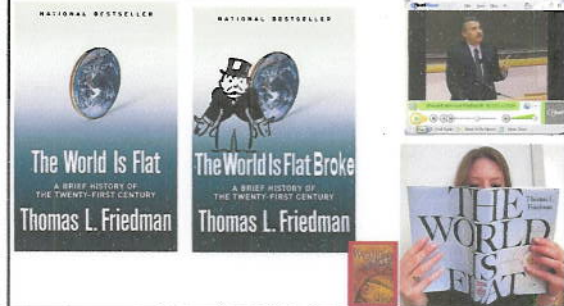


The Flat World Swung Open: How Web Technology Is Revolutionizing Education

Curtis J. Bonk, Professor, Indiana University
 President, SurveyShare
 cjbonk@indiana.edu
<http://php.indiana.edu/~cjbonk>



Is the World Flat?



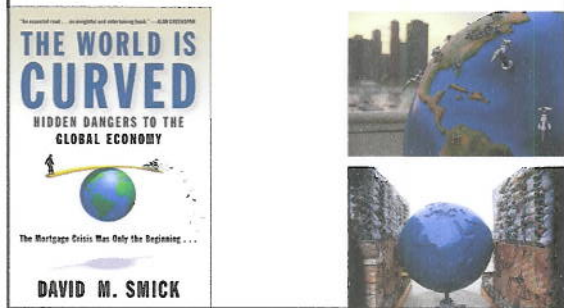
The Ten Forces that Flattened the World

Triple Convergence: (1) new economic players, (2) playing fields, and (3) processes.

1. 11/9/89: Berlin Wall came down
2. 8/9/95: Netscape went public
3. Work Flow Software (e.g., PayPal and eBay)
4. Open-Sourcing (Self organ collab communities; Mosaic, Apache, Wikipedia, Linux, Mozilla)
5. Outsourcing (Y2K)
6. Offshoring (e.g., China, Mexico, Thailand)
7. Supply-Chaining (e.g., Walmart)
8. Insourcing (UPS fixing Toshiba laptops)
9. In-forming (e.g., Google, Yahoo!, MSN Web Search)
10. The Steroids: Digital, Mobile, Personal, and Virtual (wireless, file sharing, VoIP, video camera in phone)



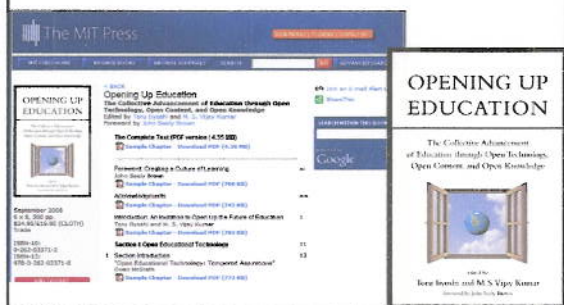
Is the World Curved?



Is it spiky?



Or is it Open?



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

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, now Abby Sunderland age 16, Minoru Saito, age 75, oldest solo sailor)

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

Indiana Jones

■ Perhaps those learning online are akin to the alien archaeologists in the 2008 movie, *Indiana Jones and the Kingdom of the Crystal Skull*. We are seeking the knowledge nuggets of our planetary past and present. As Indy said, "Their treasure wasn't gold, it was knowledge. Knowledge was their treasure." If that is true for us as well, then today pretty much all the world's known treasures can be found online.

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!

1. WE
2. ALL
3. 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.)






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

WE

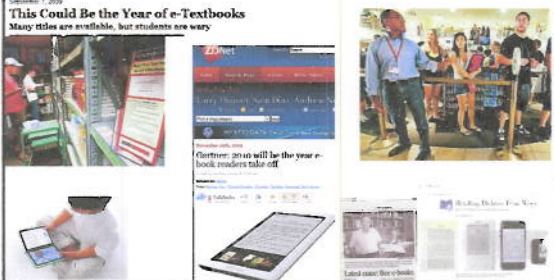
ALL

LEARN!!!

