

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

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



21 Things That Became Obsolete This Decade

December 11, 2009, Silicon Alley Insider



15 Gadgets that Changed Everything This Decade

December 9, 2009, Jay Yarow, Silicon Alley Insider



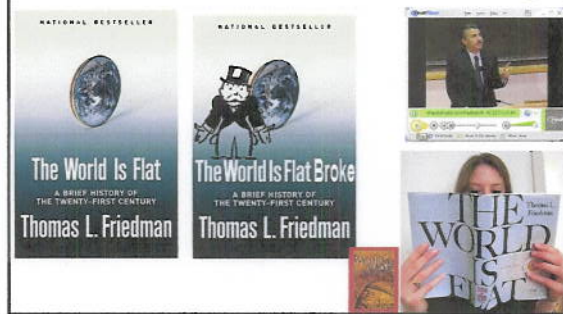
Where are you headed?



Do you know the shape of the world?



Is the World Flat?




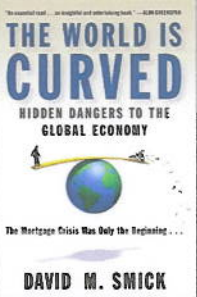


The Ten Forces that Flattened the World

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 collob 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)



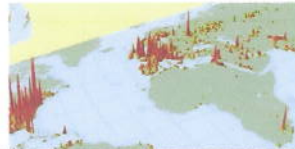
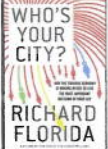



Is the World Curved?



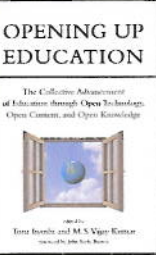





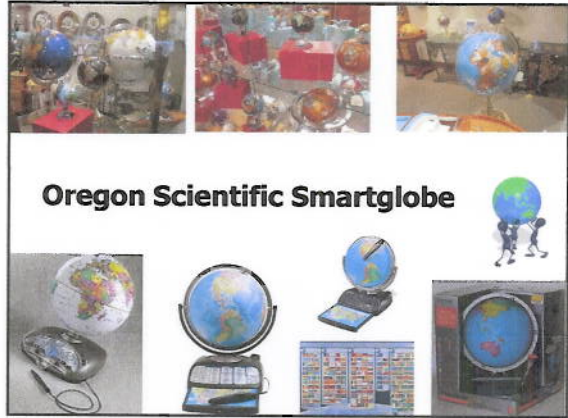
DAVID M. SMICK

Is it spiky?

Or is it Open?





Question:
What is the Web?


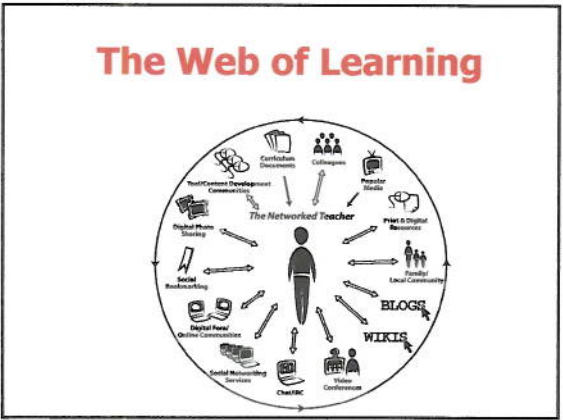
- An entertainment system?
- A writing aid?
- A communications system?
- A means to handle commercial transaction?
- A social networking device?

=====

No, it is a learning tool!



Answer:
The Web of Learning

The Explosion of the Web 2.0

We are entering a jumping off point...

Web 2.0

Elements of the Web's Next Generation

Charles Wedemeyer Learning at the Back Door (1981) Nontraditional Learning

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)

May 2010, Jessica Watson became the youngest person ever to sail solo, non-stop and unassisted around the world. <http://www.jessicawatson.com.au>

Sunderland, 16, reportedly in trouble. ESPN, June 10, 2010 <http://sports.espn.go.com/oly/news/story?id=5272149>

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



Grandpa George (Goronja)
(West Allis, Wisconsin, built tractors 40+ years)



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."**

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!

- 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.)

