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

Looking to the Past...

Technology of the 1980s
Fast Forward 25 Years…
“Anyone can now learn anything from anyone at any time.”

October 12, 2012
Radical rethink: how to design university courses in the online age, Paul, Wappett, The Conversation, Australia

Learning is More Mobile

Learning is More Collaborative

Learning is More Social

January 29, 2013: Learning is More Flipped
Collaboration and Discussion in Google Hangouts

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

January 8, 2013
Changing Course: Ten Years of Tracking Online Education in the United States
Elaine Allen and Jeff Seaman, Sloan-C & Babson Survey Research Group

January 8, 2013
Changing Course: Ten Years of Tracking
Online Education in the United States
Elaine Allen and Jeff Seaman, Sloan-C & Babson Survey Research Group

E-Learning and Blended Learning
(May 5, 2012, Shaq get Ed.D., Barry University)
April 29, 2012: Learning is More Open
Open Education’s Wide World of Possibilities,
Chronicle of Higher Education, Katherine Mangan

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
Audio: http://www.npr.org/player/v2/mediaPlayer.html?action=1&t=1&islist=false&id=160116814&m=160135003

February 18, 2002
Talking Dictionaries for Rare Languages
The Wall Street Journal
http://online.wsj.com/article/SB10001424052970204880404577228982976760026.html#articleTabs%3Dvideo

How to turn Wikipedia into an e-book,
John D. Sutter

January 12, 2013:
Learning is Less Open
Internet Activist, a Creator of RSS, Is Dead at 26, Apparently a Suicide, NY Times, John Schwartz
Learning is More Tech-Driven
New Technologies =
New Delivery Methods...

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

May 4, 2012:
Learning is More Ubiquitous
Flexible displays bend what's possible for computers, Jon Swartz, USA Today

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.

June 27, 2012:
Learning is More Pervasive (i.e., Streamed) Google Glass

January 10, 2013:
Learning is More Personal
iPotty Aims To Entertain Toddlers During Toilet Training, Mashable, Kate Freeman

http://mashable.com/2013/01/10/ipotty/

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

From Tinkering to Tottering to Totally Extreme Learning...

What did Jean-Luc Picard say?

That’s right, Engage!

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.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.msnbc.msn.com/id/3032619/up/49945508#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/

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

Tinker #11. A. React to Visuals
The happiest and saddest states according to Twitter
Heather Kelly, CNN Tech, February 19, 2013
http://www.cnn.com/2013/02/19/tech/social-media/twitter-happiness/deep.html

Tinker #12. Unique OER (e.g., Dead Sea Scrolls)
http://www.deadseascrolls.org.il/explore-the-archive
http://www.deadseascrolls.org.il/explore-the-archive/search#q=site_en:'Qumran,_Cave_4'
http://www.deadseascrolls.org.il/home
Tinker #13. Something in the News
(e.g., Fauja Singh, 101, finishes last race, February 24, 2013)

Fauja Singh, 101, finishes last race

Tinker #14. More Interactive Maps
Where and Who the College Graduates Are,
Chronicle of HE, February 24, 2013

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 #12. Collaboration and Discussion in Google Hangouts (January 29 and February 25, 2013)

Totter #13. 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)

Totter #14. Wikibook Chapter: Breaking the Mold: An Educational Perspective on Diffusion of Innovation


Totter #15. Community Oral Histories (e.g., The History Harvest)

http://historyharvest.unl.edu/collections

Totter #16. Guest Speaker Quotes (Rey Junco, February 25, 2013)

Totter #17. Google Hangouts/Google On Air (Jay Cross, 10 MOOC experts; February 27, 2013)

http://www.jaycross.com/wp/2013/02/businessmoocs-the-hangout-recording/
Totter #18. Interactive Stories (e.g., Meograph http://www.meograph.com/)

Totter #19. Student Expertise (e.g., Learnist) http://learnist/category/featured/#/category/featured

We are entering a jumping off point...

February 22, 2013
NASA's spacey Google+ Hangout shows off zero-G antics – and cats!

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/wireStory/thinking-study-turns-ape-intellect-16638414

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**

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

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**Totally Extreme #14. Virtual Mentoring**
South African teens get virtual mentoring from all over the world, By Danielle Berger, CNN, January 14, 2011

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**Totally Extreme #15. June 3, 2012**
Tutor/Mentor Connection (Chicago)
[http://www.tutormentorprogramlocator.net/InteractiveMap.aspx](http://www.tutormentorprogramlocator.net/InteractiveMap.aspx)

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**Totally Extreme #16. May 8, 2012**
“Project Re: Brief | Coca-Cola | Mobile Ad Demo”
[http://www.youtube.com/watch?v=45Z-GevoYB8&feature=relmfu](http://www.youtube.com/watch?v=45Z-GevoYB8&feature=relmfu)

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**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 analyzed
in real-time for teachers. Students who came 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:lo 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)

Totally Extreme #21. October 5, 2012 (Felicity Aston, UK)
First woman to cross Antarctic solo: I’ve
never felt so alone, Ivana Kottasova, CNN

Timothy posts videos of himself speaking several languages on YouTube.

Totally Extreme #23. Lacking Teachers and Textbooks, India’s Schools Turn to Khan Academy to Survive, New York Times, October 15, 2012, Anupama Chandrasekaran

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

1. Virtual Education
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, EARTHeducation
"Coolest" Extreme Learning Websites

<table>
<thead>
<tr>
<th>Categories</th>
<th>Coolest websites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Online Language Learning</td>
<td>Live Mocha, BBC Learning English, EnglishPod, Chinese Pod</td>
</tr>
<tr>
<td>2. Virtual Education</td>
<td>MIT OpenCourseWare, OCW, Open University UK, Cool School, Ed Tech Safe, Khan Academy</td>
</tr>
<tr>
<td>3. Social Change/Global Education</td>
<td>Earth education, Highlights for High School, Open University UK, Smithsonian</td>
</tr>
<tr>
<td>4. Virtual Education</td>
<td>Live Mocha, BBC Learning English, EnglishPod, Chinese Pod</td>
</tr>
<tr>
<td>5. Learning Portals</td>
<td>HOPES, MERLOT, Open University UK, OpenLearning</td>
</tr>
</tbody>
</table>

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

How was the view?

What 3 things did you learn?

DON'T JUST WISH FOR A GREAT 2013,
MAKE IT SO.

Questions?
Website: www.Extreme-Learning.com
Slides at: TrainingShare.com
Book: http://worldisopen.com/
Dr. Curt Bonk – CJBonk@Indiana.edu