

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>



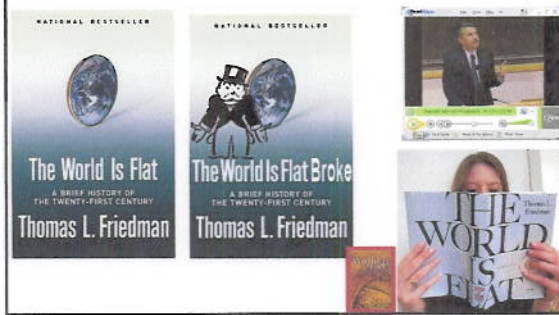
Where are you headed?



Do you know the shape of the world?



Is the World Flat?



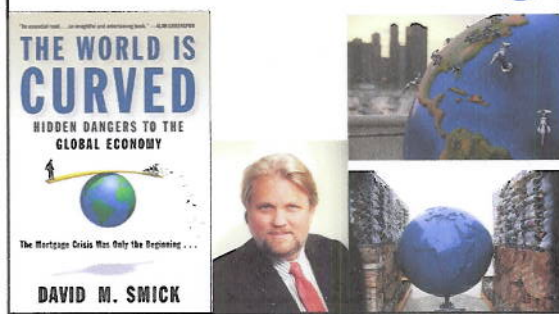
The Ten Forces that Flattened the World

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

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



Is the World Curved?



Is it spiky?

WHO'S YOUR CITY?
RICHARD FLORIDA

THE FLIGHT CREATIVE CLASS

Or is it Open?

THE MIT PRESS

OPENING UP EDUCATION

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

Edited by Tony Bates and D. J. Taylor

Introduction: An Invitation to Open Up the Future of Education	1
Section 1: Open Educational Technology	11
Section Introduction: "Technology: The Great Equalizer"	13

See Inside and MS Xplore Center



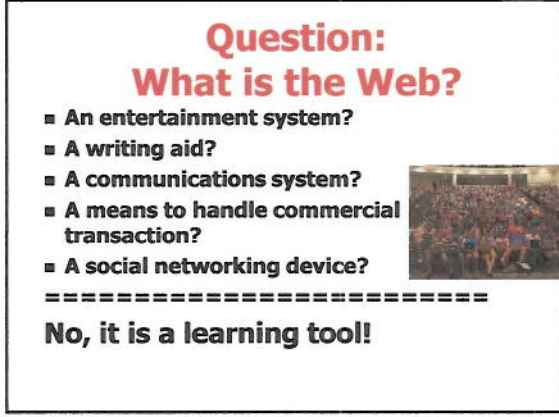
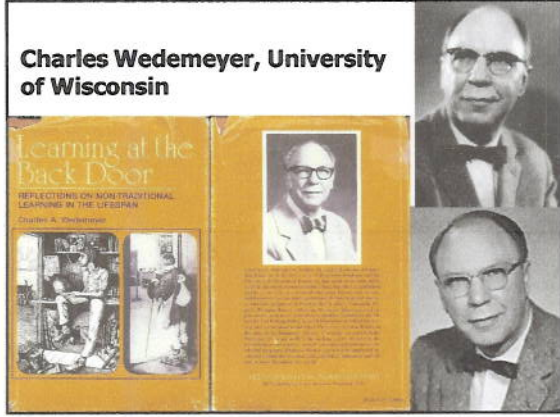
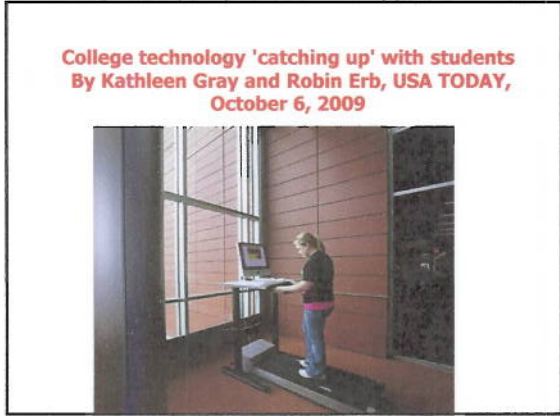
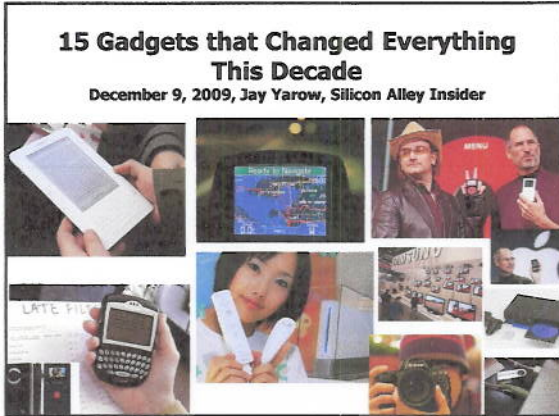
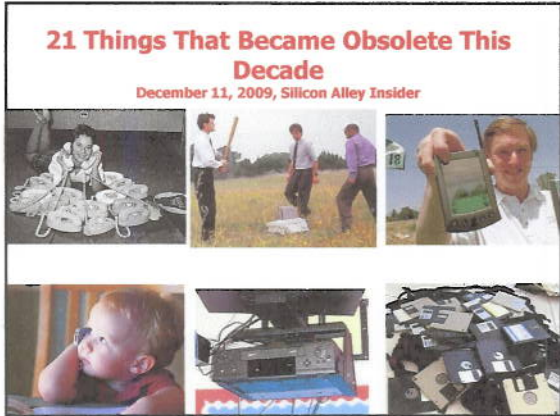
GET FREE MONEY!