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)

Seton Hill University, 2,100 students. All fulltime students get an iPad and Incoming freshmen will also receive a 13-inch MacBook laptop, April 2010.

An iPad for Everyone

Does iPad have the magic to bring people together?

Marco R. della Cava, USA TODAY, June 7, 2010

Opener #2. E-Learning and Blended Learning

The Learning World is Open

OPRAH.COM
OPRAH'S Book Club

A NEW EARTH WEB EVENT

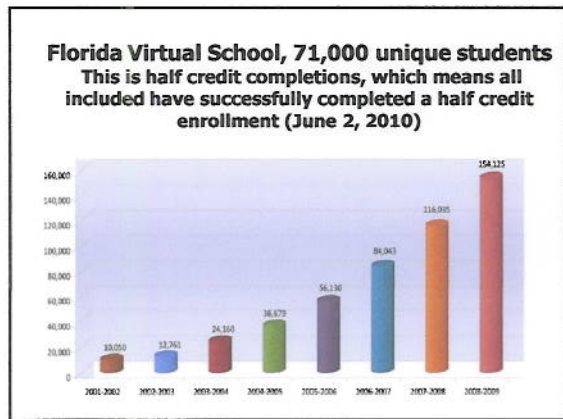
More in the Classroom

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

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

BILL & MELINDA GATES Foundation
ALL LIVES HAVE EQUAL VALUE

2010 Annual Letter from Bill Gates: Online Learning



Indiana University High School

(4,000 students and 1,400 enrolled in diploma programs)

Indiana University High School

roam

Adora Svitak, age 12, World's Youngest Teacher

Adora Svitak

TED

A Grain of Rice: A Bloomington man's computer vocab game feeding the world

Rice

For each answer you get right, we donate 10 grams of rice through the UN World Food Program to help end hunger.

The country was Cote d'Ivoire

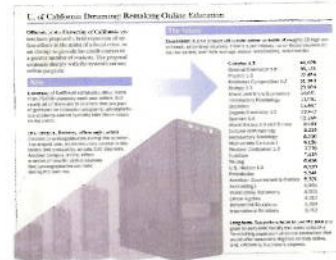
This country is:

- Thailand
- Malaysia
- Indonesia
- Vietnam

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."



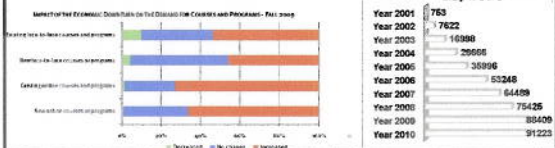
iSMART: Integration of Science, Mathematics, and Reflective Teaching (iSMART) is a FREE 2-year online graduate program for middle school science and mathematics teachers in Texas, University of Houston (Professors Jennifer Chauvot and Mimi Lee)

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

Year	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%	1,974,397	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%

Open U of Malaysia, March 25, 2010



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)

The screenshot shows the Moodle website dashboard. At the top, it displays statistics: "32+ million registered users in 208 countries, 3+ million courses, 2/6/2010". Below this, there are several sections: "Moodle sites" with a line graph showing growth, "Moodle downloads" with a bar chart, a grid of user avatars, and a profile picture of a man.

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

This slide is a collage of images and logos. It features the MIT OpenCourseWare logo, the Open Yale logo, and a sign that says "We Remix Open Textbooks!". There are also images of a pirate character, a person sitting at a desk, and a group of people holding a sign.

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

The screenshot shows the Berkeley website with various educational resources. It includes a video player, a list of courses, and a search bar. The text "Open Educational Resources (OER) Post Courses in YouTube and iTunes (e.g., Berkeley)" is prominently displayed at the top.

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

The screenshot shows the OOPS website. It features a header with the text "The Biggest OCW Localization Volunteer Group in the World" and a large "OOPS" logo. Below the logo, there are several course listings and a search bar. The text "Opensource Opencourseware Prototype System (OOPS) funded by, the Foundation of Fantasy, Lucifer Chu, Chairman and Janitor of OOPS, Taipei)" is prominently displayed at the top.

