The Flat World Swung Open: How Web Technology Is Revolutionizing Education

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President, CourseShare, LLC
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Audience Poll #1:
Has learning technology ever transformed your life.

1728: 1st correspondence course advertised Boston
(learn shorthand from Caleb Phillips thru weekly mailed lessons)
1728-1990s – Generally postal system based
1930s – phonograph and radio
1950s and 1960s – television
1970s and 1980s – VHS tapes
1980s and 1990s – DVD

February 26, 2013
Tablets Rock On: Education Tech Through The Ages, Information Week,
The First Correspondence Course
(University of London, External Program, 1858)
http://www.informationweek.com/education/leadership/educational-technology-across-the-ages/240149241

William Rainey Harper, first president of the University of Chicago, developed the concept of extended education. Research Univ. had satellite colleges of education in the wider community.

In 1892, he also encouraged the concept of correspondence school courses to further promote education, an idea that was put into practice by Columbia University.

May 10, 2013
10 ed-tech tools of the 70s, 80s, and 90s
eSchool News, Meris Stansbury
http://www.eschoolnews.com/2013/05/10/10-ed-tech-tools-of-the-70s-80s-and-90s/print/
Looking to the Past…

Life as an accountant/CPA in a high tech company in the 1980s...

Took Correspondence & TV Courses
(thanks to Bob Clasen and Charles Wedemeyer, the University of Wisconsin)

Knowledge Navigator (1987)
Apple Computer

Fast Forward 25+ Years…
“Anyone can now learn anything from anyone at any time.”

February 20, 2013
Star Trek-like holodeck may be closer to reality than you think
Matt Hartley, Financial Post, Canada

https://business.financialpost.com/2013/02/20/star-trek-like-holodeck-may-be-closer-to-reality-than-you-think/?__lsa=054d-d58d
November, 2012
Degrees of Difficulty, Time
http://nation.time.com/2012/10/18/degrees-of-difficulty/

Student debt loads are increasing

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage with debt</th>
<th>Average debt (2011 dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
<td>46%</td>
<td>$14,500</td>
</tr>
<tr>
<td>2011</td>
<td>66%</td>
<td>$26,600</td>
</tr>
</tbody>
</table>

Having fewer degrees threatens our global competitiveness

The default rate was 5.0% in 1999. In 2010 it was 9.1%.

September/October, 2012
The Siege of Academy
Washington Monthly, Kevin Carey,

Learning is Changing
New Technologies = New Delivery Methods...

Prehistoric Googling

Tablets Rock On: Education Tech Through The Ages, Information Week, February 26, 2013
http://www.informationweek.com/education/leadership/educational-technology-across-the-ages/240149241

Technology = Almost Free...

DataWind Prepared S2O Tablet Computer for Indian Market

Audience Polls #2:
I. Who remembers where they were when they found out that Steve Jobs passed away?
II. Who remembers what they were doing on the day that John D. Kennedy was shot?
III. Who remembers what they were doing on 911?
IV. Who remembers what they were doing on 411?
Charles Vest (April 4, 2001)

"This is about something bigger than MIT. I hope other universities will see us as educational leaders in this arena, and we very much hope that OpenCourseWare will draw other universities to do the same. We would be delighted if -- over time -- we have a world wide web of knowledge that raises the quality of learning -- and ultimately, the quality of life -- around the globe."

I. Learning is More Open
(80-Year-Old WGU Texas Grad Keeps His Promise, November 30, 2012, Reeve Hamilton, Texas Tribune)

II. Learning also is More Collaborative
Collaboration and Discussion in Google Hangouts or with iPad, Jan. 28, 2013
(Carrie Gong from Beijing Normal University)

III. Learning is More Mobile
Brown, Keynote talk, "Learning in Hand With Mobile Technology," Wisconsin Distance Teaching and Learning Conference, August 10, 2012

Military Mobile Learning (See: the U.S. Army Learning Concept for 2015; 2011, January 15).
http://www.youtube.com/watch?v=KD9YtAV3-3k (4:26 minutes)

IV. Learning is More Video-Based
Adora Svitak, WFP Youth Representative - 2013 ECOSOC Youth Forum, March 27, 2013

Benning TV in YouTube
U.S. Army Ranger School: Benning Phase
http://www.youtube.com/watch?v=bD9V8OIp30E

