

## Education 3.0: My, Our Learning World is Changing!

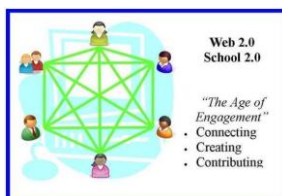
Curtis J. Bonk, Professor, Indiana University  
 cjbonk@indiana.edu  
<http://mypage.iu.edu/~cjbonk/>



## Read any good books lately?



## Eight Books About Education 3.0

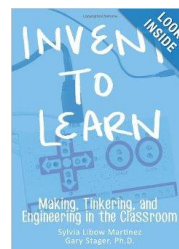


## 1. Invent to Learn:

### Making, Tinkering, and Engineering in the Classroom

Sylvia Libow Martinez & Gary Stager (2013)

<http://www.inventtolearn.com/>



## Invent to Learn:

Making, Tinkering, and Engineering in the Classroom  
 Sylvia Libow Martinez & Gary Stager (2013)

<http://www.inventtolearn.com/>

### Using technology to:

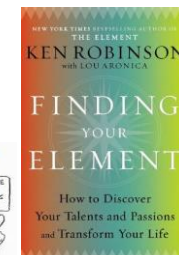
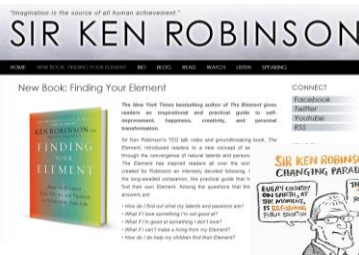
- Making,
- Tinkering
- Repairing,
- Inventing,
- Customizing
  - the things we need brings engineering, design, and computer science to the masses.

## 2. Finding Your Element:

### How to Discover Your Talents and Passions and Transform Your Life

Sir Ken Robinson and Lou Aronica (2013)

<http://www.inventtolearn.com/>



## Finding Your Element:

How to Discover Your Talents and Passions and Transform Your Life

By Lou Aronica and Ken Robinson (2013)

<http://www.inventtolearn.com/>

- Find your zone (deep in the throes of exploration and personal passion)
- Think differently (make fresh connections and analogies; avoid groupthink)
- Do something, develop your creative ideas
- Use your imagination, play with ideas
- Free and open exchange of ideas
- Encourage expression of personal ideas/feelings

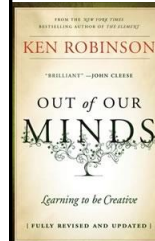


## 3. Out of Our Minds:

Learning to be Creative

By Sir Ken Robinson (2011)

<http://www.inventtolearn.com/>



## 4. Makers:

The New Industrial Revolution (DIY Culture)

Chris Anderson (2012)

<http://www.inventtolearn.com/>



## Makers:

The New Industrial Revolution (DIY Culture)

Chris Anderson (2012)

- People make products (and from home)
- Technology (e.g., 3-D printing) makes us all manufacturers
- Instant connections to potential customers
- Hold up things you personally design
- Desktop fabrication
- Do-it-yourself (DIY) industry



## 5. Drive: The Surprising Truth About What Motivates Us

Daniel Pink (2009)

RSA Animate:

<http://www.youtube.com/watch?v=u6XAPnuFjJc>

[http://www.ted.com/talks/dan\\_pink\\_on\\_motivation](http://www.ted.com/talks/dan_pink_on_motivation)

<http://www.danpink.com/books/drive/>



## Drive: The Surprising Truth About What Motivates Us

Daniel Pink (2009)

### Motivation 3.0

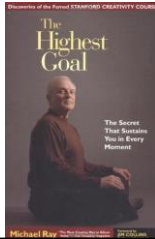
- Freedom, challenge, purpose
- Creative, interesting, and self-directed work
- Intrinsic motivation
- Life as play and possibility
- Engagement and mastery
- Autonomy



## 6. The Highest Goal:

The Secret That Sustains You in Every Moment  
Michael Ray (2004)

<http://creatinginnovators.com/>



## The Highest Goal:

The Secret That Sustains You in Every Moment  
Michael Ray (2004)

<http://creatinginnovators.com/>

- Find real meaning
- Become a generative leader
- What makes you feel connected, motivated, sustained
- Travel your own path
- Go beyond passion and success
- Relate from your heart
- Turn fears into breakthroughs



## 7. Creating Innovators:

The Making of Young People Who Will Change the World  
Tony Wagner (2012)

<http://creatinginnovators.com/>



## Creating Innovators

Tony Wagner (2012)

<http://creatinginnovators.com/>

- Play
- Passion
- Purpose and life goals
- Open cultures of innovation and interdisciplinary problem solving
- Collaboration
- Intrinsic motivation



## 8. Mindset:

The New Psychology of Success  
Carol Dweck (2006)

<http://mindsetonline.com/index.html>

<http://mindsetonline.com/testyourmindset/step1.php>



## Mindset:

The New Psychology of Success  
Carol Dweck (2006)

- Growth vs. fixed (i.e., entity) theories of intelligence
- Intelligence is not fixed
- Practice, practice, practice
- Do not blame others
- Learning goals over performance goals
- Asks: What can I learn from this?
- Asks: How can I improve?



## What skills do we need in the 21<sup>st</sup> Century?

### The Seven Cs – 21<sup>st</sup> Century Lifelong Skills

Seven Cs	Component Skills
 Critical Thinking-and-Doing	Problem-solving, Research, Analysis, Project Management, etc.
 Creativity	New Knowledge Creation, "Best Fit" Design Solutions, Artful Storytelling, etc.
 Collaboration	Cooperation, Compromise, Consensus, Community-building, etc.
 Cross-cultural Understanding	Across Diverse Ethnic, Knowledge and Organizational Cultures
 Communication	Crafting Messages and Using Media Effectively
 Computing / ICT Literacy	Effective Use of Electronic Information and Knowledge Tools
 Career & Learning Self-reliance	Managing Change, Lifelong Learning and Career Redefinition

## If you had to give a word or phrase to describe "21<sup>st</sup> Century Skills," what would that word be?

1. Locate info, synthesize it,
2. Use and communicate effectively and ethically,
3. Evaluate products,
4. Producers and consumers of visual info,
5. Sensitive to bias and cultural differences,
6. Sets own goals,
7. Willing to make mistakes,
8. Comparison and contrast skills, inferencing skills,
9. Participate in a team, exercise leadership
10. Make decisions

## Digital Literacy (Bonk, June 2, 2007)

Digital literacy is the ability to browse, locate, filter, synthesize across, and eventually use information appearing in multiple formats and in a wide range of sources that can lead to communication of what one discovered as well as the production of still additional information. (Paul Gilster (1997), Digital Literacy.)

