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

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

Where are you headed?

Do you know the shape of the world?

Is the World Flat?

The World Is Flat
A BRIEF HISTORY OF THE TWENTY-FIRST CENTURY
Thomas L. Friedman

The World Is Flat Broke
A BRIEF HISTORY OF THE TWENTY-FIRST CENTURY
Thomas L. Friedman

Is the World Curved?

THE WORLD IS CURVED
HIDDEN DANGERS TO THE GLOBAL ECONOMY

The Mortgage Crisis Was Only the Beginning . . .

DAVID M. SMICK

Is it spiky?

WHO'S YOUR CITY?
RICHARD FLORIDA

Or is it Open?

The MIT Press

OPENING UP EDUCATION

Opening Up Education
The Collective Advancement of Education through Open Technology, Open Content, and Open Knowledge

OPENING UP EDUCATION

The Collective Advancement of Education through Open Technology, Open Content, and Open Knowledge

Oregon Scientific Smartglobe

August 9, 2010, Bill Gates Predicts Technology Will Make 'Place-Based' Colleges Less Important in 5 Years
By Jeff Young, Chronicle of HE

Wired Campus

Bill Gates Predicts Technology Will Make 'Place-Based' Colleges Less Important in 5 Years

Bill Gates on in-person vs. online edu..

July 25, 2010,
Professors' Use of Technology in Teaching,
Jeffrey Young, Chronicle of Higher Education

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

MAGAZINE

Author Nicholas Carr: The Web Shatters Focus, Rewires Brains

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!

Answer: The Web of Learning

The Web of Learning

Today we have the Web 2.0

We are entering a jumping off point...

UCLA Summer Digs Program
Dig in, archaeology fans! UCLA blogs to offer front-row seat at archaeology digs, Meg Sullivan, 6/25/2008

David Thomas, Archeologist, La Trobe University, Australia (Discovery News)

Michael Perham & Zac Sunderland, Summer 2009 (each age 17, youngest person to sail solo around the world...and blog on it, use Skype, YouTube, take videos, post pictures, Minoru Saito, age 75, oldest solo sailor; August 21, 2010: 14 year-old Dutch girl)
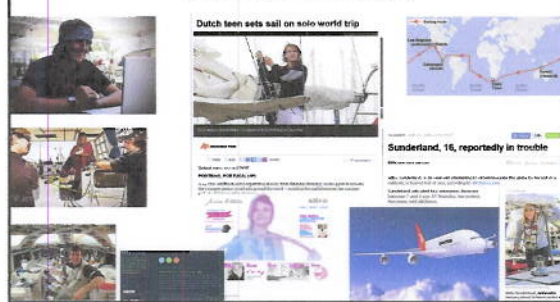
Perhaps people learning online are akin to the alien archaeologists in the 2008 movie, *Indiana Jones and the Kingdom of the Crystal Skull*, Indy said, "Their treasure wasn't gold, it was knowledge. Knowledge was their treasure."

Old companies teach new tricks

Vannevar Bush

Charles Wedemeyer, University of Wisconsin
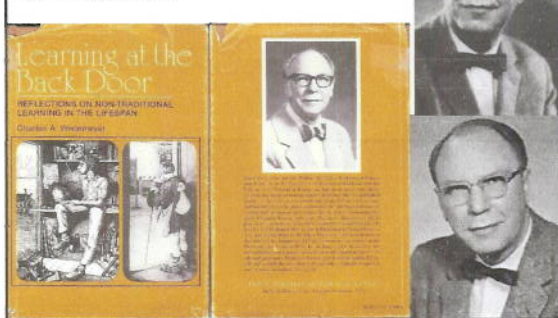
But new technologies hit us now everyday!

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)

World is Open

Audience Participation!

1. **WE**

2. **ALL**

3. **LEARN!!!**

Triple Learning Technology Convergence of "WE-ALL-LEARN"

The Learning World is Open

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.)

The Learning World is Open

Trend #1. Web Searching in the World of e-Books.
What happens then?

WE

ALL

LEARN!!!

