The Flat World Swung Open:
How Web Technology Is
Revolutionizing Education

Curtis J. Bonk, Professor, Indiana University
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Who does e-learning benefit besides dogs and cats?

Those in a hurricane...
Those living where there are disease outbreaks...

Those in an earthquake...

Those in bad storms... (e.g., Groundhog Day Blizzard of 2011)

Aces of Spaces, Campus Technology, June 2011, Jennifer Demski

Yonsei University Library, Seoul, Korea
February 21, 2012
Rethinking Learning with Salman Khan
Stanford Graduate School of Business
Khan Academy Founder Finds Simplicity Appeals in Online Education Experimentation
Let's use video to reinvent education, TED, March 2011
http://www.youtube.com/watch?v=W-vj6BhQa5w
Khan Academy Founder Finds Simplicity Appeals in Online Education Experimentation
Let's use video to reinvent education, TED, March 2011
http://www.youtube.com/watch?v=W-vj6BhQa5w

February 19, 2012
Flipped Classrooms? Chronicle of HE
Flipped Classrooms? Chronicle of HE

April 12, 2011
NCTM Conference, Free Online Degrees; Integration of Science, Mathematics, and Reflective Teaching (iSMART)
University of Houston
You see the big picture. You find the connections. Make it official: become iSMART.
Jen Chauvot and Mimi Lee, Univ of Houston

April 29, 2012
Open Education's Wide World of Possibilities, Chronicle of Higher Education, Katherine Mangan
Open Education's Wide World of Possibilities

April 29, 2012
'Supersizing' the College Classroom: How One Instructor Teaches 2,670 Students
Chronicle of Higher Education, Marc Parry
'Supersizing' the College Classroom: How One Instructor Teaches 2,670 Students
Chronicle of Higher Education, Marc Parry

May 2, 2012
MIT and Harvard announce edX
http://www.edxonline.org/about.html
EdX: The Future of Online Education is Now
http://www.youtube.com/watch?v=SABELdRkRU
MIT and Harvard announce edX
http://www.edxonline.org/about.html
EdX: The Future of Online Education is Now
http://www.youtube.com/watch?v=SABELdRkRU
June 25, 2012
Massive Open Online Courses (MOOCS)
A Conversation With Bill Gates About the Future of Higher Education, Chronicle of HE, Jeffrey R. Young

August 8, 2012
Holy Apostles To Offer Massive Open Online Courses, Cromwell, CT
http://campustechnology.com/articles/2012/08/08/holy-apostles-to-offer-massive-open-online-courses.aspx

August 20, 2012
MOOC Timeline: What You Need to Know About MOOC’s, Chronicle of Higher Education

August 31, 2012
Newt and the MOOC
Inside Higher Ed, Paul Fain

July 17, 2012
(Expanded Sept 19, 2012)
Into the Fray, Steve Kolowich, Inside Higher Ed

October 1, 2012: MOOC Students
4 Massive Open Online Courses and How They Work, Ben Gose, Chronicle of HE

Krissa Swain, of Knoxville, Tenn., is taking “Operations Management” online to help develop her management skills.
October 1, 2012: MOOC Students
4 Massive Open Online Courses and How They Work, Ben Gose, Chronicle of HE

Rajeev Bajpai, an airline pilot based in Mumbai, took an online computer-science course to gain programming skills.

October 22, 2012
Chuck Severance in Seoul
http://www.youtube.com/watch?v=nHaPvqU4MrM

October 27, 2012
Chuck Severance (U Michigan/ Coursera) in Barcelona
http://www.youtube.com/watch?v=JzNhSvMrE

November 2, 2012
The Year of the MOOC, New York Times, Laura Pappano,
http://www.nytimes.com/2012/11/04/education/edlife/massive-open-online-courses-are-multiplying-at-a-rapid-pace.html?pagewanted=all

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).

November 13, 2012
College credit for online courses gains momentum. USA Today, Mary Beth Marklein,

December 3, 2012
Top Ed-Tech Trends of 2012: MOOCs, Hack Education, Audrey Waters
http://www.hackeducation.com/2012/12/03/top-ed-tech-trends-of-2012-moocs/
I am not Content!!!
November, 2012
Degrees of Difficulty, Time
http://nation.time.com/2012/10/18/degrees-of-difficulty/

May 24, 2010
Author Nicholas Carr, The Web Shatters Focus, Rewires Brains, Wired
http://www.wired.com/magazine/2010/05/ff_nicholas_carr/

TUESDAY, MAY 17, 2011
15 reasons to BAN pens and pencils from the classroom, Donald Clark, Plan B
http://donaldclarkplanb.blogspot.com/2011/05/7-reasons-to-ban-pens-and-pencils-from.html

It is very open!
(May 2011, Norway & June 2011 the Philippines)

Question:
What is the Web?
- An entertainment system?
- A writing aid?
- A communications system?
- A means to handle commercial transaction?
- A social networking device?

