Online Learning: A 130 Year Mission to Democratize and Improve Higher Education

Peter Shea

Associate Provost for Online Learning &

Associate Professor, Educational Theory and Practice &

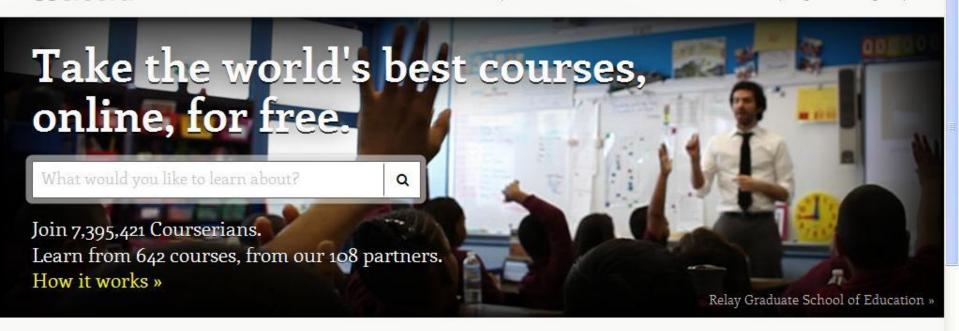
Informatics

University at Albany, SUNY

Question?

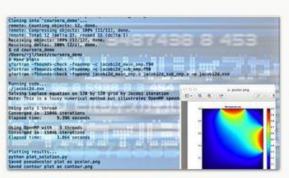
- If online learning is the solution, what is the problem? Is the solution a good fit?
- What are the current tensions?
- What does history tell us?

What is the big deal?





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High Performance Scientific Computing Washington • Mar 31st



Organizational Analysis Stanford • Mar 31st







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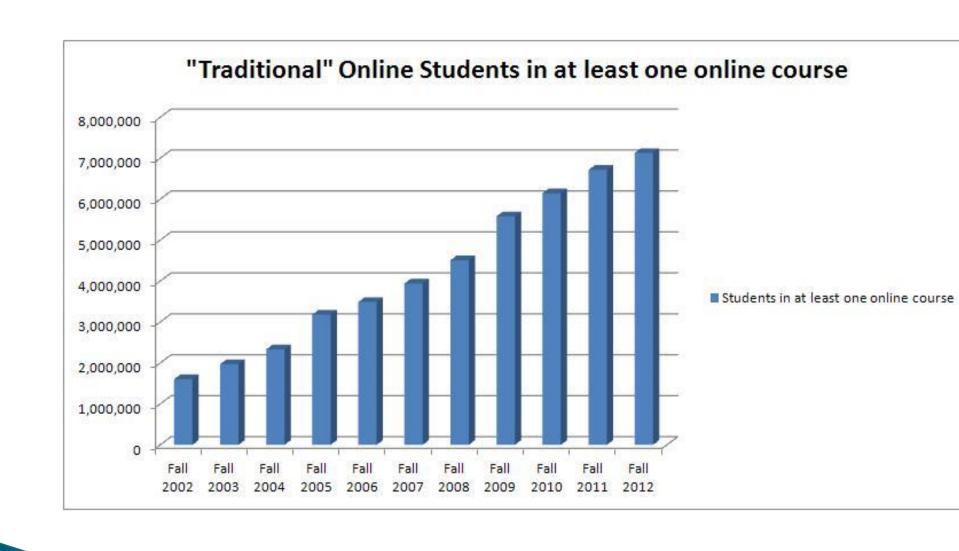
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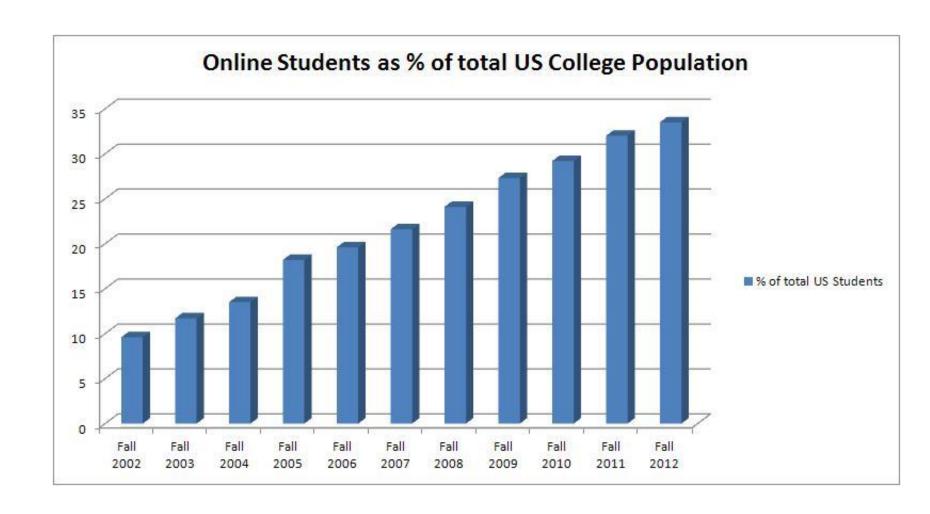