## This Generation of Students



## Audience Poll #1: Has learning technology has transformed your life.



**1728: 1<sup>st</sup> correspondence course advertised Boston**  
(learn shorthand from Caleb Phillips thru weekly mailed lessons)

**The First University Correspondence Course**  
(University of London, External Program, 1858)

1728-1990s – Generally postal system based

1930s – phonograph and radio based

1950s and 1960s – television

1970s and 1980s – VHS tapes

1980s and 1990s – DVD





**May 10, 2013**

**10 ed-tech tools of the 70s, 80s, and 90s**

eSchool News, Meris Stansbury

<http://www.eschoolnews.com/2013/05/10/10-ed-tech-tools-of-the-70s-80s-and-90s/print/>

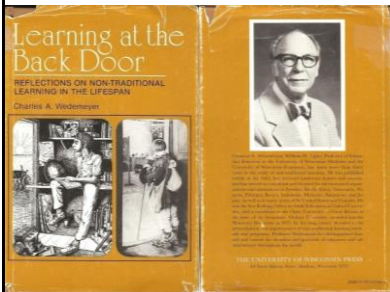


**Looking to the Past...**



**Took Correspondence & TV Courses**

(thanks to Bob Clasen and Charles Wedemeyer, the University of Wisconsin)



**Life as an accountant/CPA in a high tech company in the 1980s...**



**Knowledge Navigator (1987)**

Apple Computer

<http://www.youtube.com/watch?v=hb4AaF6wEoc>



**Fast Forward 25+ Years...**

**"Anyone can now learn anything from anyone at any time."**

SKILLSHARE LEARN TEACH

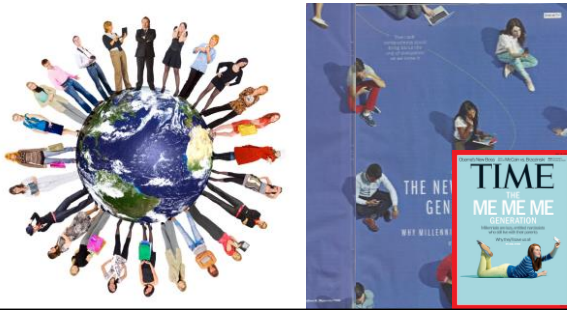
Learn anything from anyone, anywhere.



Join and filter learning and discover unique classes in your city.

**May 20, 2013**

**The New Greatest Generation: Why Millennials will Save Us All, Time, Joel Stein**  
<http://www.time.com/time/magazine/article/0,9171,2143001,00.html>



## Audience Polls #2:

- I. Who remembers where they were when they found out that Steve Jobs died?
- II. Who remembers what they were doing on 911?
- III. Who remembers what they were doing on 441 (i.e., April 4, 2001)?



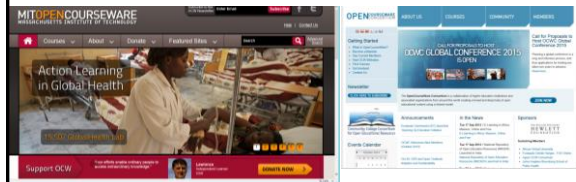
**Charles Vest (April 4, 2001)**

<http://web.mit.edu/newsoffice/2001/ocw.html>

"This is about something bigger than MIT. I hope other universities will see us as educational leaders in this arena, and we very much hope that OpenCourseWare will draw other universities to do the same. We would be delighted if -- over time -- we have a world wide web of knowledge that raises the quality of learning -- and ultimately, the quality of life -- around the globe."



## Fast Forward to February 2014 MIT OCW and the OpenCourseWare Consortium



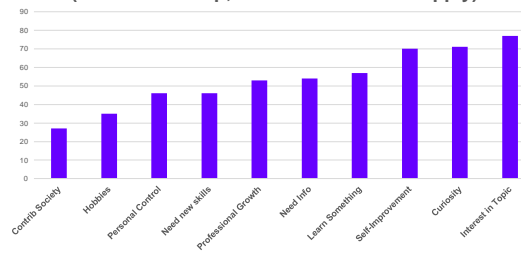
## MIT OpenCourseWare (OCW)

<http://ocw.mit.edu/index.htm>



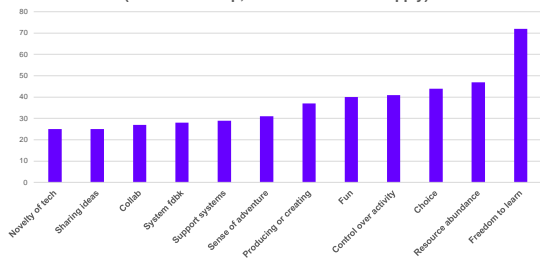
## Reasons to explore?

