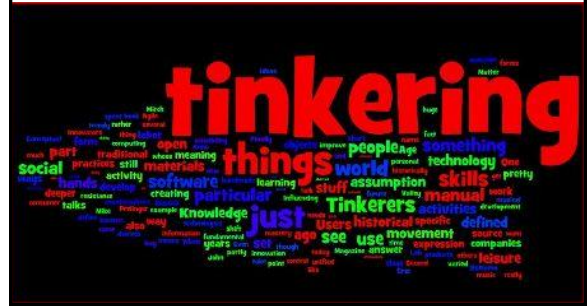


## Stretching the Edges of Technology-Enhanced Teaching: From Tinkering to Tottering to Totally Extreme Learning

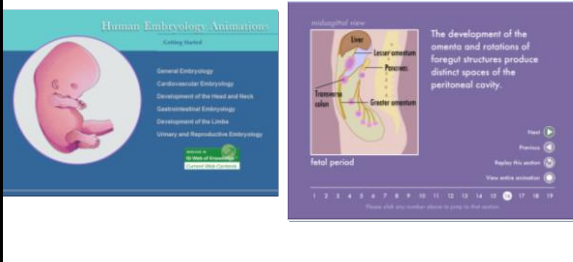
Curtis J. Bonk, Professor, Indiana University  
 cjbonk@indiana.edu  
<http://mypage.iu.edu/~cjbonk/>



## Tinkering



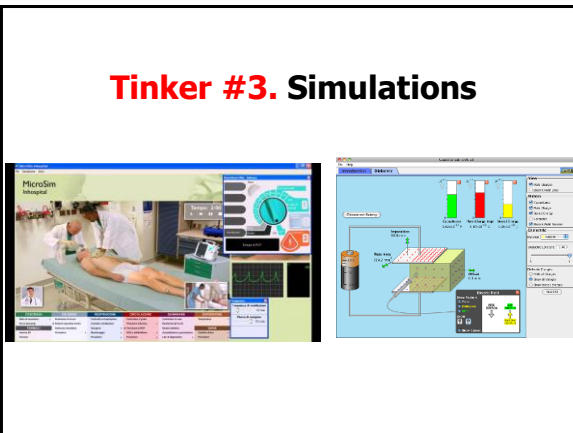
### Tinker #1. Human Embryology Animations (Valerie O'Loughlin, Indiana University)



### Tinker #2. Shared Online Video (e.g., TV Lesson) (expert videos)



### Tinker #3. Simulations



## Tottering



### Totter #1. Multiple Guest Experts

Sara de Freitas and Jim Hensman, U of Coventry, UK  
<https://connect.ljli.edu/p21e1yp66x/>  
 Jay Cross, Berkeley <https://connect.ljli.edu/p4tbytsoromh/>



### Totter #2. Author Mobile Books (e.g., BookRix, <http://www.bookrix.com/>)

**Self-Publishing eBooks with BookRix**

We distribute your eBook to the top eBook stores and you receive a high share of our sales. There are absolutely no costs to you and you can cancel our distribution at any time.

**Try it for free now!**

**Publish eBook**

- We distribute your eBook to the top eBook stores: Amazon Kindle, Google Play, Apple iBooks, Kobo etc.
- You receive high royalties: 35% of the net proceeds.
- There are absolutely no costs to you.
- Risk free contracts can be cancelled anytime.

**BookRix Community**

- A network for authors and readers
- Find readers = your potential customer
- Create an author profile
- Promote your books
- Free eBook conversion

**Mobile Devices & Learning**

How mobile devices are re-shaping the field of education

### 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?cid=hp\\_bnl1](http://www.cnn.com/2012/05/22/tech/innovation/new-apple-campus/index.html?cid=hp_bnl1)



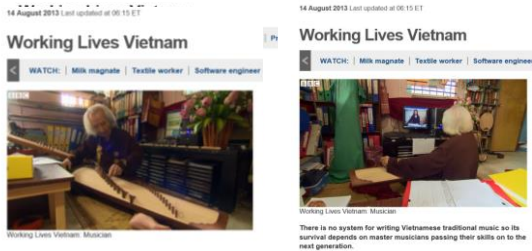
### Totally Extreme #1.