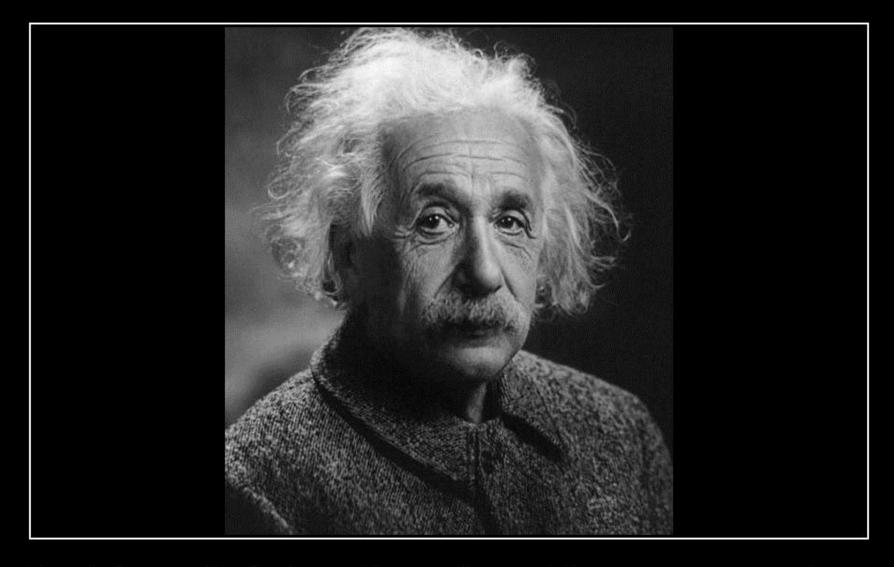


Can Online Learning be "As Good"?

Meta-Analyses	Pub. Date	Inclusive Dates	Comparison	k	ES+	Sig. (p)
Bernard et al.	2004	1985-2003	OL vs. Cl	59	0.12	= .05
Source: New analysis of previous work from Review of Educational Research						
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Source: U.S. Department of Education Meta-Analysis of Online Learning						

Challenges

- Quality of research
 - Unknown fundamentals (e.g. 5.5 v. 7 million)
 - Paradox of choice
- Definitions
- What is problem OLL solves?



Problem Solving Requires New Approaches

"We can't solve problems by using the same kind of thinking we used when we created them." - Albert Einstein

Problems to which OLL/Blended are Proposed Solution

- Increased access (Sloan-C, 2000)
- Lower costs (Twigg, 1999)
- Produce learning effectiveness gains (Twigg, 2012)
- Improve developmental education (Gates Foundation, 2012)
- Increase college persistence, retention, and graduation rates (Gates Foundation, Lumina Foundation)
- Individualize instruction & improve outcomes; cure "Baumol's cost disease" (ITHAKA, 2012; Bowen, 2012)
- Educate masses for free (almost) (Kohler, 2012)
- From a research perspective: What is the "treatment"? Can it be the same?

Going the Distance With Online Education

Jorge Larreamendy-Joerns
Universidad de los Andes
Gaea Leinhardt
University of Pittsburgh

This article charts the promissory notes and concerns related to college-level online education as reflected in the educational literature. It is argued that, to appreciate the potential and limitations of online education, we need to trace the issues that bind online education with distance education. The article reviews the history of distance education through the lenses of three historical themes—democratization, liberal education, and educational quality—and charts the current scene of online education in terms of three educational visions that may inform the development of online initiatives: the presentational view, the performance-tutoring view, and the epistemic-engagement view. The article emphasizes the potential contributions of online education to democratization and the advancement of the scholarship of teaching.

Tensions which OLL Highlight

Conceptual Level

- Democratization
- Liberal Education
- Educational Quality

(Larreamendy-Joerns & Leinhardt, 2006)



"the day is coming when the (course) work done through correspondence will be greater in amount than that done in the classrooms of our academics and colleges..."

"the day is coming when the (course) work done through correspondence will be greater in amount than that done in the classrooms of our academics and colleges..."

(Vincent, 1885)

He was right...

"Over 4 million Americans – far more than attended traditional colleges – were enrolled in correspondence courses by the 1920s... (with a completion rate under 3%)."

