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

Curtis J. Bonk, Professor, Indiana University
President, CourseShare, LLC
cjbonk@indiana.edu
http://php.indiana.edu/~cjbonk

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

May 10, 2013
10 ed-tech tools of the 70s, 80s, and 90s
eSchool News, Meris Stansbury
https://www.eschoolnews.com/2013/05/10/10-ed-tech-tools-of-the-70s-80s-and-90s/print/

Looking to the Past...

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

Took Correspondence & TV Courses (thanks to Bob Clasen and Charles Wedemeyer, the University of Wisconsin)
Knowledge Navigator (1987)
Apple Computer
http://www.youtube.com/watch?v=hb4AzF6wEoc

Fast Forward 25+ Years...
“Anyone can now learn anything from anyone at any time.”

November, 2012
Degrees of Difficulty, Time
http://nation.time.com/2012/10/18/degrees-of-difficulty/ /

Student debt loads are increasing
Percentage with debt
1995 46%
2011 66%
The default rate was 5.6% in 1999. In 2010 it was 9.1%.

Having fewer degrees threatens our global competitiveness
People in the workforce with a college degree

Learning is Changing
New Technologies = New Delivery Methods...

Audience Polls #2:
I. Who remembers where they were when they found out that Steve Jobs passed away?
II. Who remembers what they were doing on the day that John D. Kennedy was shot?
III. Who remembers what they were doing on 911?
IV. Who remembers what they were doing on 411?
Charles Vest (April 4, 2001)

"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."

Technology = Almost Free...

I. Learning is More Open
(80-Year-Old WGU Texas Grad Keeps His Promise, November 30, 2012, Reeve Hamilton, Texas Tribune)

II. Learning also is More Collaborative
Collaboration and Discussion in Google Hangouts or with iPad, Jan. 28, 2013
(Carrie Gong from Beijing Normal University)

III. Learning is More Mobile
Brown, Keynote talk, "Learning in Hand With Mobile Technology," Wisconsin Distance Teaching and Learning Conference, August 10, 2012

IV. 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, Ms. Adora Svitak at the 2013 ECOSOC Youth Forum.
V. Learning is More Social
Facebook reaches one billion users, CNN Money, Aaron Smith, October 4, 2012

VI. Learning is More Personal
iPotty Aims To Entertain Toddlers During Toilet Training, Mashable, Kate Freeman (January 10, 2013)

VII. Learning is More Modifiable
Inside Look: Learning Spaces, Meeting classroom teaching and collaboration expectations, University Business, Feb. 22, 2013

VIII. Learning is More Comfortable
Design for Students, with Students, “Hub Central”, the $42 million University of Adelaide learning hub opened in October 2011, May 8, 2012, Mike Roberts

IX. Learning is More Ubiquitous
Flexible displays bend what’s possible for computers, Jon Swartz, USA Today (May 4, 2012)

X. Learning is More Instantaneous
April 9, 2013
HER Computer fashions face social test: Can wearable computers fit in? Scott Martin, USA Today
(i.e., magnify moles or injuries, see vital signs, live stream surgeries, access previous PT sessions, access research and drug info, etc.)
XI. Learning is More Global
February 22, 2013
NASA’s spacey Google+ Hangout shows off zero-G antics – and cats!

XI. Learning is More Massive
April 16, 2013 (NovoEd)
New MOOC Provider Says It Fosters Peer Interaction
Chronicle of Higher Education, Jake New

January 23, 2013: The Bush MOOC Party?
Academic Partnerships Launches MOOC2Degree Initiative
Free, Open Online Courses As A First Step Toward A Degree
http://www.mooc2degree.com/

October 27, 2012
Travel for Office Hours
Chuck Severance, (U Michigan/Coursera) in Barcelona
http://www.youtube.com/watch?v=JzNHvmSv8TI

UC Irvine (2013 report)
Example 3: Fundamentals of Japanese
Dr. Hidemi Riggs, Fall 2012 & Winter 2013
Tech-enhanced: EEE, asynchronous (Dreamweaver), Skype, video conferencing tool, Active Learning
Format: 5-1A lectures (24 students maximum); 3-2A lectures (24 students maximum); 2-3A lectures (24 students maximum)
October 1, 2012: MOOC Students
4 Massive Open Online Courses and How They Work, Ben Gose, Chronicle of HE

October 1, 2012

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.

Krissa Swain, of Knoxville, Tenn., is taking "Operations Management" online to help develop her management skills.

November 2, 2012

The Year of the MOOC, New York Times, Laura Pappano

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.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).

April 20, 2013

Two Cheers for Web U!
A. J. Jacobs, New York Times

April 20, 2013

Two Cheers for Web U!
A. J. Jacobs, New York Times


May 6, 2013

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

May 6, 2013

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

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

June 19, 2013

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

June 19, 2013

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


February 24, 2013

Big (MOOC) Data, Inside Higher Education, Dayna Catropa

February 24, 2013

Big (MOOC) Data, Inside Higher Education, Dayna Catropa

http://www.insidehighered.com/blogs/strategy/big-mooc-data
April 15, 2013
Google boss: Entire world will be online by 2020,
Doug Gross, CNN
[Link to CNN article]

The Web of Learning

It is very open!
(at least in Norway & the Philippines)

We are entering a jumping off point...