Free Online Books and now the Blio
(a free e-book platform to run on any device; Bright Spots: Canada, Korea, and California)

July 29, 2010
Amazon unveils 3rd-generation Kindle e-book reader, USA Today, Edward C. Baig

April 10, 2010: Seton Hill University, 2,100 students an iPad and freshmen a 13-inch MacBook laptop.
August 10, 2010, Can college students learn as well on iPads, e-books?, USA Today, Beth Marklein

July 23, 2010
India unveils $35 computer for students, CNN World, Harmeet Shah Singh
http://www.cnn.com/2010/WORLD/asiapcf/07/23/india.thirty.five.dollar.laptop/index.html?npt=NP1&hpt=Sbin
http://www.cnn.com/video/#/video/bestoftv/2010/08/01/gps.last.look.ipad.cnn?hpt=T2

Opener #2. E-Learning and Blended Learning

Letter from Bill Gates about online learning (January, 2010)
http://www.gatesfoundation.org/annual-letter/2010/Pages/education-learning-online.aspx

Salmon Khan (Khan Academy) (videos on math, bio, trig, chemistry, money and banking, economics, statistics, etc.; http://www.khanacademy.org/)

A Grain of Rice: A Bloomington man's computer vocab game feeding the world (John Breen)

Adora Svitak, age 12, World's Youngest Teacher

Florida Virtual School, 71,000 unique students
This is half credit completions, which means all included have successfully completed a half credit enrollment (per Julie Young, June 2, 2010)

Indiana University High School
(4,000 students and 1,400 enrolled in diploma programs)

Capella Tower
225 South Sixth Street, Minneapolis
Formerly, the "Halo"

U. Of California System Proposing Online Ed
Chronicle of HE, May 14, 2010, Josh Keller and Marc Perry
"The university plans to spend about $250,000 on each course. It hopes to raise the money from external sources like foundations or major donors."

iSMART: Integration of Science, Mathematics, and Reflective Teaching (iSMART) is a FREE 2-year online graduate program for middle school science and mathematics teachers in Texas, University of Houston

http://www.coe.uh.edu/mycoe/CUIN/math/iSMART%20flyer4.pdf
http://www.coe.uh.edu/mycoe/CUIN/math/ismart.cfm

You see the big picture. You find the connections.
Make it official - become iSMART.
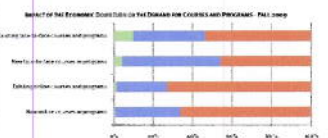
Jen Chauvot and Mimi Lee, Univ of Houston

TOTAL AND ONLINE ENROLLMENT IN DEGREE-GRANTING POSTSECONDARY INSTITUTIONS – FALL 2002 THROUGH FALL 2008

	Total Enrollment	Annual Growth Rate Total Enrollment	Students Taking at Least One Online Course	Annual Growth Rate Online Enrollment	Online Enrollment as a Percent of Total Enrollment
Fall 2002	16,611,710	NA	1,602,970	NA	9.6%
Fall 2003	16,911,481	1.8%	1,971,397	23.0%	11.7%
Fall 2004	17,272,043	2.1%	2,329,783	18.2%	13.5%
Fall 2005	17,487,481	1.2%	3,180,050	36.5%	18.2%
Fall 2006	17,758,872	1.6%	3,488,381	9.7%	19.6%
Fall 2007	17,975,830	1.2%	3,938,111	12.9%	21.9%
Fall 2008	18,199,920	1.2%	4,606,353	16.9%	25.3%

IMPACT OF THE ECONOMIC DOWNTURN ON THE DEMAND FOR COURSES AND PROGRAMS - FALL 2009

Open U of Malaysia, March 25, 2010

Year 2001	753
Year 2002	7622
Year 2003	16998
Year 2004	26666
Year 2005	35996
Year 2006	53248
Year 2007	64489
Year 2008	75425
Year 2009	88409
Year 2010	91223

Mexico's Monterrey Tech Pushes E-Learning, as Some Worry It Won't Solve Region's Burgeoning Need June 16, 2010, Chronicle of Higher Ed, Marion Lloyd

"A decade ago, only one in 50 Mexicans had access to the Internet. Today that figure is one in four, a staggering cultural transformation that is fueling a boom in online degree programs in the country."

