



**Technology trends opening access to education worldwide:
Now, we all can learn!**



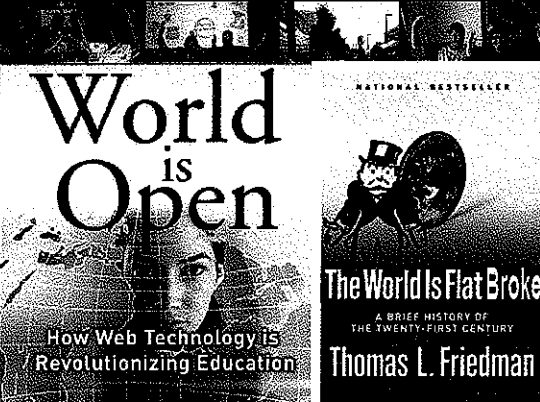
Curtis J. Bonk, Professor, Indiana University
President, SurveyShare
cjbonk@indiana.edu
<http://php.indiana.edu/~cjbonk>



The Ten Forces that Flattened the World

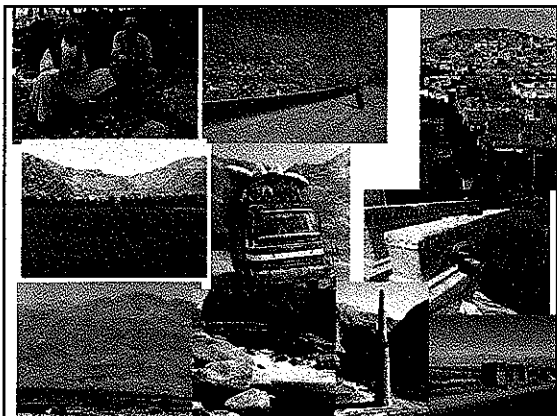
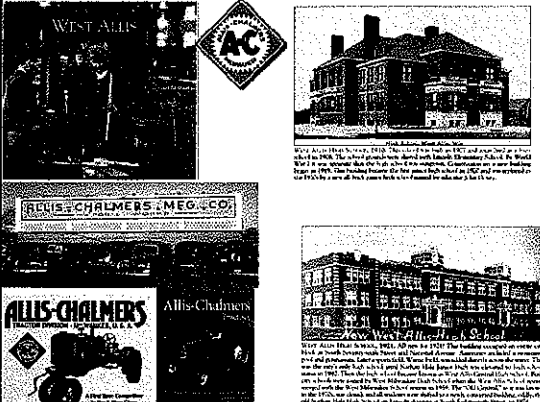
Triple Convergence: (1) new economic players, (2) playing fields, and (3) processes.

- 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 collob communities; Mosaic, Apache, Wikipedia, Linux, Mozilla)
- Outsourcing (Y2K)
- Offshoring (e.g., China, Mexico, Thailand)
- Supply-Chaining (e.g., Walmart)
- In-sourcing (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)**

World is Open
NATIONAL BESTSELLER
How Web Technology is Revolutionizing Education
Thomas L. Friedman

The World Is Flat Broke
A BRIEF HISTORY OF THE TWENTY-FIRST CENTURY
Thomas L. Friedman

WEST ALLIS

ALLIS-CHALMERS MEGACOR

ALLIS-CHALMERS

ALLIS-CHALMERS

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



WE-ALL-LEARN:

Ten Forces that Opened the Learning World

- Web Searching in the World of e-Books (i.e., Darwin)
- 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)



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.



4th P? Processing Speed

Scientists develop fastest computer
June 9, 2008, H. JOSEF HEBERT, AP

- To put the computer's speed in perspective, it has roughly the computing power of 100,000 of today's most powerful laptops stacked 1.5 miles high, according to IBM. Or, if each of the world's 6 billion people worked on hand-held computers for 24 hours a day, it would take them 46 years to do what the Roadrunner computer can do in a single day.



5th P? ...Pointing!



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!!!

OPERATION TECHNOLOGY

Memphis Book Search Project Has a Bright Future

Google

Newsweek

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

Global Text Project (free textbooks for those in less developed countries) <http://globaltext.org/>

GLOBAL TEXT PROJECT

WANT TO BE A VOLUNTEER TODAY?