V. Learning is More Social
Facebook reaches one billion users, CNN Money, Aaron Smith, October 4, 2012

VI. Learning is More Personal
iPotty Aims To Entertain Toddlers During Toilet Training, Mashable, Kate Freeman (January 10, 2013)
http://mashable.com/2013/01/10/ipotty/

VII. Learning is More Modifiable
Inside Look: Learning Spaces, Meeting classroom teaching and collaboration expectations, University Business, Feb. 22, 2013

VIII. Learning is More Comfortable
Design for Students, with Students. “Hub Central”, the $42 million University of Adelaide learning hub opened in October 2011, May 8, 2012, Mike Roberts
http://designbuildsource.com.au/design-for-students-with-students

IX. Learning is More Massive
April 16, 2013 (NovoEd)
New MOOC Provider Says It Fosters Peer Interaction
Chronicle of Higher Education, Jake New
http://novoed.com/
January 23, 2013: The Bush MOOC Party?
Academic Partnerships Launches MOOC2Degree Initiative
Free, Open Online Courses As A First Step Toward A Degree
http://www.mooc2degree.com/

October 1, 2012: MOOC Students
4 Massive Open Online Courses and How They Work, Ben Gose, Chronicle of HE

November 2, 2012
The Year of the MOOC,
New York Times, Laura Pappano,
http://www.nytimes.com/2012/11/04/education/edlife/massive-open-online-courses-are-multiplying-at-a-rapid-pace.html?pagewanted=all

April 20, 2013
Two Cheers for Web U!
A. J. Jacobs, New York Times

May 6, 2013
Faculty Backlash Grows Against Online Partnerships
Chronicle of Higher Education, Steve Kolowich
http://chronicle.com/articles/Faculty-Backlash-Against/139049/

June 19, 2013
2013 is “The Year of the Anti-MOOC”
George Siemens, UW-Madison Summit
X. Learning is More Ubiquitous
Flexible displays bend what's possible for computers, Jon Swartz, USA Today (May 4, 2012)

XI. Learning is More Instantaneous
April 9, 2013
HER Computer fashions face social test: Can wearable computers fit in? Scott Martin, USA Today

XII. Learning is More Global
UC Irvine (2013 report)

Learning is Changing the World
(Book Review: Ed Tech Mag, May-June 2013)

April 15, 2013
World will soon be “Webified”
Google boss: Entire world will be online by 2020,
Doug Gross, CNN
Question: What is the Web?

- An entertainment system?
- A writing aid?
- A communications system?
- A means to handle commercial transaction?
- A social networking device?

No, it is a learning tool!

It is very open!
(at least in Norway & the Philippines)

We are entering a jumping off point...

Framework #1: 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!

WE ALL 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.

**January 22, 2013**
Free digital textbooks surge in popularity, Sarah Langmead, Assistant Editor, eCampus News,

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

**May 9, 2011**
Defense Acquisition University, Training Courses: Reaching the Workforce

**Opener #2. E-Learning and Blended Learning**
DAU Formal Training Courses (May 2011)

<table>
<thead>
<tr>
<th>Level</th>
<th>Level II</th>
<th>Level III</th>
</tr>
</thead>
<tbody>
<tr>
<td>107</td>
<td>24</td>
<td>17</td>
</tr>
</tbody>
</table>

DAU and Core Plus Courses

January 15, 2013
Online programs offered by Kelley and IU schools of education and nursing highly ranked by U.S. News.

More than six million post-secondary students are taking online classes in the USA; growing by 10% per year.

Opener #3. Availability of Open Source and Free Software Moodle
(July 18, 2013: 72 million users in 237 countries, 84,518 sites, 7.6 million courses)

Opener #4. Leveraged Resources and OpenCourseWare (OCW) (e.g.,
free courses from Harvard Edx, MITx, CORE, OOPS)

Saylor.org
http://www.saylor.org/
RedHoop
http://redhoop.org/
February 16, 2012
Online Badges and Certifications from OER
University of Illinois at Springfield, Ray Schroeder
https://sites.google.com/site/opencontinuinged/

November 18, 2012
Video Streaming
MOOCs Gaining Popularity, But New Frontier For Scaling Up Online Classes Is Course Credit,
Huffington Post (College), Justin Pope