No, it is a learning tool!
The Web of Learning

We are entering a jumping off point...

Charles Wedemeyer, University of Wisconsin

Framework #1: WE-ALL-LEARN: Ten Forces that Opened the Learning World
- Web Searching in the World of e-Books (i.e., Darwin)
- E-Learning and Blended Learning
- Availability of Open Source and Free Software (e.g., Moodle)
- Leveraged Resources and OpenCourseWare (e.g., MIT)
- Learning Object Repositories and Portals (i.e., shared content)
- Learner Participation in Open Info Communities (YouTube)
- Electronic Collaboration and Interaction (sync and async)
- Alternate Reality Learning (Online Massive Gaming, Simulations, and Virtual Worlds; e.g., Second Life)
- Real-Time Mobility and Portability (e.g., iPhone)
- Networks of Personalized Learning (Blogs, RSS)

I’m an Armchair Indiana Jones...

Audience Participation!
1. WE
2. ALL
3. LEARN!!!
Triple Learning Technology
Convergence of “WE-ALL-LEARN”

2. Pages: The availability of free educational content and resources (OER—Open Educational Resources).
3. Participatory Learning Culture: A move towards a culture of open access to information, international collaboration, and global sharing.

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

What happens then?
WE
ALL
LEARN!!!

E-Book Readers
January 28, 2011: Amazon: Kindle Books Finally
Eclipse Paperbacks, Doug Aamoth
March 2, 2011: Why Amazon would be smart to give away the Kindle, March 4, 2011, CNN Tech, Amy Gahran

Whether a surge in e-book sales can be sustained and what effect it could have on traditional bookstores remains to be seen.

August 3, 2011
Inking opens textbooks on the iPad
USA Today, Jefferson Graham
Some $4.5 billion worth of textbooks were sold in 2010, (Assoc. of American Pub). Digital textbooks = 3% of sales in 2011 and growing to 44% by 2017.

Inking opens textbooks on the iPad

Worldreader, August 22, 2011
What Makes Ed Tech Successful in the Developing World?, ReadWriteWeb, David Risher
http://www.readwriteweb.com/archives/what_makes_educational_technology_successful_in_the_developing_world.php
http://www.worldreader.org/
January 29, 2012
Apple's new electronic textbook initiative just another chapter in a developing story, Herald Times, Mike Leonard

March 24, 2012
In South Korean classrooms, digital textbook revolution meets some resistance, Washington Post

December 14, 2012
The Shift to Digitizing Classrooms and How Institutions Can Play a Part, Nik Osborne, The Evolllution

January 9, 2013
McGraw-Hill upgrades the digital textbook, Eli Blumenthal, USA Today

Brewster Kahle, the Internet Archive
Read, Listen, etc. to online books (e.g., “An International Episode” by Henry James)
Aaron Swartz, Open Library
At age 14, he was a co-author of the RSS 1.0 specification.

January 12, 2013
Internet Activist, a Creator of RSS, Is Dead at 26, Apparently a Suicide, NY Times
John Schwartz

January 12, 2013
RIP, Aaron Swartz, Boing Boing, Cory Doctorow
John Schwartz
http://boingboing.net/2013/01/12/rip-aaron-swartz.html

January 16, 2013
Carmen Ortiz and Stephen Heymann: accountability for prosecutorial abuse
Glenn Greenwald, The Guardian
http://www.guardian.co.uk/commentisfree/2013/jan/16/ortiz-heymann-swartz-accountability-abuse

January 22, 2013
Free digital textbooks surge in popularity, Sarah Langmead, Assistant Editor, eCampus News,

Boundless
https://www.boundless.com/
Opener #2. E-Learning and Blended Learning

May 5, 2012
Shaq earns doctorate degree
http://www.youtube.com/watch?v=Szj6uQnBdjo

January 15, 2013
Online programs offered by Kelley and IU schools of education and nursing highly ranked by U.S. News, IU News Room

Growth Online in Higher Education in the USA

More than six million post-secondary students are taking online classes in the USA; growing by 10% per year.

