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

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I’m Happy…Are you Happy?

New Technologies = New Delivery Methods…
CLO, September 2011

Sydney Centre for Innovation in Learning
Saltire Centre  
(Glasgow Caledonian University;  
http://www.gcu.ac.uk/thesaltirecentre/)  

Remaking the College Library, Bridget McCrea,  
09/01/10, Campus Technology  
Virtual Tour of Bedford Library-UK  
http://www.youtube.com/watch?v=kiouKhL_VpA

7 Tips for Building Collaborative Learning Spaces, Campus Technology, Matt Villano, June 2010

August 5, 2010  
Remaking the College Campus, Bridget McCrea, Campus Technology  
http://campustechnology.com/Articles/2010/08/05/Remaking-the-College-Campus.aspx?Page=1

Remaking the College Library, Bridget McCrea,  
1/08/09, Campus Technology  
New Grand Valley State University Library, Michigan  
http://www.youtube.com/watch?v=5bOdDPopZag

Baker College of Muskegon, Michigan  
Stanford Design School  
January 18, 2012

Ohio State Library  
http://www.youtube.com/watch?v=ak7FEQjxq8Y

IMU Student Technology Center — Collaborative Space

Union Street Center  
“Collaborative Café”

University of Minnesota  
Active Learning Classrooms (ALC)

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)

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

Learning is more social and collaborative

The Next 30 Years, USA Today, August 23, 2012
http://www.usatoday.com/video/news/1839139560001
Daphne Koller: What we're learning from online education, TED Talk, June 2012 (post August, 2012)
http://www.ted.com/talks/daphne_koller_what_we_re_learning_from_online_education.html

Online University For All Balances Big Goals, Expensive Realities, Claudio Sanchez, NPR, August 27, 2012
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.

How online courses will revolutionize college, Mary Beth Marklein, USA TODAY, September 12, 2012

Seven ways mobile phones have changed lives in Africa, CNN, Stephanie Busari, September 14, 2012

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

Joe Alfonso, a financial adviser from Oregon, is taking the online finance course as a "refresher."

Rajeev Bajpai, an airline pilot based in Mumbai, took an online computer-science course to gain programming skills.
Poll: Is this a revolution in education today?
A. Yes...
B. No...

The Web of Learning

The World is Open...
It is very open!

Framework #1: 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!!!

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

Those where there are diseases and outbreaks...(SARS, 2003; H1N1, 2009-2010)

Those in blizzards and ice storms...

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

The Crisis in Higher Education, Nicholas Carr, Technology Review, September 27, 2012

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Undergraduates</th>
<th>Average cost of a year on campus</th>
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<tr>
<td>2000</td>
<td>10,000</td>
<td>$15,000</td>
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<tr>
<td>2005</td>
<td>20,000</td>
<td>$20,000</td>
</tr>
<tr>
<td>2010</td>
<td>30,000</td>
<td>$25,000</td>
</tr>
</tbody>
</table>

Data from Institute of Education Sciences and Pew Research Center.

The Siege of Academy, Washington Monthly, Kevin Carey,

In defense of my stupidphone, CNN, Jessica Ravitz, October 6, 2012
http://www.cnn.com/2012/10/05/living/our-mobile-society-stupidphone/index.html?iid=article_sidebar
September 21, 2012
As Online Courses Grow, Sites Offering Unauthorized Academic Help Get More Brazen, Chronicle of Higher Education, Alisha Azevedo

How can technology address diverse learner needs?

Framework #2: 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. Learning Planet: Interactive Glossary
Umida Khikmatillaeva, Dec. 2011, P540
http://learningplanet.shutterfly.com/

Reflect 2a. Discuss Videos
(e.g., Grockit Answers and Vialogues;
https://vialogues.com/)
Display 3a. Segment Video Anchors (e.g., TubeChop of V-PORTAL: Video Primers in an Online Repository of e-Teaching and Learning; "Wikibooks Hooray for Us")
http://www.tubechop.com/watch/378752

Do 4a. Negotiate Meanings Online (e.g., MeetingWords: 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!