Teaching 54,000 People Around the World  
 By Kanna Sankaran, Epoch Times, August 5, 2013  
<http://www.theepochtimes.com/n3/229640-5-best-moocs-for-free-online-higher-education/>  
 MOOC at UPenn; Recession Fuels Explosion of Online Learning  
 Video: <http://on.aol.com/video/recession-fuels-explosion-of-online-learning-51788509/>



### Totally Extreme #2.

Teach from Vietnam to the World  
 BBC News Asia, August 14, 2013  
 Even though he is now very elderly Vinh Bao (age 96) still teaches music, using his computer to coach pupils across the globe.  
<http://www.bbc.com/news/world-asia-23497559>

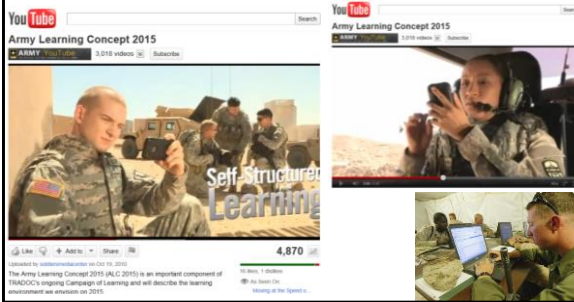


### Totally Extreme #3.

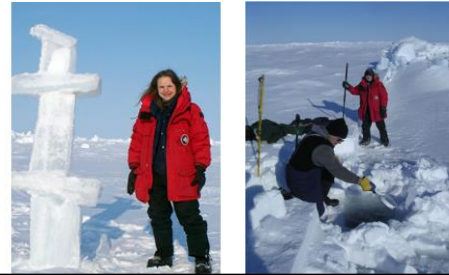
Adventures of a Teenage Polyglot  
 New York Times, March 9, 2012, John Leland  
[http://www.nytimes.com/2012/03/11/nyregion/a-teenage-polyglot-of-foreign-languages-finds-online-friendship.html?\\_r=1&page=2#hpt-top-story](http://www.nytimes.com/2012/03/11/nyregion/a-teenage-polyglot-of-foreign-languages-finds-online-friendship.html?_r=1&page=2#hpt-top-story)



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



### Totally Extreme #5. iPod Learning from the Ice using MIT OCW (e.g., Wendy Ermold, University of Washington)



### Totally Extreme #6. Videoconferencing to Schools from the International Space Station

<http://www.cisp.ac.uk/education/2012/10/27/2012-10-27-iss-education-and-cats02e>  
Space Oddity - Chris Hadfield video onboard ISS with Larrivée Guitard  
International Space Station Commander, Chris Hadfield, performs a revised version of David Bowie's Space Oddity.  
<http://www.youtube.com/watch?v=c58kG20V418&feature=embbedded>



### Totally Extreme #7. October 27, 2012 MOOC Office Hours in Other Countries Chuck Severance, (U Michigan/Coursera) in Barcelona

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

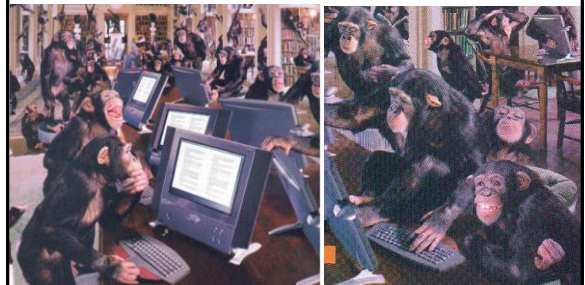


### Totally Extreme #8. Google Glass: Freaky, geeky toy aims to save lives USA Today, Marco della Cava, March 3, 2014

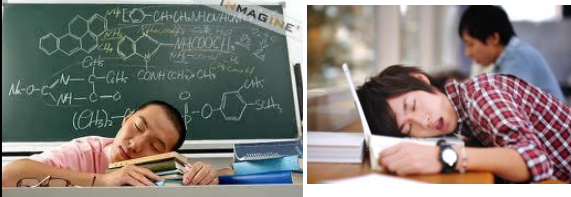
<http://www.usatoday.com/story/tech/2014/03/03/google-glass-in-the-operating-room/27125272/>



