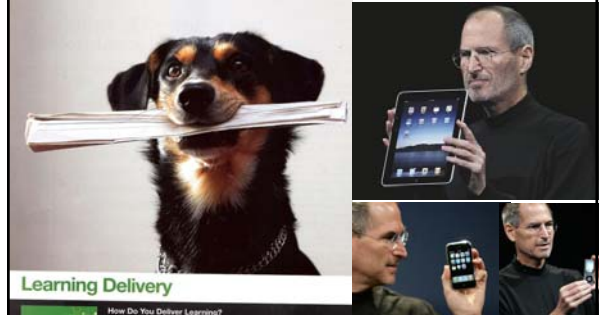


### Stretching the Edges of Technology-Enhanced Teaching: From Tinkering to Tottering to Totally Extreme Learning

Curtis J. Bonk, Professor, Indiana University  
cjbonk@indiana.edu  
<http://mypage.iu.edu/~cjbonk/>



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



### Learning is More Social



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



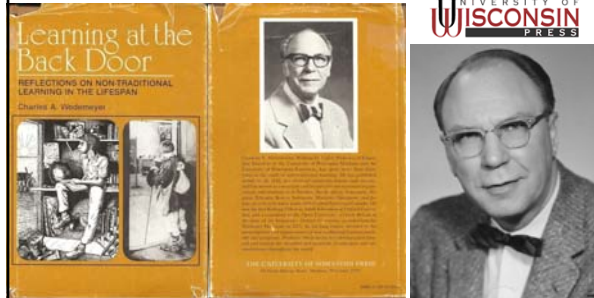
### Change not possible as an accountant... (Life as a CPA, 1981-1986)



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



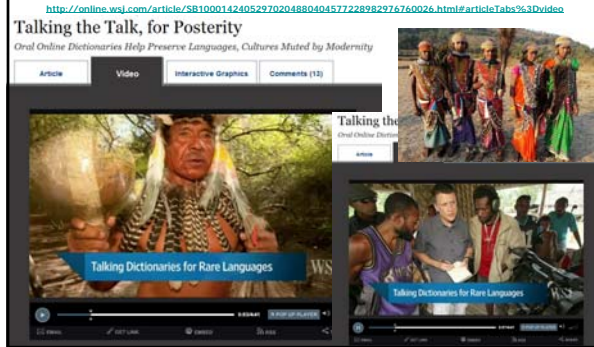
**Took Correspondence & TV Courses**  
(thanks to Bob Clasen and Charles Wedemeyer, the University of Wisconsin)



**Fast Forward 25 Years...**  
"Anyone can now learn anything from anyone at any time."



**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



**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/G3657\\_A12064](http://mediagallery.usatoday.com/Flexible+screen+displays/G3657_A12064)



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=Szj6uQn8djc>



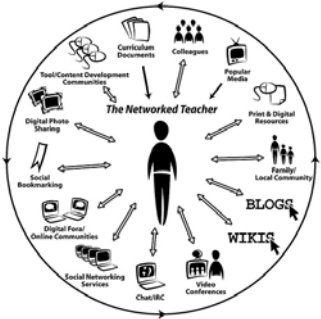
**June 27, 2012. Google Glass.**  
 ABC News, Google I/O Conference: Project  
 Glass Prototype For Sale  
<http://abcnews.go.com/Technology/google-project-glass-prototypes-offered-google-io-conference/story?id=1664317>



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



**The Web of Learning**




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






## Audience Participation!

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



## We are entering a jumping off point...



## From Tinkering to Tottering to Totally Extreme Learning...



## Tinkering Ideas



"I'm a thinker therefore I tinker!"




## Tinker #1. Timeline Tools

(e.g., MLK Memorial Timeline)

<http://www.usatoday.com/story/national/story/2011-08-25/Martin-Luther-King-Jr-Memorial-in-Washington-A-closer-look/501364701?pos=3#story>

Martin Luther King Jr. Memorial in Washington: A closer look



## Tinkering #2.

### Tracking the Life of a Scientist

(e.g., Brian J. Ford, independent scientist)

<http://www.youtube.com/user/tellymonitor#p/a/u/1/LhGeApsKjlar>

<http://www.labnews.co.uk/news/prehistoric-revolution/>

<http://www.youtube.com/embed/kjmnRFHCzk?rel=0>



### Tinker #3. Online Art

Google Art Project,  
NBC Nightly News, April 3, 2012  
<http://www.msnbc.msn.com/id/3032619/vp/46945508#46945508>