(Kett, 1996)

"Our classroom can be world-wide. (...) we embrace...those who by stress of circumstance are debarred from the ordinary means of education."

Democratization then...

"Our classroom can be world-wide. (...) we embrace...those who by stress of circumstance are debarred from the ordinary means of education."

Democratization now...

• "...(the) goal is to take the best courses from the best instructors at the best universities and provide it to everyone around the world (for free)..."

Daphne Koller, 2012

- Increasing either access to higher education for populations otherwise excluded, or increasing the range of people who might be served by elite institutions.
- Roots go back to 1870s in the US
- Ticknor Society, U of Chicago, Wisconsin, University, Extensions in general
- Rhetoric of democratization clearly echoed in current MOOC discourse

Participate

About

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1,591,346 Total Share this talk and track your influence!

Daphne Koller is enticing top univer ities to most intriguing courses online for free ce. but as a way to research how people lean. With Coursera (cofounded by Andrew Ng), each keystroke, quiz, peer-to-peer discussion and self-graded assignment builds

Related playlists & talks







Playlist Playlist

Other Familiar Issues

- Absence of adequate organizational infrastructure to sustain initiatives as they scaled up.
- Lack of incentives for participating faculty, who deem distance teaching load oppressively time consuming.
- Most distance programs lack sound financial support and business models

Other Familiar Issues

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(Reber, 1915 – In Larreamendy–Joerns & Leinhardt, 2006)

Speaking of MOOCs...

The New york Times

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Everyone has retirement questions.

See where you stand



The Year of the MOOC



Clockwise, from top left: an online course in circuits and electronics with an M.I.T. professor (edX); statistics, Stanford (Udacity); machine learning, Stanford (Coursera); organic chemistry, University of Illinois, Urbana (Coursera).

By LAURA PAPPANO

Published: November 2, 2012



MOST EMAILED

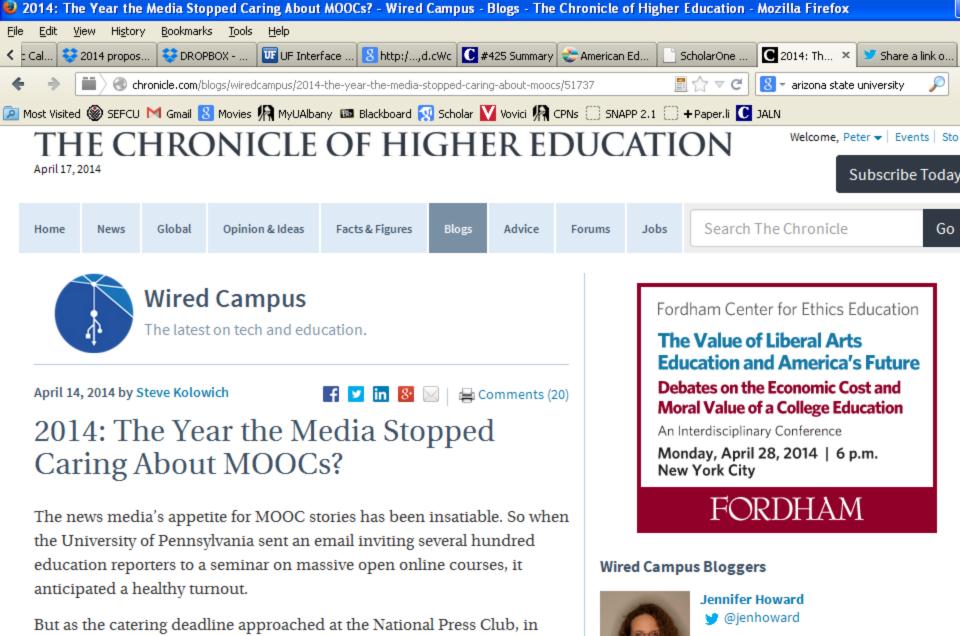
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INTERNATIONAL EDUCATION Out in Front, and Optimistic, About Online Education



Jennifer Howard is a senior reporter who covers publishing and the humanities and writes Hot Type.

attendees to justify a platter of finger food.

Washington, organizers realized that they had barely enough registered

Highlight All - Mate

Gartner Hype Cycle



Good news: MOOCs and Democratization

- edX, Coursera, Udacity provide access to 10s of millions of students
- Far more than would ever attend the institutional partners in these initiatives

HarvardX also

- Enhancing teaching and learning on campus
- Advancing teaching and learning through research

Democratization Challenges

- As with earlier efforts attrition is high
- Not yet reaching those "debarred" from higher education
- Some initiatives backing off "free"...
 - (HarvardX not so much...)