2010 Could Be the Year of the E-book!


September 7, 2009
This Could Be the Year of e-Textbooks
Many titles are available, but students are wary



Blio: Kurzweil Reinvents the Book

Charlie Sorrel, Dec 29, 2009, Wired
<http://www.wired.com/gadgetlab/2009/12/blio-kurzweil-reinvents-the-book/>

- Blio is a free platform...run on any device.
- Blio is in color.
- Blio lays pages seen on paper, with typography and illustrations; uses video.
- More than a million library of titles.
- The end of the book?



Tablet May Help E-Textbook Market, Publishers Hope
 Chronicle of HE, Jeffrey Young
 January 31, 2010



Guests play with Apple's new iPad at an event announcing its debut in San Francisco. At least one college is considering giving iPads to new students, but the jury on whether the device will revolutionize learning will be out for a while.

Free Online Books

(Terry Anderson and Fathi Elloumi, eds. *Theory and Practice of Online Learning*; Canada: Athabasca University, 2004; 55,000 downloads in the first year alone)



Read, Listen, etc. to online books (e.g., "An International Episode" by Henry James)



Opener #2. E-Learning and Blended Learning

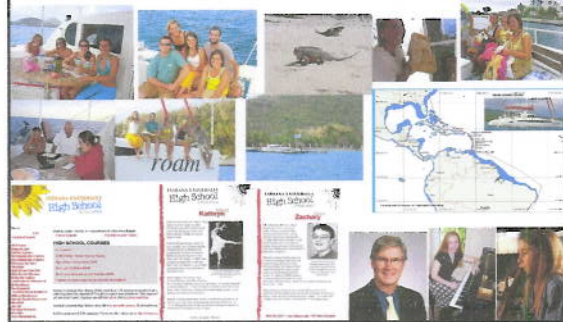


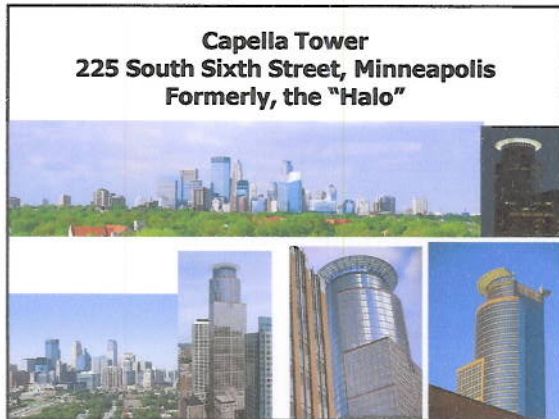
Letter from Bill Gates about online learning (January, 2010)

<http://www.gatesfoundation.org/annual-letter/2010/Pages/education-learning-online.aspx>



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





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.

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 CRISIS ON THE DEMAND FOR COURSES AND PROGRAMS - Fall 2009

UIS Online & Blended Enrollment

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

Moodle (32+ million registered users in 208 countries, 3+ million courses, 2/6/2010)

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

The Learning World is Open

MIT OPEN COURSEWARE

Open Yale

Exc Traditional Textbooks

We Remix Open Textbooks!

Open Teaching

(Tom Reeves Evaluation Course at Georgia; David Wiley's Web 2.0 courses at BYU; Connectivism from George Siemens and Stephen Downes, 24 enrolled, 2,000+ sitting in)

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

Berkeley University of California

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

The Biggest OEW Localization Volunteer Group in the World

OOPS Opencourseware Prototype System
The Foundation of Fantasy Culture and Arts

開放式課程計劃

Sample OpenCourseWare Projects (Tufts, Johns Hopkins)

Tufts OpenCourseWare

IDP200 Pathophysiology of Infectious Diseases, Fall 2004/2005

Cape Town Open Education Declaration, Dec 2007

<http://www.capetowndeclaration.org/>

THE CAPE TOWN OPEN EDUCATION DECLARATION

Declaration, July 4th 1776

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

Israel Entrepreneur Plans a Free Global University That Will Be Online Only

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

The Learning World is Open

A Single Group Helps Trigger an Online Publishing Explosion

The Public Knowledge Project, a nonprofit group, estimates that the online publishing software it offers free has given rise to more than 5,000 open access academic journals around the world. Below is their geographic distribution, by continent, as of last month.

