

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

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September 17, 2012
Education 2022: A 360 Degree View
Ten predictions of 2022
John Mayerhofer & Alex Zhu, SAP Training & Educ.

1. **Learner-Driven**
2. **Openly Accessible**
3. **Personalized**
4. **Social**
5. **Ubiquitous**
6. **Holistic**
7. **Teaching Redefined**
8. **Policy Redefined**
9. **Industry Engaged**
10. **Achievement Redefined**



I'm Happy...Are you Happy?



Shovelware




this IS my happy face

Audience Poll #1:
Has learning technology has ever transformed your life.



Change not possible as an accountant...

(Life as a CPA, 1981-1986)

Property of Museum of History & Industry, Seattle

Technology of the 1980s

Radio Shack TRS-80 Model III

Introduced: July 1980

Price: US \$699 base model
US \$2495 w/ 32K, dual drives.

CPU: Zilog Z-80, 2.03 MHz

RAM: 4K, 48K max.

Ports: Cassette tape, expansion, serial

Display: 12-inch B&W monitor 64 x 16 text

Storage: 0, 1, or 2 internal 170K floppy drives
External cassette @ 500 / 1500 baud

OS: BASIC in ROM, TRS-DOS on disk

Decided to Read, Read, Read...

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

©1989 by Daniel Croteau and Andrew W. Ho. All rights reserved. University of Massachusetts Lowell

Took Correspondence & TV Courses

(thanks to Bob Clasen and Charles Wedemeyer, the University of Wisconsin)

Looking to the Past...

Fast Forward 25-30 Years...

"Anyone can now learn anything from anyone at any time."

Join us! Start learning and discover unique classes in your city

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

Learning Delivery
How Do You Deliver Learning?

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

**Oct. 3, 2012: Learning is More Personal
Episode 99: What Wearable Computers Could Mean for
Campuses, Jeffrey R. Young, Chronicle of HE**

<http://chronicle.com/blog/jryoung/2012/10/03/episode-99-what-wearable-computers-could-mean-for-campuses/>

Tech Therapy think

Episode 99: What Wearable Computers Could Mean for Campuses
October 3, 2012, 4:41 pm
By Jeffrey R. Young

Wearable computers may be coming to campus sooner than you think. Google recently announced "Project Glass" as "suggested reality" devices. The Tech Therapy described cyborg anthropologist, about what the Links discussed in this episode: Google's P

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

CAMPUS TECHNOLOGY
LIGHTS! CAMERA! ACTION!

at Lehigh University from students like "spright students" performing, allowing them to use their own computers to control digital content in the room.

**Learning is More Active
University of Minnesota
Active Learning Classrooms (ALC)**

UNIVERSITY OF MINNESOTA
Driven to Discover

Office of Classroom Management
Office of Undergraduate Education

Home • Planning and Projects • U of M Active Learning General Purpose Class

Active Learning Classroom (ALC)
Student centered, interactive, integrated, flexible, active learning spaces.

Watch how ALCs in STSS are utilized.
Video credits: produced by Robin Wright, created by Andy Underwood-Bultmann.

Learning is More Social

October 19, 2012
Facebook to help overhaul ICT curriculum, Money, Andrew Marszal, Telegraph
<http://www.ahorath.com/Education/educationnews/2643725/Facebook-to-help-overhaul-ict-curriculum.html>
<http://money.cnn.com/2012/10/19/technology/facebook-1-billion-users/04/4/2012/cnn.money/>
<http://money.cnn.com/2012/10/19/technology/facebook-1-billion-users/04/4/2012/cnn.money/>

April 12, 2011: Learning is More Free
NCTM Conference, Free Online Degrees; Integration of Science, Mathematics, and Reflective Teaching (iSMART) University of Houston

You see the big picture. You find the connections.
 Make it official - become iSMART.