Success has gone to the bank... again!

How to Get
\$10,000.00 FREE MONEY!

CALL TODAY AT 800-888-8888

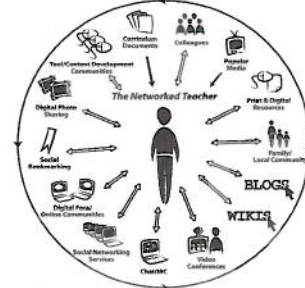
Oregon Scientific Smartglobe



Answer: The Web of Learning



The Web of Learning



The Explosion of the Web 2.0

Periodic Table of the Internet

We are entering a jumping off point...

Web 2.0

Elements of the Web's Next Generation

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)

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

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

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

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

Audience Participation!

1. WE

2. ALL

3. LEARN!!!




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

- Pipes:** The availability of tools and infrastructure for learning.
- Pages:** The availability of free educational content and resources (OER—Open Educational Resources).
- Participatory Learning Culture:** A move towards a culture of open access to information, international collaboration, and global sharing.





Yonsei University, Seoul, Korea

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!!!

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



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

USA TODAY, June 7, 2010
Does iPad have the magic to bring people together?

An iPad for Everyone

Opener #2. E-Learning and Blended Learning

The Learning World is Open

PRAXIS.COM
NEW EARTH WEB EVENT

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

Annual Letter from Bill Gates: Online Learning

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

KHAN ACADEMY
Salman Khan: Math master of Internet

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

Rice
For each word you get right, we donate 10 grains through the United Nations to help end world hunger.

A GRAIN OF RICE

Adora Svitak, age 12, World's Youngest Teacher

Adora Svitak: 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)



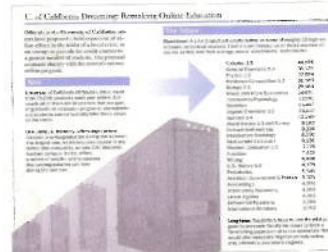
Indiana University High School
 (4,000 students and 1,400 enrolled in diploma programs)



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



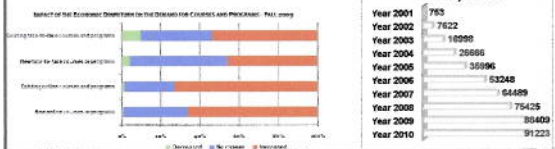
U. Of California System Proposing Online Ed
 Chronicle of HE, May 14, 2010, Josh Keller and Marc Perry
 "The university plans to spend about \$250,000 on each course. It hopes to raise the money from external sources like foundations or major donors."



