


**Learning World Is Open:  
How Web Technology is Revolutionizing Education**

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**World Open**

## 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)





## Oregon Scientific Smartglobe 2008

**UCLA blogs to offer front-row seat at archaeology digs**  
By Meg Sullivan, 6/25/2008  
<http://newsroom.ucla.edu/portal/ucla/dig-in-archaeology-fans-52202.aspx>

**Zac Sunderland** (age 17, departed from Marina Del Rey, Ca, June 14, 2008; youngest person to sail solo around the world...and blog on it, use Skype, YouTube, take videos, post pictures)

**Zac on Skype with Toby** after realizing that Toby is wearing one of his hats to which Toby's reply was "Nearer, nearer, nearer. You can't catch me!"

**THURSDAY, JUNE 11, 2009**  
**Another Sleepless Night**  
**Position: 06/11/09 1719Z 15 20.858N 97 04.512W**

I managed to get everything sorted out in Huatulco and was out of the marina by about 1:00 in the afternoon. I weaved my way out of the tricky entrance by following my old track on the chart plotter. When I got out of the harbor I got slammed by 15 knots on the nose once again keeping me from where I wanted to go.

I tacked out to sea and picked out some way points to route me around the maze of sea mounts about 8 miles offshore. After a couple of hours of sailing along, my radar started to pick up a huge patch of squalls about 10 miles off of my bow. I went into the cockpit to take a look and the whole horizon was blackened by the approaching squalls and the lightning was lighting up the sky.

**Learning at the Back Door**  
 REFLECTIONS ON NON-TRADITIONAL LEARNING IN THE LIFESPAN  
 Charles A. Wedemeyer

**ALLIS-CHALMERS MFG. CO.**  
**ALLIS-CHALMERS**  
 TRACTOR DIVISION

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

**Learning at the Back Door**  
 REFLECTIONS ON NON-TRADITIONAL LEARNING IN THE LIFESPAN  
 Charles A. Wedemeyer

**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)

The Learning World is Open

World is Open

## 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.



The Learning World is Open



## 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!!!



**Norm Kamikow**

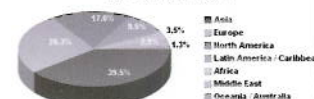
Editor in Chief, CLO, April 2009, page 4

- Recently, I read a startling statistic: More than 53 trillion digital pages will exist online by 2010.
- I found this metaphor, based on commonly accepted measures of time, explaining order of magnitude between a million, a billion and a trillion. A million seconds was 12 days ago. A billion seconds ago, it was roughly May 1977, a span of 32 years. A trillion seconds ago, the Stone Age started.

### World Internet Penetration Rates by Geographic Regions



### World Internet Users by World Regions



Source: Internet World Stats - [www.internetworldstats.com/stats.htm](http://www.internetworldstats.com/stats.htm)  
1,463,632,361 Internet users for June 30, 2008  
Copyright © 2008, Minnow Marketing Group



### Free Online Books

(Terry Anderson and Fathi Elloumi. eds. *Theory and Practice of Online Learning*; Canada: Athabasca University. 2004), [http://cde.athabascau.ca/online\\_book/](http://cde.athabascau.ca/online_book/), 55,000 downloads in first year)

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

<http://globaltext.org/>

### Digital Textbook in Korea

dictionary, email and forums, games, simulations, hyperlinks, multimedia, authoring, data search, study aids, evaluation, etc. (112 schools as of 2009; free for all schools by 2013)

<http://www.dtbook.kr/eng/index.jsp>

[http://teachertube.com/members/viewVideo.php?video\\_id=105496&title=Digital\\_Textbook\\_in\\_Korea](http://teachertube.com/members/viewVideo.php?video_id=105496&title=Digital_Textbook_in_Korea)

### 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

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

**WE ALL LEARN!!!**

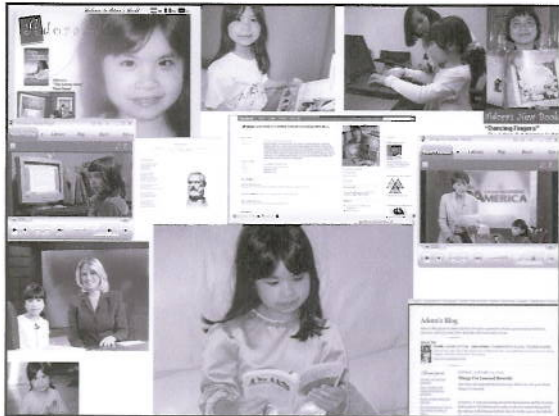
## Capella Tower

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

## 2 Million People Sign up for Part I of Oprah's Course on Spiritualism (skype; 500,000 simultaneous videostreams, March 2008)