### Part II: TEC-VARIETY and R2D2 Models



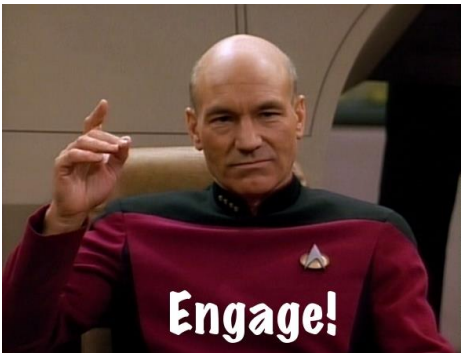
## Motivation and Engagement



## What did Jean-Luc Picard say?



## That's right, Engage!



How do we engage online?



## What was it that he said?



**Poll #1: Million Dollar Question:**  
What words come to mind when I say that I want to motivate learners?



## Motivation Research Highlights (Jere Brophy, Michigan State University)

1. **Supportive**, appropriate challenge, meaningful, moderation/optimal.
2. Teach **goal** setting and self-reinforcement.
3. Offer **rewards** for good/improved performance.
4. Novelty, **variety**, **choice**, adaptable to interests.
5. Game-like, **fun**, fantasy, curiosity, suspense, active.
6. Higher levels, divergence, dissonance, **peer interaction**.
7. Allow to create finished **products**.
8. Provide immediate **feedback**, advance organizers.
9. Show intensity, **enthusiasm**, interest, minimize anxiety.
10. Make content **personal**, concrete, familiar.



## Intrinsic Motivation

“...innate propensity to engage one’s interests and exercise one’s capabilities, and, in doing so, to seek out and master optimal challenges  
(i.e., it emerges from needs, inner strivings, and personal curiosity for growth)

See: Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. NY: Plenum Press.



## Framework: TEC-VARIETY for Online Motivation and Retention

1. **Tone/Climate:** Psych Safety, Comfort, Belonging
2. **Encouragement, Feedback:** Responsive, Supports
3. **Curiosity:** Fun, Fantasy, Control
- ...
4. **Variety:** Novelty, Intrigue, Unknowns
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

## Introducing the “TEC-VARIETY book... <http://tec-variety.com/>



### What motivates?

1. **Tone/Climate:** Psychological Safety, Comfort, Sense of Belonging
2. **Encouragement:** Feedback, Responsiveness, Praise, Supports
3. **Curiosity:** Surprise, Intrigue, Unknowns
4. **Variety:** Novelty, Fun, Fantasy
5. **Autonomy:** Choice, Control, Flexibility, Opportunities
6. **Relevance:** Meaningful, Authentic, Interesting
7. **Interactivity:** Collaborative, Team-Based, Community
8. **Engagement:** Effort, Involvement, Investment
9. **Tension:** Challenge, Dissonance, Controversy
10. **Yielding Products:** Goal Driven, Purposeful Vision, Ownership