Opener #5. Online Learning Object Repositories and Portals (shared content)
http://www.deadseascrolls.org.il/explore-the-archive
http://www.deadseascrolls.org.il/explore-the-archive/search#q=site_en:’Qumran,_Cave_4’

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

October 2010, The V-PORTAL (Bonk, IU)
"Video Primers in an Online Repository for e-Teaching and Learning” V-PORTAL,
TravelinEdMan (27 free/open YouTube videos)
http://www.youtube.com/user/TravelinEdMan

Online Encyclopedias (e.g, the Encyclopedia of Earth:
http://www.eoearth.org/)
Opener #7. Electronic Collaboration and Interaction (synchronous & asynchronous)
Soliya Connect
http://gli.georgetown.edu/soliya

April 15, 2013
Guest Speakers
Sara de Freitas and Jim Hensman (https://connect.iu.edu/p24zxy6teks/)  
Jay Cross (https://connect.iu.edu/p5jy7pmr66t/)  

Tablets Rock On: Education Tech Through The Ages, Information Week, February 26, 2013
http://www.informationweek.com/education/leadership/educational-technology-across-the-ages/240149241

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

Opener #9. Real-Time Mobility and Portability (e.g., iPhone, low cost wireless devices)
60,000 earthlings/hour get mobile

Testing Smart Phones in the Field
http://www.youtube.com/watch?v=KD9NGAV3-3k (4:26 minutes)
Opener #10. Networks of Personalized Learning (Blogs, Podcasts, MySpace, Flickr, and RSS)

Video Walls of Experts (IQ Wall)
Indiana University unveils high-tech classroom
The Herald-Times, May 22, 2013, Mike Leonard
http://www.indianaeconomicdigest.net/main.asp?SectionID=31&SubSectionID=135&ArticleID=69980

December 16, 2010
Introducing Word Lens
http://www.youtube.com/watch?v=hZOFqYjWHRs

What about the Instructor in the Open World?
1. Instructor as Credit Manager

7. Instructor as Conductor

9. Instructor as Curator

10. Instructor as Concierge

The Next Generation is Here!
Part II: How do we apply these ideas?

What did Jean-Luc Picard say?

That’s right, Engage!

How can technology address diverse learner needs?

Framework #1: The R2D2 Model
The R2D2 Method
1. Read (Auditory and Verbal Learners)
2. Reflect (Reflective Learners)
3. Display (Visual Learners)
4. Do (Tactile, Kinesthetic, Exploratory Learners)

1. Auditory or Verbal Learners
   - Auditory and verbal learners prefer words, spoken or written explanations.

Read 1a. Listen to Podcast Shows
Read 1b. Collect and Listen to Interactive Stories
(e.g., Meograph: http://www.meograph.com/)

Read 1c. Follow on Twitter
https://twitter.com/USArmy
https://twitter.com/electricians

Read 1d. Free Online Articles, Technical Reports, and Journals
2. Reflective and Observational Learners

- Reflective and observational learners prefer to reflect, observe, view, and watch learning; they make careful judgments and view things from different perspectives.

Reflect 2a. Workplace and Field Reflections

Reflect 2b. Blogging Reflections

Reflect 2c. Big Issue Reflections

Reflect 2d. Reflect on Virtual Timelines

- Big Questions Online (BQO), January 8, 2013 (e.g., Do We Have Souls?)
  - http://www.bigquestionsonline.com/content/do-we-have-souls

- Big Questions Online (BQO), January 8, 2013 (e.g., Do We Have Souls?)
Poll #2: Any light bulbs going off in your head so far...?
A. Yes definitely
B. Maybe
C. No

3. Visual Learners
- Visual learners prefer diagrams, flowcharts, timelines, pictures, films, and demonstrations.

Display 3a. Virtualize Words Used (e.g., Wordle, Taggedo, Tagul, WordSift, Word It Out)
http://shelfterrell.com/2010/02/14/word-cloud-resources-tips-tools/

Display 3b. Concept Mapping and Timeline Tools (VUE, Bubbl.us, Cmap, Freemind, Gliffy, Mindmeister, or Mindomo)