Jen Chauvot and Mimi Lee, Univ of Houston

April 29, 2012: Learning is More Open
Open Education's Wide World of Possibilities, Chronicle of Higher Education, Katherine Mangan
http://chronicle.com/article/Open-Education's-Wide-World-of-Possibilities/1316727?cid=at&utm_source=at&utm_medium=cn

Aug 22, 2011: Learning is More Inclusive
Worldreader: What Makes Ed Tech Successful in the Developing World?, ReadWriteWeb, David Risher
http://www.readriteweb.com/archives/what_makes_educational_technology_successful_in_the_developing_world/
<http://www.worldreader.org/>

Mobile Lorm Glove - A communication device for deaf-blind people.
<http://www.youtube.com/watch?v=FLfa9ni7X3I>

Feb. 21, 2012: Learning is More Flipped
Rethinking Learning with Salman Khan
Stanford Graduate School of Business
<http://www.youtube.com/watch?v=Wvj68H0a5w>
Khan Academy Founder Finds Simplicity Appeals in Online Education Experimentation
<http://www.pbs-stanford.edu/news/theaffairs/khan-academy.html>
Let's use video to reinvent education, TED, March 2011
http://www.ted.com/talks/salman_khan_let_s_use_video_to_reinvent_education.html


August 14, 2012: Learning is More Ubiquitous

"Some universities require students to use e-textbooks,"
Yasmeen Abutaleb, USA Today
<http://www.usatoday.com/story/money/markets/story/2012-08-13/e-textbooks/57039872/1>

Some universities require students to use e-textbooks

By Yasmeen Abutaleb, USA TODAY Updated on 8:58 am

Students don't seem to want to buy e-textbooks. So some schools are simply forcing them.



While several colleges across the country are pushing electronic textbooks, touting them as more efficient and less cumbersome than regular textbooks, students are reluctant. E-textbooks still account for only 3% of textbook purchases, says Student Monitor, which researches college student behavior.

STORY: Students, families, seek ways to trim college costs
STORY: Credit cards and college students can be a dangerous mix
STORY: "How excited can you expect to get about an e-textbook?" Student Monitor President Eric Wood says. "It's not a textbook replacement, it's not a viable option. It has to overcome the advantages that students see (in) a printed textbook."

August 31, 2012: Learning is More in the News

Digital Tools, Chronicle of HE
<http://chronicle.com/article/Almanac-2012-Technology/133769/>

Venture-Capital Investment in Education-Technology Companies, 2002-11
 Investments in education-technology companies nationwide tripled in the last decade, shooting up even during the recent economic recession. Such investments grew to \$4.29-billion in 2011 from \$1.69-billion in 2002.



Year	Sum of equity invested (Millions of dollars)	Number of deals (Thousands)
2002	169	15
2003	175	18
2004	180	20
2005	185	22
2006	190	25
2007	200	30
2008	210	35
2009	220	40
2010	230	45
2011	429	55

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/9278886/nfl-require-ejected-fans-take-online-fan-conduct-course



NFL gets serious about fan conduct

The NFL is getting more serious about conduct in the stadium this year, its teams are requiring any fan who gets ejected from a game to take an online course before they are permitted to come back to the stadium, sources say.

The course, designed by sportswriter Dr. Darren Rovell, is a 15-minute video course that teaches fans about proper behavior. A handful of teams have used the course with some success, as part of a review of their fan practices, according to sources.

This program was designed to say to people, "We want you to have fun when you come to a game, but you have to be respectful to others."

August 27, 2012

Online University For All Balances Big Goals, Expensive Realities, Claudio Sanchez, NPR
<http://www.npr.org/2012/08/27/160116814/online-university-for-all-balances-big-goals-expensive-realities>
Audio: <http://www.npr.org/player/v2/mediaPlayer.html?action=1&cat=1&file=160116814&news=160135903>

Students work at the University of the People student computer center in Haiti. Students from 129 countries are currently enrolled with the institution



Online University For All Balances Big Goals, Expensive Realities

By Claudio Sanchez

Listen to the Story

Naylea Omayra Villanueva Sanchez, 26, lives on the edge of the Haitian town of Les Cayes, near Port-au-Prince.