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%	1,971,797	23.0%	11.7%
Fall 2004	17,272,043	2.1%	2,349,783	18.2%	13.5%
Fall 2005	17,487,481	1.2%	3,480,050	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



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

Research Institute for Learning Effectiveness

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

The Learning World is Open

INFORMATION TECHNOLOGY
Chief John Blackboard Will Put the Deal in Angel Learning

Blackboard
Powered by MIT

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)

The Learning World is Open

MIT OPEN COURSEWARE
OPEN SOURCE EDUCATION TECHNOLOGY

Open Yale
Exc. Traditional Textbooks

We Remix Open Textbooks!

**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)

The Biggest OCW Localization Volunteer Group in the World

OOPS
Opensource Opencourseware Prototype System
The Foundation of Fantasy Culture and Arts

開放式課程計劃

Sample OpenCourseWare Projects (Tufts, Johns Hopkins)



National Repository for Online Courses (NROC) 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)

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.



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



Link TV: Global Link of World Educators (GLOWE)



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



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)

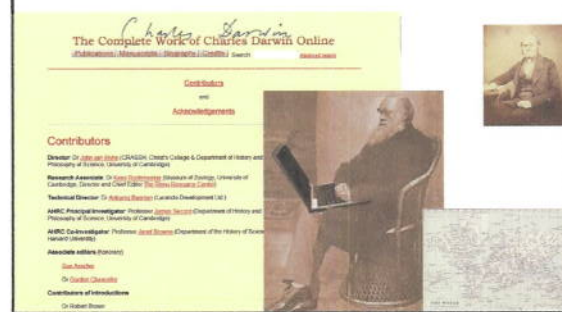


Human Brain Dissected Today in a Live Webcast, Chronicle of Higher Education, December 02, 2009, 01:00 PM ET

http://chronicle.com/blogPost/Human-Brain-Dissected-Today-in/9053/?cid=pm5utm_source=pm5utm_medium=en



The Complete Works of Charles Darwin



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 marking the 350th anniversary celebrations by making the public have unprecedented access to some of its most influential papers.

Project material can be found on a website. See: Royal Society and Openness of Science can help make available online. Take a look at some of the most pivotal papers - with the Society's board of public, and more.