Main Reason Explore the Web Informally to Learn  
 (MIT OCW Group; Note: Check all that apply)



## Factors leading to success or personal change?

Factors Leading to Success or Personal Change When Exploring Online  
(MIT OCW Group; Note: Check all that apply)



**February 5, 2013**

## Bioelectricity: A Quantitative Approach, Duke University's First MOOC

[http://dukespace.lib.duke.edu/dspace/bitstream/handle/10161/6216/Duke\\_Bioelectricity\\_MOOC\\_Fall2012.pdf](http://dukespace.lib.duke.edu/dspace/bitstream/handle/10161/6216/Duke_Bioelectricity_MOOC_Fall2012.pdf)

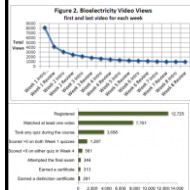
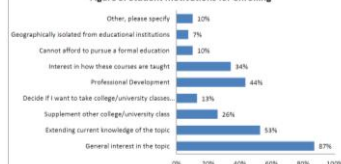


Figure 5. Student motivations for enrolling



## May 2013 MOOCs @ Edinburgh 2013– Report #1

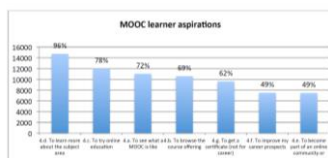
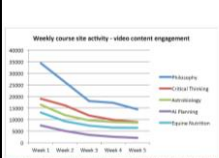


Figure 9: Combined each survey responses to Q1 'What did you hope to get out of the course and did it meet your expectations?' - calculated as a sum of expected aspirations, not expectations, and full before expectations responses - with percentage shown of total each survey respondents.

**October 31, 2013**

## U.S. Teams Up With Operator of Online Courses to Plan a Global Network, Tamar Lewin, NY Times

[http://www.nytimes.com/2013/11/01/education/us-teams-up-with-online-courses.html?hpid=hp\\_tech\\_11-01](http://www.nytimes.com/2013/11/01/education/us-teams-up-with-online-courses.html?hpid=hp_tech_11-01)

From Seoul, South Korea, to La Paz, Mexico, Coursera is partnering with local institutions to create "Global Learning Hubs," the company announced Oct. 31.

**coursera**



**The New York Times Education**

U.S. Teams Up With Operator of Online Courses to Plan a Global Network

By Tamar Lewin  
Published October 31, 2013

Coursera, a California-based venture that has enrolled five million students in its free online courses, announced on Thursday a partnership with the United States government to create "learning hubs" around the world where students can go to get Internet access to free courses supplemented by weekly in-person class discussions with local teachers or facilitators.

The learning hubs represent a new step in the evolution of "massive open online courses," or MOOCs, and address two issues: the lack of reliable Internet access in many countries, and

**September 16, 2013**

## Rwandan Degree Program Aims for a 'Box' in a 'Box', Chronicle of Higher Education, Megan O'Neil

<http://chronicle.com/article/Rwandan-Degree-Program-Aims/141631/>



Students attend an orientation session at Kepler, a new hybrid program in Kigali, Rwanda, which will use MOOCs and classroom time to help students earn competency-based associate degrees.

**October 31, 2013**

## The launch of OERu: Towards free learning opportunities for all students worldwide, BC Campus (Canada)

<http://thecampus.ca/2013/10/31/the-launch-of-open-educational-resources-free-learning-opportunities-for-all-students-worldwide/>

The launch of OERu: Towards free learning opportunities for all students worldwide

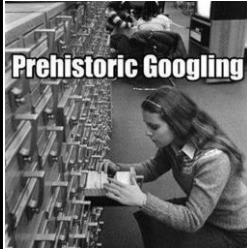
October 31, 2013

Imagine anyone in the world having credentials for it. With the launch of OERu, that's exactly what is now possible and marks a transition from an individual program of accessible OERu studies.



## Part I. Learning is Changing

### New Technologies = New Delivery Methods...



## I. Learning is More Open

### (80-Year-Old WGU Texas Grad Keeps His Promise, November 30, 2012, Reeve Hamilton, Texas Tribune)



## II. Learning is More Video-Based

### Adora Svitak, WFP Youth Representative - 2013 ECOSOC Youth Forum, March 27, 2013

\*Shaping tomorrow's innovators: Leveraging science, technology, innovation and culture for today's youth\*, Statement by the World Food Programme Youth Representative, Mr. Adora Svitak at the 2013 ECOSOC Youth Forum.  
<http://webtv.un.org/meetings-events/economic-and-social-council/youth-meetings/2013/ecosoc-youth-forum-shaping-tomorrows-innovators-leveraging-science-technology-innovation-and-culture-for-todays-youth/2257975055001>

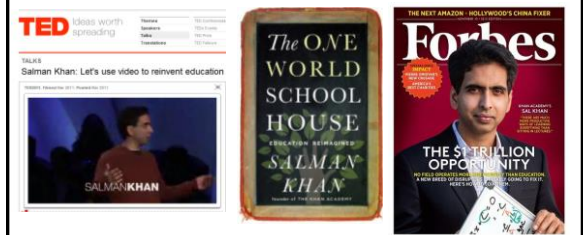


## III. Learning is More Flipped

### One Man, One Computer, 10 Million Students: How Khan Academy Is Reinventing Education, Forbes, November 19, 2013, Michael Noer

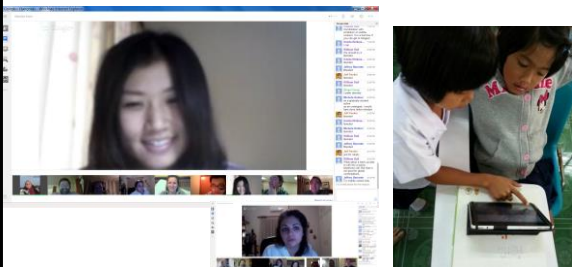
<http://www.forbes.com/sites/michaelnoer/2013/11/09/one-man-one-computer-10-million-students-how-khan-academy-is-reinventing-education/>

### The One World Schoolhouse (Twelve, Oct. 2, 2012)



## IV. Learning also is More Collaborative

### Collaboration and Discussion in Google Hangouts or with iPad, Jan. 28, 2013 (Carrie Gong from Beijing Normal University)



## V. Learning is More Mobile

### Open Learning on Smartphone (Coursera, December 8, 2013)

<http://blog.coursera.org/post/65918555384/holiday-season-learn-on-the-go-with-the-new>