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

September 12, 2012

How online courses will revolutionize college,
Mary Beth Marklein, USA TODAY
<http://www.wtsp.com/news/article/2732431/81/How-online-courses-will-revolutionize-college>

How online courses will revolutionize college

0 12 PM, Sep 12, 2012 | 0 comments



USA Today

Author: Sarah D. White, Writer: Sarah D. White, Photo: Victoria Arnold, USA TODAY

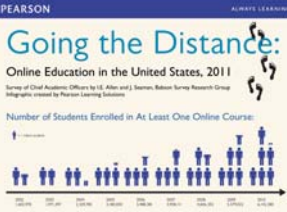
More than six million post-secondary students are taking online classes in the USA; growing by 10% per year.

http://sloanconsortium.org/publications/survey/going_distance_2011

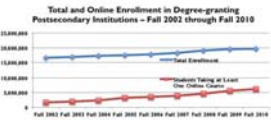
PEARSON ALWAYS LEARNING

Going the Distance:
 Online Education in the United States, 2011

Survey of Chief Academic Officers by V. Allen and J. Sorenson, Sloan Survey Research Group
 ©Copyright reserved by Pearson Learning Solutions



Number of Students Enrolled in At Least One Online Course:




Total and Online Enrollment in Degree-granting Postsecondary Institutions – Fall 2002 through Fall 2010

Year	Total Enrollment	Students Taking at Least One Online Course
Fall 2002	15,000,000	1,500,000
Fall 2003	15,500,000	1,600,000
Fall 2004	16,000,000	1,700,000
Fall 2005	16,500,000	1,800,000
Fall 2006	17,000,000	1,900,000
Fall 2007	17,500,000	2,000,000
Fall 2008	18,000,000	2,100,000
Fall 2009	18,500,000	2,200,000
Fall 2010	19,000,000	2,300,000


U.S. DEPARTMENT OF EDUCATION

Evaluation of Evidence-Based Practices in Online Learning
A Meta-Analysis and Review of Online Learning Studies



Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies

U.S. Department of Education
Office of Planning, Evaluation, and Policy Development
Policy and Program Studies Service



Prepared by
Barbara Means
Yukie Toyama
Robert Murphy
Marianne Bakia
Karla Jones

Center for Technology in Learning

Revised September 2010

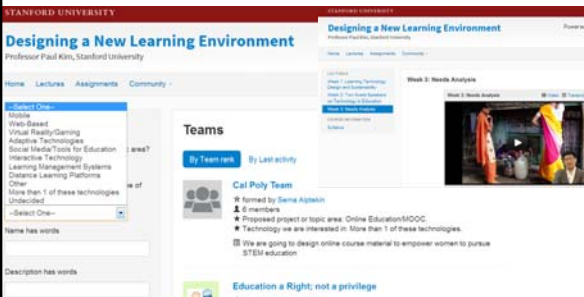
**October 27, 2012:
Learning is More Massive**
Chuck Severance (U Michigan/Coursera) in Barcelona

<http://www.youtube.com/watch?v=JzNHvmSv8TI>




Paul Kim, Stanford: Oct 28, 2012
17,380 students. I haven't met f2f. I am shocked to see students from places where Internet is very limited. You will find students from even Zanzibar!!! Many teams are formed and they meet f2f in the region where they live.

<http://venture-lab.org/education/>

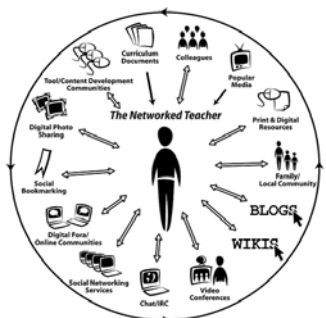
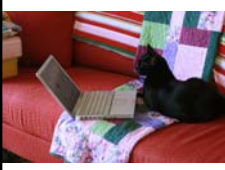


Poll #2: Is this a revolution in education today?

