The Flat World Swung Open: How Web Technology Is Revolutionizing Education
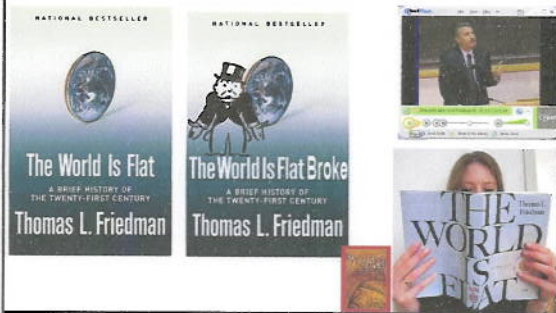
Curtis J. Bonk, Professor, Indiana University
President, SurveyShare
cjbonk@indiana.edu
http://php.indiana.edu/~cjbonk

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
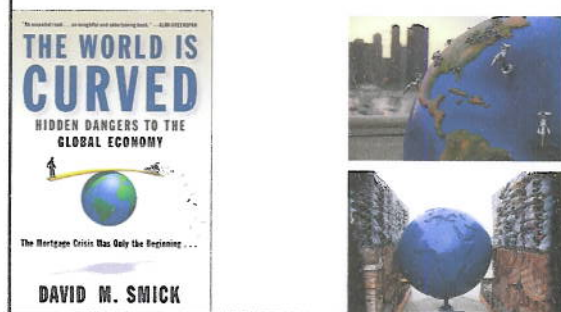Thomas L. Friedman

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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; Mosiac, 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?

THE WORLD IS CURVED
HIDDEN DANGERS TO THE GLOBAL ECONOMY
The Mortgage Crisis Has Only the Beginning . . .
DAVID M. SMICK

Is it spiky?

WHO'S YOUR CITY?
RICHARD FLORIDA

Or is it Open?

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)

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**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.

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

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.
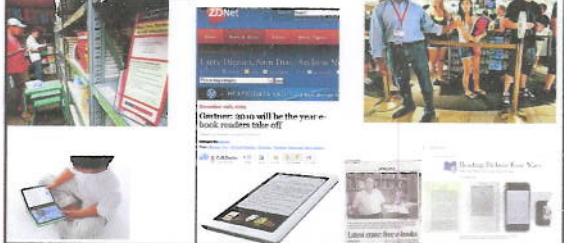### What happens then?

WE
ALL
LEARN!!!

2010 Could Be the Year of the E-book!

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

The Learning World is Open

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)

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

Slide 1

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.

Slide 2

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%

UIS Online & Blended Enrollment

Slide 3

Learning on Demand: Online Education in the United States, 2009 (Jan, 2010, Sloan-C)
http://www.sloan-c.org/learning_on_demand_sr2010

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

Existing face-to-face courses and programs
New face-to-face courses or programs
Existing online courses and programs
New online courses or programs

0%   20%   40%   60%   80%   100%

■ Decreased   ■ No change   ■ Increased

Slide 4

U.S. DEPARTMENT OF EDUCATION

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

Slide 5

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

The Learning World is Open

INFORMATION TECHNOLOGY

Slide 6

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

Moodle sites
Moodle downloads

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

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)

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

Sample OpenCourseWare Projects
(Tufts, Johns Hopkins)

Cape Town Open Education Declaration, Dec 2007
http://www.capetowndeclaration.org/

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

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

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.

Open Journal Systems
New Journals, Free Online, Let Scholars Speak Out, Chronicle of Higher Education, By Peter Schmidt, February 14, 2010
http://chronicle.com/article/Open-Access-Journals-Break/64143/?sid=at

John Willinsky, an education professor at Stanford U. (shown here visiting the U. of Oxford), offers free journal-publishing software to academics around the world. The program is being used to produce more than 5,000 online journals, he estimates, about half of them in developing countries.

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/

Salman Khan: Math master of Internet

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

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

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."
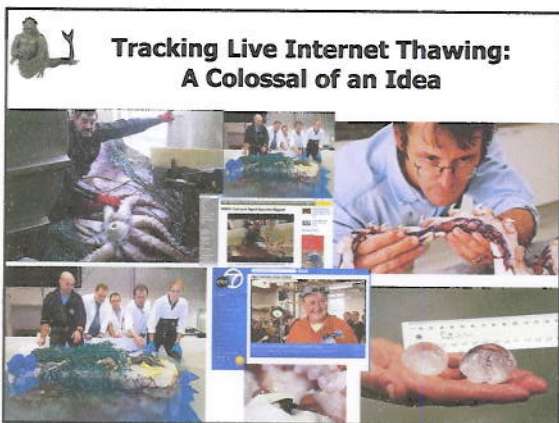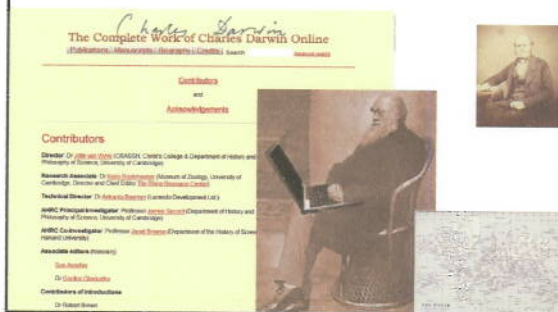

Tracking Live Internet Thawing: A Colossal of an Idea

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

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

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

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
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

Wikis: Wikipedia and Wikibooks

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)

Programmers become Filmographers
(e.g., African School Dream in Current TV)
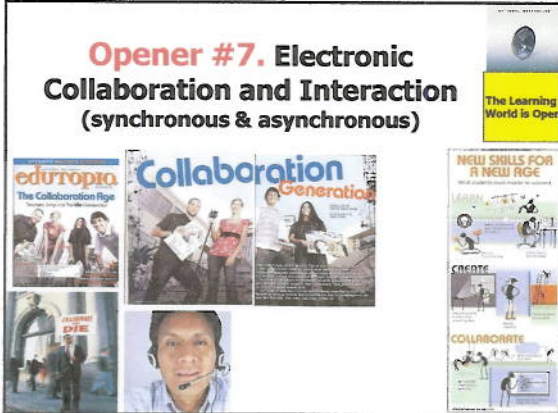http://current.com/items/77146082_african_school_dream
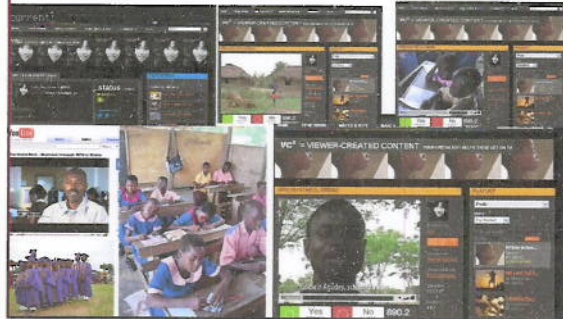
Participatory E-Books

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

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)

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 Hotseat 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!)

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

■ This (talk) 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