### Tinker #4.

#### Using Online Encyclopedias

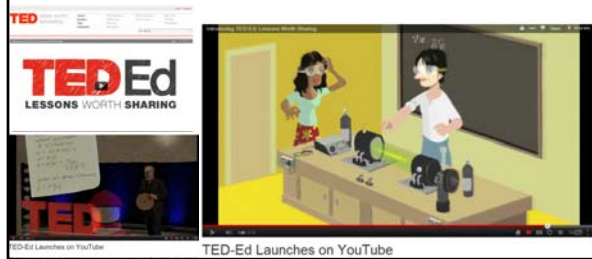
(e.g, the Encyclopedia of Earth:  
<http://www.eoearth.org/>  
[http://en.wikipedia.org/wiki/Encyclopedia\\_of\\_Earth](http://en.wikipedia.org/wiki/Encyclopedia_of_Earth))



### Tinker #5.

#### Educational Videos: TED-Ed

<http://education.ted.com/>



### Tinker #6. Timelines with Oral Histories, Slavery and the Making of America Time and Place

<http://www.pbs.org/wnet/slavery/timeline/1857.html>

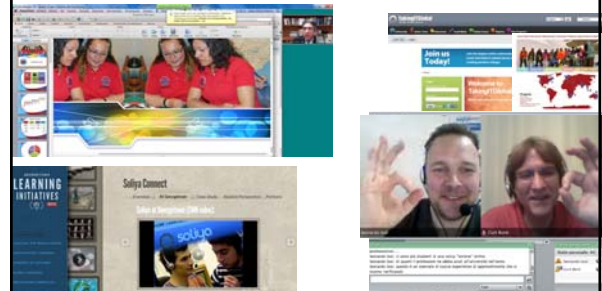


## Tottering Ideas



### Totter 1. Global Class Videoconferencing and Remote Lands

RoundSquare (<http://www.roundsquare.org/>) and  
Taking it Global (<http://www.tigweb.org/>)



**Totter #2. Crowdsourced Q&A**  
 April 1, 2012, Piazza: <https://piazza.com/>

The screenshot shows the Piazza website interface. At the top, it says 'piazza SANDBOX CLASS'. Below that, there are several questions and answers. One question is 'Confused with if/then' and another is 'Professors & TAs: Save Time. Teach Better.' There are also images of people and text snippets.

**Totter #3. Lessons on iPad**  
 (e.g., ShowMe: <http://www.showme.com/>)

The screenshot shows the ShowMe website. The main image is a video of a teacher standing in a classroom, holding an iPad and pointing at a whiteboard. Below the video, there are two smaller images of iPads. The left one shows a hand-drawn diagram with the text 'Watch out!' and 'Confusing!'. The right one shows a hand-drawn equation: 'Solving Degree Equation' with  $3x - 20 = 80$  and  $x =$ .

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

The screenshot shows the Popplet website interface. It features a blue header with the 'popplet' logo and the tagline 'see what you think together'. Below the header, there are several sections: 'What is Popplet?', 'Check out these Popplets!', and 'Check out our preview video:'. The 'Check out these Popplets!' section shows several small images of collaborative workspaces.

**Totter #5. Using Google Hangouts for Class**  
 (January 2013)

The screenshot shows a Google Hangout session. The main window displays a video of a woman speaking. Below the main window, there are several smaller windows showing other participants in the hangout. The interface includes a chat window on the right side.

**Totter #6. 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)

The screenshot shows a YouTube video player. The video is titled 'History for Music Lovers' and features a woman in a historical costume. The video player includes a search bar, a play button, and a progress bar.

**We are entering a jumping off point...**

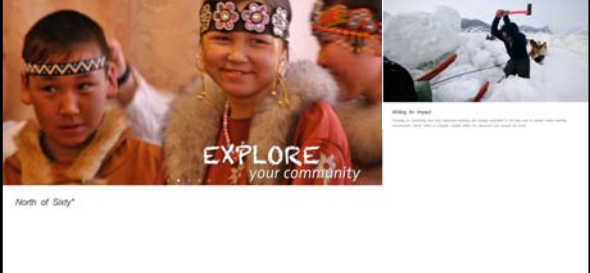
The photograph shows a man standing outdoors on a grassy area. He is wearing a purple jacket and blue jeans. He has his arms raised in a celebratory gesture, with one hand pointing upwards. The background shows trees and a clear sky.