A. Yes...
B. No...



The Web of Learning

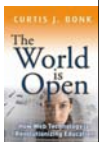



**The World is Open...
It is very open!**



Framework #1: WE-ALL-LEARN:
Ten Forces that Opened the Learning World

- W**eb Searching in the World of e-Books
- E**-Learning and Blended Learning
- =====
- A**vailability of Open Source and Free Software
- L**everaged Resources and OpenCourseWare
- L**earning Object Repositories and Portals
- =====
- L**earner Participation in Open Info Communities
- E**lectronic Collaboration and Interaction
- A**lternate Reality Learning (e.g., MMOG, Second Life)
- R**eal-Time Mobility and Portability (e.g., iPhone)
- N**etworks of Personalized Learning (Blogs, RSS)



Audience Participation!

1. WE

2. ALL

3. LEARN!!!



My dog is content....



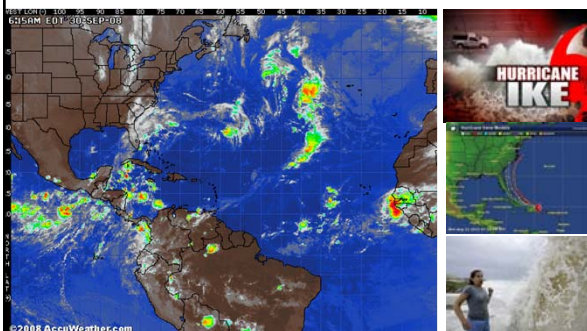
I am not Content!!!



The Potential Result...



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)





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






September 27, 2012
The Crisis in Higher Education, Nicholas Carr, Technology Review
<http://www.technologyreview.com/featured-story/429376/the-crisis-in-higher-education/>



September 27, 2012
The Crisis in Higher Education, Nicholas Carr, Technology Review
<http://www.technologyreview.com/featured-story/429376/the-crisis-in-higher-education/>

Undergraduate enrollment in the United States

Year	Enrollment
1970	7.4m
1980	10.5m
1990	12m
2000	13.1m
2010	18.1m

Average cost of a year on campus **\$27,435**

Percentage of people who say the value is fair or poor **57%**

Data from Institute of Education Sciences and Pew Research Center.

September/October, 2012
The Siege of Academe
Washington Monthly, Kevin Carey,
http://www.washingtonmonthly.com/magazine/spotemberoctober_2012/features/_its_three_o'clock_in_1937_who?page=all



October 10, 2012
How Australian university can play in the MOOCs market, David Sadler, The Conversation, Australia
<http://theconversation.edu.au/how-australian-universities-can-play-in-the-moocs-market-9735>

THE CONVERSATION

10 October 2012 8:30am AEST
How Australian universities can play in the MOOCs market

BY DAVID SADLER
 Director of e-Learning, University of Queensland

David Sadler looks to the benefits of open education, MOOCs, flipped classrooms and education. Together with Professor Stephen Toole, he looks at the Learning and Teaching (L&T) panel to make an open educational resource and course in the MOOCs market. Considered at the 2012

The Conversation provides educational services and consulting from Australia and worldwide.

See also: [MOOCs: Australia's MOOCs market](#) | [MOOCs: Australia's MOOCs market](#)

FUTURE OF HIGHER EDUCATION: The rise of online and...

October 11, 2012
MOOC and you're out of a job: uni business models in danger, Mark Gregory, The Conversation, Australia
<http://theconversation.edu.au/mooc-and-youre-out-of-a-job-uni-business-models-in-danger-9738>

THE CONVERSATION

Academics and universities might need to be careful of what they wish for with free online education.