February 16, 2012
University of Illinois at Springfield, Ray Schroeder
http://sites.google.com/site/rayschroeder/

UIS Online & Blended Enrollment
January 22, 2012
Online Enrollments 2000-2011:
Columbia College, Missouri, Arlin Epperson,
aepperson@ccis.edu

January 8, 2013
Growth for Online Learning
Inside Higher Education, Doug Lederman
http://www.insidehighered.com/news/2013/01/08/survey-finds-online-enrollments-slow-continue-grow

January 8, 2013
Growth for Online Learning
Inside Higher Education, Doug Lederman
http://www.insidehighered.com/news/2013/01/08/survey-finds-online-enrollments-slow-continue-grow

Changing Course: Ten Years of Tracking Online Education in the United States
January 8, 2013, Elaine Allen and Jeff Seaman,
Sloan-C & Babson Survey Research Group
http://babson.qualtrics.com/SE/?SID=SV_4SjGnHcStH5g9G5 (full report)
### Changing Course: Ten Years of Tracking Online Education in the United States

January 8, 2013, Elaine Allen and Jeff Seaman, Sloan-C & Babson Survey Research Group

#### How many students are learning online?

- **Total Enrollment:**
  - 2002: 6
  - 2003: 10
  - 2004: 15
  - 2005: 20
  - 2006: 25
  - 2007: 30
  - 2008: 35
  - 2009: 40
  - 2010: 45
  - 2011: 50

- **Taking at Least One Online Course:**
  - 2002: 4
  - 2003: 7
  - 2004: 13
  - 2005: 20
  - 2006: 28
  - 2007: 35
  - 2008: 43
  - 2009: 50
  - 2010: 57
  - 2011: 64

#### Does it take more faculty time and effort to teach online?

- **45% of CAOs Agree that it takes more faculty time and effort to teach an online course than a face-to-face course.**
- **Agree:** 45%
- **Neutral:** 45%
- **Disagree:** 10%

### Growth for Online Learning

January 8, 2013

Inside Higher Education, Doug Lederman

http://www.insidehigher ed.com/news/2013/01/ 08/survey-finds-online-enrollments-slow-continue-grow

### Parthenon Perspectives:

Finding Value in an Evolving Education Landscape (US), Parthenon Group

January 2013

Parthenon Perspectives Finding Value in an Evolving Education Landscape
**Opener #3. Availability of Open Source and Free Software**

Moodle (June 3, 2012: 58 million users in 216 countries, 67,162 sites, 6.2 million courses)

**Opener #4. Leveraged Resources and OpenCourseWare (OCW)** (e.g., free courses from Harvard Edx, MITx, CORE, OOPS)
August 2, 2011
Massive Open Online Courses (MOOC) and Graded Free OCW,
Stanford U. Offers Free Online Course in Artificial Intelligence, Jie Jenny Zou, Chronicle of Higher Education (over 135,000 sign up as of August 27)
http://www.ai-class.com/

September 15, 2011, Graded Free OCW
Welcome to Stanford Engineering, Everywhere (SEE) http://see.stanford.edu/
A computer and an Internet connection are all you need. View lecture videos, access reading lists and other course handouts, take quizzes and tests, and communicate with other SEE students, all at your convenience.

January 23, 2012
Udacity- Sebastian Thrun
http://www.udacity.com/

February 15, 2012
Guess what! You just got into MIT! Free ride! Kind of!

February 16, 2012
Ray Schroeder, U of Illinois at Springfield Guest Speaker on Open Education Movement
http://breeze.iu.edu/pk4lec6su62/

February 16, 2012
Online Badges and Certifications from OER
University of Illinois at Springfield, Ray Schroeder
https://sites.google.com/site/opencontinuinged/
Badges for Online Learning
e.g., Khan Academy
http://www.khanacademy.org/badges/view

April 18, 2012
Coursera
Online-Education Start-Up Teams With Top-Ranked Universities to Offer Free Courses, (https://www.coursera.org/)

April 25, 2012
MIT+K-12
Making Video to Make a Difference
http://k12videos.mit.edu/

November 18, 2012
Video Streaming
MOOCs Gaining Popularity, But New Frontier For Scaling Up Online Classes Is Course Credit, Huffington Post (College), Justin Pope