PRESS ROOM

Contact the Penn GSE Press Office

Kat Stein, Executive Director

Search the PressRoom

Sunday, Apr 20, 2014 | Welcome to the Penn GSE Press Room!

PENN GSE STUDY SHOWS MOOCS HAVE RELATIVELY FEW ACTIVE USERS, WITH ONLY A FEW PERSISTING TO COURSE END

December 5, 2013

Contact: Kat Stein, Exec. Director of Communications katstein@gse.upenn.edu / (215) 898-9642

Austin, Texas, December 5, 2013—Emerging data from a University of Pennsylvania Graduate School of Education (Penn GSE) study show that massive open online courses (MOOCs) have relatively few active users, that user "engagement" falls off dramatically—especially after the first 1-2 weeks of a course—and that few users persist to the course end. Presented today by Laura Perna and Alan Ruby at the MOOC Research Initiative Conference in Texas, the findings are from the newly established Alliance for Higher Education & Democracy at Penn GSE.

The Penn GSE study analyzed the movement of a million users through sixteen Coursera courses offered by the University of Pennsylvania from June 2012 to June 2013. The project aimed to identify key transition points for users – such as when users enter and leave courses – as well as when and how users participate in the courses. The study also considered how engagement and persistence vary based on various course characteristics. The courses studied ranged widely in topic, target audience, length of study, instructional time, use of quizzes and assignment of homework, and other dimensions. While a few courses were oriented toward college preparation (e.g., "Calculus: Single Variable"), most focused on occupational skills (e.g., "Cardiac Arrest,

RECENT PRESS RELEASES

UPenn GSE and the Milken Family Foundation Announce 2014 Education Business Competition Finalists and \$140,000 in Prize Funding

April 14, 2014

Penn GSE Report Finds That Many States Have No Plan to Create a More Educated Workforce

February 27, 2014

Penn GSE Study Suggests That in the Classroom, the Risks of the Few Affect the Performance of the Many

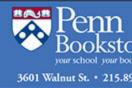
February 10, 2014

University of Pennsylvania's Center for Minority-Serving Institutions Receives \$1.5 Million Grant from the Helmsley Charitable Trust February 3, 2014

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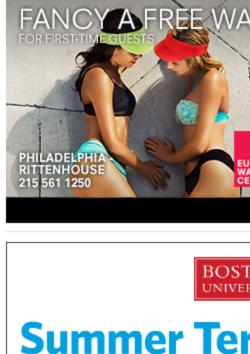
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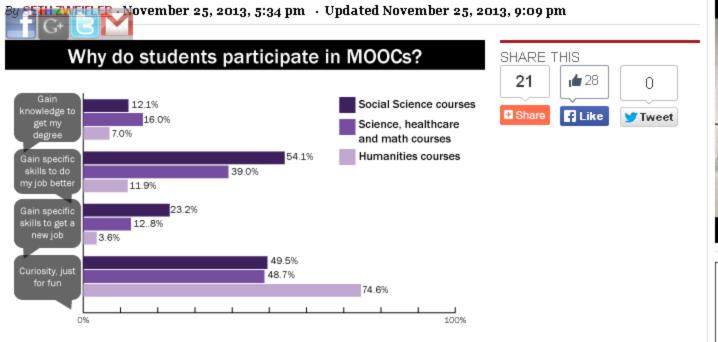


BOST



Study: MOOC students are highly educated, job-oriented

The Coursera student population also tends to be young and male



MICHELE OZER | DP

When Penn announced its partnership with massive open online course

"...on average, 72 percent of the HarvardX registrants had a bachelor's degree or higher. Just 2.7 percent of registrants had Internet or mailing addresses from identified "leastdeveloped" countries..."

http://harvardmagazine.com/2014/05/harvard
-measures-its-moocs

Not free...maybe even less free...

"Right now courses are free and we're charging for certification... the price we charge probably can grow, too.

(Former Yale President Richard Levin now Coursera CEO, April 2014)

What does "free" mean?

- All courses are free (auditing is free)
- Credentialing costs money
- Alternative credentials low cost, also currently low value in marketplace
- Costs to provide alternative credentials much lower
- As labor and other costs increase, credentialing cost will increase...see e.g.:

The Value of Liberal Arts Education and America's Future An Interdisciplinary Conference

Fordham Center for Ethics Education | Monday, April 28 | 6 p.m. | New York City

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Wired Campus

The latest on tech and education.

April 17, 2014 by Steve Kolowich











f in 😵 🖂 🗎 Comments (27)

Udacity Will No Longer Offer Free Certificates

Udacity hopes the certificates it offers to people who complete its massive open online courses are worth something. Now the company plans to charge students accordingly.

