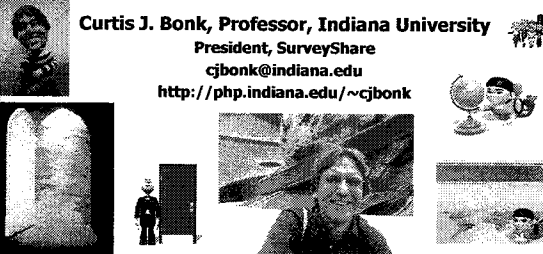
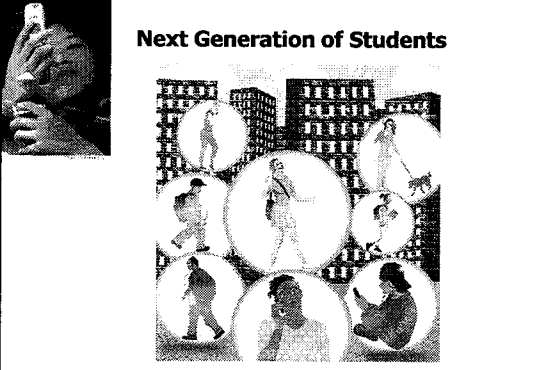



How the Learning World Became Flat (Open): Ten Knowledge Sharing and Technology Trends Equalizing Access to Learning

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





Next Generation of Students

Tech Creates Bubble for Kids
Alejandro Gonzalez, USA TODAY, Updated 6/20/2006 10:34 AM ET





"STUDENT 2.0"



INFORMATION TECHNOLOGY

Bonk's Addiction Q'er

1. Who has 2 or more cell phones with Internet access?
2. Who has 2 or more laptop computers with wireless connections?
3. Who is on email in the morning? At noon? Who does it at night?
4. Who suffers from nervous tension when you cannot get on email?
5. Who is on the Web right now?

Computer-free students find life hard without them

Mitchell Lundin, left, Andrew Tatge and Caitlin Magnusson tackle the typewriter as part of an experiment at Carleton College.
Dec 17, 2007, Brittany Levine, USA Today

■ Thomas Friedman, author of "The World is Flat":
 ■ Tools for collaboration are changing the world
 ■ <http://mitworld.mit.edu/video/266/>

The Ten Forces that Flattened the World

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 organizing collaborative communities; Mosaic, Apache, Wikipedia, Linux, Mozilla/Firefox,)
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 (e.g., wireless, file sharing, VoIP, video camera in phone)

What if the learning world was flat? (e.g., Shakespeare's Global Globe)

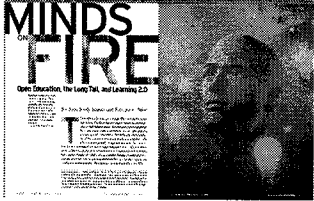
What if the World was Beyond our World? NASA's Hubble Space: Google Sky

USA Today, August 22, 2007
<http://earth.google.com/sky/index.html>

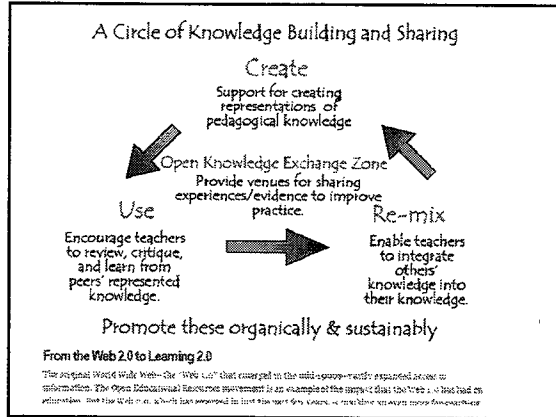
What if every early elementary kid could have a terabyte (1,000 gigabytes or 1 trillion bytes) of data on a thumb drive? (Wired Magazine, October 26, 2007 says it will be possible in a few years; research from Arizona State)

What if a laptop was as light as air?

What if our minds were on fire for learning?