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

December 31, 2012
Dead Sea Scrolls
http://www.deadseascrolls.org.il/explore-the-archive/
http://www.deadseascrolls.org.il/explore-the-archive/search#q=site_en:'Qumran,_Cave_4'
http://www.deadseascrolls.org.il/home
Talking the Talk, for Posterity
Oral Online Dictionaries Help Preserve Languages, Cultures Muted by Modernity, The Wall Street Journal, February 18, 2002

Talking Dictionaries for Rare Languages
The Wall Street Journal
February 18, 2002

Oral Online Dictionaries Help Preserve Languages, Cultures Muted by Modernity

Google Art Project, NBC Nightly News
April 3, 2012

Online Encyclopedias
(e.g., the Encyclopedia of Life, Encyclopedia of Earth, etc.)
September 2011

How about rich video portals?
Most of the Websites below did not exist 5 or 10 years ago.
1. BBC News Video and Audio
2. CNN.com Video
3. MSNBC.com
4. Google Video, Yahoo Video
5. Current TV
6. Fora TV
7. MIT World
8. YouTube, YouTube Edu
9. TeacherTube
10. Link TV, Explore, Global Pulse, Latin Pulse
11. Howcast, Big Think, WonderHowTo, Explo.TV, NASA TV, ClipChef, TV Lesson, BookTV, Edutopia videos, MonkeySee, doFlick, the Research Channel, iVideosong

Educational Videos: TED-Ed
March 13, 2012
http://education.ted.com/
TV Lesson
(expert videos)

July 22, 2011
GETideas Channel, Cisco (Education Thought Leader Series uploaded to YouTube)
http://www.youtube.com/user/GETideasEd

April 29, 2011
(e.g., YouTube and the Royal Channel)

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., Slashdot, Digg, Wikipedia, YouTube)

December 21, 2012
Community Oral Histories
(e.g., The History Harvest)
http://historyharvest.unl.edu/collections
May 23, 2012
Scoop It!: *Online Video in Education*
Stephen Bright, eLearning Designer, Waikato Centre for eLearning

http://www.scoop.it/t/online-video-in-education

Grovo (short technology videos)
http://www.grovo.com/social-media

October 2011 (E-learn Conference)
History for Music Lovers, Washington Post
The French Revolution ("Bad Romance" by Lady Gaga)
Trojan Way ("Tainted Love" by Soft Cell)
Charemagne ("Call Me" by Blondie)
http://www.youtube.com/user/historyteachers?blend=6&ob=5#p/f/12/kJULC0jsgdA

April 1, 2012
Dinosaurs and Origins of Humans, Brian J. Ford, Microbiologist, Cambridge, UK
http://www.youtube.com/user/tellymonitor#p/a/u/1/LhGeApsKjasr
Origin of Humans: http://www.youtube.com/user/tellymonitor?sp=2:eWww7t6dU
Tellymonitor's Channel: http://www.youtube.com/user/tellymonitor
BBC programs omit living cells: http://www.youtube.com/watch?v=rdNpTh6Cx6Y
Secret Weapon: http://www.youtube.com/watch?v=vwHVikXBYV
Dinosaurs (Laboratory News, April 1, 2012): http://www.labnews.co.uk/news/prehistoric-revolution

April 6, 2011
Eric Whitacre: A virtual choir 2,000 voices strong
http://www.youtube.com/watch?v=6WhWDCw3Hng

Opener #7. Electronic Collaboration and Interaction (synchronous & asynchronous; Leonardo Tosi, project manager in the ICT and education area of the INDIRE)
October 28, 2012
Online Teams
Paul Km, Stanford:
17,380 students. I haven’t met F2F. I am shocked to see students from places where Internet is very limited. You will find students from even Zanzibar!!! Many teams are formed and they meet F2F in the region where they live.
http://venture-lab.org/education/

November & December 2012
Guest Speakers
Designing a New Learning Environment
Professor Paul Kim, Stanford University
http://venture-lab.org/education/lectures/45

March 20, 2012
Georgetown Learning Initiatives
Soliya Connect
http://gli.georgetown.edu/#soliya

January 14, 2011
South African teens get virtual mentoring from all over the world, By Danielle Berger, CNN

February 8, 2012
On-Demand Videoconferencing with Experts (e.g., Peter Smith, VP, Kaplan University)

June 29, 2011 and July 6, 2012
Google+ Hangouts and Facebook Video calling
http://www.youtube.com/watch?v=KLf9jzFvkTA&annotation_id=annotation_389852&feature=iv
Opener #8. Alternate Reality Learning (Online Massive Gaming, Simulations, and Virtual Worlds; e.g., Second Life)

April/May 2011
Dr. Monica Rankin's class
UT Dallas, Cuban Revolution
http://www.youtube.com/watch?v=ocQMF1kPo98

December 24, 2010:
Social Networking Gaming
CityVille 16.8 million daily users, FarmVille's 16.4 million. CityVille 61.7 million monthly users, FarmVille 56.8 million users. Mashable.

