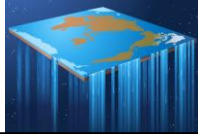**The Flat World Swung Open:**
How Web Technology Is
Revolutionizing Education

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

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

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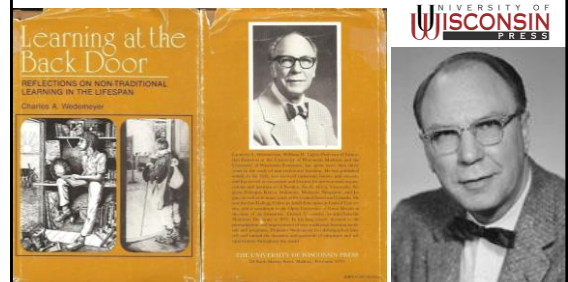http://www.eschoolnews.com/2013/05/10/10-ed-tech-tools-of-the-70s-80s-and-90s/print/

Looking to the Past…

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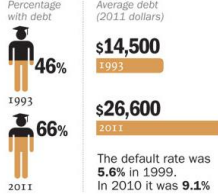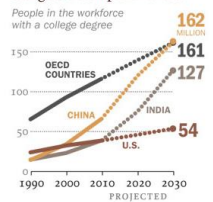
Learning is Changing
**New Technologies =
New Delivery Methods...**

Technology = Almost Free...

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)
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."

OCW Circuits and Electronics
http://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-002-circuits-and-electronics-spring-2007/

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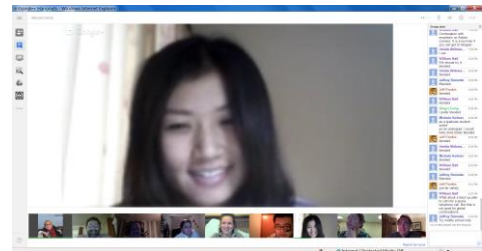
III. Learning is More Mobile
Brown, Keynote talk, "Learning in Hand With Mobile Technology," Wisconsin Distance Teaching and Learning Conference, August 10, 2012

IV. Learning is More Video-Based
(e.g., Bin Industrial Training, Lynda.com, etc.)
http://www.youtube.com/playlist?list=PLA2FA843BA0722D0F

V. Learning is More Social
Facebook reaches one billion users, CNN Money, Aaron Smith, October 4, 2012
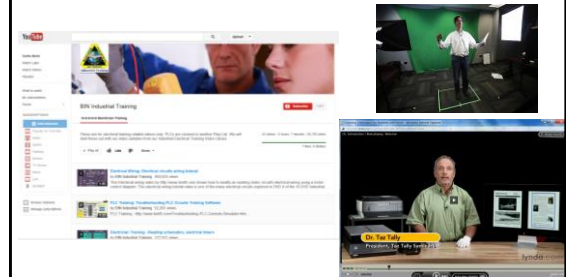

VI. Learning is More Personal
iPotty Aims To Entertain Toddlers During Toilet Training, Mashable, Kate Freeman (January 10, 2013)
http://mashable.com/2013/01/10/ipotty/

VII. Learning is More Modifiable
Inside Look: Learning Spaces, Meeting classroom teaching and collaboration expectations, University Business, Feb. 22, 2013
http://www.universitybusiness.com/article/inside-look-learning-spaces

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

IX. 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/2013/04/06/google-apple-iwatch-glass-jawbone-iphone-nike-microsoft-samsung/1979419/
(i.e., magnify moles or injuries, see vital signs, live stream surgeries, access previous PT sessions, access research and drug info, etc.)
http://www.fiercemobilehealthcare.com/story/google-glasses-could-have-strong-potential-healthcare-use/2013-03-18

X. Learning is More Massive
April 16, 2013 (NovoEd)
New MOOC Provider Says It Fosters Peer Interaction Chronicle of Higher Education, Jake New
http://novoed.com/

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

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

- **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**eal-Time Mobility and Portability (e.g., iPhone)
- **N**etworks of Personalized Learning (Blogs, RSS)

Audience Participation!

<u>WE</u>

ALL

LEARN!!!

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.)

Opener #2. E-Learning and Blended Learning

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 edX, Udemy, Udacity, Coursera, OOPS)

February 16, 2012
Online Badges and Certifications from OER

Opener #5. Online Learning Object Repositories and Portals (shared content)
http://ed.ted.com/lessons/electric-vocabulary
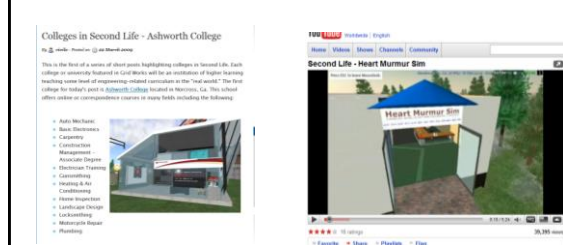

