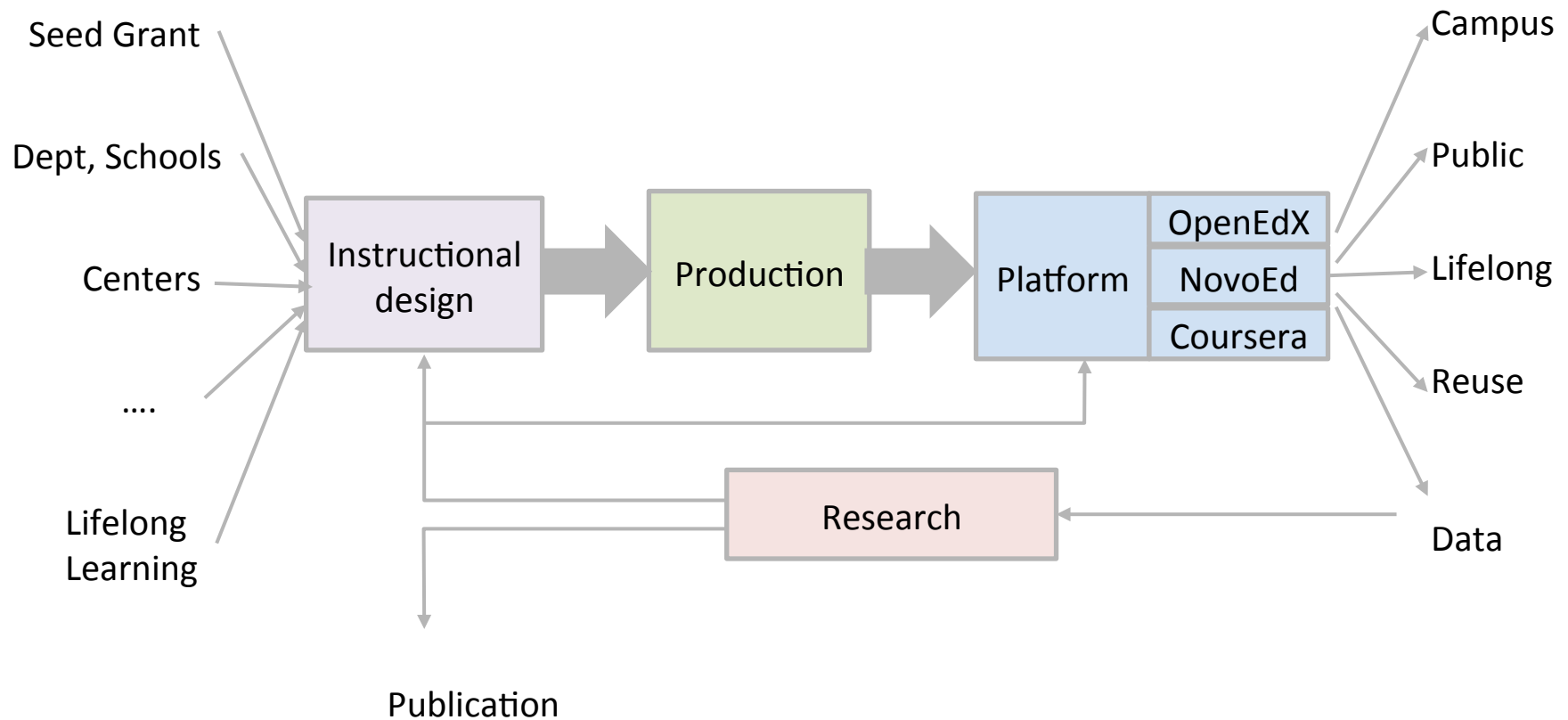
November 13, 2013

### CUNY Keynote

December 5, 2013

[online.stanford.edu](http://online.stanford.edu)  
[vpol.stanford.edu](http://vpol.stanford.edu)