The company, one of the big three MOOC providers, said on Wednesday that it would no longer give learners the opportunity to earn free, "non-identity-verified" certificates. People will still be able to view Udacity's online-course materials without paying, but those who want a credential will have to open their wallets.

Fordham Center for Ethics Education

The Value of Liberal Arts Education and America's Future

Debates on the Economic Cost and Moral Value of a College Education

An Interdisciplinary Conference

Monday, April 28, 2014 | 6 p.m. New York City

FORDHAM

Wired Campus Bloggers



Jennifer Howard @jenhoward

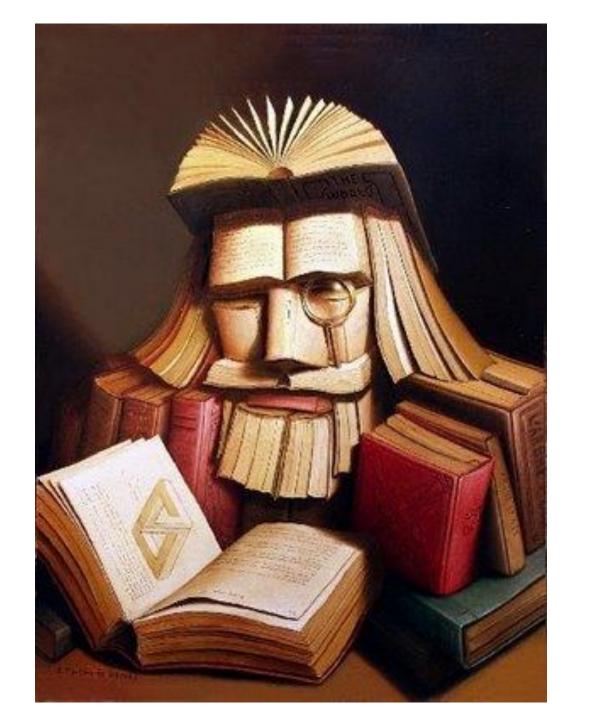
Jennifer Howard is a senior reporter who covers publishing and the humanities and writes Hot Type.



"We know that many of our hardworking students can't afford to pay for classes. At the same time, we cannot hope that our certificates will ever carry great value if we don't make this change."

Sebastian Thrun, Udacity, April 2014

Liberal Education



Liberal Education

- Broad & Deep
- Humanistic and Scientific
- Focus on critical and analytic competencies
- Anchored to a sense of purpose
- Promotes development of "free human beings"
- Not training for professions

Education is not the filling of a pail, but the lighting of a fire.

- WILLIAM BUTLER YEATS

Online Learning and Liberal Education

- Increasingly infused with rhetoric of proficiency and training
- Both MOOCs and "traditional" OLL
 - Identifying employees for Google?
 - Filling "high needs" employment
- Do these reflect the highest aspirations of university education?



Thanks to **UDACITY**, I landed my dream job

Udacity helped Brent, a business school student with a finance background, land his dream product management internship at Google. Brent recently turned his dream internship into his dream job, and is now a Product Manager at Google.

View Course Catalog



Take online computer science courses with personalized support



Build cool projects to showcase your skills



Earn certificates recognized by industry



Udacity

"It will be, Thrun admits, "the biggest shift in the history of the company," a pivot that involves charging money for classes and abandoning academic disciplines in favor of more vocational-focused learning."

(Chafkin, 2014)

HarvardX an exception?

USW30x: Tangible Things: Discovering History Through Artwor...

Discover new ways of looking at, organizing, and interpreting tangible things in your own environment.

STARTS: 2 Jun 2014 INSTRUCTORS: L. Ulrich & S. C... HarvardX



learn more

ER22.1x: Justice

Justice is an introduction to moral and political philosophy, including discussion of contemporary dilemmas and controversies.

STARTS: 8 Apr 2014 INSTRUCTORS: Michael J. Sandel HarvardX



learn more

Al12.2x: Poetry in America: Whitman

A module focused on Whitman in a course that surveys 300+ years of poetry in America, from the Puritans to the avant-garde poets of this new century.

STARTS: 15 Jan 2014 INSTRUCTORS: Elisa New HarvardX



learn more

HDS1544.1x: Early Christianity: The Letters of Paul

The course "Early Christianity: The Letters of Paul" explores the context of these letters in the Roman Empire and the impact of these powerful texts today.

STARTS: 6 Jan 2014 INSTRUCTORS: Laura Nasrallah HarvardX



SW12.2x: China (Part 2): The Creation and End of a Centralized ...