### 1. Risk

← Low Risk  High Risk →

### 2. Time

← Easy to Embed  Extensive Planning →

### 3. Cost

← Free or Inexpensive  Enterprise Licenses →

← Instructor-Focus  Student-Focus →  
**Low** **High**

## Examples of TEC-VARIETY



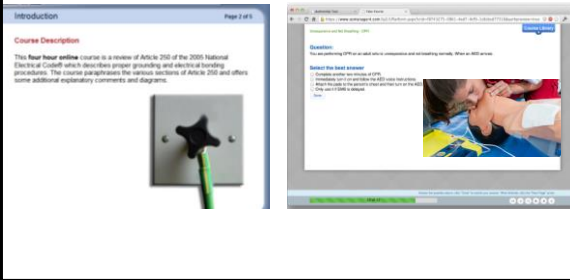
**1. Tone/Climate: A. Video Course Intros**  
<http://www.youtube.com/watch?v=kOdFRFDibW0>



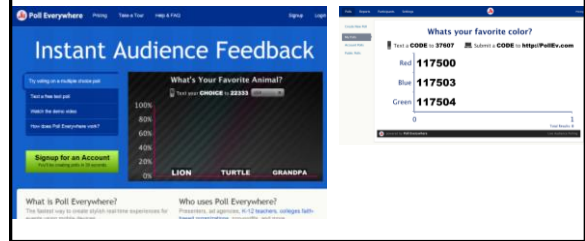
**2. Encouragement, Feedback, etc.: A. Voice Feedback**  
 Vocaroo; <http://vocaroo.com/>  
<http://vocaroo.com/i/s1ao2YOFyPl3> (Singapore)



**2. Encouragement, Feedback, etc.: B. Online Practice Tests and Quizzes**



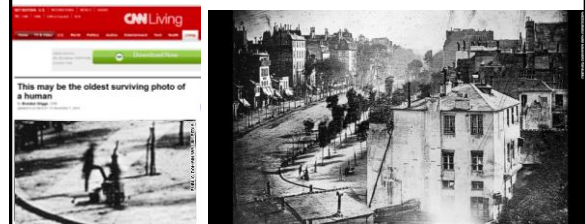
**2. Encouragement, Feedback, etc.: C. Blog and Website Polling**  
 (e.g., Poll Everywhere, BlogPolls, BlogPoll, MicroPoll)  
<http://www.pollerywhere.com/>



**3. Curiosity, Fun: A. Something in the News**  
 (e.g., My college degree is worthless, November 2, 2014, CNN Money, Blake Ellis)  
[http://money.com.com/2014/11/02/pdf/collage/for-profit-college-degrees/index.html?h=hp\\_15](http://money.com.com/2014/11/02/pdf/collage/for-profit-college-degrees/index.html?h=hp_15)  
[http://espn.go.com/sports/entertainment/story/\\_/id/10728427/faqja-singh-101-caps-career-10k-hong-kong](http://espn.go.com/sports/entertainment/story/_/id/10728427/faqja-singh-101-caps-career-10k-hong-kong)



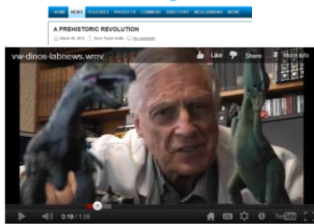
**3. Curiosity, Fun: A. Something in the News**  
 (e.g., This may be the oldest surviving Photo of a human, November 7, 2014, CNN, Brandon Griggs; But this image, taken in Paris, France, in 1838)  
[http://www.cnn.com/2014/11/06/living/oldest-photograph-human-daguerre/index.html?h=hp\\_14\\_kong](http://www.cnn.com/2014/11/06/living/oldest-photograph-human-daguerre/index.html?h=hp_14_kong)



**3. Curiosity, Fun:**  
**B. 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.labnews.co.uk/news/prehistoric-revolution/>