# Development process

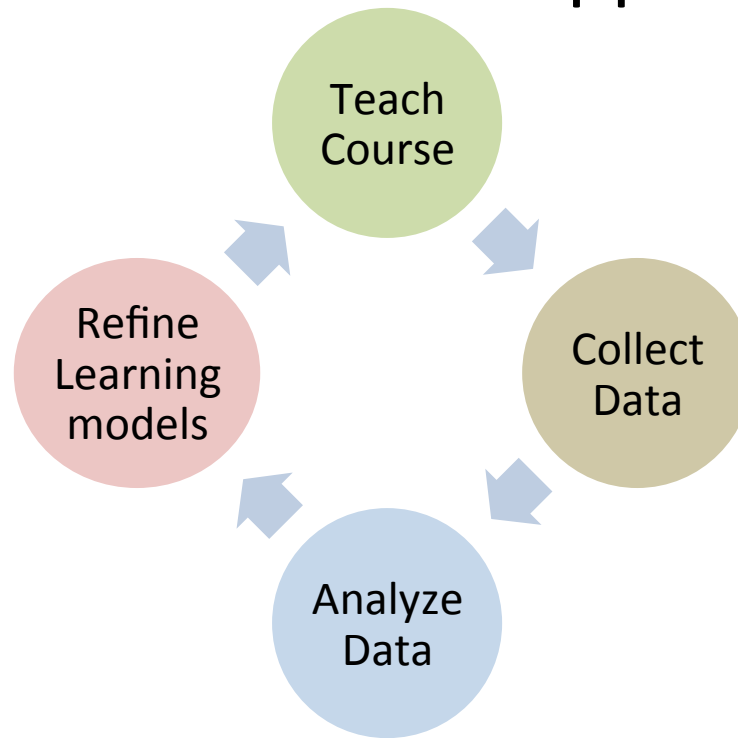






# Lessons learned

- Promising technology supporting innovation
- Value and excitement of large audiences
- Tremendous research opportunity