MISSION STATEMENT

THE PROJECT IS AN OPEN SOURCE PROJECT THAT PROVIDES FREE TEXTBOOKS TO STUDENTS IN DEVELOPING COUNTRIES AND TO STUDENTS WHO ARE UNABLE TO AFFORD THE COST OF A TEXTBOOK.

Opener #2. E-Learning and Blended Learning

The Learning World is Open

EDUCATION with TECHNOLOGY

Students prefer online courses

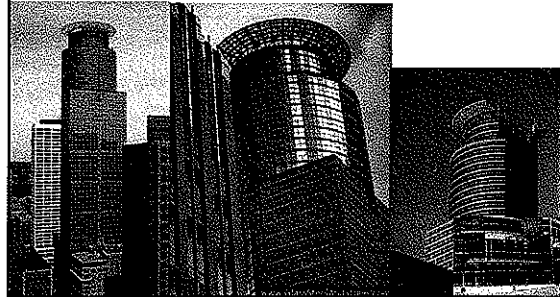
Direct Air Drive

Detroit Free Press

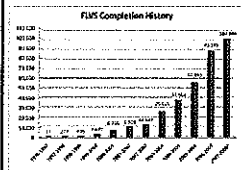
**Trend #2. E-Learning and Blended Learning.
What happens then?**

**WE
ALL
LEARN!!!**

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



**Growth of Online Learning in
Secondary Schools
(Florida Virtual School; AP American History)**

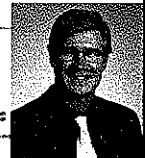
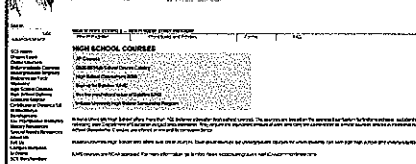


GlobalSchoolNet.org
Florida Virtual School



**Indiana University High School
4,000 students and 1,400 enrolled in diploma
programs (interest from China, India, and Nigeria as
well as military and adults who never completed a high
school degree)
(per Bruce Colston, Director of IUHS, Oct 2008)**

INDIANA UNIVERSITY
High School



The Voyages of S/V room

2006 VOYAGE
ARACAJU, BRAZIL TO CHARLESTON, SOUTH CAROLINA

(The following was originally written in September, 2006 and was originally the homepage of the "The Voyages of S/V room" website. It is now the homepage of the "The Voyages of S/V room" website.)

**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	18,930,479	1.7%	1,871,337	23.0%	11.7%
Fall 2004	17,272,043	2.2%	2,328,733	18.2%	13.5%
Fall 2005	17,428,500	0.9%	3,180,050	36.5%	18.2%
Fall 2006	17,647,720	1.0%	3,488,931	6.7%	19.8%

SOURCE: Online Notes: 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.)



Free and Open Courses
 (Connectivism from George Siemens and Stephen Downes, 24 enrolled, 2,000+ sitting in)

The image shows a screenshot of a course page. At the top, it says 'Free and Open Courses (Connectivism from George Siemens and Stephen Downes, 24 enrolled, 2,000+ sitting in)'. Below this is a video player showing two men, George Siemens and Stephen Downes, with the title 'CONNECTIVISM & CONNECTIVE KNOWLEDGE'. To the left is a 'Knowing Knowledge' logo. Below the video is a sidebar with 'Connectivism' and 'History of Open Content' sections.

A Grain of Rice: A Bloomington man's computer vocab game feeding the world
 Herald Times, Wednesday
 February 6, 2008
 Mike Leonard

The image is a collage. On the left is a newspaper clipping titled 'A GRAIN OF RICE' with a photo of a man. On the right is a screenshot of a game interface for 'Rice'. The game interface has a title bar 'Rice' and a subtitle 'For each word you get right, we donate 10 grains of rice through the United Nations to help end world hunger'. It includes a 'Vocabulary' list, a 'Word Bank' section, and a 'Word' field. Logos for 'Office DEPOT', 'Rice', and 'Izclabome' are visible at the bottom.

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

The image shows a man in a white lab coat standing next to a door. The door has a sign that says 'OPEN'. To the right of the door are two small illustrations of lightbulbs. In the top right corner, there is a small logo with the text 'The Learning World is Open'.