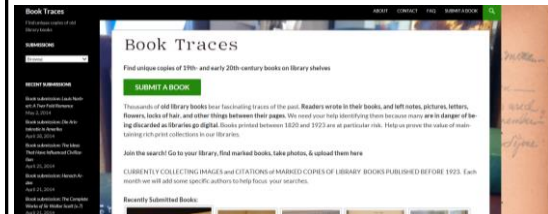
**LaboratoryNews**



**3. Curiosity, Fun:**  
**D. Historical Document Analyses**  
 e.g., Book Traces

Find unique copies of 19th- and early 20th-century books on library shelves

<http://www.booktraces.org/>



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



**5. Autonomy, Choice:**  
**A. Class Central**

<https://www.class-central.com/>  
<http://oedb.org/open/>



**5. Autonomy, Choice:**  
**B. Attend Webinar (pick weeks and reflect)**  
 Cathy Davidson, The End of Higher Education

<http://connectedcourses.net/thecourse/why-we-need-a-why/>

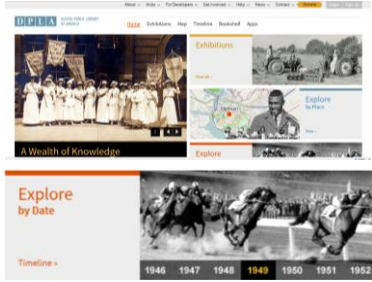


**5. Autonomy, Choice:**  
**C. Design Multimedia Glossaries**

Ozgur Ozdemir, December 2012  
<http://r685glossary.shutterstock.com/>  
 Umida Khikmatillaeva, Dec. 2011, P540  
<http://learningplanet.shutterstock.com/>



**5. Autonomy, Choice:**  
**D. Visual Library Search**  
 Digital Public Library of America  
<http://dp.la/>



**5. Autonomy, Choice:**  
**E. Online Learning Object Repositories and Portals (shared content)**

**April 23, 2014**  
 Shakespeare's Dictionary? Skepticism Abounds, Chronicle of Higher Education, Jennifer Howard  
<http://shakespeare.beehive.com/baris-at-verse>



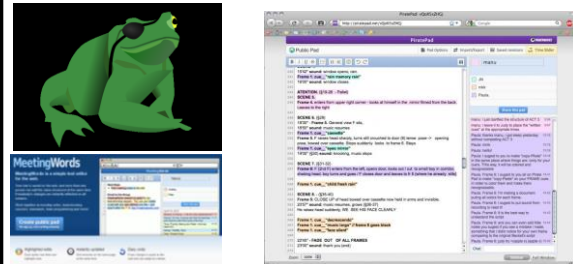
**6. Relevance, Meaningfulness:**  
**A. Video Scenario Learning Accounting Interviews and Preparatory Course Review Modules (Franklin University, cost and forensic accounting course)**

<http://video.franklin.edu/Franklin/acct/managerialAccounting/cost-behavior-player.html>  
<http://video.franklin.edu/Franklin/acct/342/common/fraudScenario82.html>



**7. Interactive, Collaborative:**  
**A. Negotiate Meanings Online**  
 (e.g., PiratePad: <http://meetingwords.com/>)

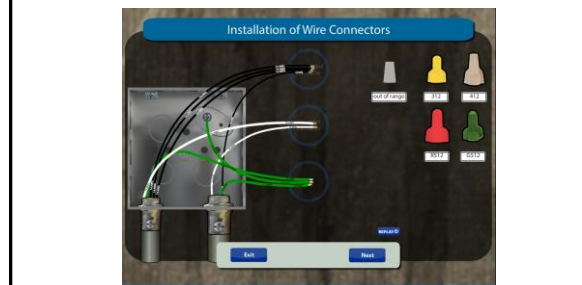
MeetingWords is a simple text editor for the web. Your text is saved on the web, and more than one person can edit the same document at the same time. Everybody's changes are instantly reflected on all screens. Work together on meeting notes, brainstorming sessions, homework, team programming and more!