Display 3c. Interactive Map Timelines (adults with college degrees by county, May 7, 2012)
http://todayscampus.com/article/Keith_Hampson_Interviews_Josh_Keller_on__Interactive_Graphics_for_Higher_Education/

4. Tactile/Kinesthetic Learners
- Tactile/kinesthetic senses can be engaged in the learning process are role play, dramatization, cooperative games, simulations, creative movement and dance, multi-sensory activities, manipulatives and hands-on projects.
Do 4a. Simulations and Animations

Do 4b. Mobile Simulations (US Army Air Defender)

Do 4c. Student Class Documentaries
   Umida’s R546 Documentary Project
   http://www.youtube.com/watch?v=EMLTzqCV_5A

Do 4d. Survey Research and Market Analysis
   (e.g., SurveyShare, Zoomerang, SurveyMonkey)

Do 4e. Podcast Productions and Shows

Poll #3: What phase of the R2D2 Method did you get the most ideas from?
A. Read (Auditory and Verbal Learners)
B. Reflect (Reflective Learners)
C. Display (Visual Learners)
D. Do (Tactile, Kinesthetic, Exploratory Learners)
Poll #4: How many new ideas did you get so far?
1. 0 if I am lucky.
2. Just 1.
3. 2, yes, 2...just 2!
4. Do I hear 3? 3!!!!
5. 4-5.
6. 5-10.

What was it that he said?

That’s right, Engage!

Engage!

But Sleepy Times...?

February 24, 2013
Big (MOOC) Data, Inside Higher Education,
Dayna Catropa

How do we engage online?
Intrinsic Motivation

“...innate propensity to engage one’s interests and exercise one’s capabilities, and, in doing so, to seek out and master optimal challenges (i.e., it emerges from needs, inner strivings, and personal curiosity for growth)


Motivation Research Highlights
(Jere Brophy, Michigan State University)

1. Supportive, appropriate challenge, meaningful, moderation/optimal.
2. Teach goal setting and self-reinforcement.
4. Novelty, variety, choice, adaptable to interests.
5. Game-like, fun, fantasy, curiosity, suspense, active.
6. Higher levels, divergence, dissonance, peer interaction.
7. Allow to create finished products.
8. Provide immediate feedback, advance organizers.
9. Show intensity, enthusiasm, interest, minimize anxiety.
10. Make content personal, concrete, familiar.

Ok, Million Dollar Question: What words come to mind when I say that I want to motivate learners?

Framework #2: TEC-VARIETY for Online Motivation and Retention

1. Tone/Climate: Psych Safety, Comfort, Belonging
2. Encouragement, Feedback: Responsive, Supports
3. Curiosity: Fun, Fantasy, Control
4. Variety: Novelty, Intrigue, Unknowns
5. Autonomy: Choice: Flexibility, Opportunities
6. Relevance: Meaningful, Authentic, Interesting
7. Interactive: Collaborative, Team-Based, Community
8. Engagement: Effort, Involvement, Excitement
9. Tension: Challenge, Dissonance, Controversy
10. Yields Products: Goal Driven, Products, Success, Ownership

I just Love it when they "make it so!"

MAKE IT SO
Examples of TEC-VARIETY

1. Tone/Climate: Social Ice Breakers
   A. 8 nouns (adjectives, verbs)
      • List of nouns: (e.g., pirate, computer, traveler, roadrunner, wind, bookworm, musician, mentor, etc.)
      • List of adjectives: (e.g., lazy, powerful, shy, bored, exotic, cooperative, sloppy, rebel, etc.)
      • List of verbs: (e.g., coordinate, entertain, amuse, push, unite, beg, dream, publicize, etc.)

2. Encouragement, Feedback, etc.: A. Voice Feedback
   Vocaroo; http://vocaroo.com/
   http://vocaroo.com/i/s0iIAqCoVTH7 (Fort Sill)

2. Encouragement, Feedback, etc.: B. Quizlet (online quiz tools)
   http://quizlet.com/

2. Encouragement, Feedback, etc.: C. Create Screencasts
   (Jing, GoView, Screenc, slide from Zaid Ali Alsagoff [zaid.alsagoff@gmail.com])
2. Encouragement, Feedback, etc.: D. Blog and Website Polling (e.g., Poll Everywhere, BlogPolls, BlogPoll, MicroPoll)
   http://www.polleverywhere.com/