Monterrey Institute of Technology and Higher Education...has allowed it to reach more than 35,000 new students

---

U.S. DEPARTMENT OF EDUCATION

Evaluation of Evidence-Based Practices in Online Learning
A Meta-Analysis and Review of Online Learning Studies

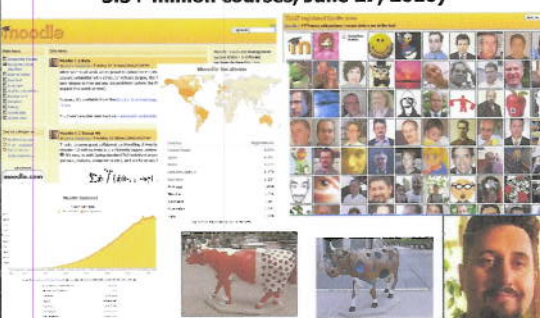**Opener #3. Availability of Open Source and Free Software (e.g., Linux, Apache, Moodle, Sakai)**

The Learning World is Open

INFORMATION TECHNOLOGY

OPEN

Bb

Blackborg

Moodle (35+ million users (930,000 registered) in 213 countries, nearly 50,000 sites, 3.5+ million courses, June 27, 2010)

Opener #4. Leveraged Resources and OpenCourseWare (OCW) (e.g., free courses from MIT, Utah State, CORE, OOPS)

Open Educational Resources (OER)
Post Courses in YouTube and iTunes (e.g., Berkeley)

Opensource Opencourseware Prototype System (OOPS) funded by, the Foundation of Fantasy, Lucifer Chu, Chairman and **Janitor of OOPS,** Taipei)

National Repository for Online Courses (NROC) and OER Commons

Peer2Peer University and University of the People (free!)

Neeru Paharia is behind Peer2Peer University, Fast Company, September 2009, How Web-Savvy Edupunks Are Transforming American Higher Education

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

College 2.0: More Professors Could Share Lectures Online. But Should They?, Chronicle of HE, Jeffrey R. Young, March 7, 2010

"The introduction of video into almost every aspect of our learning and work tasks is profound and "disrupting." As designers, we must experiment with these formats – looking for evidence and appropriate use cases and examples of when not to use video." (Video blogs, Webinars, Webcasts, keynotes, etc., Elliott Masie, Learning Trends, March 2, 2010)

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

---

How TED Connects the Idea-Hungry Elite, Fast Company, *Anya Kamenetz*, September 1, 2010
http://www.fastcompany.com/magazine/148/how-ted-became-the-new-harvard.html

Chris Anderson: The entrepreneur bought TED in 2001. "It felt like something you could devote your life to," he says

---

More Shared Online Video: Academic Earth, TV Lesson, and Fora TV

Ida (a transitional species)
47-Million-Year-Old Darwinius Masillae Fossil the Missing Link? (wowOwow, May 20, 2009)

Human Brain Dissected Today in a Live Webcast, Chronicle of Higher Education, December 02, 2009, 01:00 PM ET
http://chronicle.com/blogPost/Human-Brain-Dissected-Today-in/9053/?sid=pm&utm_source=pm&utm_medium=en

The Complete Works of Charles Darwin, The Carlyle Letters, The Diary of Samuel Pepys, ect.

The Royal Society 350th anniversary celebrations puts historic papers online (Captain Cook, Sir Isaac Newton and Benjamin Franklin), BBC, Nov 30, 2009
http://news.bbc.co.uk/2/hi/science/nature/8381425.stm

Sharing Repositories and Referatories
MERLOT.org: 78,472 members, 21,690 lnrg materials, Jan 3, 2010
Connexions: Dec 2009, 1.6m unique users, 4 million page views, 72 million hits, More than 1m users, 200 countries
Curriki: Free K-12 contents.
National Repository of Online Course, Jorum, OER Commons, etc.

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

The Learning World is Open

John Dewey, Seymour Papert, John Seely Brown, Ivan Illich, Stephen Heppell, Henry Jenkins

Conference to Conference (You Ustreamed my Ustream: Now that's a Twitter of an Idea)

Shared Online Video
(e.g., YouTube and the Royal Channel)

"Video Primers in an Online Repository for e-Teaching and Learning" V-PORTAL, TravelinEdMan (27 free/open YouTube videos), September 2010
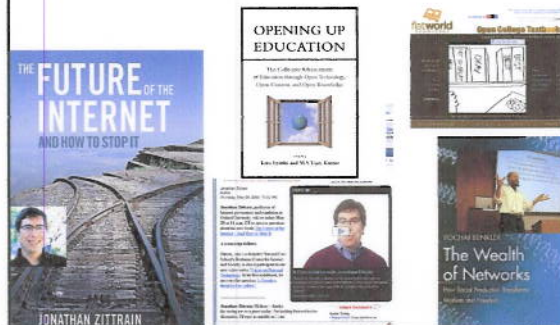http://www.youtube.com/user/TravelinEdMan

Individual Produced Videos
(e.g., African School Dream in Current TV)
http://current.com/items/77146082_african_school_dream

