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)

Looking to the Past...

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

Learning is Changing
New Technologies = New Delivery Methods...
I. Learning is More Technology Driven
Robots teaching English and Virtual Worlds
Dr. Meeyong Kim, Dajeon, Korea, May 2012

II. Learning is More Video-Based
GETideas Channel, Cisco (Thought Leader Series uploaded to YouTubEd), July 22, 2011

III. Learning is More Mobile

IV. Learning is More Open
MIT+K-12: Making Video to Make a Difference, April 25, 2012
http://k12videos.mit.edu/

V. Learning is More Massive
Open Education’s Wide World of Possibilities
Chronicle of Higher Ed, Katherine Mangan, April 29, 2012

VI. Learning is More Flipped
Mooresville’s Shining Example, February 12, 2012
(It’s Not Just About the Laptops), ALAN SCHWARZ, NY Times
VII. Learning is More Empowering
iPad gives voice to kids with autism
Supraja Seshadri, CNN, May 14, 2012

Sharia Siddiqui uses an iPad to help her communicate. Her father says it's “given her a sense of control she never had.”

VIII. Learning is More Social
Facebook to help overhaul ICT curriculum,
Money, Andrew Marszal, Telegraph, Oct. 19, 2012

IX. Learning is More Collaborative
Collaboration and Discussion in Google Hangouts or with iPad, Jan. 29, 2013

X. Learning is More Ecological
THE Journal, February 13, 2013

XI. Learning is More Ubiquitous
Flexible displays bend what’s possible for computers,
Jon Swartz, USA Today (May 4, 2012)

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.

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

XIV. Learning is More Global
(Book Review by Dr. Mimi Miyoung Lee: Ed Tech Magazine, May-June 2013)

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

The Web of Learning

The World is 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
- Real-Time Mobility and Portability
- Networks of Personalized Learning

Framework #2: From Tinkering to Tottering to Totally Extreme Learning...

Tinkering Ideas

1. Educational Videos: e.g., TED-Ed
   http://education.ted.com/

2. Peer-Reviewed Online Encyclopedias
   (e.g., the Encyclopedia of Earth: http://www.eoearth.org/)

Audience Participation!

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

Tinkering

"I'm a thinker therefore I tinker!"
Tinker #3. Explore Timelines with Oral Histories
Slavery and the Making of America
http://www.pbs.org/wnet/slavery/timeline/1857.html

Tinker #4. Online Art
Google Art Project
NBC Nightly News, April 3, 2012

Tottering Ideas

Totter #1. Lessons on iPad (i.e., Flip the class)
(e.g., ShowMe: http://www.showme.com/

Totter #2. Digital Book Projects
(In South Korean classrooms, digital textbook revolution, Washington Post, March 24, 2012)

Totter #3. Student Collaborative Knowledge Building and Sharing
(e.g., Popplet: http://popplet.com/
Totter #4. Global Projects
(e.g., Taking It Global (TIG), RoundSquare, etc.)
RoundSquare (http://www.roundsquare.org/) and
Taking It Global (http://www.tigweb.org/)

You Want Totally Extreme?
Learning in a Plane, Train, Boat, etc.

Totally Extreme #1.
Adventure Learning
(e.g., North of 60, GeoThentic, Earthducation, see
Aaron Doering, Chasing Seals; http://chasingseals.com/,
Impossible2Possible; http://impossible2possible.com/home)

Totally Extreme #2.
Remote Animal Streaming
Remote Maine puffin colony up close on HD web cam
Clarke Canfield, The Statesman, 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.
Kids Learn Online, Teach Online
(e.g., the World’s Youngest Teacher; Adora Svitak)

We are entering a jumping off point...

We are entering a jumping off point...
Totally Extreme #4.
Child-designed Mobile Apps
S.T.E.M. education inspiring girls nationwide,
February 10, 2013, Melissa Harris-Perry
http://tv.msnbc.com/2013/02/10/s-t-e-m-education-inspiring-girls-nationwide/

Totally Extreme #5.
Online Learning Polyglots
http://www.nytimes.com/2012/03/11/nyregion/a-teenage-master-of-languages-finds-online-fellowship.html?_r=1&pagewanted=all

Timothy posts videos of himself speaking several languages on YouTube.

Totally Extreme #6.
Virtual Mentoring

Totally Extreme #7.
Tutor/Mentor Connection (Chicago)
http://www.tutormentorprogramlocator.net/InteractiveMap.aspx

Totally Extreme #8.
The Granny Cloud
(grandmothers use Skype to mentoring kids in India), September 2010, TED Talk from Sugata Mitra
http://www.ted.com/talks/sugata_mitra_the_child_driven_education.html

Totally Extreme #9. SOLE’s
(Build a School in the Cloud; Self-Organized Learning Environments (SOLEs), February 2013,
TED Talk from Sugata Mitra
http://www.ted.com/talks/sugata_mitra_build_a_school_in_the_cloud.html
**Totally Extreme #10. Reusable Khan**
Lacking Teachers and Textbooks, India’s Schools Turn to Khan Academy to Survive, NY Times, Anupama Chandrasekaran, Oct. 15, 2012

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

**Totally Extreme #11. Social Networking from Space**

**Weekly Space Hangout**
https://plus.google.com/events/c2c2582fbpvhm2d7c4a0r6uughk#events/c2c2582fbpvhm2d7c4a0r6uughk

“For more outer-space video goodness, tune in the Weekly Space Hangout at 3 p.m. ET Friday.”

**Totally Extreme #13. Pocket School and SMILE, Tanzania**
Feb 2012 (Paul Kim, Seeds of Empowerment, Stanford University)

SMILE project, Thailand
SMILE Running on Thai government’s OTPC (One Tablet Per Child), December 26, 2012, Per Paul Kim

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 #14. Augmented Reality, USA Today, Edward Baig.**
(e.g., ZooBurst, Craig Kapp, NYU, pop-up books)

Augmented reality has potential to reshape our lives!
Totally Extreme #15.
Tracing the fate of Algal Carbon Export in the Ross Sea, Antarctica TRACERS:
The NBP13-02 Cruise, February 12 to April 5, 2013
http://tracers-nbp1302.blogspot.com/p/the-project.html

From: Cassandra Brooks [mailto:cbrooks1@stanford.edu]
Sent: Thursday, January 31, 2013 12:09 AM
Subject: To keep up on the Antarctic Adventures… I’m heading out today to New Zealand, then flying to Antarctica where we pick up our NSF icebreaker. We’ll be at sea for about 54 days, then coming back through Chile. Hopefully I will be back the first week of April. In the meantime, here is the cruise blog:

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

DREAMS: Design Research for an Engaging and Active Mobile System

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