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

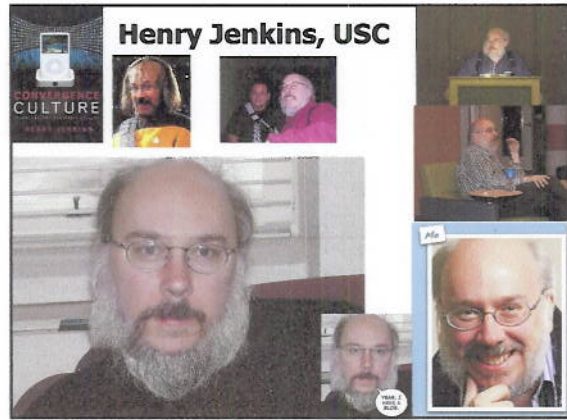
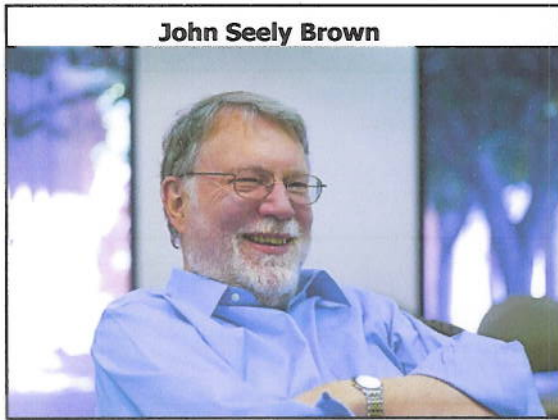
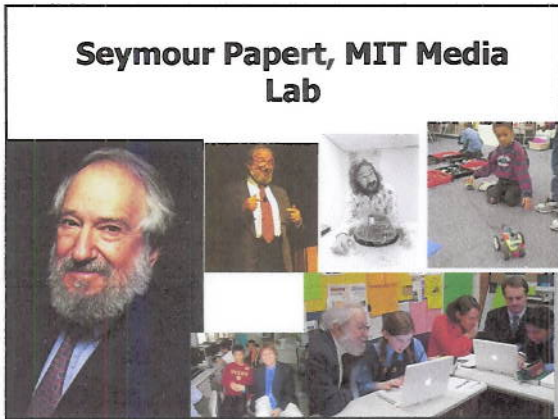
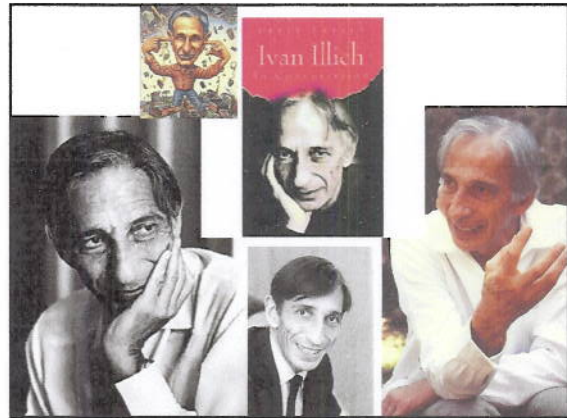
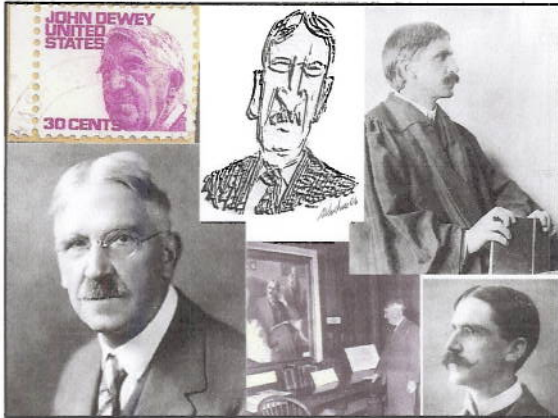
A bit of me...

This is me...

flatworld KNOWLEDGE

SEEDS OF EMPOWERMENT

Empowering the part of the story





Chad Hurley and Steve Chen



Kevin Rose, Digg

Wikis: Wikipedia and Wikibooks

WIKIPEDIA

English The Free Encyclopedia 2,414,441 articles

Deutsch Die freie Enzyklopädie 200,000 Artikel

Français L'encyclopédie libre 100,000 articles

Portuguál A Wikipédia 100,000 artigos

Italiano L'enciclopedia libera 40,000 voci

Portuguál A Wikipédia Livre 40,000 artigos

Español La enciclopedia libre 40,000 artículos

Polaczk Polski Wikipedya 40,000 artykułów

Projects of the Wikimedia Foundation (view more...)

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.

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)

Flat Classrooms Project and Global Nomads Group

Synchronous Conferencing Presentations

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

7 TIPS FOR BUILDING COLLABORATIVE LEARNING SPACES



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)



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/sj/atp/20090308/bs_atp/indiaconomytelecom

"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

Force is with new GPS units

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

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

September 30, 2009

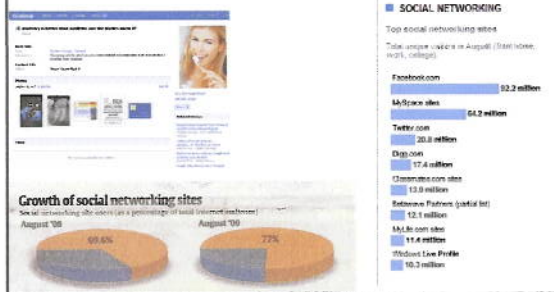
the Samsung DualView TL225

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.

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 **HOTS@AT** for the professor and guest speakers are projected for all the students to see.



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?

WE

ALL

LEARN!!!

OOPS
International Professional Publications
國際式專業刊物