October 12, 2012
Radical rethink: how to design university courses in the online age, Paul Wappett, The Conversation, Australia
<http://theconversation.edu.au/radical-rethink-how-to-design-university-courses-in-the-online-age-9737>

THE CONVERSATION

TRADITIONAL STUDY MODEL - LINEAR

© 2012 The Conversation

October 12, 2012
Radical rethink: how to design university courses in the online age, Paul Wappett, The Conversation, Australia
<http://theconversation.edu.au/radical-rethink-how-to-design-university-courses-in-the-online-age-9737>

THE CONVERSATION

ONLINE STUDY MODEL - DYNAMIC

© 2012 The Conversation

September 10, 2012
Credentials in the cloud: how will MOOCs deal with plagiarism?, Beverly Oliver,
<http://theconversation.edu.au/credentials-in-the-cloud-how-will-moocs-deal-with-plagiarism-8581>

September 21, 2012
As Online Courses Grow, Sites Offering Unauthorized Academic Help Get More Brazen, Chronicle of Higher Education, Alisha Azevedo
<http://theconversation.edu.au/as-online-courses-grow-sites-offering-unauthorized-academic-help-get-more-brazen-8581>

As Online Courses Grow, Sites Offering Unauthorized Academic Help Get More Brazen
 September 21, 2012 11:42 am
 By Alisha Azevedo

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WE TAKE YOUR ONLINE COLLEGE CLASSES FOR YOU AND GET YOU AN "A"

UNEMPLOYED PROFESSORS.COM

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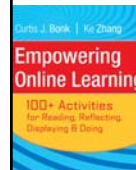
Support or PART? The choice is yours.

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.m 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!



October 9, 2012

MOOCs and exercise bikes – more in common than you'd think, Robert Nelson and Phillip Dawson, The Conversation, Australia

<http://theconversation.edu.au/moocs-and-exercise-bikes-more-in-common-than-you-d-think-9726>

THE CONVERSATION



Are you motivated or do you need a social setting and role models to keep you driven?

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



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=B09rgJD1GXo>
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.pollerywhere.com/>

The image shows two screenshots. The left one is from Poll Everywhere, displaying a poll titled 'Instant Audience Feedback' with a list of names and their scores. The right one is from GrammarCheck.net, showing a text input field and a 'Check Grammar' button.

3. Curiosity, Intrigue:

A. Online News and Live Feeds (Felix Baumgartner's 24 mile freefall)

(CNN, October 10 &14, 2012, BBC, June 26, 2012; ESPN.com October 14, 2012)

The image is a screenshot of a news article from CNN. The headline reads 'Fearless Felix' falls 24 miles, 704 mph and lands on his feet'. Below the headline are several images: one of Felix Baumgartner in his space suit, another of him in a pink shirt and red hat, and a third showing the space suit and equipment.

4. Variety, Novelty, Fun:

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

The image shows the Random.org website interface. It features sections for 'Coin Flipper', 'Dice Roller', and 'RANDOM.ORG List Randomizer'. The 'Dice Roller' section shows two dice with a 'Roll' button. The 'List Randomizer' section shows a list of 10 items in random order.

5. Autonomy, Choice:

A. Web Exploration Assignments

- Complete Works of Charles Darwin Online: <http://darwin-online.org.uk/>
- The Complete Works of William Shakespeare: <http://shakespeare.mit.edu/>
- Edgar Allan Poe Society of Baltimore: <http://www.eapoe.org/>
- Einstein Archives Online: <http://www.alberteinstein.info/>
- Federal Resources for Educational Excellent project: <http://free.ed.gov/>
- Global Text Project: <http://globaltext.org/>
- iBerry (Open Courseware Directory): <http://iberry.com/>
- Jane Austen: <http://www.janeausten.org/>
- The Jane Goodall Institute: <http://www.janegoodall.org/>
- Timeless Hemmingway: <http://www.timelesshemmingway.com/>

The image shows three small screenshots of educational websites. The first is 'The Complete Works of William Shakespeare', the second is 'The Jane Goodall Institute', and the third is 'Timeless Hemmingway'.

6. Relevance, Meaningfulness:

A. Online Cases (e.g., Mark Braun, IU)

The image shows an online case study interface. It includes several microscopic images of tissue, a video of a doctor, and text describing a 'Stomach, endoscopic examination and biopsy: Poorly differentiated tubular adenocarcinoma'. There is also a 'Final conclusion' section.

7. Interactive, Collaborative:

A. Collaborative Video Annotations and Discussions (Craig Howard, IU)

<http://scholarworks.iu.edu/journals/index.php/iidl/article/view/853/912>

The image shows a video annotation interface. It features a video player with several red annotations overlaid on the video. The annotations contain text related to a lesson on the scientific method.