**7. Interactive, Collaborative:**  
**B. Guest Speakers**  
 Designing a New Learning Environment  
 Professor Paul Kim, Stanford University  
<http://venture-lab.org/education/lectures/45>



**7. Interactive, Collaborative:**  
**C. Interactive Exercises**  
 (e.g. Branch Circuit terminations)





**8. Engagement, Effort:**  
**A. Medical Simulations and Practice Cases**  
 The School of Medicine, University of Virginia  
[http://uvamagazine.org/articles/adjusting\\_the\\_prescription/](http://uvamagazine.org/articles/adjusting_the_prescription/)

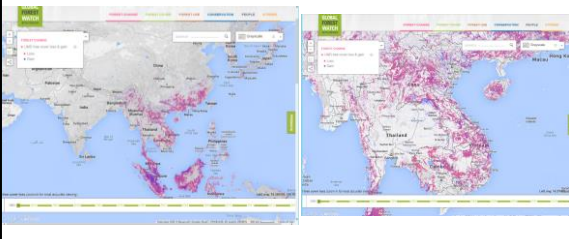


The newly expanded Medical Simulation Center lets medical trainees practice skills and case scenarios in clinical settings that mimic actual situations. Outside the operating room, a technology specialist manipulates vital signs on a patient simulator and controls the cameras recording the session.

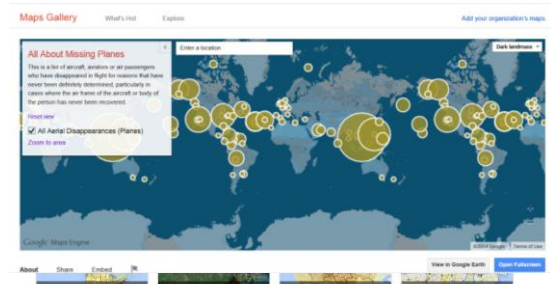
**8. Engagement, Effort:**  
**B. Heat Map on Misconceptions**  
 October 1, 2014, Smart Sparrow  
<http://www.smartsparrow.com/>



**8. Engagement, Effort:**  
**C. Map Trend Interpretations**  
 e.g., Global Forest Watch (April 2014)  
<http://www.globalforestwatch.org/map/3/-3.72/27.00/ALL/grayscale/loss/596>



**8. Engagement, Effort:**  
**D. Google Map Gallery**  
 September 16, 2014  
<http://maps.google.com/gallery/>



**8. Engagement, Effort:**  
**E. Student Generated Timelines,**  
 (e.g., Dipity, Simile, Xtimeline, Timeglider, Meograph)  
 (e.g., Raymond Chandler, The Big Sleep, Kate Hurd)  
<http://hurdisuranceagency.com/thebigsleep/>



**8. Engagement, Effort:**  
**F. Virtual Timelines from News Media**  
 (How Facebook changed our lives, Marco della Cava, USA Today,  
 February 3, 2014)

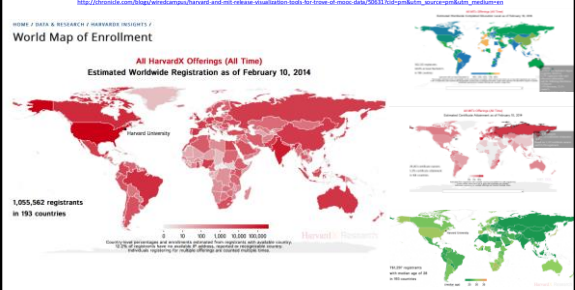
<http://www.usatoday.com/story/tech/2014/02/02/facebook-timeline-10-cultural-impact/5063979/>  
<http://www.usatoday.com/tech/news/story/2011-09-22/steve-jobs-dies/50672498/1>  
<http://www.usatoday.com/news/obituaries/story/2011-08-25/Martin-Luther-King-Jr.-Memorial-in-Washington-A-closer-look/26134979/3?source=3dnews>  
<http://www.usatoday.com/story/life/movies/2013/04/10/harrison-ford-jackie-robinson/2001263/>



**8. Engagement, Effort:**  
**G. Interpreting Infographics**  
**Syllabus as Infographic, Sept. 2014**  
 Dr. Erin McLaughlin, U of Notre Dame  
<https://remix.nd.edu/?q=node/165>