The Complete Works of Charles Darwin

Charles Darwin
The Complete Works of Charles Darwin Online
(Publications, Manuscripts, Correspondence, Journals)

Contributors and Acknowledgments

Contributors

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JISC Co-Investigator: Professor [Neil Storer](#), Department of the History of Science, University of Cambridge

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Dr. Andrew
Dr. [David Clouston](#)

Contributors of illustrations:

Dr. [Gordon Brown](#)

The Carlyle Letters Exploring Victorian World Through Letters and The Diary of Samuel Pepys

(Great Plague, Great Fire, Charles Dickens, Erasmus Darwin, Mary Wollstonecraft Shelley, Robert Browning, John Stuart Mill, Ralph Waldo Emerson, Elizabeth Barrett Browning, and Alfred Tennyson)

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>

Audio slideshow: 350 years of discovery

The world's oldest cultural institution, The Royal Society in London, is celebrating 350th anniversary celebrations by putting its public domain publications online for some of its most influential papers.

Project co-ordinator Dr. [Nigel Meade](#) said: "The Royal Society and Project Partners are proud to make available to a global audience these papers, which have inspired some of the world's greatest minds."

The Royal Society puts historic papers online

Elliott Masie, Learning Trends, March 2, 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, capture conference keynotes, flipcams, etc.

Khan Academy

<http://www.khanacademy.org/>

The collage features a newspaper article on the left titled "Salman Khan: Math master of Internet". In the center is a video player showing a Khan Academy lesson titled "Linear Algebra: Introduction to Vectors". To the right are several smaller thumbnails of educational content, including one for "Introduction to the atom" and another for "Introduction to Evolution and Natural Selection".

Link TV (and Global Link of World Educators (GLOWE))

The collage features a video player in the center showing a man playing a violin. To the right is a prominent "Give Now" button. Below these are several smaller thumbnails of educational content, including one for "Introduction to the atom" and another for "Introduction to Evolution and Natural Selection".

Link TV, Academic Earth, TV Lesson, and Fora TV

The collage features a video player in the center showing an interview with Michelle Rhee. To the right is a "FORA.tv" logo. Below these are several smaller thumbnails of educational content, including one for "Introduction to the atom" and another for "Introduction to Evolution and Natural Selection".

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

"The latest Campus Computing Survey, which gathers data on classroom technology nationwide, found that 28 percent of colleges have a strategic plan to provide coursecasting equipment, and 35 percent more are working on a plan now."

The collage features three images: a man presenting at a podium, a large audience in a lecture hall, and a woman speaking at a podium.

Tracking Live Internet Thawing: A Colossal of an Idea

The collage features several images: a man holding a large fish, a man holding a small object, and various educational content thumbnails.

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

The collage features a "horizons blog" logo, a "MONITOR" logo, and various educational content thumbnails.

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/90537?id=pm&utm_source=pm&utm_medium=en

THE CHRONICLE
of Higher Education

December 2, 2009

HOME NEWS OPINION & IDEAS FACTS & FIGURES TOPICS

Faculty Administration Technology Community Colleges International Special Reports

Tweed
Send Tweet Tweet

December 02, 2009, 01:00 PM ET

Human Brain Dissected Today in a Live Webcast

In 1952, Myers Gasser Shulman agreed to undergo an experimental brain surgery to hope of stopping the epileptic seizures and headaches that had plagued him since age 10. The neurosurgeon William Beecher Dowling, at Harvard Medical in Connecticut, excised one asset of Malacian's hippocampus.

