How the Learning World Became Flat (Open): Ten Knowledge Sharing and Technology Trends Equalizing Access to Learning
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Next Generation of Students
Tech Creates Bubble for Kids
Alejandro Gonzalez, USA TODAY, Updated 6/20/2006 10:34 AM ET

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?

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
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; Mozilla, 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 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?

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 (i.e., 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. International Broadband Rankings

<table>
<thead>
<tr>
<th>Year</th>
<th>U.S. International Broadband Subscribers per 100 People</th>
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<tbody>
<tr>
<td>1999</td>
<td>5</td>
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<td>2000</td>
<td>5</td>
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<tr>
<td>2002</td>
<td>5</td>
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<td>2003</td>
<td>5</td>
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<td>2004</td>
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<td>2005</td>
<td>5</td>
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*See http://www.internationaleducationoutlook.com/ for more information.*
Second, we need new ways to record info: Smartpens: "Never Miss a Word"


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!

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

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

Digital History Project (University of Houston)

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.

http://ode.athabascau.ca/online_book

Global Text Project (free textbooks for those in less developed countries)
http://globaltext.org/
Total and Online Enrollment in Postsecondary Institutions
Fall 2001 through Fall 2006
(For Degree-Granting Institutions)

<table>
<thead>
<tr>
<th></th>
<th>Fall 2001</th>
<th>Fall 2002</th>
<th>Fall 2003</th>
<th>Fall 2004</th>
<th>Fall 2005</th>
<th>Fall 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>14,951,710</td>
<td>16,971,169</td>
<td>18,123,329</td>
<td>19,060,725</td>
<td>19,818,321</td>
<td>20,500,700</td>
</tr>
<tr>
<td>Online</td>
<td>171,175</td>
<td>186,070</td>
<td>231,856</td>
<td>321,215</td>
<td>498,768</td>
<td>716,106</td>
</tr>
<tr>
<td>Total</td>
<td>18,123,329</td>
<td>19,060,725</td>
<td>20,395,185</td>
<td>22,381,940</td>
<td>24,819,089</td>
<td>27,216,806</td>
</tr>
<tr>
<td>Online</td>
<td>231,856</td>
<td>321,215</td>
<td>498,768</td>
<td>716,106</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: National Center for Education Statistics

Sara Cordell, professor of English at the University of Illinois-Springfield, says that online students become better writers because they get more practice. NPR Special, Nov 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 a Sloan survey, and 20% of the USA's 17 million college students say they have taken at least one course online.
The Ten Forces that Flattened the World

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

Moodle
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?

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

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

Tufts OpenCourseWare Project

Open Yale
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."

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
- 1,125 courses adopted
- 639 courses near completion (level 1)
- 126 courses already finished
The Ten Forces that Flattened the World

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

National Geographic Investigates

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

CNN Videos

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

UChannel (Princeton University's Web-Video network that pulls together audio and video recordings of campus talks)
Pubcaste!
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 Brainerd, 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
A Grain of Rice
Herald Times, Wednesday
February 6, 2008
Mike Leonard

Referatory: MERLOT.org

Repository: Connexions (Rice University) http://cnx.rice.edu/
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 Liebel, 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)

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,
Where the Hell is Matt?
http://youtube.com/watch?v=bNF_P281Uu4
Where in Google Earth is Matt?
http://www.youtube.com/watch?v=BJbNuKyp9dY

Karl Fisch
Did You know; Shift Happens – Globalization; Information Age
http://youtube.com/watch?v=ljb1-363A2Q

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

But now there is TeacherTube!
Free Video Lectures (Ustream Tv: http://www.ustream.tv/)

SplashCast: Create own TV Channel

Big Think: contains interviews with academics, authors, politicians, and other thinkers. http://www.bigthink.com/

Global Nomads Group http://www.gng.org/home.html

Make Videos Available for World (see dotSUB)
YouTube at Warp Speed!
http://www.youtube.com/warp_speed

Wikis: Wikipedia and Wikibooks

U.S. senator: It's time to ban Wikipedia in schools, libraries
By Francis Neilson in New York City, 7/15/09

Canada in Wikipedia

Wiktionary

Sample Book (Learning Theories)
http://en.wikibooks.org/wiki/Main_Page

15
Wiki Questions

1. Who regularly reads Wikipedia articles just for fun?
2. Who regularly reads Wikibooks?
3. Who seeks Wikipedia for content?
4. Who has edited or written new articles on Wikipedia or Wikibooks?
5. Who thinks it is ok for college students to cite from Wikipedia?

The Ten Forces that Flattened the World

7. Electronic Collaboration and Interaction (synchronous and asynchronous)

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

Sharing in Virtual Teams (e.g., Collanos, Groove, SharePoint)

Skype, Google Talk, ChinesePod, LiveMocha, VoiceThread, YackPack, Dotsub, Chinswing, and many other Collaborative Language Learning
Expert Mentoring Online in Art and Design
(Omnium Project—online graphics and photomedia project)

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

The Ten Forces that Flattened the World
8. Alternate Reality Learning
   (Online Massive Gaming, Simulations, and Virtual Worlds; e.g., Second Life)

Teaching English, History, Law, Business, Science, Accounting, etc.