**8. Engagement, Effort:**  
**H. Data Visualization Tools (Harvard and MIT MOOCs)** Lawrence Biemiller, February 20, 2014, Chronicle of Higher Education  
<http://chronicle.com/blogs/biweekly/2014-02-20-how-to-use-visualization-tools-for-data-visualization-020140220-lawrence-biemiller>



**8. Engagement, Effort:**  
**I. Interactive Multimedia E-Books**  
**June 10, 2014, Chronicle of HE, 300 images, more than 700 notes and explanations, multimedia annotations, video commentary, and two dozen videos.**  
 Digital Dubliners: <http://digitaldubliners.com/>  
 James Joyce: <http://joyceways.com/>



**9. Tension, Challenge, etc.:**  
**A. Cage Matches or Debates**  
**(with online audience topical suggestions)**  
**Cage Match on MOOCs at SXSWedu 2013**  
**(Curt Bonk & Chuck Severance)**  
<http://cheerful.com/online-education/2013/02/28/cage-match-on-moocs-at-sxswedu-2013/>  
<https://soundcloud.com/sxswedu/cage-match-the-massive-open>



**9. Tension, Challenge, etc.:**  
**B. Online Math Competitions**  
**(i.e., Math March Madness, Greg Toppo, March 26, 2013, USA Today)**  
<http://www.stargazette.com/article/20130326/NEWS02/303260008/Fibonacci-Final-Four-Math-March-Madness-coming>

Fibonacci Final Four? Math March Madness coming

7:20 AM, Mar 26, 2013 | 0 Comments | Be the first of your friends



Tom Kelley with his student, Joseph Park, compete for top computer in a math competition. Jack O'Connell, USA TODAY

**9. Tension, Challenge, etc.:**  
**C. Vocabulary Competitions** (e.g., Kids learning new words at warp speed, January 14, 2014, Greg Toppo (Georgia Scurletis, Dir of Curriculum Development, for Vocabulary.com (Thinkmap) presents a banner to Marc Williams, Brooklyn Technical High School)  
<http://www.usatoday.com/story/news/education/2014/01/13/kids-learning-new-words-at-warp-speed/1455500/>  
**Vocabulary.com: <https://www.vocabulary.com/>**



## 10. Yields Products, Goals: A. Business Plans and Virtual Mentoring toward Goals, September 22, 2014, Chronicle of HE

<http://chronicle.com/article/Start-Up-Slow-Down/148923/1cid=at>



**Start Up, Slow Down**  
November 22, 2014  
Under pressure to take an invention to market, MIT grad students must push their academic work aside



By Paul Huxton  
Chronicle Staff

## 10. Yields Products, Goals: B. Course Video Summaries and Multimedia Team Assignments (April. 24, 2014)

Piercarlo Abate: <http://www.youtube.com/watch?v=...TURzH0G0aU>  
Qi Li, Gangnam: <http://www.youtube.com/watch?v=7Q429IqxZaU&feature=youtu.be>  
Miguel Lara (Web 2.0 FREEDOM): <http://www.youtube.com/watch?v=8cmCFW9I8W8>



Self-Directed Simulation

COURSE ON TECHNOLOGY AND WEB 2.0 TO MAKE A SERIES OF VIDEOS TO USE IN THE DATA COURSES.

## 10. Yields Products, Goals: C. Write Wikibook Chapters

[http://en.wikibooks.org/wiki/Web\\_2.0\\_and\\_Emerging\\_Learning\\_Technologies/Andragogy\\_and\\_Technology](http://en.wikibooks.org/wiki/Web_2.0_and_Emerging_Learning_Technologies/Andragogy_and_Technology)  
[http://en.wikibooks.org/wiki/Web\\_2.0\\_and\\_Emerging\\_Learning\\_Technologies](http://en.wikibooks.org/wiki/Web_2.0_and_Emerging_Learning_Technologies)