We are not motivating students with the technologies that they love!

Ok, Million Dollar Question:
How do you motivate online learners?
What Words come to mind?
(Please enter in chat window)

April 15, 2012
Can Colleges Manufacture Motivation?, Dab Berrett, Chronicle of Higher Ed

Framework #3: TEC-VARIETY for Online Motivation and Retention
1. Tone/Climate: Psych Safety, Comfort, Belonging
2. Encouragement, Feedback: Responsive, Supports
3. Curiosity: Surprise, Intrigue, Unknowns
4. Variety: Novelty, Fun, Fantasy
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
1. Tone/Climate:
   A. Video Course Intros
   B. Mood Walls
   Yun Yun Chow, Open U Malaysia, Making Art Lessons Come Alive with Web 2.0
   http://www.youtube.com/watch?v=809rqDlGkXo
   http://www.youtube.com/moodwall_testtube

2. Encouragement, Feedback, etc.:
   A. Create Screencasts Website Polling
   B. GrammarCheck.net
   (e.g., Poll Everywhere, BlogPolls, BlogPoll, MicroPoll)
   http://www.polleverywhere.com/

3. Curiosity, Intrigue:
   A. Online News
   (CNN, July 8, 2012, BBC, June 26, 2012)

4. Variety, Novelty, Fun:
   A. Random Lists (Random.org—clocks, coins, playing cards, dice, integers, passwords, jazz scales, lists, sequences, etc.)

5. Autonomy, Choice:
   A. Web Exploration Assignments
   1. Complete Works of Charles Darwin Online: http://darwin-online.org.uk/
   4. Einstein Archives Online: http://www.einsteinarchive.org/
   7. iBerry (Open Courseware Directory): http://iberry.com/

6. Relevance, Meaningfulness:
   A. Online Cases (e.g., Mark Braun, IU)
7. Interactive, Collaborative:  
A. Collaborative Video Annotations and Discussions (Craig Howard, IU)  

8. Engagement, Effort:  
also: Visualizing Emancipation

9. Tension, Challenge, etc.:  
A. Game Show Final Project,  
April 25, 2011, Kim Seeber  
Website: http://mypage.iu.edu/~kseeber/web2.0technology.swf

10. Yields Products, Goals:  
A. Student YouTube Products  
Miguel Lara (Web 2.0 FREEDOM): http://www.youtube.com/watch?v=8cmCFWi9lW8  
Shuya Xu and Yue Ma (blog my online UG): http://www.youtube.com/watch?v=im7GQM9fzhc  
Cesur Dagli (Animal perspectives on course): http://www.youtube.com/watch?v=cDeTEIdO5lc

10. Yields Products, Goals:  
B. I Done This, Milestone Planner, 43 Things

Time for Commitments:  
Which principle(s) of TEC-VARIETY will you use?  
Tone/Climate  
Encouragement, Feedback  
Curiosity  
Variety  
Autonomy  
Relevance  
Interactive  
Engagement  
Tension  
Yields Products
From Tinkering to Tottering to Totally Extreme Learning...

Tinkering

Tinker #1. Online Art
Google Art Project,
NBC Nightly News, April 3, 2012
http://www.msnbc.msn.com/id/3033619/vp/46945084694508

Tinker #2. Predict outcomes (June 26, 2012)
(e.g., Interactive Political Maps: Huffington Post)
http://elections.huffingtonpost.com/2012/romney-vs-obama-electoral-map#cartogram

Tinker #3.
Tracking the Life of a Scientist
(e.g., Brian J. Ford, independent scientist)
http://www.youtube.com/user/tellymonitor?hl=en&gl=US
http://www.youtube.com/watch?v=Hc2X7eORC

Tinker #4.
Using Online Encyclopedias
(e.g, the Encyclopedia of Earth:
http://www.eoearth.org/
Tinker #5. Educational Videos: TED-Ed
http://education.ted.com/