**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\\_bn11](http://www.cnn.com/2012/05/22/tech/innovation/new-apple-campus/index.html?hpt=hp_bn11)



**Totally Extreme #1. Adventure Learning about the Environment**  
 (e.g., North of 60, GeoThentic, Earthducation, see Aaron Doering, Chasing Seals; <http://chasingseals.com/>)



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



**Totally Extreme #3. MBAs from War Zones...!**



**Totally Extreme #4. Kids Learn Online, Teach Online**  
 (e.g., the World's Youngest Teacher; Adora Svitak)



**Totally Extreme #5. An 80-Year-Old Graduate With an Online Marketing Degree Kept His Promise, The Texas Tribune, December 9, 2012**  
[http://www.nytimes.com/2012/11/30/us/80-year-old-graduate-of-wgu-texas-kept-his-promise.html?of=education&\\_r=0](http://www.nytimes.com/2012/11/30/us/80-year-old-graduate-of-wgu-texas-kept-his-promise.html?of=education&_r=0)



### Totally Extreme #6.

#### Online Language Learning and Conversations

(e.g., PalTalk, iTalki, OpenLanguage, Babbel)

The image shows a screenshot of the Babbel website. At the top, it says "Learn Italian on Your Terms!" and "Sign Up Now!". Below that, there's a section for "Learn Languages Online" with a "Try it now" button. A list of available languages is shown on the right, including French, Italian, Spanish, German, English, Dutch, Polish, and Indonesian. On the left, there are ads for "ChinesePod" and "Learn Italian on Your Terms!".

### Totally Extreme #7. 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>

The image shows a screenshot of a CNN Heroes article. The main headline is "South African teens get virtual mentoring from all over the world". Below the headline, there are two video thumbnails: one showing a group of children in a classroom and another showing a woman speaking. The CNN logo is visible in the top right corner.

### Totally Extreme #8. February 2012

#### Pocket School and SMILE: Stanford Mobile Inquiry-based Learning Environment

The image is a collage of five photographs. The top row shows three photos of students in a classroom setting, some looking at mobile devices. The bottom row shows two photos of students outdoors, one standing and one sitting, both appearing to be engaged in an activity related to the mobile learning environment.

### Totally Extreme #9. Adventures of a Teenage Polyglot

#### New York Times, March 9, 2012, John Leland

[http://www.nytimes.com/2012/03/11/us/politics/became-master-of-languages-finds-online-fellowship.html?\\_r=1&page=all](http://www.nytimes.com/2012/03/11/us/politics/became-master-of-languages-finds-online-fellowship.html?_r=1&page=all)

The image shows a screenshot of a New York Times article. The main headline is "Adventures of a Teenage Polyglot". Below the headline, there are two video thumbnails: one showing a young man speaking and another showing a close-up of a video camera. The New York Times logo is visible in the top left corner.

### Extreme Learning Website

[www.extreme-learning.com](http://www.extreme-learning.com)

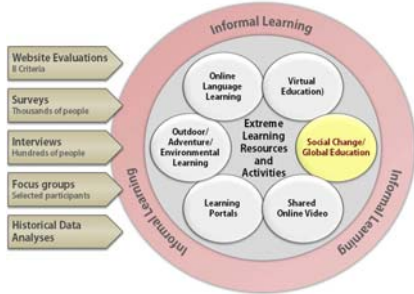
The image shows a screenshot of the Extreme Learning website. The main headline is "Extreme Learning" with the tagline "Anyone can learn anywhere". Below the headline, there are several sections: "What's New" with a list of items, "Life Change Story" with a video thumbnail, and "Extreme Learning" with a text block. The website has a dark background with white and blue text.

### Sample HOPES Stories

The image shows a screenshot of sample HOPES stories on the Extreme Learning website. The main headline is "Life-changing Story - Open University". Below the headline, there are two video thumbnails: one showing a man speaking and another showing a man playing basketball. The website has a dark background with white and blue text.



## DREAMS: Design Research for an Engaging and Active Mobile System



## Who is Content Now? And Who is Stretched Now?

Website: [www.Extreme-Learning.com](http://www.Extreme-Learning.com)

Slides at: [TrainingShare.com](http://TrainingShare.com)

Book: <http://worldisopen.com/>

Dr. Curt Bonk – [CJBonk@Indiana.edu](mailto:CJBonk@Indiana.edu)