8. Engagement, Effort:
A. CNN (2011). Map: Impact of Japan tsunami and earthquake. CNN.
<http://www.cnn.com/SPECIALS/2011/japan.quake/map/>
 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=8cmCFW91WR8>
 Shuya Xu and Yue Ma (Blog my online lrng): <http://www.youtube.com/watch?v=im7GQM9fzhc>
 Cesar Dagli (Animal perspectives on course): <http://www.youtube.com/watch?v=cDeTEId0Sic>

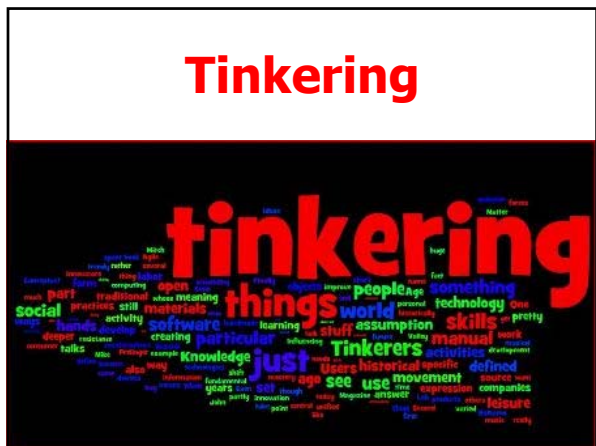
10. Yields Products, Goals:
B. I Done This, Milestone Planner, 43 Things

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...



Tinker #1. Using Online Encyclopedias (e.g, the Encyclopedia of Earth: <http://www.eoearth.org/>) http://en.wikipedia.org/wiki/Encyclopedia_of_Earth

Tinker #2. Educational Videos: TED-Ed <http://education.ted.com/>

Tinker #3. 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>

Tinker #4. Interactive Maps to predict outcomes (e.g., Interactive Political Maps: Huffington Post, Oct. 13, 2012) <http://election.huffingtonpost.com/2012/10/13/interactive-political-map-castrom/>

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/LhGeApsKjar> <http://www.labnews.co.uk/news/prehistoric-revolution/> <http://www.youtube.com/embed/kjmNnRFHCzk?rel=0>



Totter #1.

Wikibooks, Wiki-Glossaries, Wiki-Syllabi (Ron Owston, York University, Toronto)

Web 2.0 and Emerging Learning Technologies
From Wikibooks, the open-content textbooks collection

Totter #2. Combining Asynchronous and Synchronous Events (flipping classes)

Totter #3. Uploading Mobile Books (e.g., BookRix, <http://www.bookrix.com/>)

Totter #4. Student Collaborative Knowledge Building and Sharing (e.g., Popplet: <http://popplet.com/>)

Totter #5. Student Films and Documentaries

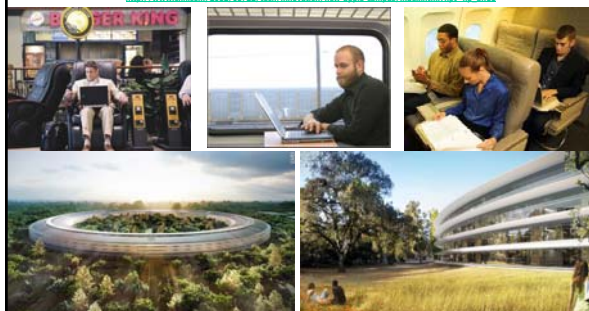
<http://vimeo.com/33090590/> (Verily)
http://vimeo.com/33123125 (Anjali)
<http://www.youtube.com/watch?v=IQZHvuZ3rbw&feature=youtu.be> (Yue)

We are entering a jumping off point...



You Want Totally Extreme?