## Growth of Online Learning in Secondary Schools

(Florida Virtual School; AP American History)



**An 11-year-old boy graduates from East Los Angeles College with a 4.0 GPA. KCAL's Lisa Sigells reports. Moche Chien**

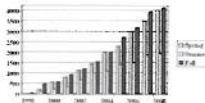


**Total and Online Enrollment in Postsecondary Institutions Fall 2002 through Fall 2006**  
*(For Degree-Seeking Institutions)*

	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	19.6 - 1,710	N/A	1,522,970	N/A	9.7%
Fall 2003	15,900,476	-1.7%	1,371,287	23.0%	11.7%
Fall 2004	17,272,043	2.2%	2,329,783	16.2%	13.5%
Fall 2005	17,428,500	0.9%	3,180,050	26.5%	18.2%
Fall 2006	17,647,720	-1.2%	3,403,021	9.7%	19.3%

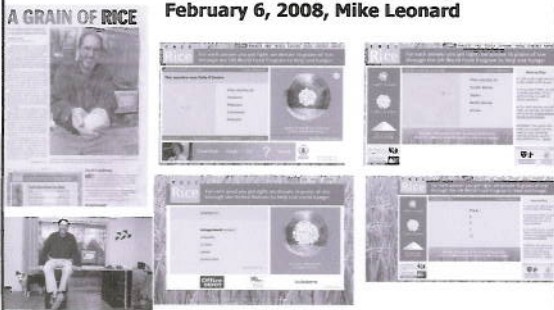
SOURCE: Online Status: The Truth About Online Learning (October 2007)

UIS Online & Blended Enrollment



**Free and Open Courses**  
**(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)**

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



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

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

**WE  
ALL  
LEARN!!!**



**Moodle (620,000 registered users in  
204 countries speaking 78 languages, 2/10/2009)**

**The Sakai Project (over 100 organizations today,  
Sakai Project began in 2004 when Stanford,  
Michigan, Indiana, MIT, and Berkeley)**

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

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

**OpenCourseWare (OCW)  
Cute Kitten or Transformation? (per George Siemens)**

**Wendy Ermold, University of Washington,**  
 scientific programmer and field technician for the Polar Science  
 Center since 1998; with Mike Steele in the study of Arctic  
 Circulation, and the mechanisms controlling it.

**MIT OPENCOURSEWARE**

Highlights for High School

MIT OpenCourseWare: Highlights for High School

Highlights for High School features MIT OpenCourseWare materials that are most useful for high-school students and teachers.

MIT Teachers | MIT Students | Tell us what you think

**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

**Sample OpenCourseWare Projects (Tufts, Johns Hopkins)**

**Indian Institutes of Technology (IIT)**

**National Repository for Online Courses (NROC) Commons**



### Cape Town Open Education Declaration, Dec 2007 <http://www.capetowndeclaration.org/>; Wendy Ermold, is a scientific programmer and field technician for the Polar Science Center

### University of the People (free!)

### 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

### 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 1,089 pounds. After being frozen whole for over a year, scientists at New Zealand's national museum will thaw the squid for further study.

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

### 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>

## The Complete Works of Charles Darwin and Shakespeare

The Complete Works of Charles Darwin and Shakespeare

Contributors

Charles Darwin (grandfather of Charles Darwin), Mary Wolstonecraft Shelley, Robert Browning, John Stuart Mill, Ralph Waldo Emerson, Elizabeth Barrett Browning, and Alfred Tennyson

## Reflection on Online Contents: The Carlyle Letters Exploring Victorian World Through Letters and The Diary of Samuel Pepys, John Evelyn

(Great Plague, Great Fire; Charles Dickens, Erasmus Darwin (grandfather of Charles Darwin), Mary Wolstonecraft Shelley, Robert Browning, John Stuart Mill, Ralph Waldo Emerson, Elizabeth Barrett Browning, and Alfred Tennyson)

The Diary of Samuel Pepys

The Diary of Samuel Pepys

## Referatory: MERLOT.org

(67,000 members, 21,000 learning materials, 2/10/2009)