Trend #3. Availability of Open Source and Free Software. What happens then?

WE

ALL

LEARN!!!

Moodle (400,000 registered users in 193 countries speaking 73 languages)

The image is a screenshot of the Moodle website. It features a 'Community Growth' section with a line graph showing an upward trend. Below the graph are statistics: 'Registered users: 400,000', 'New users in the past 24 hours: 454', 'Featured users selected in past 24 hours: 759', and 'Registered users selected in past month: 2469'. To the right is a grid of many small user avatars.

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

The image contains several elements. On the left is a cartoon character holding a stack of books. In the center is a person sitting at a desk with a computer. On the right is a sign that says 'OPENING UP EDUCATION' with the text 'The Gateway to Education of the Future through Open Learning, Open Content, and Open Knowledge'. Below the sign is a small logo with the text 'The Global and Local Education'.

National Repository for Online Courses (NROC) Commons

COMMONS
OPEN EDUCATIONAL RESOURCES

WELCOME TO A WORLDWIDE LEARNING NETWORK

Join a worldwide learning network of educators and learners, networked, offering a broad selection of materials that are free and open to all.

How do you use it? You can find materials for your course, or you can contribute your own. You can also find materials for your course, or you can contribute your own.

What materials are available? We have a wide range of materials, including textbooks, lecture notes, and more. We have a wide range of materials, including textbooks, lecture notes, and more.

How do you use it? You can find materials for your course, or you can contribute your own. You can also find materials for your course, or you can contribute your own.

Peer 2 Peer University Unusual New Online University Will Rely on Volunteer Teachers, October 20, 2008

http://chronicle.com/wiredcampus/article/3402/unusual-new-online-university-will-rely-on-volunteer-teachers?utm_source=at&utm_medium=ad

THE PHILOSOPHY OF HIGHER EDUCATION
The Wired Campus
Education technology news from around the Web
October 20, 2008

Unusual New Online University Will Rely on Volunteer Teachers

In the new P2P University an answer to a quality education is not a degree but an invitation to try to get some of our resources about open education in the best by creating a whole new model of online education.

P2P The Peer 2 Peer University

Peer 2 Peer University is a new online university that will rely on volunteer teachers to provide education. The university will be open to all and will offer a wide range of courses. The university will be open to all and will offer a wide range of courses.

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

The Learning World is Open

From left, three views of a fragment of one of the Dead Sea Scrolls: a plain digital image, a color scan and an infrared scan.

August 27, 2008, Israel to Display the Dead Sea Scrolls on the Internet, By ETHAN BRONNER, The New York Times

The Complete Works of Charles Darwin

Charles Darwin
The Complete Works of Charles Darwin Online
A Darwinian, Victorian, Scientific, Cultural, Social

Contents

Introduction

Contributors

Project Co-ordinators: Peter H. Raven, University of Cambridge and Peter H. Raven, University of Cambridge

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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>

Google Sky

Google Sky

Google Sky

Tracking Live Internet Thawing: A Colossal of an Idea

Deep-Sea Behemoth
Captain John Bennett examines the world's first intact adult male colossal squid on board his New Zealand fishing boat in February, 2007, in the Ross Sea near Antarctica. The gigantic sea creature weighs a world record 1,069 pounds. After being frozen whole for over a year, scientists at New Zealand's national museum will thaw the squid for further study.

Referatory: MERLOT.org (62,000 members, 20,000 learning materials)

The screenshot shows the MERLOT.org homepage. At the top, there's a navigation bar with 'Home', 'About', 'Help', and 'Contact Us'. Below that, a large banner area features several featured learning materials with thumbnails and titles. A sidebar on the right contains 'Featured by Subjects to Explore' and 'MERLOT Learning Materials'. The footer includes 'MERLOT Learning Materials' and 'MERLOT Learning Materials'.

Repository: Connexions (6,000+ modules, Rice Univ) & Curriki (K-12, Sun Micro)

The screenshot shows the Connexions website. The main content area is titled 'Connexions' and lists various modules with titles like 'Introduction to Psychology' and 'Introduction to Biology'. A sidebar on the right contains 'Connexions & Curriki' and 'Connexions & Curriki'. The footer includes 'Connexions & Curriki' and 'Connexions & Curriki'.