Sample OpenCourseWare Projects (Tufts, Johns Hopkins)

The screenshot shows the Tufts OpenCourseWare website. It features a course listing for "IDP200 Pathophysiology of Infectious Diseases, Fall 2004/2005" with a detailed description and a search bar. The text "Sample OpenCourseWare Projects (Tufts, Johns Hopkins)" is prominently displayed at the top.

National Repository for Online Courses (NROC) Commons

The screenshot shows the NROC Commons website. It features a header with the text "National Repository for Online Courses (NROC) Commons" and a large "NROC" logo. Below the logo, there are several course listings and a search bar. The text "National Repository for Online Courses (NROC) Commons" is prominently displayed at the top.

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

Technology Review

Israel starts 1st tuition-free online university

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.

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.

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. For a 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

Link TV: Global Link of World Educators (GLOWE)

linkTV

Give Now

Link TV, Academic Earth, TV Lesson, and For a TV

Transforming the System: An Interview with Michelle Rhee

FORA.TV

TVLESSON

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."



Tracking Live Internet Thawing: A Colossal of an Idea

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

The Complete Works of Charles Darwin

The Complete Works of Charles Darwin Online
 (Publications, References, Bibliography, Credits)

Contributors and Acknowledgments

Contributors

Director: Dr. John Van Dine (VAN DINE), Centre College & Department of History and Philosophy of Eastern University of Virginia

Research Associate: Dr. Greg Clarys (CLARYS), Department of Zoology, University of Cambridge, Director and Chief Editor (Dr. John Van Dine)

Technical Director: Dr. Richard Smith (SMITH), University of Cambridge

APMC Principal Investigator: Professor David Reardon (REARDON), Department of History and Philosophy of Eastern University of Virginia

APMC Co-ordinator: Professor David Reardon (REARDON), Department of History of Eastern University of Virginia

Associate Editors (Editors): Dr. Gordon (GORDON), Dr. Gordon (GORDON)

Contributors of Introductions: Dr. Gordon (GORDON)

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 science academy, The Royal Society in London, is starting its 350th anniversary celebrations by putting the public domain papers of some of its most influential members online. The papers are the work of Sir Isaac Newton, Sir Isaac Newton and Benjamin Franklin, and they have been made available online. This is a great way to share the work of these great scientists with the world.

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...

this is me...

flatworld KNOWLEDGE

Wikis: Wikipedia and Wikibooks

WIKIPEDIA

English: The Free Encyclopedia (4,400,000 articles)
 Deutsch: Die freie Enzyklopädie (111,000 Artikel)
 Français: L'encyclopédie libre (100,000 articles)
 Italiano: L'enciclopedia libera (411,000 articoli)
 Nederlands: De vrije encyclopedie (480,000 artikelen)
 Español: La enciclopedia libre (177,000 artículos)
 Polski: Włoa encyklopedia (110,000 artykułów)
 Português: A enciclopédia livre (411,000 artigos)
 Pycckий: Свободная энциклопедия (100,000 статей)

Projects of the Wikimedia Foundation (total count: 3)

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)

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)

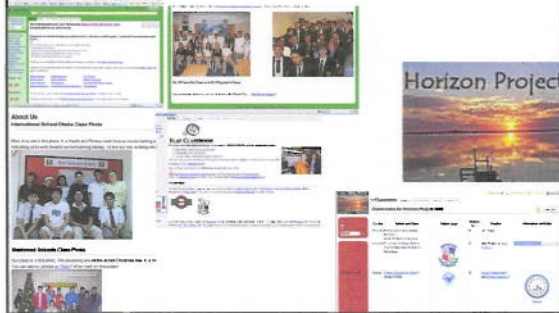
Opener #7. Electronic Collaboration and Interaction (synchronous & asynchronous)

Welcome to
International Studies for Indiana Schools

Deb Hutton, Indiana University
Mimi Miyoung Lee, Univ of Houston

Global Nomads Group
<http://www.gng.org/home.html>

Flat Classroom Projects!!! (combine blogs, videoconferencing, chat, async discussion, etc.)