Participatory E-Books

Scribd: Documents on Web
(http://www.scribd.com/; 50 million unique visitors per month, 10's of millions of documents, April 2010)

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

August 5, 2010, Remaking the College Campus,
Bridget McCrea, Campus Technology
June 2010, 7 Tips for Building Collaborative
Learning Spaces, Campus Technology, Matt Villano

Yonsei University, Seoul, Korea

Synchronous Conferencing
Presentations

The Next Generation of Videoconferencing
Chronicle of HE, October 21, 2009

Opener #8. Alternate Reality Learning (Online Massive Gaming, Simulations, and Virtual Worlds; e.g., Second Life)

Second Life
(business, law, education, English, medicine)

Opener #9. Real-Time Mobility and Portability (e.g., iPhone, low cost wireless devices)

15m people/month India
40,000/week Rwanda
60,000 earthlings/hour

"A" is for App, Anya Kamenetz, Fast Company, April 2010

June 9, 2010

TwitterPeek: Restricted to Twitter.

WikiReader: Updating can be a pain.

Museum of London's Streetmuseum App Puts Historic Photos in Perspective
Written by Chris Cameron, June 1, 2010
"Hundreds of images from the Museum of London's extensive collections showcase both everyday and momentous occasions in London's history, from the Great Fire of 1666 to the swinging sixties"

iPhone Screenshots

Social Networking Gaming (e.g., Farmville)
For social networks, it's game on, USA Today, Jon Swartz, Thursday October 15, 2009

Networks of Personalized Learning (Blogs, Podcasts, MySpace, Flickr, and RSS)

The Learning World is Open

September 30, 2009
the Samsung DualView TL225

Social Learning Unleashed
Chief Learning Officer, April 2010

Driving greater collaboration: With 17,000 internal blogs and 53,000 employees on Social Blue, IBM's version of Facebook, and 500,000 participants in the company crowdsourcing jams, IBM's social media usage has become big business. As of 2008, IBM's jams identified 10 incubator businesses with the potential of reaching $100 million.

August 10, 2010
Flipboard pretties up social-media updates
Facebook statuses and tweets feed into magazinelike format in free app for iPad
Jefferson Graham, USA TODAY
http://www.usatoday.com/printedition/money/20100811/flipboard11_st.art.htm

Some Papers Are Uploaded to Bangalore to Be Graded, Chronicle of Higher Education, April 4, 2010, Audrey Williams June

Lori Whisenant, who teaches business law and ethics at the U. of Houston, has outsourced the grading of students' papers to a private company.

July 21, 2010 vs. Sept 28. 2009
Status update: Facebook logs 500 million members, USA TODAY, Kristin McGrath

Slide 1

Teaching With Twitter

Chronicle of HE, Jeffrey Young, November 22, 2009

Sugato Chakravarty, a professor of consumer sciences and retailing at Purdue University, has welcomed Twitter into the lecture hall, even though the service lets students engage in back-channel discussions. The questions submitted via Hotseat for the professor and guest speakers are projected for all the students to see.

Slide 2

Slide 3

Predictions

1. Five Billion "Have-Nots" Have at It!
2. Emergence of Lifelong Super E-Mentors/Coaches
3. Quarter-Century Learning Clubs
4. Terabyte Learning Access Points
5. The Veneration of Learning
6. Personalization+ Portfolios
7. The Selection of Global Learning Partners
8. The Shared Learning Era
9. Teaching-Learning Perpetuities
10. Teachers, Teachers
11. The Rise of the Super Blends
12. Self-Determined Humans
13. Free Learning Zones
14. Authentic Learning Amalgamations
15. Alexandrian Aristotles

The Future
NEXT EXIT

Slide 4

Decisions for this Open Ed World?

- Technology and Admin Folks:
  - What do to about OER, open sources, E-books, mobile, etc.?
- Instructor decisions:
  - Act as Concierge, Counselor, Course facilitator, Credit manager?
- Students decisions:
  - Should I attend traditional university or create your own degree path?
  - How to report use of OER on resumes?

Slide 5

- This book is an attempt to reveal a wide range of learning options in front of you while also offering you a framework to make sense of them. As the Grail Knight said in the 1989 movie, *Indiana Jones and the Last Crusade*, "choose wisely." If you do, WE-ALL-LEARN. The world is now open to you!

Slide 6

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

The World is Open.
What happens then?

WE

ALL

LEARN!!!

OOPS