3. Curiosity, Fun:
   A. Online Games

3. Curiosity, Fun, Fantasy, Control:
   B. Online Database Activities (e.g., WolframAlpha)
   http://www.wolframalpha.com/

3. Curiosity, Fun:
   C. Something in the News
(e.g., Fauja Singh, 101, finishes last race, February 24, 2013)

3. Curiosity, Fun:
   D. Online Quiz Games
   Jeopardy Labs
   https://jeopardylabs.com/play/ganttpardy

3. Curiosity, Fun:
   E. Create Cartoons, Movies, and Animations (e.g., Go Animate, xtranormal, PowToon, etc.)
4. Variety, Novelty, Fun, Fantasy:
A. Timers (Random.org, Stopwatches, coins, playing cards, dice, Countdown Timers, Stopwatch Bombs, etc.; http://www.online-stopwatch.com/countdown-timer/)

5. Autonomy, Choice:
A. Online Resource Search (Class Google Jockeys)
B. Selecting from Open Educational Resources

Poll #4:
Which of the first 5 motivational principles will you use the most?
A. Tone/Climate
B. Encouragement/Feedback
C. Curiosity/Fun
D. Variety/Novelty
E. Autonomy/Choice/Flexibility

6. Relevance, Meaningfulness:
A. Video Scenario Learning
   (Franklin University, cost and forensic accounting course)
   http://video.franklin.edu/Franklin/acct/managerialAccounting/cost-behavior-player.html
   http://video.franklin.edu/Franklin/acct/342/common/transactions/transactions.html
   http://www.youtube.com/watch?v=OmmJjQ3Qakc&list=TLzymmALKW1TI

B. Design Multimedia Glossaries
   Ozgur Ozdemir, December 2012
   http://r685glossary.shutterfly.com/
   Umida Khiikmatillaeva, Dec. 2011, PS40
   http://learningplanet.shutterfly.com/
7. Interactive, Collaborative:
A. Collaboration and Discussion in Google Hangouts
(January 29 and February 25, 2013)

B. Negotiate Meanings Online
(e.g., PiratePad: http://meetingwords.com/)
MeetingWords is a simple text editor for the web.
Your text is saved on the web, and more than one person can edit the same document at the same time.
Everybody’s changes are instantly reflected on all screens. Work together on meeting notes, brainstorming sessions, homework, team programming and more!

8. Engagement, Effort:
A. Arab spring: an interactive timeline of Middle East protests,
The Guardian, Garry Blight, and Sheila Pulham, July 12, 2011
http://www.guardian.co.uk/world/interactive/2011/jun/21/middle-east-protest-interactive-timeline

9. Tension, Challenge, etc.:
A. Decision-Making Scenarios
(e.g., Articulate Storyline)

B. Combining Asynchronous and Synchronous Events (flipping classes)

10. Yields Products, Goals:
A. Final Product Video Summaries
Piercarlo Abate: http://www.youtube.com/watch?v=_T9reHDo0sU
Gagnon: http://www.youtube.com/watch?v=7Q429lqxZaU&feature=youtu.be
Miguel Lara (Web 2.0 FREEDOM): http://www.youtube.com/watch?v=RomCFW098W8
**Poll #6:**
Which of the last 5 motivational principles will you use the most?
A. Relevance/Meaningfulness  
B. Engagement/Effort  
C. Interactive/Collab/Community  
D. Tension/Challenge/Dissonance  
E. Yielding Products/Goals

**Commitments:**
Stop and Share:
Which principle(s) of TEC-VARIETY will you use?
- Tone/Climate  
- Encouragement, Feedback  
- Curiosity  
- Variety  
- Autonomy  
- Relevance  
- Interactive  
- Engagement  
- Tension  
- Yields Products

**Poll #3:**
Do you feel “MOTIVATED” to try any of this out?
A. Yes, R2D2  
B. Yes, TEC-VARIETY  
C. Yes, both  
D. Neither

**Stop and Share:**
Three Words from Today’s Session!

**Any Questions?**
Try the R2D2 Model!  
Try TEC-VARIETY too...

- Slides at: TrainingShare.com  
- Papers: PublicationShare.com  
- Book: http://worldisopen.com/  
- Email: curt@worldisopen.com