Stretching the Edges of Technology-
Enhanced Teaching: From Tinkering to
Tottering to Totally Extreme Learning

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Sept. 2011 (CLO): Learning is More Tech-Driven
New Technologies =
New Delivery Methods...

Judy Brown, Keynote talk, “Learning in Hand With
Mobile Technology,” Wisconsin Distance Teaching
and Learning Conference, August 10, 2012

Learning is More Social

Audience Poll:
Has learning technology has ever
transformed your life.
Change not possible as an accountant...  
(Life as a CPA, 1981-1986)

Decided to Read, Read, Read...  
(e.g., People like Albert Bandura, Howard Gardner, Roger Schank, Elliot Soloway, etc.)

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

Looking to the Past...

Technology of the 1980s

Fast Forward 25 Years...  
"Anyone can now learn anything from anyone at any time."
April 12, 2011: Learning is More Free
NCTM Conference, Free Online Degrees; Integration of Science, Mathematics, and Reflective Teaching (iSMART)
University of Houston

June 2011: Learning is More Collaborative
Aces of Spaces, Campus Technology, Jennifer Demski

Aug 22, 2011: Learning is More Inclusive

February 18, 2002
Talking Dictionaries for Rare Languages
The Wall Street Journal

Feb. 21, 2012: Learning is More Flipped
Rethinking Learning with Salman Khan
Stanford Graduate School of Business

Talking the Talk, for Posterity
Oral Online Dictionaries Help Preserve Languages, Cultures Muted by Modernity, The Wall Street Journal, February 18, 2002
April 29, 2012: Learning is More Open
Open Education’s Wide World of Possibilities, Chronicle of Higher Education, Katherine Mangan

May, 2012
Robots teaching English and Virtual Worlds
Dr. Meeyong Kim, Dajeon, Korea

May 4, 2012
Flexible displays bend what’s possible for computers, Jon Swartz, USA Today
http://mediagallery.usatoday.com/Flexible+screen+displays/G3657A12064

Components of the wrist-worn display prototype developed at HP Labs are shown in this illustration. When completed, the device will incorporate a working flexible display powered by solar cells.

May 5, 2012
Shaq earns doctorate degree
http://www.youtube.com/watch?v=Szj6uQnBdjo

ABC News, Google I/O Conference: Project Glass Prototype For Sale
http://abcnews.go.com/Technology/google-project-glass-prototypes-offered-google-io-conference/story?id=16663176

August 17, 2012: Learning is More Online
NFL gets serious about fan conduct (disruptive fans must take online courses), ESPN.com, Darren Rovell,
http://espn.go.com/nfl/story/_/id/8278886/nfl-require-ejected-fans-take-online-fan-conduct-course
August 27, 2012
Online University For All Balances Big Goals, Expensive Realities, Claudio Sanchez, NPR
http://www.npr.org/blogs/alltechconsidered/2012/08/27/160116814/online-university-for-all-balances-big-goals-expensive-realities
Students work at the University of the People student computer center in Haiti. Students from 129 countries are currently enrolled with the institution

Naylea Omayra Villanueva Sanchez says her location near the Amazon rain forest in Peru, combined with a disability, makes a traditional university education impossible.


October 19, 2012
Facebook to help overhaul ICT curriculum, Money, Andrew Marszal, Telegraph
http://www.telegraph.co.uk/education/educationnews/9619725/Facebook-to-help-overhaul-ICT-curriculum.html
(Facebook reached 1 billion users, Oct 4, 2012, CNN Money)

January 7, 2013
Digital Globes Offer a Dynamic Vision, New York Times, Mark Vanhoenacker

January 10, 2013
iPotty Aims To Entertain Toddlers During Toilet Training, Mashable, Kate Freeman
http://mashable.com/2013/01/10/ipotty/

It is very open! (at least in Norway and the Philippines)
The Web of Learning

The World is Open…
It is very open!

WE-ALL-LEARN:
Ten Forces that Opened the Learning World
Web Searching in the World of e-Books
E-Learning and Blended Learning
Availability of Open Source and Free Software
Leveraged Resources and OpenCourseWare
Learning Object Repositories and Portals
Learner Participation in Open Info Communities
Electronic Collaboration and Interaction
Alternate Reality Learning (e.g., MMOG, Second Life)
Real-Time Mobility and Portability (e.g., iPhone)
Networks of Personalized Learning (Blogs, RSS)

Audience Participation!
1. WE
2. ALL
3. LEARN!!!

My dog is content….
I am not Content!!!