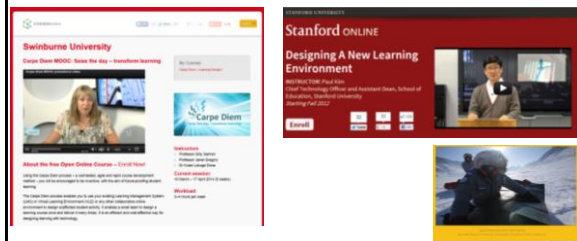




**March 2014**

## VI. Learning is More Massive

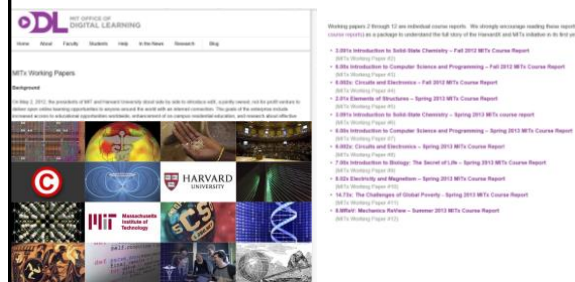
Courses on How to Design Learning Environments  
(Gilly Salmon, Swinburne University, Melbourne and  
Paul Kim from Stanford University, Aaron Doering,  
University of Minnesota)



**January 21, 2014**

## MITx Working Papers (research on MOOCs)

<http://odl.mit.edu/mitx-working-papers/>

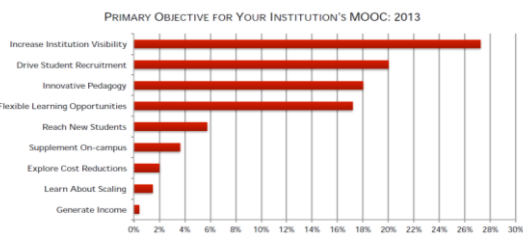


**January 2014**

## Grade Change: Tracking Online Education in the United States, 2013, The Sloan Consortium, I. Elaine Allen & Jeff Seaman, 2013 Survey of Online Learning Report

<http://sloanconsortium.org/publications/survey/grade-change-2013>

Direct connect: <http://www.onlinelearningurvey.com/reports/gradechange.pdf>



## VII. Learning is More Social

Facebook reaches one billion users, CNN Money,  
Aaron Smith, October 4, 2012



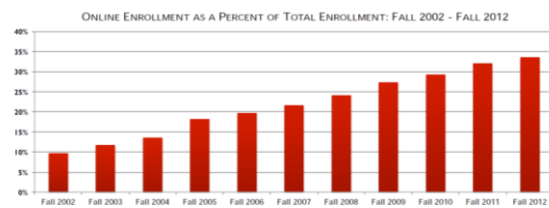
**January 2014**

## VIII. Learning is More Online

Grade Change: Tracking Online Education in the United States, 2013, The Sloan Consortium, I. Elaine Allen & Jeff Seaman, 2013 Survey of Online Learning Report

<http://sloanconsortium.org/publications/survey/grade-change-2013>

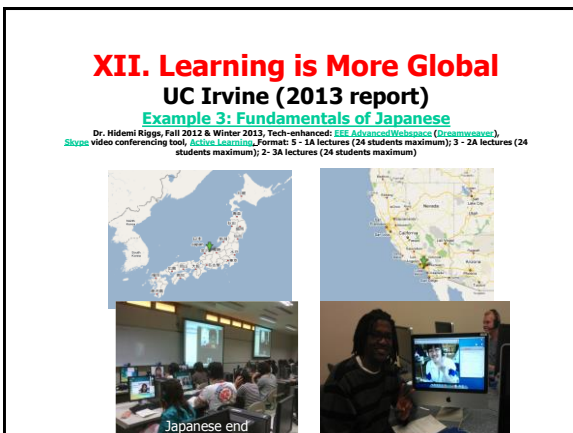
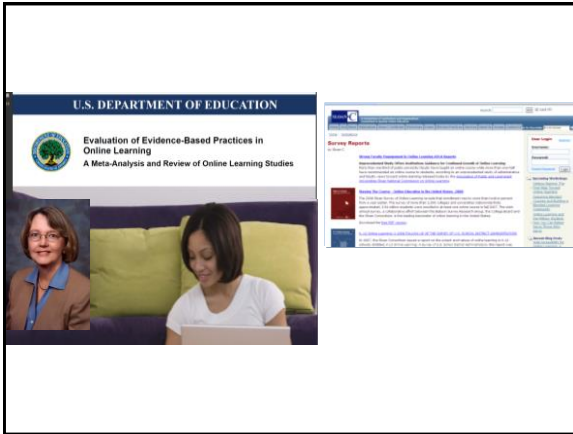
Direct connect: [http://www.onlinelearningsurvey.com/reports/gradechange.pdf](http://www.onlinelearningurvey.com/reports/gradechange.pdf)



## Nontraditional Learning Rises (e.g., Balloon, March 4, 2014)

<https://www.balloon.com/>





## IXV. Learning is More Instantaneous

April 9, 2013

HER Computer fashions face social test: Can wearable computers fit in? Scott Martin, USA Today  
<http://www.usatoday.com/story/tech/2013/04/09/google-glass-devlopment-testing/2740272/>  
 (i.e., magnify moles or injuries, see vital signs, live stream surgeries, access previous PT sessions, access research and drug info, etc.)  
<http://www.fiercehealthcare.com/story/google-glasses-could-have-strong-potential-healthcare-use/2013-03-18>



## Google Glass: Freaky, geeky toy aims to save lives

USA Today, Marco della Cava, March 3, 2014  
<http://www.usatoday.com/story/tech/2014/03/03/google-glass-devlopment-testing/2740272/>



## XV. Learning is More Technology-Based

DataWind Prepared \$20 Tablet Computer for Indian Market

Jan 30, 2013 4:10 AM EST

A Canada-based company believes it can revolutionize education in India by rolling out a \$20 tablet computer.

125 275 140 5

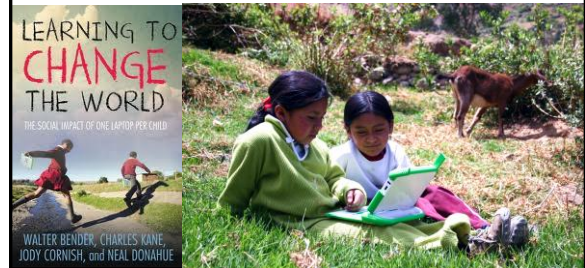
What can you buy for \$20? A lunch for two? A new shirt? A few groceries? For India's 220 million schoolchildren, \$20 may soon buy a tablet computer.