Tinker #6. Interactive Event Timeline
Arab spring: an interactive timeline of Middle East protests,
The Guardian, Garry Blight & Sheila Pulham, July 12, 2011
http://www.guardian.co.uk/world/interactive/2011/mar/22/middle-east-protest-interactive-timeline

Totter #1.
Wikibooks, Wiki-Glossaries, Wiki-Syllabi
(Ron Owston, York University, Toronto)

Totter #2.
Georgetown Learning Initiatives
Soliya Connect
http://soliya.georgetown.edu/Projects

Totter #3. Combining Asynchronous and Synchronous Events (flipping classes)
**Totter #4.** Uploading Mobile Books  
(e.g., BookRix, [http://www.bookrix.com/](http://www.bookrix.com/))

**Totter #5.** Lessons on iPad  
(e.g., ShowMe: [http://www.showme.com/](http://www.showme.com/))

**Totter #6.** Student Collaborative Knowledge Building and Sharing  
(e.g., Popplet: [http://popplet.com/](http://popplet.com/))

**Totter #7.** Student Films and Documentaries  
http://vimeo.com/33090590 (Verily)  
http://vimeo.com/33123125 (Anjali)  
http://www.youtube.com/watch?v=IQZHvuZ3rbw&feature=youtu.be (Yue)

**Totter #8.** Global Class Videoconferencing and Remote Lands  
(e.g., Global Nomads Group, Int’l Studies in Schools (i.e., ISIS); RoundSquare ([http://www.roundsquare.org/](http://www.roundsquare.org/)) and Taking it Global ([http://www.tigweb.org/](http://www.tigweb.org/))

**Totter #9.** Social Books  
(e.g., Subtext)
We are entering a jumping off point...


October 5, 2012
First woman to cross Antarctic solo: I've never felt so alone, Ivana Kottasova, CNN, October 5, 2012

Totally Extreme #1. 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 #2. Open Teaching and Massive Open Online Courses (i.e., MOOC, David Wiley, George Siemens, Ray Schroeder)

Totally Extreme #3. June 27, 2012
Google Glass
ABC News, Google I/O Conference: Project Glass Prototype For Sale
Totally Extreme #4. 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 #5. Adventure
Learning about the Environment
(e.g., North of 60, GeoThentic, Earthducation, see Aaron Doering, Chasing Seals; http://chasingseals.com/)

Michael Perham
(Sept 17, 2012)
http://www.mikeperham.tv/

Totally Extreme #6.
iPod Learning from MIT OCW
(e.g., Wendy Ermold, University of Washington)

Totally Extreme #7.
MBAs from War Zones...!

Totally Extreme #8.
Kids Learn Online, Teach Online
(e.g., the World’s Youngest Teacher; Adora Svitak)
Totally Extreme #9. The Last Ocean Project, Ice Stories, and Shark Theater
(24 foot inflatable screen (and outdoor ocean theater) to tiny island communities) http://www.lastocean.com/ and http://lastocean-project.org/; Cassandra Brooks

Totally Extreme #10. Online Language Learning and Conversations
(e.g., PalTalk, iTalki, OpenLanguage, Babbel)

Totally Extreme #11. Virtual Mentoring
South African teens get virtual mentoring from all over the world, By Danielle Berger, CNN, January 14, 2011

Totally Extreme #12. Pocket School in Developing World
(Paul Kim, Stanford and Seeds for Empowerment in Rwanda, India, Mexico, Tanzania, etc.)

February 2012
SMILE: Stanford Mobile Inquiry-based Learning Environment

February 2012
Seeds for Empowerment, Tanzania
Getting Juice for Technology (generator)
Visual Representation of Extreme Learning

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

Sample HOPES Stories

DREAMS: Design Research for an Engaging and Active Mobile System

Extreme Learning “Stretches the Edges” of Humanity

Humanity Open Culture

Documents, Catalog, Grasp, Connect, Inspire Others...
What 3 things did you learn?

What are your Extreme Learning HOPES and DREAMS?
Website: www.Extreme-Learning.com
Slides at: TrainingShare.com
Book: http://worldisopen.com/
Dr. Curt Bonk – CJBonk@Indiana.edu