Opener #9. Real-Time Mobility and Portability (e.g., iPhone, low cost wireless devices)
15m people/month mobile in India
40,000/week Rwanda
60,000 earthlings/hour

February 2012
SMILE: Stanford Mobile Inquiry-based Learning Environment
October 5, 2011
Apple co-founder Steve Jobs dies, USA Today
http://www.cnn.com/2011/10/05/us/obit-steve-jobs/index.html?iref=BN1&hpt=hp_t1

March 13, 2011
iPad Apps for Calculus, Math, Biology, etc.
Chronicle of HE, Ben Wieder
http://chronicle.com/article/iPads-for-College-Classrooms-/126681/?sid=at&utm_source=at&utm_medium=en

August 18, 2011
HowStuffWorks, iPhone App, USA Today, Marc Saltzman

May 4, 2012
"Top Gear presenter James May meets his virtual self", BBC
http://news.bbc.co.uk/2/hi/programmes/click_online/9718563.stm


Cell phone culture: How cultural differences affect mobile use, CNN, Naomi Canton, September 28, 2012
http://news.bbc.co.uk/2/hi/programmes/online/9718563.stm
Lessons on iPad
(e.g., ShowMe: http://www.showme.com/)

How to turn Wikipedia into an e-book,
John D. Sutter


iPotty Aims To Entertain Toddlers During Toilet Training, January 10, 2013, Mashable, Kate Freeman
http://mashable.com/2013/01/10/ipotty/

10 Terrific iPad Apps for Toddlers, August 2, 2012,
Mashable, Allegra Tepper

10 Terrific iPad Apps for Toddlers, August 2, 2012,
Mashable, Allegra Tepper

Smartphone of the future will be in your brain, CNN, Stewart Scott-Curran and Tim Lampe, October 6, 2012

Readers: Are we headed for a smartphone zombie apocalypse?, CNN, Nicole Saidi, October 4, 2012

Opener #10. Networks of Personalized Learning (Blogs, Podcasts, MySpace, Flickr, and RSS)
The Samsung DualView TL225

Student Expertise (e.g., Learnist)
http://learn.it/category/featured/
World Trends and Indices (e.g. Worldmapper)

Interactive Maps (adults with college degrees by county, May 7, 2012)

Interactive Maps (e.g., New USDA climate zone map reflects northward warming trends, By Janice Lloyd, USA TODAY, January 26, 2012)

Flexiblere displays bend what’s possible for computers, Jon Swartz, USA Today

Online Language Learning

December 16, 2010
Introducing Word Lens

Online Language Learning
January 27, 2010 and Feb 5, 2010: The Web Way to Learn a Language, NY Times, ERIC A. TAUB (e.g., EnglishCentral, iTalki, Palabea, Babbel)

May 4, 2012
Flexible displays bend what's possible for computers, Jon Swartz, USA Today

Components of the wrist-worn display prototype developed at HP Labs are shown in this illustration. When completed, the device will incorporate a working flexible display powered by solar cells.
May 7, 2012
Google+ Hangouts On Air: broadcast your conversation to the world
http://googleblog.blogspot.com/2012/05/google-hangouts-on-air-broadcast-your.html

June 3, 2012
Webheads discussion about MOOC

June 3, 2012
Tutor/ Mentor Connection (Chicago)
http://www.tutormentorprogramlocator.net/InteractiveMap.aspx

April 7, 2011
Expert Tutors as Mobile Apps (e.g., Tutor.com)

Decisions for this Open Ed World...

- Technology & Administrator Decisions:
  - What do to about OER, open sources, E-books, mobile, etc.?

- Instructional Designer & Trainer decisions:
  - Act as Concierge, Counselor, Course facilitator, Credit manager?

- Formal Learner & Informal Lrnr decisions:
  - Should I attend traditional university or create your own degree path?
  - How to report use of OER on resumes?
WE ALL LEARN!!!