## Learning is Changing the World

(Book Review: Ed Tech Mag, May-June 2013)

Walter Bender, Charles Kane, Jody Cornish, and Neal Donahue (2012). *Learning to Change the World: The Social Impact of One Laptop Per Child*. NY: Palgrave Macmillan.



## Let's Review: Learning is Changing...

(i.e., it's more informal, video-based, ubiquitous, collaborative, self-directed, global, mobile, open, massive, etc.)



Frank Basile, an aircraft technician, took an MITx course on circuits and electronics to increase his knowledge.



Joe Alfonso, a financial adviser from Oregon, is taking the online finance course as a "refresher."

## Poll #3: Is this a revolution in education today?

A. Yes...

B. No...





## April 15, 2013 World will soon be "Webified"

Google boss: Entire world will be online by 2020,  
Doug Gross, CNN

[http://www.cnn.com/2013/04/15/tech/web/eric-schmidt-internet/index.html?hpt=hp\\_13](http://www.cnn.com/2013/04/15/tech/web/eric-schmidt-internet/index.html?hpt=hp_13)

Google boss: Entire world will be online by 2020



## Google Wi-Fi from the Sky, Steven Levy, pp. 126-131, Wired, September 2013

<http://www.wired.com/gadgetlab/2013/08/googlex-project-loon/>



Google X chief Astro Teller (left) and Project Loon's first leader, Rich DeVaul, holding the system's ground-based antennas.

## The World is very open! (at least in Norway and the Philippines)



## My dog is content....



## July 16, 2013 "Golden Era of Learning" Bill Gates Discusses MOOCs at Microsoft Research's Faculty Summit

[http://chronicle.com/article/A-Conversation-With-Bill-Gates/132591?cid=at&utm\\_source=at&utm\\_medium=en](http://chronicle.com/article/A-Conversation-With-Bill-Gates/132591?cid=at&utm_source=at&utm_medium=en)

On the Meaning of MOOC's

"Even though I've been a high school dropout, I'm a professional student."



Bill Gates Discusses MOOCs at Microsoft Research's Faculty Summit

July 16, 2013, 4:41 AM

By Sara Grouman

Bill Gates says that this is the "golden era" of learning, thanks to



Bill Gates' classroom of the future

Microsoft Research's Faculty Summit



Gates: How to make digital classroom work





## I am not Content!!!



## January 29, 2014 Maybe it is not so open!

(e.g., MOOCs and the Promise of Internationalization,  
The Chronicle of Higher Education, Christina C. Davidson)

[http://chronicle.com/blogs/future/2014/01/29/moocs-and-the-promise-of-internationalization/768-symposium\\_source=symposium\\_medium=crn](http://chronicle.com/blogs/future/2014/01/29/moocs-and-the-promise-of-internationalization/768-symposium_source=symposium_medium=crn)

A screenshot of the 'THE CHRONICLE OF HIGHER EDUCATION' website. The main article is titled 'MOOCs and the Promise of Internationalization' by Christina C. Davidson, dated January 28, 2014. The article discusses how MOOCs are opening up higher education to a global audience. To the right, there is a sidebar with a 'wamda' logo and a section titled 'Online education platform Coursera blocks students in Syria and Iran'. Below this, there is a photo of a man sitting at a desk with a laptop.

## May 24, 2010

Author Nicholas Carr, The Web Shatters  
Focus, Rewires Brains, Wired

[http://www.wired.com/magazine/2010/05/ff\\_nicholas\\_carr/](http://www.wired.com/magazine/2010/05/ff_nicholas_carr/)

The cover of Atlantic magazine, 'THE IDEAS ISSUE'. The main headline is 'Google IS MAKING US Stoopid?'. Below it, a smaller headline reads 'WHAT THE INTERNET IS DOING TO OUR BRAINS BY NICHOLAS CARR'. There are two photos: one of Nicholas Carr speaking at a podium, and another of a person wearing a white cone on their head, standing in front of a chalkboard.



## May 6, 2013

Faculty Backlash Grows Against Online Partnerships  
Chronicle of Higher Education, Steve Kolowich

<http://chronicle.com/article/Faculty-Backlash-Grows-Against/139049/>

May 6, 2013  
Faculty Backlash Grows Against Online Partnerships



Michael Sandel, a Harvard professor, taught an online course that San Jose State U. asked its philosophy professors to use in place of their own instruction. They said no.

By Steve Kolowich

## June 19, 2013

2013 is "The Year of the Anti-MOOC"  
George Siemens, UW-Madison Summit

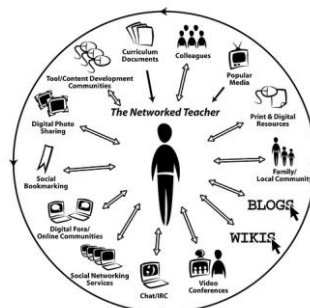
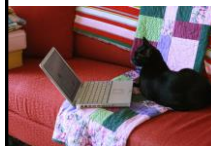
<http://globalhigher-ed.worpress.com/european-moocs-in-global-context/>

A collage image. On the right is a close-up of a bull's head with its mouth open, showing its teeth. On the left is a poster for a 'Workshop' titled 'European MOOCs in Global Context'. The poster includes text about the workshop's focus on the impact of MOOCs on higher education and lists the dates and times for the sessions.