Business models

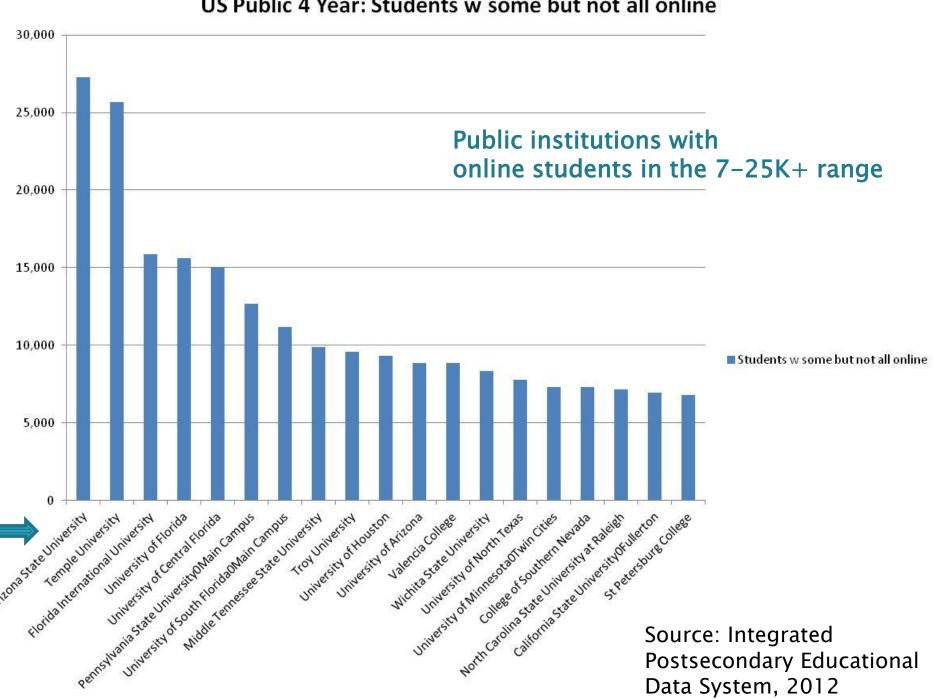
- MOOCs don't have a viable business model?
- Most of higher education doesn't have a viable business model?

Another "massive" movement...



n...

US Public 4 Year: Students w some but not all online



Massive Goals of University of Florida Online

In five years:

"The university expects to start with 5 programs in Academic Year 2014, grow to 10 programs in AY2015 and add 5 programs each year until the university has 35 on-line degrees offered in AY2019."

(UF Online Business Plan)

UF Online by the numbers

In ten years UF numbers annually:

- Initial investment \$35M
- Online Students <u>24,152</u>
- Online Enrollments 103,494
- Credit hours 310,482
- Tuition 75% of residential
- Revenues \$76,621,846

(UF Online Business Plan, 2013)

UF Business Plan

- Students are focused on <u>employment</u> and are attracted to institutions that connect program specific branding to <u>employment</u> <u>opportunities</u>.
- Student success (retention, graduation, job placement) will drive future referrals.

Why are they doing it?



Search for a college

SHARE



25 Years of Declining State Support for Public Colleges

March 3, 2014

An Era of Neglect | The Tipping Point | Equalizers No More | Explore State Support by College | Who Foots the Bill?

Explore how state and federal support has declined as a share of overall revenue—putting a greater burden on students—at more than 600 four-year public colleges and universities since 1987.

Filter results

🔾 Example: university of iowa	OR	All states	Res	Research universities - very high research activity		
Showing 1–20 of 70 institutions for Research u	ıniversities -	very high research ac	ctivity Cle	ar search / filter	G Previous	Next 🧐
	Share of revenue coming from state support			CI		
Institution		1987 2012		Change in state support: 1987-2012		
University of Illinois at Chicago Chicago, IL Research universities - very high research activity		52.8%		16.9%	-35.9 pts	
University of California at Davis Davis, CA Research universities - very high research activity		63.4%		30.2%	-33.2 pt	8
University of California at Riverside Riverside, CA Research universities - very high research activity		66.6%		33.9%	-32.7 pts	

Institution	Share of revenue con	Change in state support:		
	1987	1987 2012		
Arizona State University at Tempe Tempe, AZ Research universities - very high research activity	50.2%	23.7%	-26.5 pts	
F University of Florida Gainesville, FL Research universities - very high research activity	56.0%	29.9%	-26,1 pts	
Huniversity of Illinois at Urbana-Champaign Champaign, IL Research universities - very high research activity	42.3%	16.4%	-25.9 pts	
- University of California at Los Angeles Los Angeles, CA Research universities - very high research activity	47.8%	22.2%	-25.6 pts	
Montana State University at Bozeman Bozeman, MT Research universities - Very high research activity	51.4%	25.8%	-25.6 pts	