MINDS ON FIRE: OPEN EDUCATION, THE LONG TAIL, AND LEARNING 2.0. JOHN SEELY BROWN AND RICHARD ADLER, EDUCAUSE REVIEW, JANUARY-FEBRUARY, 2008.
<http://connect.educause.edu/Library/EDUCAUSE+Review/MindsonFireOpenEducation/45823>



WE-ALL-LEARN:

Ten Forces that Opened the Learning World

- **Web Searching in the World of e-Books (i.e., Darwin)**
- **Enormous E-Learning and Blended Learning**
- **Availability of Open Source and Free Software (e.g., Moodle)**
- **Leveraged Resources and OpenCourseWare (e.g., MIT)**
- **Learning Object Repositories and Portals (i.e., shared content)**
- **Learner Participation in Open Info Communities (YouTube)**
- **Electronic Collaboration and Interaction (sync and async)**
- **Alternate Reality Learning (Online Massive Gaming, Simulations, and Virtual Worlds; e.g., Second Life)**
- **Real-Time Mobility and Portability (e.g., iPhone)**
- **Networks of Personalized Learning (Blogs, RSS)**

Three Larger Trends of WE-ALL-LEARN

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

The Ten Forces that Flattened the World

1. **Web Searching (e.g., Google, MSN, Yahoo!) in the World of e-Books (i.e., Darwin, Shakespeare, etc.)**



First we need the pipes!

A Blueprint for Big Broadband. An EDUCAUSE White Paper, by John Windhausen Jr., President, Telepoly Consulting, January 2008

A. ITU Broadband Rankings

The International Telecommunications Union (ITU) recently opened a new website portal, the ICT “Eye,” containing extensive information on each country’s telecommunications capabilities each year since 1999.²⁴ In comparing the international rankings according to the number of broadband subscribers per 100 people, this information shows that the United States rank dropped every year since 1999:

Year	U.S. International Rank—Broadband Subscribers per 100 People:
1999	3 rd
2000	5 th
2001	7 th
2002	11 th
2003	15 th
2004	18 th
2005	19 th
2006	20 th

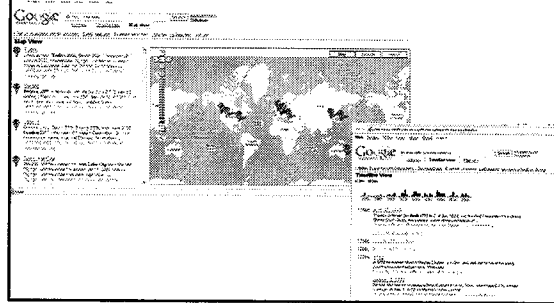
²⁴ See <http://www.itu.int/ITU-D/ICTE/indicators/indicators.shtml>.

**Second, we need new ways to record info:
Smartpens: "Never Miss a Word"**



Livescribe puts a computer inside a plump ballpoint pen. NY Times, May 30, 2007, MIGUEL HELFT, Take Note: Computing Takes Up Pen, Again (February 6, 2008, Wired Campus, Online Chronicle of Higher education. Andrea Foster)

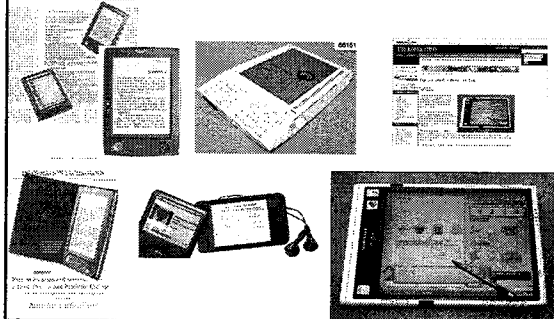
**Need new ways of representing & accessing info
(e.g., Google is working on Timeline and Map Views)**



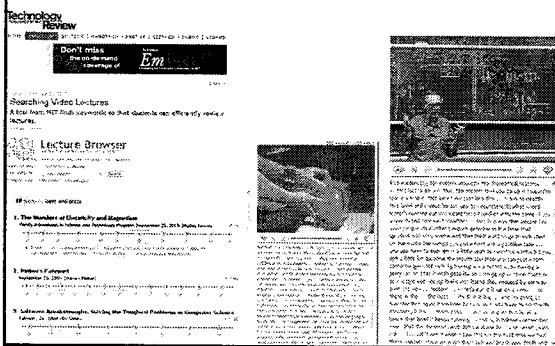
**Next, we need new ways to search
for that info in those pipes!**