January 16, 2013
Carmen Ortiz and Stephen Heymann: accountability for prosecutorial abuse
Glenn Greenwald, The Guardian
http://www.guardian.co.uk/commentisfree/2013/jan/16/ortiz-heymann-swartz-accountability-abuse

Who needs online and blended learning?
Katrina, August 2005; Ike, Sept 2008; Irene, August 2011; Isaac & Sandy, August 2012

May 24, 2010
Author Nicholas Carr, The Web Shatters Focus, Rewires Brains, Wired
http://www.wired.com/magazine/2010/05/ff_nicholas_carr/

September 21, 2012
As Online Courses Grow, Sites Offering Unauthorized Academic Help Get More Brazen,
Chronicle of Higher Education, Alisha Azevedo
We are entering a jumping off point…

From Tinkering to Tottering to Totally Extreme Learning…

10 Tinkering Ideas

Tinker #1. Timeline Tools (e.g., MLK Memorial Timeline)


Tinker #2. Video Animations and Simulations

Tinker #3. Case Learning and Role Play (Kelley Direct, IU)
Tinker #4. Online Experiments (e.g., psychology)

Tinkering #5. Tracking the Life of a Scientist (e.g., Brian J. Ford, independent scientist)
http://www.youtube.com/user/tellymonitor#/p/a/u/1/LhGeApsKjasr
http://www.labnews.co.uk/news/prehistoric-revolution/
http://www.youtube.com/embed/kjmNnRFHCzk?rel=0

Tinker #6. Online Portals of Rich Data
United Nations Opens World Digital Library, Turning the Pages from the British Library, etc. (history, culture, literature, writing, art, etc.)

Tinker #7. Online Art
Google Art Project, NBC Nightly News, April 3, 2012
http://www.nbcnews.com/id/30326319/ns/46945508/#46945508

Tinker #8. Using Online Encyclopedias (e.g, the Encyclopedia of Earth: http://www.eoearth.org/)

Tinker #9. Educational Videos: TED-Ed
http://education.ted.com/
10 Tottering Ideas

Tinker #10. Timelines with Oral Histories, Slavery and the Making of America Time and Place
http://www.pbs.org/wnet/slavery/timeline/1857.html

10 Tottering Ideas

Totter #1. Bridges to World of Expert and Practitioners
(e.g., Invite, Watch, or Listen to Online Conferences, Expert interviews, blogs, chats, etc.)

Totter 2. Global Class Videoconferencing and Remote Lands
RoundSquare (http://www.roundsquare.org/) and Taking it Global (http://www.tigweb.org/)

Totter #3. Combining Asynchronous and Synchronous Events

Totter #4. Video Blogging
Totter #5. Uploading Mobile Books
(e.g., BookRix, http://www.bookrix.com/)

Totter #6. Crowdsourced Q&A
April 1, 2012, Piazza: https://piazza.com/

Totter #7. Lessons on iPad
(e.g., ShowMe: http://www.showme.com/)

Totter #8. Student Collaborative Knowledge Building and Sharing
(e.g., Popplet: http://popplet.com/)

Totter #9. Using Google Hangouts for Class
(January 2013)

Totter #10. Shared Online History Videos
(e.g., "History for Music Lovers" with over 50 songs including:
Trojan War “Tainted Love” by Soft Cell, Charlemagne “Call Me”
by Blondie, Cleopatra, Napoleon, Shakespeare, the Vikings)
We are entering a jumping off point...

Totally Extreme Learning...

Visual Representation of the Dimensions and Impact of Extreme Learning

You Want Totally Extreme?
Apple’s new ‘spaceship’ campus: What will the neighbors say?, Doug Gross, CNN, May 22, 2012

Totally Extreme #1. June 24, 2012
Primate Intelligence
What Was He Thinking? Study Turns to Ape Intellect
ABC News, SETH BORENSTEIN
http://abcnews.go.com/Technology/story?id=16533614

Totally Extreme #2. June 27, 2012
Remote Animal Streaming
Remote Maine puffin colony up close on HD web cam
Clarke Canfield, The Stateman, June 27, 2012

This still frame from streaming online video, provided by explore.org, the Annenberg Foundation and the National Audubon Society, shows puffins on the shore of Seal Island, Maine, Wednesday, June 27, 2012. The island is the habitat for the largest puffin colony in the U.S.
Totally Extreme #3. Live Science
(Nautilus Live allows people to watch expeditions live &
listen to scientists in control rooms a discoveries made)

Totally Extreme #4. Adventure
Learning about the Environment
(e.g., North of 60, GeoThentic, Earthducation, see
Aaron Doering, Chasing Seals; http://chasingseals.com/)