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

The collage includes several elements: a 'The Learning World is Open' logo, a screenshot of a Slashdot page with the text 'This is the...', a screenshot of a Digg page, and a photograph of a group of people sitting at a table, possibly in a classroom or meeting setting.

Wikis: Wikipedia and Wikibooks

The screenshot shows the Wikipedia main page. The top section is titled 'WIKIMEDIA' and 'WIKIPEDIA'. Below that, there's a 'Web 2.0 and Emerging Learning Technologies' section with a 'Web 2.0' logo and a lightbulb icon. The sidebar on the right contains 'Wikimedia' and 'Wikimedia'.

Individual Produced Videos (e.g., African School Dream in CurrentTV) http://current.com/items/77146082_african_school_dream

The screenshot shows a YouTube video player. The video title is 'THE ROYAL CHANNEL THE OFFICIAL CHANNEL OF THE BRITISH MONARCHY'. Below the video player, there are three smaller video thumbnails with titles like 'The Queen Visits Google London'.

Individual Produced Videos (e.g., African School Dream in CurrentTV) http://current.com/items/77146082_african_school_dream

The screenshot shows the CurrentTV website. The main content area is titled 'current' and features a video player with a play button. Below the video player, there's a 'YSP Activity' section with a 'YSP Activity' logo and a lightbulb icon. The sidebar on the right contains 'CurrentTV' and 'CurrentTV'.

http://www.usatoday.com/tech/products/2008-10-23-youtube-tv-episodes_N.htm

hulu TV Movies

TALKING TECH



Jefferson Graham talks to YouTube CEO Jim Hoffer and product manager Juri Wak about the...

the office

YouTube expands its horizons, and its time limits for videos

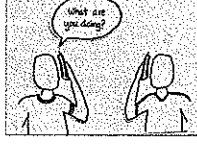
She branches out into long-form TV shows

By Brian Lee

NEW YORK — YouTube CEO Jim Hoffer and product manager Juri Wak are excited about the company's new TV service, YouTube TV, which is set to launch in the next few weeks. The service will allow users to watch full-length TV episodes, including those from the hit comedy "The Office," on the YouTube platform.

OSUB BETA

Twitter in Plain English



A short overview of the non-logging service. This is a beta version of the service. It is not intended for production use. It is a beta version of the service. It is not intended for production use.

Our product is explained.

TECHNOLOGY


FORBES.COM HOME • TECHNOLOGY

Sony Shows Off Paper-Thin, Bendable Video Display

Monday, July 25, 2011

Advanced Photo

EMAIL STORY: POWER FRANKY VERSION



TECHNOLOGY HOME
PERSONAL TECHNOLOGY
VIDEO GAMING
CYBERSECURITY & PRIVACY
SMARTPHONES
CONSUMER ELECTRONICS SHOW
NEWS ARCHIVE
HOT TOPICS
 MOBILE • PC • VIDEO • GAMES • SECURITY • ELECTRONICS • SOFTWARE • BUSINESS • ENERGY • GREEN • SCIENCE • SPACE

Although that panel isn't a public show, a display that is 0.1mm thick is a first. Sony said it has yet to decide on commercial products using the technology.

THE FUTURE OF THE INTERNET AND HOW TO STOP IT

Jonathan Zittrain

Washington Post

The Future of the Internet - And How to Stop It

Jonathan Zittrain


Think Outside the Book

Washington Post

Brand New E-Book and Print book Opening Up Education

New Edited Book from MIT (free PDF, sample chapters, and hardcopy)