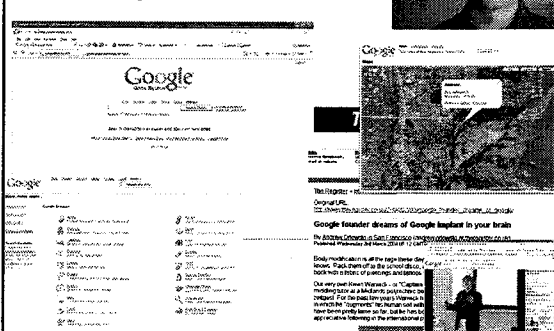
**New ways to read information
(e.g., Thinner, Crisper, and Cheaper
eBooks; Kindle = \$400-500)**



New Ways to Find Lectures



**Maybe we need a special Google
chip in our brains!**



Much New Content (e.g., books) is now Available for Free!

The Open Content Alliance (OCA) is a coalition of over 100 leading digital content providers, including Google, Microsoft, and the University of Michigan. The OCA's mission is to make digital content available for free to anyone with an internet connection. This includes books, journals, and other digital content. The OCA's content is available through the Open Content Alliance Digital Library (OCADL).

Read, Listen, etc. to "An International Episode" by William James

This digital library interface allows users to access the book "An International Episode" by William James. The interface shows the book cover and provides options to read, listen, or watch the content. The book is available in multiple formats, including PDF, audio, and video.

All of Darwin's and Shakespeare's Works are Online

This website features the Google Books interface, displaying a collection of books by Charles Darwin and William Shakespeare. The interface includes search bars, book covers, and detailed information about each work. The books are available for free access and download.

Digital History Project (University of Houston)

The Digital History Project website from the University of Houston provides a comprehensive digital archive of historical documents and images. The site features a map of the United States and various historical documents, including letters, diaries, and official records. The project aims to make these historical resources accessible to a wider audience.

Free Books on Online Learning

Terry Anderson, Athabasca University

"Our Creative Commons licensed book Theory and Practice of Online Learning has been downloaded over 55,000 times (full text) and more by individual chapters. Parts have been translated into 6 languages and we are nearly sold out the 500 copies we printed at \$50 a pop. So it is quite a success story." (Oct 2005) Update: 10,700 downloads, of which 6,003 were full book downloads; January 2008.

- Anderson, Terry & Fathi Elkoumi (Eds). (2004). Theory and practice of online learning. Canada: Athabasca University. http://cde.athabascau.ca/online_book/

Global Text Project (free textbooks for those in less developed countries)

<http://globaltext.org/>

The Global Text Project website provides a collection of free textbooks for students in less developed countries. The site features a list of textbooks with their covers and titles, including subjects like mathematics, science, and social studies. The project aims to provide quality educational resources to students who may not have access to traditional textbooks.

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

The Carlyle Letters Online is a digital archive of letters and diaries from the Victorian era. It features a search interface and detailed views of individual documents, such as the diary of Samuel Pepys.

The Ten Forces that Flattened the World

2. Enormous E-Learning and Blended Learning

EDUCATION with Student 2006

Students prefer online courses

Classes popular with on-campus students

By G. Jeffrey MacDonald, Special for USA TODAY, November 2007

Left: Study sheds light on part of the problem. South Dakota, by comparing to class isn't the problem. Start the learning process, and wants more during the day to restore the day.

Right: Study sheds light on part of the problem. South Dakota, by comparing to class isn't the problem. Start the learning process, and wants more during the day to restore the day.

Total and Online Enrollment in Postsecondary Institutions

Fall 2002 through Fall 2006
(for Degree-Granting Institutions)

	Total Enrollment	Annual Growth Rate Total Enrollment	Students Taking at Least One Online Course	Annual Growth Rate Online Enrollment	Online Enrollment as Percent of Total Enrollment
Fall 2002	16,611,710	NA	1,602,970	NA	9.7%
Fall 2003	16,930,479	1.7%	1,971,397	23.0%	11.7%
Fall 2004	17,272,043	2.2%	2,329,733	18.2%	13.5%
Fall 2005	17,428,500	0.9%	3,180,050	38.5%	18.2%
Fall 2006	17,647,720	1.3%	3,486,551	9.7%	19.8%

SOURCE: Online Issues: Five Years of Growth in Online Learning (October 2007)

Sara Cordell, professor of English at the University of Illinois-Springfield, says she feels online students become better writers because they get so much practice. NPR Special, Nov 29, 2007, Larry Abramson. (67% of US Colleges and universities offer online courses; 35% offer fully online programs.)