Totally Extreme #5. Impossible2Possible
http://impossible2possible.com/home

Totally Extreme #6. Michael Perham (Sept 17, 2012)
http://www.mikeperham.tv/

Totally Extreme #7. iPod Learning from MIT OCW
(e.g., Wendy Ermold, University of Washington)

Totally Extreme #8. MBAs from War Zones...!
**Totally Extreme #9.**
Kids Learn Online, Teach Online  
(e.g., the World’s Youngest Teacher; Adora Svitak)

**Totally Extreme #10.**
An 80-Year-Old Graduate With an Online Marketing Degree Kept His Promise, The Texas Tribune, December 9, 2012

**Totally Extreme #11.**
Learning from Localized OER and OCW  
(e.g., Opensource Opencourseware Prototype System (OOPS), Lucifer Chu, Janitor of OOPS)

**Totally Extreme #12.** The Last Ocean Project, Ice Stories, and Shark Theater  
(24 foot inflatable screen (and outdoor ocean theater) to tiny island communities)  

**Totally Extreme #13.**
Online Language Learning and Conversations  
(e.g., PalTalk, iTalki, OpenLanguage, Babbel)

**Totally Extreme #14.** Virtual Mentoring  
South African teens get virtual mentoring from all over the world, By Danielle Berger, CNN, January 14, 2011  
Totally Extreme #15. June 3, 2012
Tutor/Mentor Connection (Chicago)
http://www.tutormentorprogramlocator.net/InteractiveMap.aspx

"Project Re: Brief | Coca-Cola | Mobile Ad Demo"
http://www.youtube.com/watch?v=45Z-GevoYB8&feature=relmfu

Totally Extreme #17. February 2012
Pocket School and SMILE: Stanford Mobile Inquiry-based Learning Environment

February 2012
Seeds for Empowerment, Tanzania (Alex Bonk and the kids...)

December 26, 2012
Paul Kim, SMILE project, Thailand, SMILE Running on Thai government's OTPC (One Tablet Per Child).
These first graders are creating their own math and Thai language questions to share with their peers. All students solve the peer-generated questions and rate them. All questions and answers are evaluated in real-time for teachers. Students who come up with the highest ranking questions and those who answered most number of questions correctly were given a candy today! I can see that these first graders use the tablets with ease. We are in Plak Raet, a rural area, public school. Pictures are attached. Going back to more workshops...Paul Kim

Totally Extreme #18. Immediate Science
Ida (a transitional species) 47-Million-Year-Old Fossil the Missing Link? (May 20, 2009)
Totally Extreme #19. Blogging Field Archeology Research (e.g., Lily Henry Roberts, UCLA digging in Hope, BC, Stó:lō First Nation people from 12,000 years ago)

Totally Extreme #20. Google Earth Archeology Research (e.g., 450 sites of interest in Afghanistan found by David Thomas, La Trobe Univ., Melbourne, Australia)


Timothy posts videos of himself speaking several languages on YouTube.


Students at Sree Karpagavalli Vidhyalaya school in Chennai, Tamil Nadu, watching Khan Academy math videos.

Totally Extreme #24. Virtual High School Learning by Boat (e.g., Bridey Fennell and her family sailing and learning in the Caribbean)
Extreme Learning Website
www.extreme-learning.com

Extreme Learning Areas
1. Adventure Learning and environmental education,
2. Virtual Education (formal as well as informal),
3. Social Change and Global Learning,
4. Language Learning,
5. Shared online video,

Visual Representation of Extreme Learning

1. Virtual Education
Open High School of Utah, Khan Academy, Michigan Virtual School

2. Online Language Learning
ChinesePod, LiveMocha, Babbel

3. Portals of OER
OER Commons, Open College Textbooks, WorldBridges.net
4. Social Change and Global Education
SierraClub, Longitude, iCivics

5. Shared Online Video
TED, CurrentTV, YouTube, Explo.TV, ClipChef, Big Think, etc.

6. Adventure and Environmental Learning
PenguinScience, Impossible2Possible, EARTHducation

“Coolest” Extreme Learning Websites

HOPES: Humanity’s Open Platform for the Exchange of Stories

Sample HOPES Stories
Web Platform Storytelling System

HOPES Mobile Platform Storytelling Entrance

DREAMS: Design Research for an Engaging and Active Mobile System

Extreme Learning “Stretches the Edges” of Humanity

What 3 things did you learn?

Who is Content Now? And Who is Stretched Now?
Website: www.Extreme-Learning.com
Slides at: TrainingShare.com
Book: http://worldisopen.com/
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