MERLOT

MERLOT

MERLOT

MERLOT

## Connections Growth, January 2009

>8,000 modules (3-5 pages)  
>425 collections (books and courses)  
*multiple languages*  
engineering, computer science, nanotech, physics, statistics, math, history, music, bio-diversity, botany, bio-info, IP, BRIT, UNESCO, UN, Sigma Xi, ...  
from authors *worldwide*

Usage October 2008  
45 million hits  
2m page views  
1m unique users  
from 200 countries

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

The Learning World is Open

flatworld KNOWLEDGE

cc creative commons

this is me

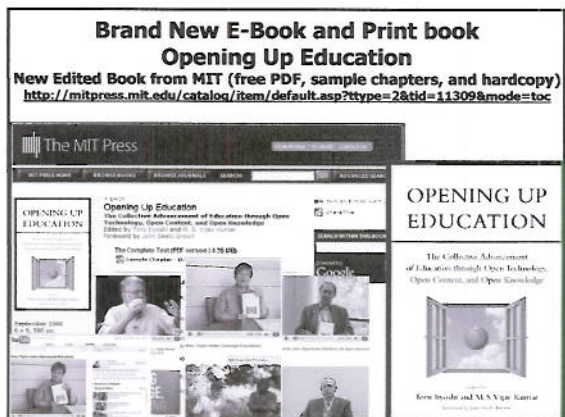
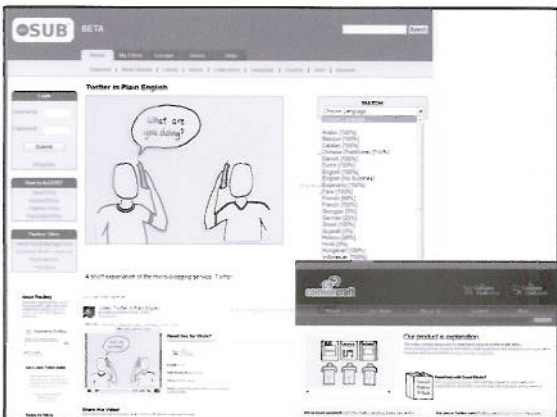
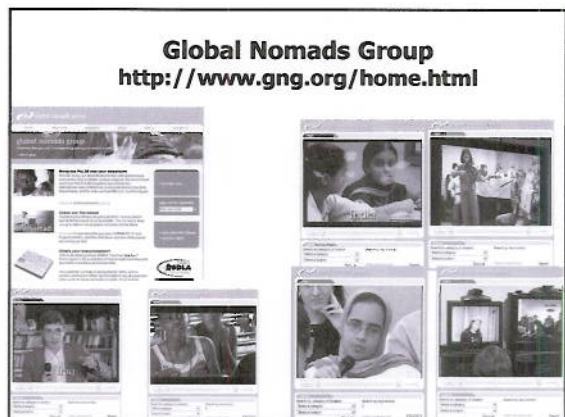
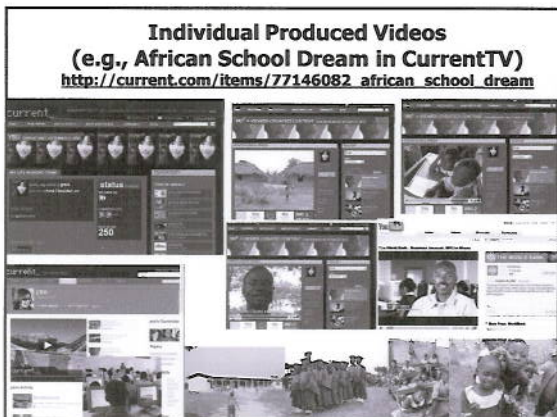
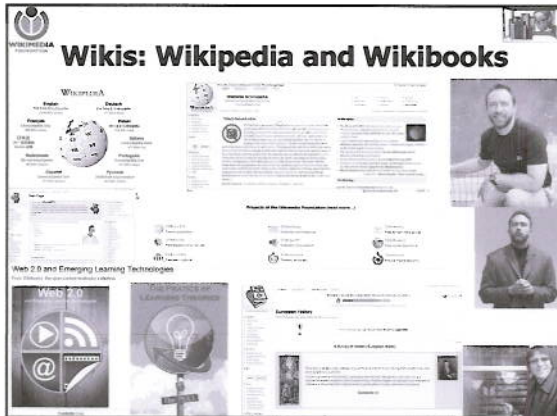
## Conference to Conference (You Ustreamed my Ustream: Now that's a Twitter of an Idea)