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



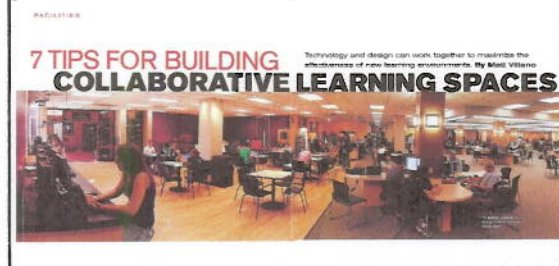
Ice Stories Project from Antarctica



Synchronous Conferencing Presentations



7 Tips for Building Collaborative Learning Spaces, Campus Technology, Matt Villano, June 2010



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)

The Learning World is Open

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

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

The Learning World is Open

Empathic Education: The Transformation of Learning in an Interconnected World

Jeremy Rifkin, Chronicle of HE, May 30, 2010

"The educational process emphasizes autonomous learning—sharing knowledge is considered cheating—and the mission is to produce efficient and productive workers for the market economy."

"New teaching models designed to transform education from a competitive contest to a collaborative and empathic learning experience are emerging as schools and colleges try to reach a generation that has grown up on the Internet and is used to interacting in open social networks where information is shared rather than hoarded. The traditional assumption that "knowledge is power," and is used for personal gain, is being subsumed by the notion that knowledge is an expression of the shared responsibilities for the collective well-being of humanity and the planet as a whole."

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/bn_afp/indiaeconomytelecom



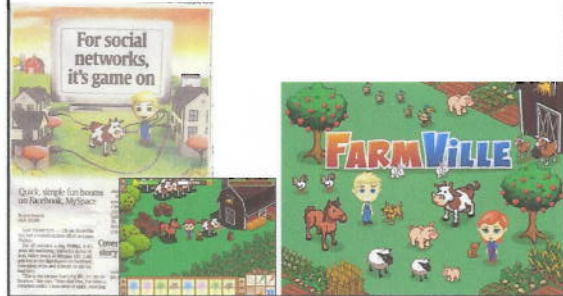
"A" is for App, Anya Kamenetz, Fast Company, April 2010



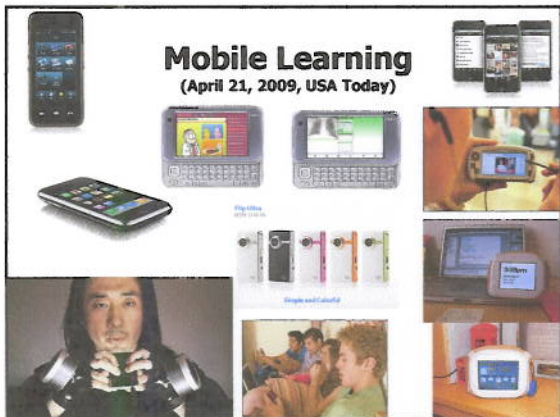
OLPC, Marvell Join Forces, Announce sub-\$100 Tablet by December 2010 May 27th, 2010 by Mike Prospero



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)



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

MUSEUM OF LONDON

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

September 30, 2009
 the Samsung DualView TL225

The Learning World is Open

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

TAs embed elaborate feedback

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

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

SOCIAL NETWORKING

Top social networking sites
 Total unique visitors in August (Scott Brinker, work, colleges)

Facebook.com	82.2 million
MySpace sites	64.2 million
Twitter.com	20.8 million
Diigo.com	17.4 million
Orkut.com	13.8 million
Bebo.com	12.1 million
LinkedIn.com	11.4 million
Windows Live Profile	10.3 million

Growth of social networking sites
 Social networking site users (as a percentage of total internet audience)

August '08	65.6%
August '09	77%

Sociable Professors First-of-its-Kind Survey Finds College Faculty Increasingly Using Social Media

Boston, MA (PRWEB) May 4, 2010
<http://www.prweb.com/releases/2010/05/prweb3960844.htm>

"More than 80 percent of college faculty are using social media, with more than half using these tools as part of their teaching." Pearson Social Media Survey 2010

Social Networks Are Not Equally Popular

Social Networking Awareness and Use

Site	Awareness	Use
Facebook	~95%	~85%
MySpace	~85%	~75%
Twitter	~75%	~65%
LinkedIn	~65%	~55%
Diigo	~55%	~45%
Bebo	~45%	~35%
Orkut	~35%	~25%
Windows Live Profile	~25%	~15%

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.

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.



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



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?



- 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?