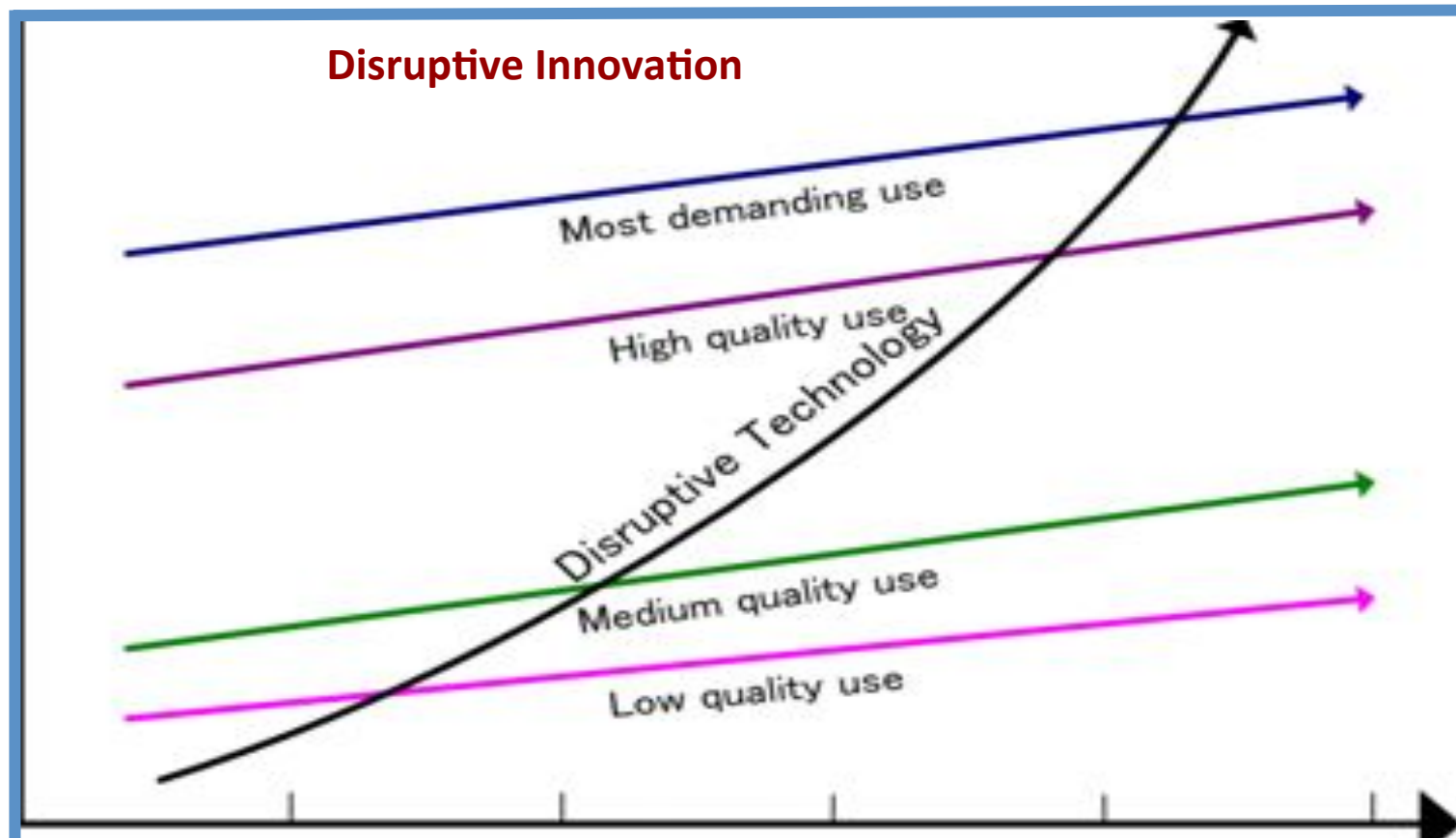


# We are Progressing Along Two Curves





# We are Progressing Along Two Curves



# Directions for future

- Research-based teaching
- Teaching-based research
- Online tools, resources, programs
- Experiential learning

[illegible]

online.stanford.edu  
lytics.stanford.edu  
vpol.stanford.edu





# MOOCs and Online Education: The Evolving Big Picture

Marian Petre  
The Open University

OERs vs Education



# about the Open University

teaching and research

250,000 students per year


open to people, places, ideas

'supported open learning'



making educational  
resources ubiquitous  
is cool, eh?

MOOCs  
/ OERs




teachers,  
formative  
dialogues

online &  
distance  
education

but...

education is MORE than  
educational resources



A man with glasses and a patterned shirt is sitting at a desk, looking at a Samsung monitor. The desk is cluttered with various items, including a red box labeled 'MAD's GREATEST ARTISTS', a small green piggy bank, and other miscellaneous objects. Behind him are several wooden bookshelves filled with books, records, and other items. A green text box is overlaid on the image, containing the text 'What is our role as educators in the 21st century?'.

What is our role as educators  
in the 21st century?

courtesy of Linda Price

And what's the value proposition of education?



# value proposition of traditional education:

- access to information
- selection and structuring of significant information
- interpretation and personal tutoring
- feedback and forcing functions
- liberal education
- network of profs, peers, and opportunities
- credentials

in collaboration with Mary Shaw



# entering distance ed:

- ◉ visibility, profile, marketing
- ◉ scale and reach
- ◉ excluding the competition
- ◉ learning analytics
- ◉ teaching as a means of recruitment
- ◉ market testing
- ◉ extension learning

in collaboration with Mary Shaw



# What about 'education proper' ... developing informed, critical minds ?

- resources: on-demand access to high-quality material
- dialogues
- community

in collaboration with Mary Shaw



# Goodbye to all this?

The worlds of publishing, music, shopping and journalism have been revolutionised by the internet. Next in line? Education. Academics at leading US institutions are using the web to offer world-class tuition — free — to anyone who can log on, anywhere in the world. Is this the end of campus life?

BY CAROL CADWELL

**T**wo mornings, one in the heart of New York, the other in the heart of London, the world's leading universities are offering free tuition to anyone who can log on. The first is Harvard, the second is the University of London. The third is the University of London.

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**We had a million users before Facebook. This is a whole new change in the educational system.**