"The seizure largely stopped," writes Scott Lurie in the New York Times. "But so too did Malacian's ability to form new memories, though he would eventually get his life before the surgery, a condition called anterograde amnesia."

Sharing Repositories and Referatories

MERLOT.org: 78,472 members, 21,690 Inrg materials, Jan 3, 2010
Connexions: Dec 2009, 1.6m unique users, 4 million page views, 72 million hits, More than 1m users, 200 countries
National Repository of Online Course, OER Commons

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

The Learning World is Open

A bit of me...

flatworld KNOWLEDGE

Wikis: Wikipedia and Wikibooks

WIKIPEDIA

English The Free Encyclopedia 1,447,800 articles

Deutsch Die freie Enzyklopädie 179,450 Artikel

Français L'encyclopédie libre 100,000 articles

Português A enciclopédia livre 100,000 artigos

Español La enciclopedia libre 100,000 artículos

Portuguese do Brasil O conteúdo livre 100,000 artigos

Polish Encyklopedia wolna 100,000 artykułów

Italiano L'enciclopedia libera 100,000 articoli

Portuguese A enciclopédia livre 100,000 artigos

Polish Encyklopedia wolna 100,000 artykułów

Portuguese do Brasil O conteúdo livre 100,000 artigos

Polish Encyklopedia wolna 100,000 artykułów

Portuguese do Brasil O conteúdo livre 100,000 artigos

Polish Encyklopedia wolna 100,000 artykułów

Portuguese do Brasil O conteúdo livre 100,000 artigos

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

USTREAM

GURUS BINK PERSI AT GATE - COOL

LEBOW-WADDRELL PRESENTATION

Weblogged TV

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

YouTube

THE ROYAL CHANNEL

Kylie Minogue collects her OBE at Buckingham

The Queen visits Google London

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/>; 21 million unique visitors per month, May 2008

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

Synchronous Conferencing Presentations

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

October 21, 2009
The Next Generation of Videoconferencing

Footage courtesy of USC Institute for Creative Technologies

Researchers at the University of Southern California and the University of North Carolina at Chapel Hill are creating new tools that may allow for people attend videoconferences as

Adventure Learning, GeoThentic, GoNorth (National Geographic)
 (Aaron Doering, Univ of Minnesota)

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)

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

Mobile Learning
 (April 21, 2009, USA Today)

Mobile Learning in India with Paul Kim

<http://www.stanford.edu/~phkim/curt/India.pdf>



We Are Going Mobile!

40,000 new mobile subscribers a week in Rwanda; Rwanda Newtimes report, January 2009
Africa is the continent with the fastest growth, International Telecommunications Union (ITU), March 2009

India: In January, 2009, the number sky rocketed to 15.4M
Globally: 60,000 new mobile subscriptions every hour!!!

(per Paul Kim, Stanford, 2009); Nokia Research Lab
http://news.yahoo.com/s/afp/20090308/bs_afp/indiaeconomytelecom



Terabyte thumb Drives and Magic Pens! (The Pulse from Livescribe, \$129-\$169)



TwitterPeek, WikiReader not worth the loot, USA Today, Edward Baig, November 5, 2009



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



September 30, 2009
 the Samsung DualView TL225



Facebook: The New Classroom Commons?, Chronicle of HE, Harriet L. Schwartz, Sept. 28, 2009



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 Hobspot for the professor and guest speakers are projected for all the students to see.

Livemocha (29 languages, 160 hours of lessons, over 2 million users, FREE!)

"A powerful opportunity for people around the world to connect with language partners"

Social Language Learning - Online

Language Learning on Livemocha

Livemocha Challenge

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

■ 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!

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

The World is Open.
 What happens then?

WE ALL LEARN!!!