Apple's new 'spaceship' campus: What will the neighbors say?, Doug Gross, CNN, May 22, 2012
http://www.cnn.com/2012/05/22/tech/innovation/new-apple-campus/index.html?hpt=hp_tech_3

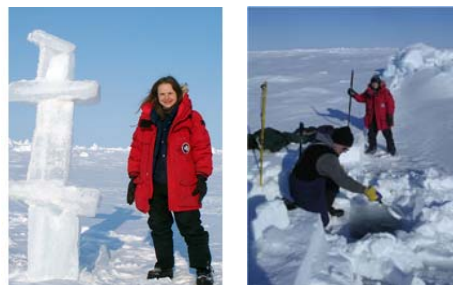


Totally Extreme #1. Michael Perham Drives around the World (Sept 17, 2012)

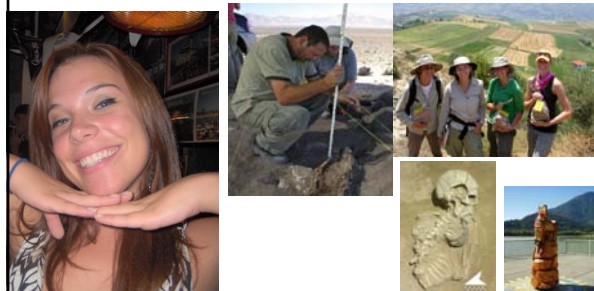
<http://www.mikeperham.tv/>



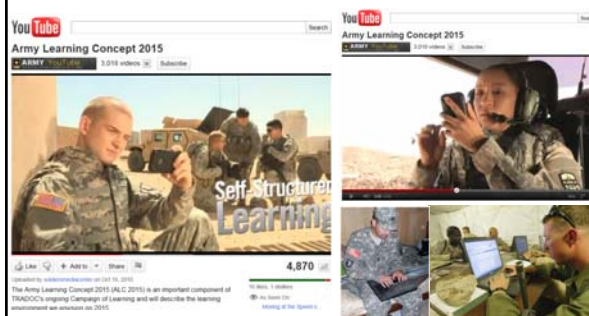
Totally Extreme #2. iPod Learning from MIT OCW (e.g., Wendy Ermold, University of Washington)



Totally Extreme #3. Blogging Field Archeology Research (e.g., Lily Henry Roberts, UCLA digging in Hope, BC, Stó:lō First Nation people from 12,000 years ago)



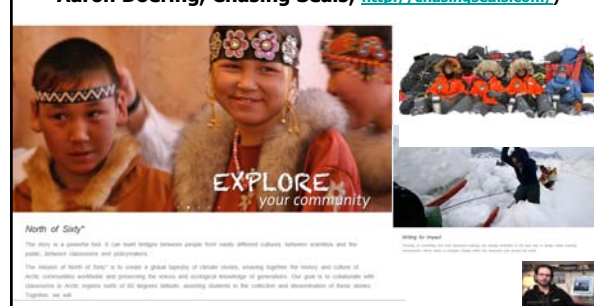
Totally Extreme #4. MBAs from War Zones...!



Totally Extreme #5. Virtual Mentoring
 South African teens get virtual mentoring from all over the world, By Danielle Berger, CNN, January 14, 2011
<http://www.cnn.com/2011/LIVING/01/13/cnnheroes.stokes/index.html?hpt=T2>



Totally Extreme #6. Adventure Learning about the Environment
 (e.g., North of 60, GeoThentic, Eartheducation, see Aaron Doering, Chasing Seals; <http://chasingseals.com/>)



October 5, 2012 (Felicity Aston, UK)
 First woman to cross Antarctic solo: I've never felt so alone, Ivana Kottasova, CNN
http://www.cnn.com/2012/10/05/travel/felicity-aston-antarctic-explorer/index.html?hpt=hp_c4



Totally Extreme #7. Adventures of a Teenage Polyglot, New York Times, March 9, 2012, John Leland
http://www.nytimes.com/2012/03/09/us/politics/teenage-master-of-languages-finds-online-following.html?_r=1&page=infodiv



Timothy posts videos of himself speaking several languages on YouTube.