## We are entering a jumping off point...



## The Web of Learning



### Framework #1: WE-ALL-LEARN: Ten Forces that Opened the Learning World

- **W**eb Searching in the World of e-Books (i.e., Darwin)
- **E**-Learning and Blended Learning
- **A**vailability of Open Source and Free Software (e.g., Moodle)
- **L**everaged Resources and OpenCourseWare (e.g., MIT)
- **L**earning Object Repositories and Portals (i.e., shared content)
- **L**earner Participation in Open Info Communities (YouTube)
- **E**lectronic Collaboration and Interaction (sync and async)
- **A**lternate Reality Learning (Online Massive Gaming, Simulations, and Virtual Worlds; e.g., Second Life)
- **R**ead-Time Mobility and Portability (e.g., iPhone)
- **N**etworks of Personalized Learning (Blogs, RSS)



## Audience Participation!

**WE**

**ALL**

**LEARN!!!**



### Opener #1. Web Searching (e.g., Google, MSN, Yahoo!) in the World of e-Books (i.e., Darwin, Shakespeare, etc.)



## OpenStax College

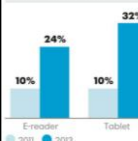
(OpenStax College offers students free textbooks that meet scope and sequence requirements for most courses. These are peer-reviewed texts written by professional content developers.)

<http://openstaxcollege.org/>

openstax college Access: The Future of Education

#### GROWING DEMAND FOR READING DEVICES

Percent who have an e-reader (Kindle, etc.) or tablet (iPad, etc.):




Source: 2013 Pew Research Center poll, 2013  
U.S. TODAY: Breakdown of e-reader or tablet owners by Pew Research Survey Research Aug. 19-14, 2013



**GOAL:**  
PROVIDE LOW-COST TEXTBOOKS

It's innovation in education. And the time is right. OpenStax College offers students free textbooks that meet scope and sequence requirements for most courses. These are peer-reviewed texts written by professional content developers. Adopt a book today for a textbook classroom solution or course.

## Opener #2. E-Learning and Blended Learning



**Shaq earns doctorate degree**

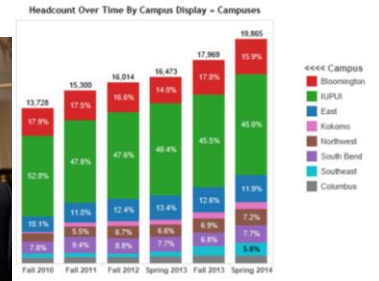
Why I spent 10th grade online

Video: Sophia Pink describes how she finished 10th grade online and why she's choosing to go back to the classroom.

By Sophia Pink. Published: August 21. Email the writer.

## February 2014 IU Online Enrollments (at least one class online)

[http://www.iuonlineenrollments.com/Views/StudentsAtLeastOneOnlineClassDashboard\\_MassiveTrended-y-fd4qjgncourse](http://www.iuonlineenrollments.com/Views/StudentsAtLeastOneOnlineClassDashboard_MassiveTrended-y-fd4qjgncourse)



## September 18, 2013 MIT Will Offer MOOC Curricula, Not Just Single Courses, on edX, Steve Kolowich, Chronicle of HE

<http://chronicle.com/blogs/wiredcampus/mit-will-offer-mooc-curricula-not-just-single-courses-on-edx/46715>

MIT Will Offer MOOC Curricula, Not Just Single Courses, on edX

September 18, 2013, 4:59 am

By Steve Kolowich



## Opener #3. Availability of Open Source and Free Software Moodle

(July 18, 2013: 72 million users in 237 countries, 84,518 sites, 7.6 million courses)



## Opener #4. Leveraged Resources and OpenCourseWare (OCW) (e.g., free courses from Harvard Edx, MITx, CORE, OOPS)

Saylor.org: <http://www.saylor.org/>

RedHoop: <http://redhoop.org/>



**OOPS** OOPS: Opensource OpenCourseware Prototype System  
The Foundation of Fantasy Culture and Arts

## August 5, 2013 Free Online Higher Education: 5 Best MOOCs

By Kannan Sankaran, Epoch Times

<http://www.theseophtimes.com/n3/229640-5-best-mooc-for-free-online-higher-education/>

MOOC at UPenn; Recession Fuels Explosion of Online Learning

<http://on.aol.com/video/recession-fuels-explosion-of-online-learning-517885092>





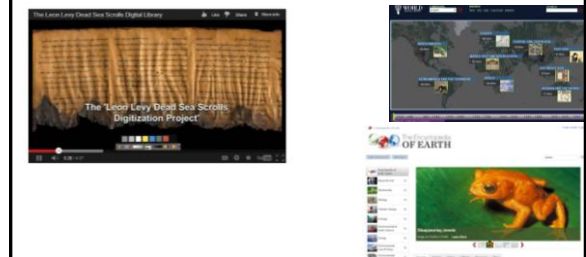
**November 4, 2012**

**Udemy** (professors create own courses)  
(e.g., "Planning Your Online Course")  
<https://www.udemy.com/courses/>



**Opener #5. Online Learning  
Object Repositories and Portals  
(shared content)**

<http://www.deadseascrolls.org/j/explore-the-archives>  
[http://www.deadseascrolls.org/j/explore-the-archives?site\\_id=Camran\\_Cave\\_4](http://www.deadseascrolls.org/j/explore-the-archives?site_id=Camran_Cave_4)  
<http://www.deadseascrolls.org/j/home>

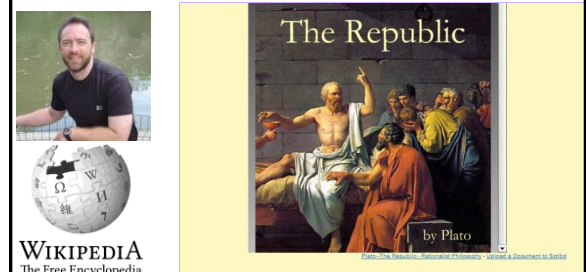


**October 2010, The V-PORTAL (Bonk, IU)**

"Video Primers in an Online Repository for  
e-Teaching and Learning" V-PORTAL,  
TravelinEdMan (27 free/open YouTube videos)  
<http://www.youtube.com/user/TravelinEdMan>



**Opener #6. Learner Participation in  
Open Information Communities  
(e.g., Wikipedia, YouTube, Scribd)**



**Opener #7. Electronic  
Collaboration and Interaction  
(synchronous & asynchronous)**

Soliya Connect

<http://gli.georgetown.edu/#soliya>



**Opener #8. Alternate Reality**

**Learning** (Online Massive Gaming,  
Simulations, and Virtual Worlds; e.g., Second Life)  
Video games may improve brain power in older adults