Philippine President Now Resides In Second Life
What if your personal in one virtual world (e.g., Second Life) could teleport to another?

The Ten Forces that Flattened the World

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

Singapore and Taipei (Intel Press Release, 2006)

- Singapore, the island city-state in Southeast Asia, is about to complete a major new public/private project that will see large chunks of the 270 square mile city provided with Wi-Fi access by the end of 2008. The entire city, indoors and out, is due to be covered by 2015.
- Taipei, Taiwan (pop. 2.6 million) has a few more—over 4,000 hotspots that provide coverage for 90 percent of the city.

The Age of Wireless

New York Times reporter Andrew Revkin continues doing compelling multimedia work. He's now not only shooting photos and recording audio — he's moved on to video and blogging.

In his latest trip, Andrew C. Revkin headed north to chronicle the shifts on Greenland and researchers' efforts to understand them. He periodically posted dispatches in a blog-like diary.

$100 Laptop

Negroponte says the new laptop is designed to be kid-friendly

The project aims to build peer-to-peer communication

The CM1: Taking technology to the developing world

A revolution in a laptop

Sunday, 13 August 2006, 18:49

Maltese Times
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.

The Ten Forces that Flattened the World
10. Networks of Personalized Learning (Blogs, Podcasts, MySpace, Flickr, and RSS)

Podcast Questions
1. Who has listened to a podcast?
2. Who listens to a certain podcast on a regular basis?
3. Who has created a podcast?
4. Who has created a vodcast?
5. Who thinks podcasting is simply more talking heads?

iPod's More Popular than Beer?
Entice Students with Technology Giveaways

For hot author's latest, get out your headphones, Sept 12, 2007, USA Today, David Lieberman

Audible says the novel—which Deaver describes as "The Day of the Jackal meets The Da Vinci Code"—will be the first major work of fiction created to be introduced only as an audio download.

One of Michelle Tanner's deaf students at Gerald Wright Elementary holds an iPod and watches a video of her signing the week's vocabulary words. The iPods were purchased with a grant from Qwest.

Classrooms go high-tech. By Erin Stewart, Deseret Morning News, March 6, 2007

Student Podcast (in schools—kids have power!)

"Just the word 'podcast' scares a lot of teachers away," Ms. Schrock said. "There are a lot of misconceptions.

"All you need is a computer, access to the Internet and a microphone that you can buy at Toys 'R' Us," Mr. Warlick said. "I listen to podcasts on my computer." (NY Times, Jan 25, 2006)
Get Lectures from Stanford and Berkeley on iTunes

Language Learning (ChinesePod—learn Mandarin)
Jenny Zhu

Englishpod, Spanishpod, JapanesePod, Koreanpod, Arabic online, etc.

Blogging Questions
1. Who has a blog?
2. Who regularly reads other people’s blogs?
3. Who assigns blogging tasks?
4. Who has created a video blog?
5. Who thinks it is an utter waste of time to blog?

Online Photo Albums, e.g., FLICKR
(Inc. Magazine, December 2006)
Social Networking Software
- Classmates: http://www.classmates.com/
- Facebook: http://www.facebook.com/
- Friendster: http://www.friendster.com/
- Friendzy: http://www.friendzy.com/
- MySpace: http://www.myspace.com/
- Orkut: https://www.orkut.com/
- Tribes: http://www.tribe.net/

Facebook (from 2 friends to 50 seemingly overnight; now at 127)

Time for Convergence!!!
Combining Web 2.0 and Other Online Technology Trends (Ten Examples)

1. Flat Schools and Flat Classroom Projects!!!

2. Michelle Selinger, ALT-C Keynote, September 2007, Univ of Nottingham
3. Wikis in Higher Education

4. YouTube Research Group in Facebook

5. Elliott Masie, Learning conference October 2006 and 2007

6. Archive Last Lectures (Randy Pausch, Carnegie Mellon University)

7. Combining The Web 2.0 (e.g., Second Life, Blogging, and Photo Posting) Stephen Mandelbrot

8. Indexing Sounds in Cities with Google Maps
Final Sharing Questions

- For what purpose will people share?
- Who will continue to maintain or update such sites?
- Will online sharing become expected of all faculty members around the planet?
- How will copyright issues be addressed?
- What happens when one did not mean to share his or her course contents or ideas, or, at least, not as widely?
- How will such learning objects of today be viewed in 100 or 200 years?

The End!!!
Learning is Now Flat/Open...
Remember that WE-ALL-LEARN!

Sample papers at: http://www.publicationshare.com/
Archived talks at: http://www.trainingshare.com/