About the Data

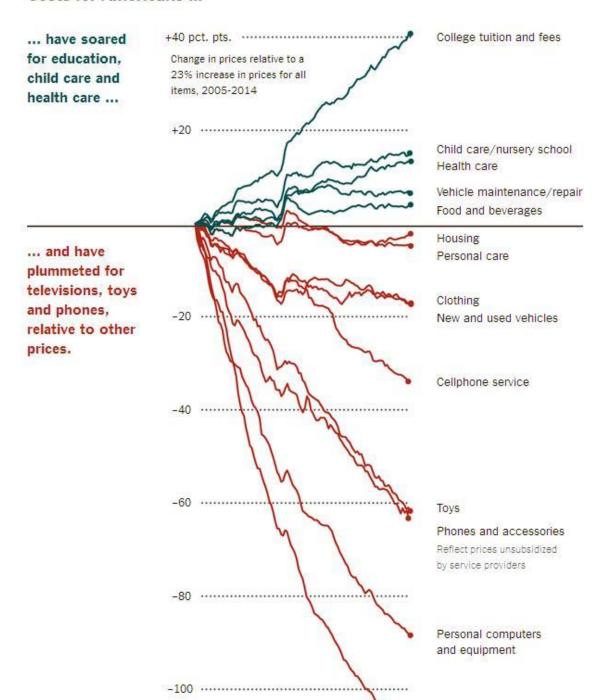
The data are based on revenue reported by institutions to the Department of Education's Integrated Postsecondary Education Data System for the fiscal years 1987 to 2012.

Colleges that didn't report any finance data to Ipeds in either 1987 or 2012 were excluded from the table. U.S. service academies, which are fully funded by the federal government, were also excluded. Only colleges who report financial data to Ipeds using the Governmental Accounting Standards Board reporting schema, which is used by most public institutions, were included in this table.

For purposes of this analysis, total revenue, which is used to calculate shares from various sources, excludes revenue from sales and services of

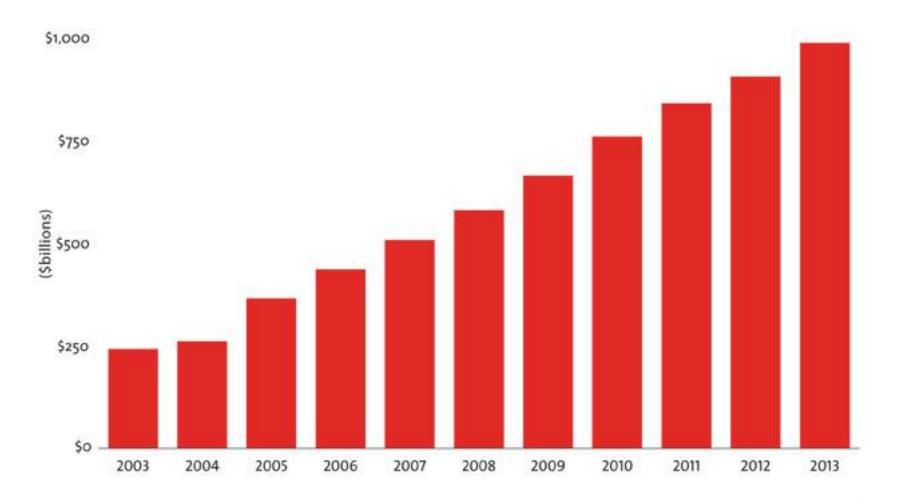


Costs for Americans ...



Big Debt on Campus

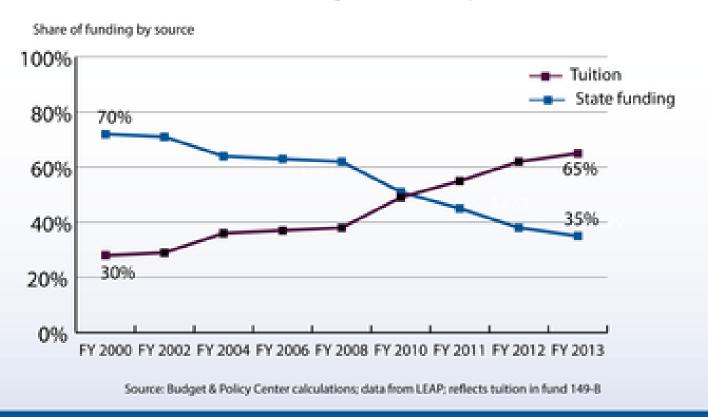
Student loan debt has nearly quadrupled in the past 10 years.