<http://www.usatoday.com/story/news/nation/2013/09/04/video-games-brain-power-dementia/2762523/>





## Opener #9. Real-Time Mobility and Portability (e.g., iPhone, iPads, smart watches (September 4, 2013))

The Samsung Galaxy Gear smartwatch

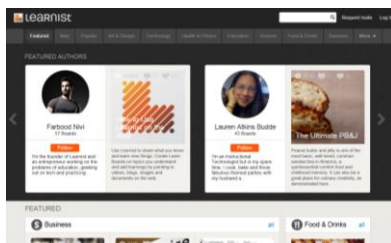


## Mobile is the Most Pervasive Technology Ever

Judy Brown, Keynote talk, "Learning in Hand With Mobile Technology," Wisconsin Distance Teaching and Learning Conference, August 10, 2012



## Opener #10. Networks of Personalized Learning (Blogs, Podcasts, Facebook, and RSS feeds, etc.)



May 22, 2013

## Video Walls of Experts (IQ Wall) Indiana University unveils high-tech classroom The Herald-Times, Mike Leonard

<http://www.indianaeconomicdigest.net/main.asp?SectionID=518&SubSectionID=1358&ArticleID=69280>



## What about the Instructor in the Open World?



## A Dozen "C" Metaphors of Instructors (e.g., "Cat Herders")



**1. Instructor as Credit Manager****2. Instructor as Court Room Judge****3. Instructor as Counselor****4. Instructor as Consultant****5. Instructor as Conductor****6. Instructor as Course Ambassador**

**October 27, 2012**

**Travel for Office Hours, 42,000 students**  
**Chuck Severance, (U Michigan/Coursera) in Barcelona**

<http://www.youtube.com/watch?v=JzNHvmsv8T4>



## 7. Instructor as Curator



## 8. Instructor as Concierge



## BETT Talks

**Global voices in education technology:**  
**Daphne Koller, Coursera BETT 2013 Keynote Talk**  
**(posted March 14, 2013)**

[http://www.youtube.com/watch?v=BH016d4INQ&WT.mc\\_id=NWS14](http://www.youtube.com/watch?v=BH016d4INQ&WT.mc_id=NWS14)



## 9. Instructor as Camping Trip Guide



## 10. Instructor as Cultivator

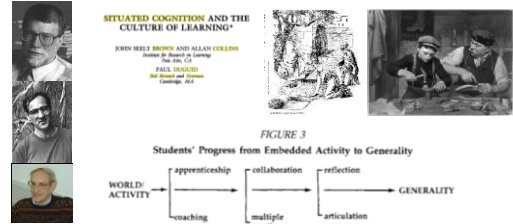




## How About Instruction as a Cognitive Apprenticeship?



Brown, J. S., Collins, A., & Duguid, P. (1988). *Cognitive apprenticeship, situated cognition, and social interaction*. Bolt, Beranek, and Newman, Inc., Technical Report No. 6886.



## Exactly 20 Years Later... Our minds were on fire!



## Why Education 3.0? (Global Education Leaders Program (GELP))

<http://gelponline.org/>

- Globalization
- Demographic Shifts
- Technological Revolution
  - Transfer of ownership to students
  - Collaborative learning technologies
  - Holistic change in complex and interdependent system
  - Higher-order thinking focus



## Why Education 3.0? (Global Education Leaders Program (GELP))

<http://gelponline.org/>

<http://gelponline.org/http%3A//gelponline.org/resources/gelp-film>



## GETideas Channel, Cisco

(Thought Leader Series uploaded to YouTubeEdu)





The genesis and emergence of Education 3.0 in higher education and its potential for Africa

by Derek Keats and J. Philipp Schmidt

## Education 3.0

<http://firstmonday.org/ojs/index.php/fm/article/view/1625/1540>

Characteristics	Education 1.0	Education 2.0	Education 3.0
Primary role of professor	Source of knowledge	Guide and source of knowledge	Orchestrator of collaborative knowledge creation
Content arrangements	Traditional copyright materials	Copyright and free/open educational resources for students within discipline, sometimes across institutions	Free/open educational resources created and reused by students across multiple institutions, disciplines, nations, supplemented by original materials created for them
Learning activities	Traditional, essays, assignments, tests, some groupwork within classroom	Traditional assignment approaches transferred to more open technologies; increasing collaboration in learning activities; still largely confined to institutional and classroom boundaries	Open, flexible learning activities that focus on creating room for student creativity; social networking outside traditional boundaries of discipline, institution, nation

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## Education 3.0

<http://firstmonday.org/ojs/index.php/fm/article/view/1625/1540>

Institutional arrangements	Campus-based with fixed boundaries between institutions; teaching, assessment, and accreditation provided by one institution	Increasing (also international) collaboration between universities; still one-to-one affiliation between students and universities	Loose institutional affiliations and relations; entry of new institutions that provide higher education services; regional and institutional boundaries breakdown
Student behaviour	Largely passive absorptive	Passive to active, emerging sense of ownership of the education process	Active, strong sense of ownership of own education, co-creation of resources and opportunities, active choice
Technology	E-learning enabled through an electronic learning management system and limited to participation within one institution	E-learning collaborations involving other universities, largely within the confines of learning management systems but integrating other applications	E-learning driven from the perspective of personal distributed learning environments; consisting of a portfolio of applications

The genesis and emergence of Education 3.0 in higher education and its potential for Africa

by Derek Keats and J. Philipp Schmidt

## Education 3.0

<http://firstmonday.org/ojs/index.php/fm/article/view/1625/1540>

Change	Reason	Notes
Embracing and contributing to free software (i) that is fit for purpose	Education 3.0 leadership will depend on the ability to experiment, and grow new and integrated technologies that foster social collaboration within institutions, across institutions, across disciplines, and across nations	Free software development shows efficient community-based innovation mechanisms (Lee and Cole, 2003). The barriers to participation in these innovation processes are much lower with free software than with proprietary software. Institutions that fail to understand and embrace this will either be left behind or will incur disproportionate expenses.
Embracing and contributing to free and open standards for sharing and co-creation (not just information exchange)	Education 3.0 is fundamentally about multi-directional collaboration and multipurpose use and reuse of educational resources. The use of open standards ensures that resources remain reusable and accessible.	Only if standards are open and implemented in free software can true collaboration happen with the level of innovation that will be required in Education 3.0 leaders