'Distance learning' gets its close-up

By G. Jeffrey MacDonald, Special for USA TODAY, November 2007

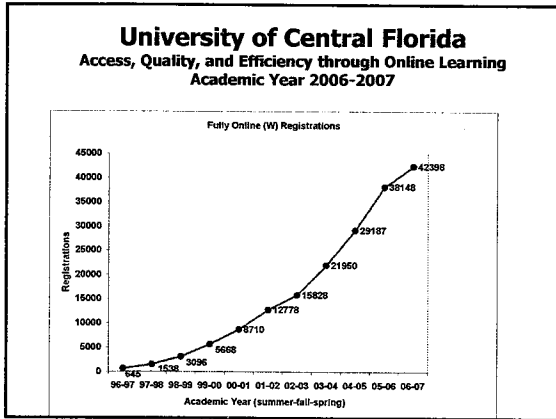
- More than two-thirds of all U.S. colleges and universities offer online courses, and 35% of schools offer programs that are entirely online, according to the Sloan survey, and 20% of the USA's 17 million college students say they have taken at least one course online.

FLORIDA'S ONLINE BOOM

Year	Enrollment
2002	77
2003	277
2004	639
2005	2,817
2006	6,785
2007	9,928
2008	12,823
2009	26,816
2010	37,914
2011	56,883

Global Campus

The Global Campus website features a variety of content, including articles, photos, and navigation menus. It appears to be a digital platform for a university or educational institution.



The Open Univ Malaysia

(Abtar Kaur, 2005, Ed Media)

- Started August 2001 : approx. 800 students
- Total students (2005): approx. 33,000
- Total full-time academic staff : 60
- Total part-time academic staff (tutors) : approx 3,000
- 33 Learning Centres (7 Regional Centres)
- Pedagogical approach : Blended Learning

The Ten Forces that Flattened the World

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


Moodle

The Sakai Project

The Ten Forces that Flattened the World


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

Do You Share?



1. Who has shared information found in Wikipedia or shared a link in YouTube?
2. Who has used online phone services such as Skype or Google Talk?
3. Who has arranged for online guest experts or embedded international exchanges?
4. Who has used collaborative software? (Google Groups, Yahoo Groups, Sharepoint)
5. Who has used MERLOT, Connexions, or the MIT open courses?

Most are Scared to Share!!!



Cape Town Open Education Declaration December 2007

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

THE CAPE TOWN OPEN EDUCATION DECLARATION

Read the Declaration

Cape Town Open Education Declaration
Honoring the promise of open educational resources

We, the undersigned, recognize the power of open educational resources to transform education and to provide a pathway to a more equitable and sustainable world. We believe that open educational resources are a key to a more equitable and sustainable world. We believe that open educational resources are a key to a more equitable and sustainable world. We believe that open educational resources are a key to a more equitable and sustainable world.

OPEN SOCIETY INSTITUTE

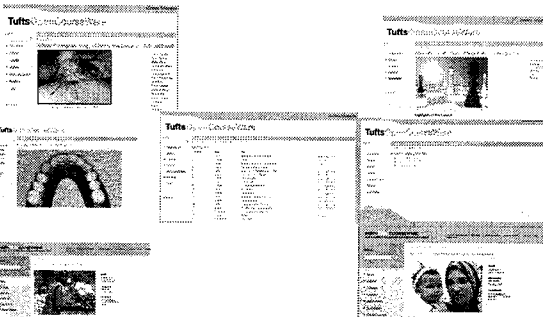
eduCommons (free tool from Utah State University to post your courses online)



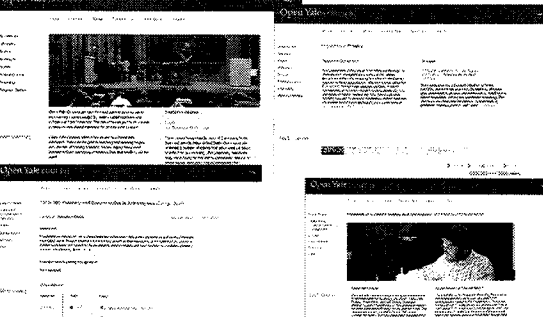
The eduCommons is a free tool from Utah State University to post your courses online.

eduCommons is an Open Source Management System designed specifically to support OpenCourseWare projects. It is a free tool from Utah State University to post your courses online. It is a free tool from Utah State University to post your courses online. It is a free tool from Utah State University to post your courses online.