Source: Federal Reserve Bank of New York

Tensions For Democratization

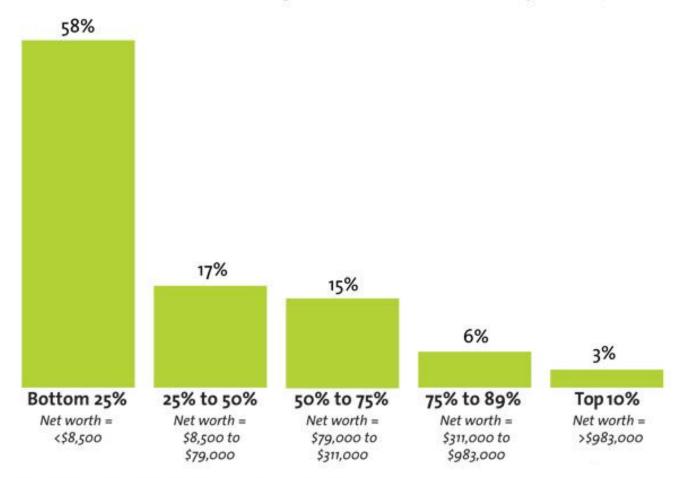
Figure 3: Students Are Paying Over Half of Higher Education Costs Through Tuition at 4-year Institutions



Tensions for Democratization

Who Owes the Most?

Distribution of total student debt by level of household net worth (percentile)



Quality

Quality Issues then and now...

Disadvantages of distance education:

- Absence of classroom interaction
- Loss of unexpected, yet fruitful, suggestions on the part of the teacher
- Increased opportunities for dishonesty on the student's part

Quality Issues then and now...

Disadvantages of distance education:

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- Increased opportunities for dishonesty on the student's part

Harper, 1886

Metaphors for Learning

- Acquisition
- Participation
- Implications for what learning is, students' role, teachers' role, concept of knowledge, nature of knowing...

(Sfard, 1998)

Metaphors for Learning

Acquisition Metaphor of Learning	Participation Metaphor of Learning
Goal of Learning: Individual Enrichment	Goal of Learning: Community Building
Learning: Acquisition of something	Learning: Becoming a more recognized and competent participant
Student : Recipient, consumer, sometimes constructor	Student: Peripheral participant, apprentice
Teacher : Provider, facilitator, mediator	Teacher : Expert participant, preserver of discourse and practice
Concept of Knowledge: Property, commodity, possession	Concept of Knowledge: An aspect of practice, discourse, activity
Nature of Knowing: Having, possessing	Nature of Knowing: Belonging, participating, increasingly competent membership, communicating





In Classrooms



And Online



Much of MOOC Based Learning

Goal of Learning: Individual

Enrichment

Learning: Acquisition of something

Student: Recipient, consumer, sometimes constructor

Teacher: Provider, facilitator, mediator

Concept of Knowledge: Property, commodity, possession

Nature of Knowing: Having, possessing

Challenges

Lecture and quizzes are core features of xMOOCs

Other forms of pedagogy that we might consider

- Problem-based
- Inquiry-based
- Team-based

Reflect a participation metaphor of learning – difficult to enact in large format online environments.

Can Online Learning be "As Good"?

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Source: U.S. Department of Education Meta-Analysis of Online Learning						

What we know about OLL

- 5 meta-analyses indicate it can be as good or better
- To make it better requires focusing on
 - Align assessment with instruction
 - Promote interaction
 - Build sense of learning community
 - Support self regulated learning
 - Replace lectures with more active learning
 - Inform faculty about learners status, progress, risk
 - Identifying big picture goals...

Concluding Questions

- Does democratization matter?
 - Here or "there"?
- Does liberal education matter?
 - What are likely consequences of both current traditional and large format online initiatives?
- Does quality matter?
 - Is learning about acquisition or participation?
 - What are consequences of move to larger scale forms of online learning that privilege acquisition?
 - Does "massive" impact quality?

Epilogue

- 4 million students in 1920s was a bubble
- Early boom in distance education led to abuses
- Legislation enacted by FTC to curtail fraud
- Closure of many institutions by late 1930s
 - Especially those making false claims promising employment as a result of distance study
- Clear parallels with today
 - State Authorization, Gainful Employment Act

More Recent History

- For-profit spinoff degree programs:
 New York University Online, Temple, E-Cornell,
 Open University of United States
- For-profit consortia: Cardean, Fathom, Global University Alliance, Universitas 21
- UK e-university
- \$20 million lost on average; \$100 million by UK e-University

"...the major threat to successful college online education is the divorce from mainstream academics..."