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)

Audience Participation!
Triple Learning Technology
Convergence of "WE-ALL-LEARN"

1. **Pipes**: The availability of tools and infrastructure for learning.
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.)

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

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

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

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

February 16, 2012
Online Badges and Certifications from OER
University of Illinois at Springfield, Ray Schroeder
https://sites.google.com/site/opencontinuinged/

November 18, 2012
Video Streaming
MOOCs Gaining Popularity, But New Frontier For Scaling Up Online Classes Is Course Credit,
Huffington Post (College), Justin Pope
http://www.saylor.org/course/OCW/2012/11/video-streaming-moocs-gaining-popularity-but-new-frontier-for-scaling-up-online-classes-is-course-credit/

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

Saylor.org
http://www.saylor.org/
RedHoop
http://redhoop.org/
March 13, 2012
Educational Videos: TED-Ed
http://education.ted.com/

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)

Opener #7. Electronic Collaboration and Interaction (synchronous & asynchronous)
Soliya Connect
http://gli.georgetown.edu/#soliya

April 15, 2013
Guest Speakers
Sara de Freitas and Jim Hensman (https://connect.iu.edu/p2lxy6dx6t)  
Jay Cross (https://connect.iu.edu/pblzy6n6ty)

Opener #8. Alternate Reality Learning (Online Massive Gaming, Simulations, and Virtual Worlds; e.g., Second Life)
Opener #9. Real-Time Mobility and Portability (e.g., iPhone, low cost wireless devices)
60,000 earthlings/hour get mobile

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, MySpace, Flickr, and RSS)

Video Walls of Experts (IQ Wall)
Indiana University unveils high-tech classroom
The Herald-Times, May 22, 2013, Mike Leonard
http://www.indianaeconomicdigest.net/main.asp?SectionID=31&SubSectionID=135&ArticleID=69980

December 16, 2010
Introducing Word Lens
http://www.youtube.com/watch?v=h2OjQdYHRs

What about the Instructor in the Open World?
1. Instructor as Credit Manager

7. Instructor as Conductor

9. Instructor as Curator

10. Instructor as Concierge

Decisions for this Open Ed World...

- Technology & Administrator Decisions:
  - What do to about OER, open source, 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?
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

What about the student? The Next Generation is Here!

What did Jean-Luc Picard say?

Ok, Million Dollar Question: What words come to mind when I say that I want to motivate learners?

Framework #2: TEC-VARIETY for Online Motivation and Retention
1. Tone/Climate: Psych Safety, Comfort, Belonging
2. Encouragement, Feedback: Responsive, Supports
3. Curiosity: Fun, Fantasy, Control
4. Variety: Novelty, Intrigue, Unknowns
5. Autonomy: Choice: Flexibility, Opportunities
6. Relevance: Meaningful, Authentic, Interesting
7. Interactive: Collaborative, Team-Based, Community
8. Engagement: Effort, Involvement, Excitement
9. Tension: Challenge, Dissonance, Controversy
10. Yields Products: Goal Driven, Products, Success, Ownership

Examples of TEC-VARIETY
2. Encouragement, Feedback, etc.: A. Voice Feedback
Vocaroo; [http://vocaroo.com/i/sUHA2MPJQ4i](http://vocaroo.com/i/sUHA2MPJQ4i)

6. Relevance, Meaningfulness: A. Design Multimedia Glossaries
Ozgur Ozdemir, December 2012
[http://r685glossary.shutterfly.com/](http://r685glossary.shutterfly.com/)
Umida Khikmatillaeva, Dec. 2011, P540


10. Yields Products, Goals: A. Final Product Video Summaries (on IQ Wall, April 22, 2013)
Piercarlo Abate
[http://www.youtube.com/watch?v=TURzHO0aU](http://www.youtube.com/watch?v=TURzHO0aU)
[http://www.youtube.com/watch?v=7Q429lqxZaU&feature=youtu.be](http://www.youtube.com/watch?v=7Q429lqxZaU&feature=youtu.be)

Framework #3: The R2D2 Model

How can technology address diverse learner needs?
1. Auditory or Verbal Learners

- Auditory and verbal learners prefer words, spoken or written explanations.

Read 1a. Interactive Stories
(e.g., Meograph
http://www.meograph.com/)

Reflect 2a. Big Issue Reflections
(Big Questions Online (BQO)), January 8, 2013
(e.g., Do We Have Souls?)
https://www.bigquestionsonline.com/content/do-we-have-souls

Display 3a. Interactive Map Timelines
(adults with college degrees by county, May 7, 2012)
http://data.huffingtonpost.com/2013/03/gun-deaths

Do 4a. Student Class Documentaries
Umida's R546 Documentary Project
http://www.youtube.com/watch?v=EMLTzqCV_SA

Slides at: TrainingShare.com
Papers: PublicationShare.com
Book: http://worldisopen.com/

WE ALL LEARN!!!