Totally Extreme #8. Lacking Teachers and Textbooks, India's Schools Turn to Khan Academy to Survive, New York Times, October 15, 2012, Anupama Chandrasekaran
<http://india.blogs.nytimes.com/2012/10/15/lacking-teachers-and-textbooks-indian-schools-turn-to-khan-academy-to-survive/>

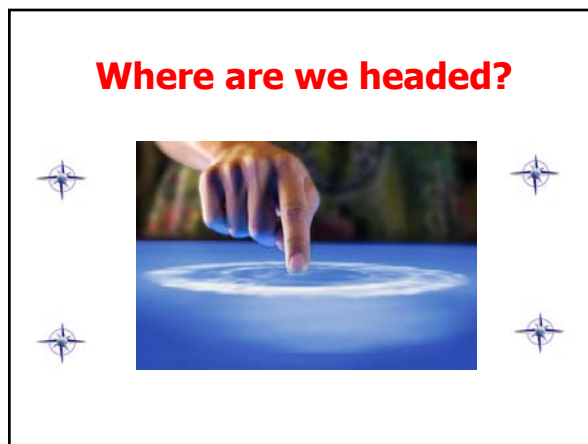
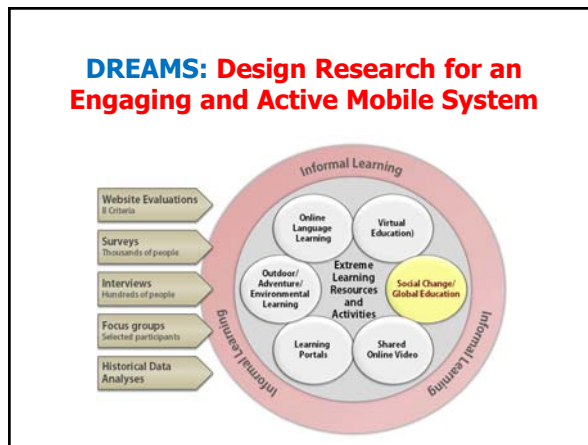
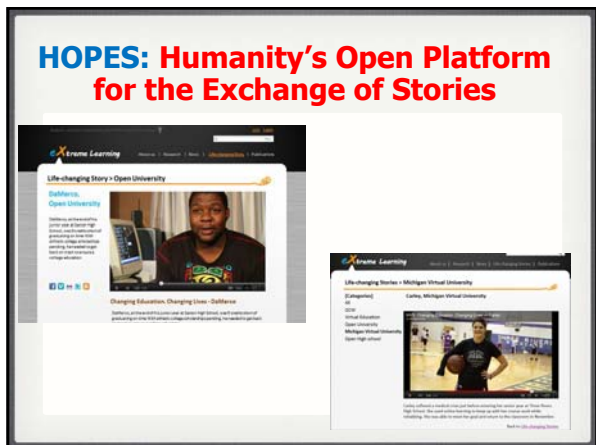
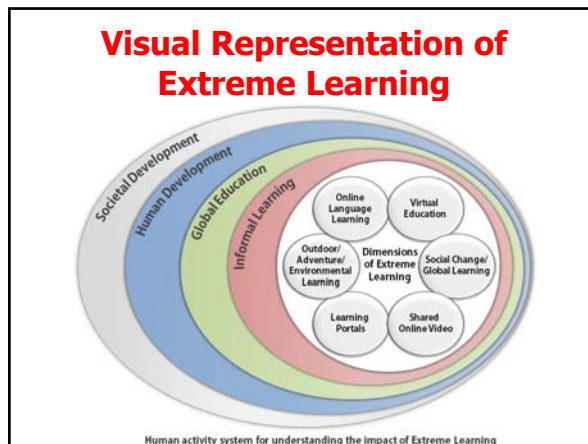
The New York Times | International Herald Tribune



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

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





October 17, 2012

The university campus of the future: what will it look like?, David Lamond, The Conversation, Australia

<http://theconversation.edu.au/the-university-campus-of-the-future-what-will-it-look-like-9769>

THE CONVERSATION



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