## Education 3.0: 'Learning Psychology'—Embracing Better Ways to Teach

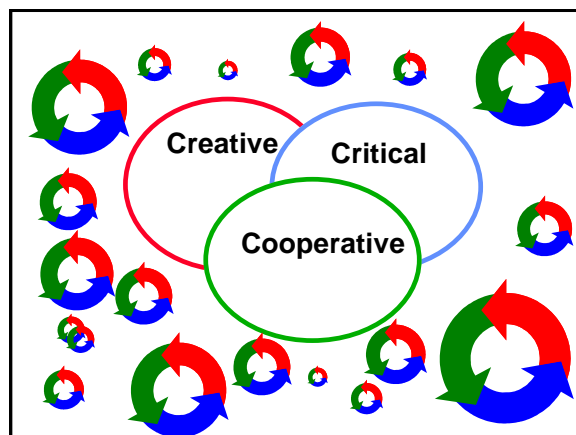
Jeff Borden, Pearson, October 28, 2013

- Calculations (active)
- Compelling questions
- Communication of results
- Critical Thinking
- No single theory, report, or strategy (Vygotsky + McGonigal + Mezirow + Knowles + Pink + Gardner + Wiggins + Etc.

## Education 3.0: Embracing Technology to Jump the Curve

Jeff Borden, Pearson, September 24, 2013

- Opportunities for creativity
- Outcomes
- Big data visualization
- Personalization
- On-demand reports
- Machine learning (technology used to empower)



## Creativity

- Creative Person (look for traits; e.g., visionary type)
- Creative Process (looking at stages, steps, actions, behaviors)
- Creative Product (looking at composition, design, innovation, fitness, worthiness)
- Creative Press (look at environment, climate, place)

## What's unique about these 2 people?



## What does Google's 20 percent time policy have to do with Montessori?



Sergey Brin and Larry Page's innovation-friendly office culture (beyond the famous free food, there's the company's "20 Percent Time," which encourages engineers to spend a fifth of their time pursuing whatever projects ignite their interest) has created...AdWords, Google News, Google Maps, Google Earth, and Gmail.



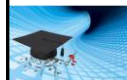
September 17, 2012

## Education 2022: A 360 Degree View Ten predictions of 2022

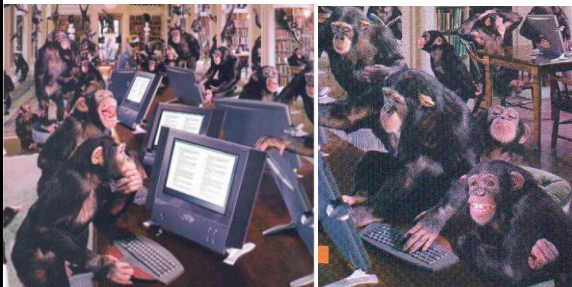
John Mayerhofer & Alex Zhu, SAP Training & Educ.

<http://www.sap.com/communities/training-and-education/2012/09/17/education-2022-a-360-view>

- |                      |                           |
|----------------------|---------------------------|
| 1. Learner-Driven    | 6. Holistic               |
| 2. Openly Accessible | 7. Teaching Redefined     |
| 3. Personalized      | 8. Policy Redefined       |
| 4. Social            | 9. Industry Engaged       |
| 5. Ubiquitous        | 10. Achievement Redefined |



## From Tinkering to Tottering to Totally Extreme Learning...



## Tinkering



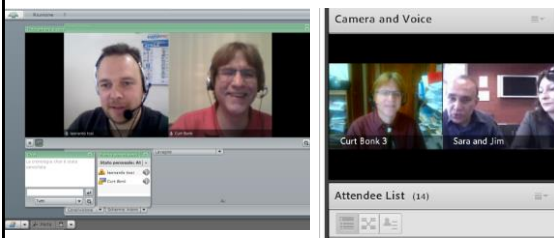
## **Tinker #1.** **Supplemental Lectures** **(e.g., Academic Earth)**



## **Tottering**

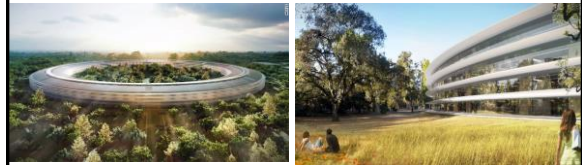


## **Totter #1.** **Global Experts via Web Conference** Serious Gaming Institute, Coventry, UK and Leonardo Tosi, Florence, Italy

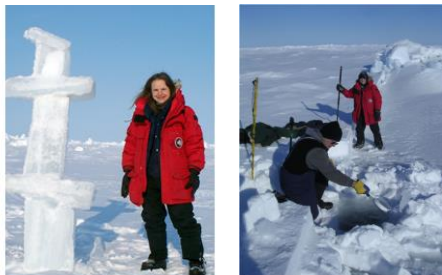


## **You Want Totally Extreme?**

Apple's new 'spaceship' campus: What will the neighbors say?, Doug Gross, CNN, May 22, 2012  
[http://www.cnn.com/2012/05/22/tech/innovation/new-apple-campus/index.html?hpt=hp\\_tech11](http://www.cnn.com/2012/05/22/tech/innovation/new-apple-campus/index.html?hpt=hp_tech11)



## **Totally Extreme #1.** **iPod Learning from MIT OCW** (e.g., Wendy Ermold, University of Washington)



## **Totally Extreme #2.** **Blogging Field Archeology Research** (e.g., Lily Henry Roberts, UCLA digging in Hope, BC, Stó:lō First Nation people from 12,000 years ago)