Tufts OpenCourseWare Project



Open Yale



Vietnam Fulbright Economics OCW

The screenshot shows a website for the Vietnam Fulbright Economics Online CourseWare. It includes a header with the title, a navigation menu, and a main content area with text and several small portraits of individuals.

National Repository for Online Courses (NROC) Commons

The screenshot shows the National Repository for Online Courses (NROC) Commons website. It features a header with the title, a navigation menu, and a main content area with text and several small images.

**Per David Wiley, Utah State University
(October 2005)**

“This is a message that should probably get out, also - not only is this movement worldwide and gaining momentum every day, it is also becoming a key part of international strategy to achieve equitable access to education for people everywhere.”

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

The screenshot shows the Opensource Opencourseware Prototype System (OOPS) website. It features a header with the title, a navigation menu, and a main content area with text and several small images.

What's their Beliefs? (Chu, Jan 1, 2007)

- **Collective Minds is better than a single genius translator.**
- **Perfect Translation doesn't exist.**
- **2,012 Volunteer translators** The Biggest OCW Localization Volunteer Group in the World
- **1,125 courses adopted**
- **639 courses near completion (level 1)**
- **126 courses already finished**

The screenshot shows the OOPS website with a list of courses and a photo of two people. The text is in both English and Chinese.

MIT OpenCourseWare Highlights for High School

The screenshot shows the MIT OpenCourseWare website. It features a header with the title, a navigation menu, and a main content area with text and several small images.

The Ten Forces that Flattened the World

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

The Learning World is Flat

National Geographic Investigates

CNN Videos

doFlick (instructional videos in science, engineering, and technology from the Univ of Maryland)

Uchannel (Princeton University's Web-Video network that pulls together audio and video recordings of campus talks)

Research Channel (broadcasts videos of campus lectures and presentations in a variety of formats; reaches 30 million homes in USA)

Pubcasts!

NSF, the Public Library of Science, and the San Diego Supercomputing Center created a YouTube for scientists to help demystify important research papers. See SciVee <http://www.scivee.tv/>

Alive and Online

From amoebas to zebras, every living thing will get its own Web site, thanks to the new **Encyclopedia of Life**.
By Brian Braiker, Newsweek, Updated: 6:54 p.m. ET May 9, 2007
Goal = to inspire a generation of scientists!

Yeti Crab: This recently discovered species already has its own sample page at eol.org

What if K-2 teachers could have free reading instruction at their fingertips? See free-reading.net

http://free-reading.net/index.php?title=Main_Page

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

Herald Times, Wednesday
February 6, 2008
Mike Leonard

Referatory: MERLOT.org

Repository: Connexions (Rice University) <http://cnx.rice.edu/>

Matter: anything that has mass

Chemistry involves the structure and transformation of matter

Chemical reactions: A process in which a reactant or substances are converted into a product or products.

Reactants: CH4 + 2O2 → Products: CO2 + 2H2O

K-12 Content: Global Education and Learning Community (GELC)

(Kirkpatrick, Dec 22, 2006, CNN Money)

- The Global Education and Learning Community (GELC) aims to bring the principles of open source to education. Scott McNealy, former CEO of Sun Microsystems, is working to create a free universal curriculum from Kindergarten to 12th grade in every major subject. Any educator/researcher can contribute and it will be in any language.

Google School Resources such as Google Docs and Spreadsheets, an open alternative to Microsoft's Word and Excel

Google enrolls teachers in online software crusade

Dec 3, 2006, USA Today
Michael Liedtke, Associated Press
Google enrolls teachers to spread work online software crusade

Palo Alto High School journalism teacher Esther Wojcicki helps student Allison Wyndham at a computer during journalism class in Palo Alto, Calif. Wojcicki is helping Google bring its online suite of software applications to classrooms across the country

The Ten Forces that Flattened the World

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

The Learning World is Flat

Slashdot and Digg (all about user powered content. Everything is submitted and voted on by the Digg community. Share, discover, bookmark, and promote stuff) <http://digg.com/>

USA TODAY, Oct 24, 2007, Traffic rose about 330% to 5.6 million visitors in Sept, from 1.3 prior Sept,

VIDEO AWARDS THE 2006 WINNERS!

YouTube Biggest success