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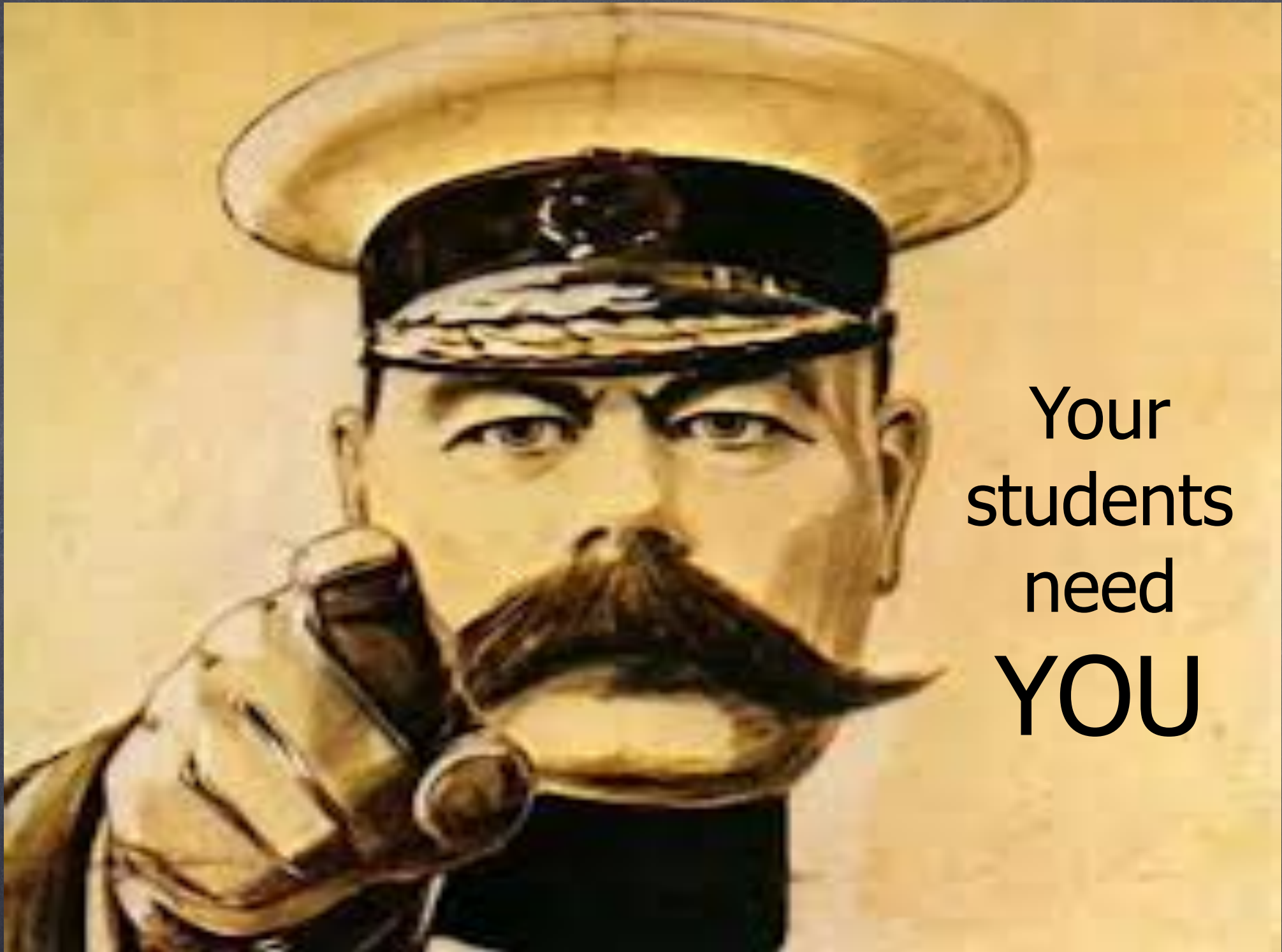
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The Observer, 11-11-12





Your  
students  
need  
**YOU**

courtesy of Linda Price

(and you need them)



credentials

sustainability

respect for IP



# attrition

90% +

OU experience:  
Entry is easy;  
exit with a degree is difficult.

Undergraduate education  
has different needs from  
extension learning.



# TECHNOLOGY IS THE AGENT OF CHANGE IN EDUCATION



debunking the myth

courtesy of Linda Price

2

The agent of change is **teachers**, not technology.



## Concrete recommendations:

- **There are no MOOCs without teachers.** Technology is the servant.
- Learn about the difference between OERs and distance education.
- **Be honest about your goals.**
- How will you support the crucial educational dialogues?
- **How will you provide credentials?**
- Good distance education isn't cheap. Make a realistic business case. Do a realistic cost-benefit analysis.
- **Plan for sustainability:** Think not just about initial production, but ongoing presentation and update costs.
- How will you ensure quality?