LIVE, INTERACTIVE BROADCASTING

Ustream

Ustream

Ustream





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

**LibraryThing: The World's Largest Online Book Club** (you can be a "thingamabrarian;" 500,000 users and 35 million books on member bookshelves)

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

**Chinswing** (audio threaded conversations)

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

**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>

**in2books®**  
 Adult pen pals for books read

**What if your children could interact with explorers in Antarctica?**

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

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

The Learning World is Open

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

The Learning World is Open

totally wireless on campus

**Alexandria in our Pockets! 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)**

Wired Magazine

Terabyte Thumb Drives Made Possible by Nanotech Memory

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

pulse

NEVER MISS A WORD

**TECHNOLOGY**

SONY SHOWS OFF PAPER-THIN, BENDABLE VIDEO DISPLAY

by David S. Lee

Accommodated Press

VIDEO GAMES

2 MAIL STORY PRINTER FRANKS \* VERISON

TOKYO — In the race for ever-thinner displays for TVs, cell phones and other gadgets, Sony may have developed one to beat them all — a paper-thin display that bends like paper while showing full-color video.

Sony Corp. (NYSE:SONY) released images of the new 2.5-inch display Friday.

In a hand operation, it's 0.1 inch thick. The display shows color images of a laughing child and a colorful landscape.

Click here for full picture gallery

Click here for full picture gallery

Although flat-panel TVs are getting thinner, a display that's 0.1 inch thick is still a breakthrough.

Sony said it has yet to decide on commercial products using the technology.

**Mobile Learning (April 21, 2009, USA Today)**

**Ocarina, Leaf Trombone lead big parade of iPhone apps, April 21, 2009, USA Today**

Jefferson Graham

[http://www.usatoday.com/tech/wireless/phones/2009-04-21-apple-iphone-ocarina\\_N.htm](http://www.usatoday.com/tech/wireless/phones/2009-04-21-apple-iphone-ocarina_N.htm)

- Their Ocarina, a 99-cent application that turns the iPhone into a virtual flute, has become one of the iPhone's best-selling apps — to the tune of nearly \$800,000. Now out is the sequel, the Leaf Trombone World Stage.
- "We believe in the potential of interactive sound; we believe that everyone is inherently creative; and we want to unlock that creativity in everyone," says Wang, 31. "We want to find new types of ways to connect people, using the technology we have before us."

**iPods help ESL students achieve success**  
iPod helps transform a classroom. eSchool News, May 11, 2009. By Meris Stansbury.

**By Edward C. Baig, USA TODAY**  
June 9, 2009  
New Apple iPhone 3G S shows promise with speed, battery life

**Mobile Learning and Social Networking**  
(e.g., Mixi, Yayo! Anzai, Professor Japan)

**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/>

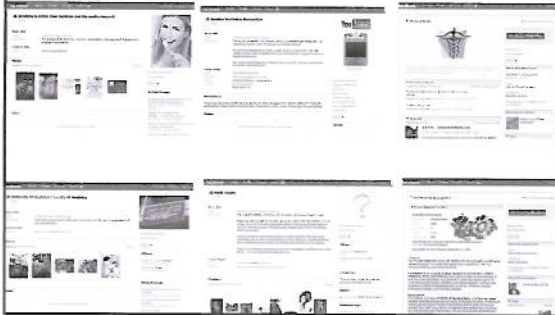
**Africa is Going Mobile!**  
40,000 new mobile subscribers a week in Rwanda; Rwanda Newtimes report, January 2009  
Africa is the continent with the fastest growth, where penetration has soared from just one in 50 people at the turn of the century to 28%. International Telecommunications Union (ITU), March 2009  
**India:** In 2008, 7M new mobile subscribers a month. In January, 2009, the number sky rocketed to 15.4M (Growth was driven by people in the poorest region)  
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](http://news.yahoo.com/s/afp/20090308/bs_afp/Indiaeconomytelecom)

**One Laptop Per Child foundation (OLPC)**  
(How about a \$12 laptop?)

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

## Create a Social Networking Group (MySpace, Facebook, LinkedIn)



## Learning Towns are Popping up!



## Twitter (Micro-blogging)



## 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 ENT

Slides at: TrainingShare.com  
Papers: PublicationShare.com  
Book: <http://worldisopen.com/>  
The World is Open.  
What happens then?