Opener #6. Learner Participation in Open Information Communities (e.g., Scribd, Twitter, Wikipedia, YouTube, etc.)
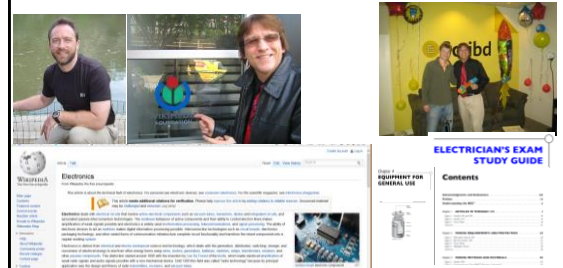
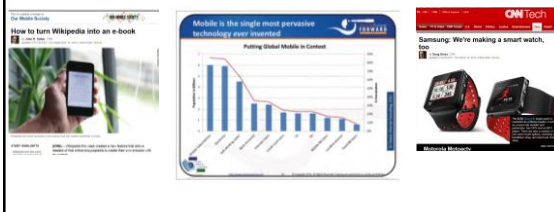**Opener #7.** Electronic Collaboration and Interaction (synchronous & asynchronous)

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

Opener #10. Networks of Personalized Learning (Blogs, Podcasts, MySpace, Flickr, and RSS) Video Walls of Experts (IQ Wall) IU May 23, 2013

What about the Instructor in the Open World?

Ashley is a steamroller

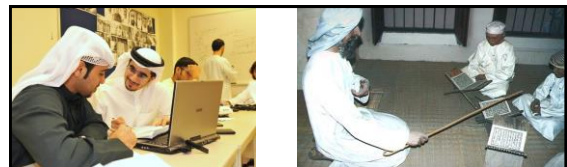Only just room

1. Instructor as Credit Manager

7. Instructor as Conductor
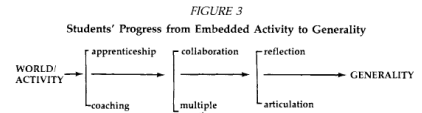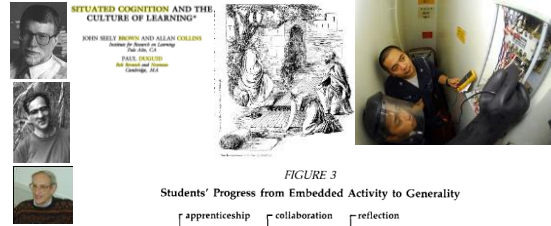
9. Instructor as Curator
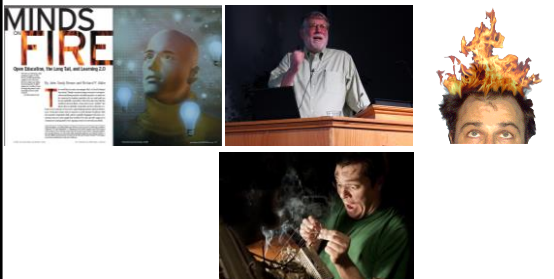
10. Instructor as Concierge

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.**

FIGURE 3
Students' Progress from Embedded Activity to Generality

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

Framework #2: TEC-VARIETY for Online Motivation and Retention

1. **T**one/Climate: Psych Safety, Comfort, Belonging
2. **E**ncouragement, Feedback: Responsive, Supports
3. **C**uriosity: Fun, Fantasy, Control
   ...
4. **V**ariety: Novelty, Intrigue, Unknowns
5. **A**utonomy: Choice: Flexibility, Opportunities
6. **R**elevance: Meaningful, Authentic, Interesting
7. **I**nteractive: Collaborative, Team-Based, Community
8. **E**ngagement: Effort, Involvement, Excitement
9. **T**ension: Challenge, Dissonance, Controversy
10. **Y**ields Products: Goal Driven, Products, Success, Ownership

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1. **T**one/Climate:
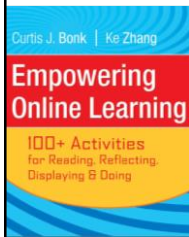## A. Ice Breakers, Introductory Activities, etc. (e.g., expectations, commitments, etc.)

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6. **R**elevance, Meaningfulness:
A. Design Multimedia Glossaries

Ozgur Ozdemir, December 2012
http://r685glossary.shutterfly.com /
Umida Khikmatillaeva, Dec. 2011, P540
http://learningplanet.shutterfly.com/

http://www.youngco.com/young2.asp?ID=4&Type=3

Framework #3: The R2D2 Model

Read 1a. Online Glossaries and Dictionaries (e.g., Electropedia)
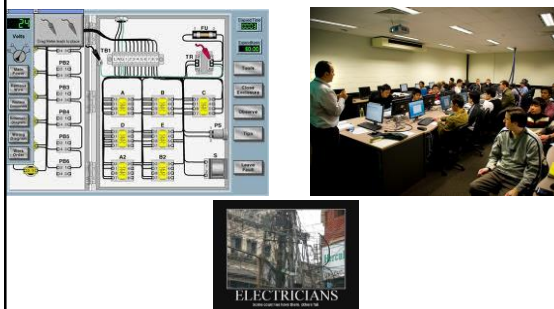http://www.electropedia.org/

Reflect 2a. Scenario and Case-based Learning

Display 3a. Shared Online Video
Electrical Wiring Tutorials, Electrician Training
(adults with college degrees by county, May 7, 2012)
http://www.youtube.com/watch?v=9uMIQycxygQ&list=PLA2FA843BA0722D0F&index=1

Do 4a. Hands-on Simulations

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

WE

ALL

LEARN!!!