<http://mitpress.mit.edu/catalog/item/default.asp?type=2&tid=11309&mode=toc>



OPENING UP EDUCATION

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

Edited by Terry Fitzpatrick and M.S. Vijayar Kiataram

UNLOCKING KNOWLEDGE

Self-Publishing (print-on-demand) BookSurge (owned by Amazon), Lulu

authorhouse Lulu

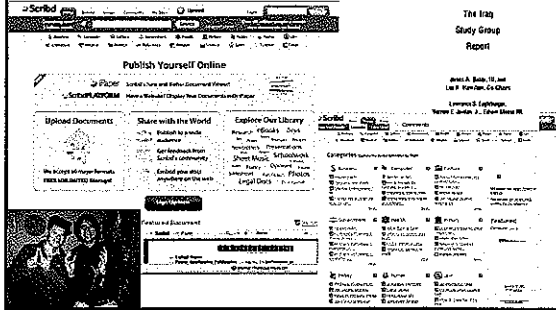
Managed Health Care

Publish Sell Buy

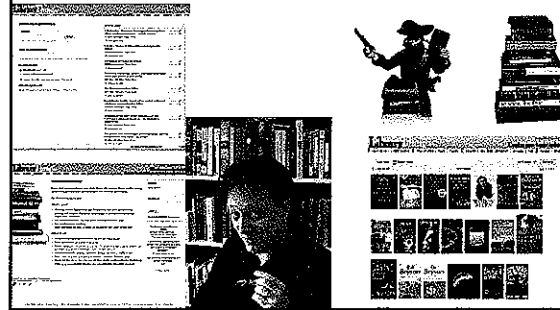
Lulu's new services will get you on your way.

Featured Products

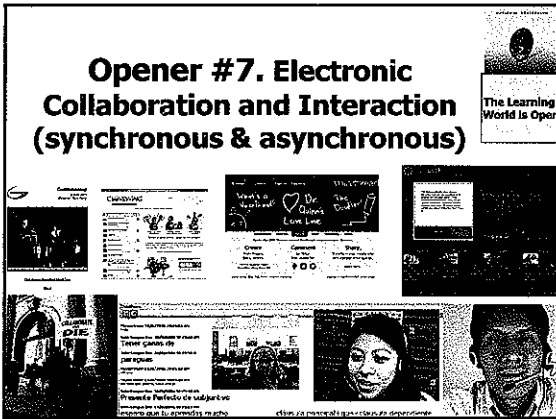
Posting Documents on Web
 Scribd: <http://www.scribd.com/>; 21 million
 unique visitors per month, May 2008



World's Largest Online Book Club
 LibraryThing (you can be a "thingamabrarian"
 400,000 users and 26 million books)



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

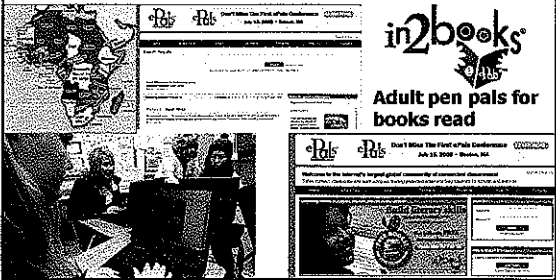


1kg More Project for Rural China
 (<http://www.1kg.org/>)



EPals has for-profit and nonprofit arms.
 Candace Pauchnick, standing, uses its tools in her class.

By **STEVE LOHR**
 Published: February 24, 2008
 New York Times
<http://www.nytimes.com/2008/02/24/business/24social.html>



Opener #8. Alternate Reality Learning (Online Massive Gaming, Simulations, and Virtual Worlds; e.g., Second Life)

Lively

Create an avatar and chat with your friends in rooms you design

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

Terabyte thumb Drives and Magic Pens!
(The Pulse from Livescribe)
Second, we need new ways to record info:
Smartpens: "Never Miss a Word"

Wireless in Africa and Pocket School in Latin America (Paul Kim, 2008)
<http://www.receiver.vodafone.com/mobile-learning-in-developing-countries>
 Traxler, John (in press). Mobile learning in "developing" countries—not to different. *Vodafone Receiver*. See <http://www.receiver.vodafone.com/>

OLPC in Nigeria: School Galadima
One Laptop Per Child foundation (OLPC) provided School Galadima in March 2007 with an XO laptop for each child in Primary 4, 5 and 6 and also for each member of the staff.

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

The Learning World is Open

TutorVista has 600 tutors in India and 10,000 subscribers in the United States, including Kenneth Tham in Arcadia, Calif.

Learning Towns are Popping up!

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

The World is Open. What happens then?

Now WE-ALL-LEARN with Web Technology

WE ALL LEARN!!!

BONK! Your skeletal muscles' maximum burn rate is double that of your brain. Think about it.