## The End...(Part #1) Two Cheers for Web U! A. J. Jacobs, New York Times


[http://www.nytimes.com/2014/04/14/20140414-column/technology/learning-the-moc-uncertainty.html?smc=edit14\\_14\\_23&mc=edit14](http://www.nytimes.com/2014/04/14/20140414-column/technology/learning-the-moc-uncertainty.html?smc=edit14_14_23&mc=edit14)



## Audience Poll #2:

### Any light bulbs going off in your head so far...? If so, where?

**A. Yes definitely**  
**B. Maybe**  
**C. No**



## Commitments:

### Stop and Share:

**Which principle(s) of TEC-VARIETY will you use?**

**Tone/Climate**  
**Encouragement, Feedback**  
**Curiosity**

**Variety**  
**Autonomy**  
**Relevance**  
**Interactive**  
**Engagement**  
**Tension**  
**Yields Products**



COMMITMENT  
Success is largely a matter of hanging on after others have let go.



**February 20, 2013**  
**Star Trek-like holodeck may be closer to reality than you think**  
 Matt Hartley, Financial Post, Canada  
[http://business.financialpost.com/2013/02/20/star-trek-like-holodeck-may-be-closer-to-reality-than-you-think/?\\_ga=0546-d58d](http://business.financialpost.com/2013/02/20/star-trek-like-holodeck-may-be-closer-to-reality-than-you-think/?_ga=0546-d58d)

Star Trek-like holodeck may be closer to reality than you think

**Addressing Learning Styles**

**Question: How can technology address diverse learner needs?**

**Framework #2: The R2D2 Model**

**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. Grammer Checkers (e.g., Grammarly, Ginger, GrammarCheck, PaperRater, and SpellCheckPlus)

<http://www.grammarly.com/>

## Read 1b. Twitter Fed Class Discussions

<https://twitter.com/HeartCPR>

## 2. Reflective and Observational Learners

- Reflective and observational learners prefer to reflect, observe, view, and watch learning; they make careful judgments and view things from different perspectives

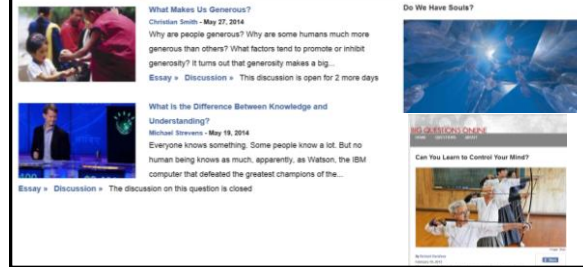
## Reflect 2a. Workplace Internship, Practicum, and Field Experiences

## Reflect 2b. Video Scenario Learning

### Reflect 2c. Text-and Picture-Based Scenario and Case-based Learning

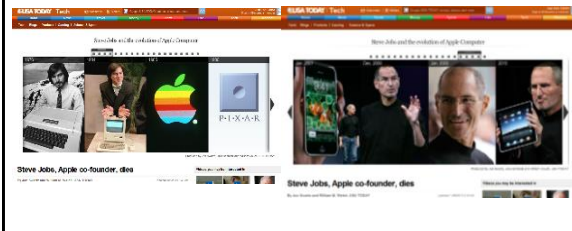


### Reflect 2d. Big Issue Reflections (Big Questions Online (BQO)), May 27, 2014 (e.g., What makes us generous? What is the difference between knowledge and understanding?)



### Reflect 2e. Reflect on Virtual Timelines (Dipity, xtimeline, Simile, etc.)

<http://www.usatoday.com/story/tech/2014/02/02/facebook-turns-10-cultural-impact/5063979/>  
<http://usatoday30.usatoday.com/tech/news/story/2011-09-22/steve-jobs-dies/50672498/1>  
<http://www.usatoday.com/news/entertainment/story/2011-09-25/martin-luther-king-2nd-hemlock-in-washington-4-cherry-blossom/50134529.11?u=3-stories>  
<http://www.usatoday.com/story/life/movies/2013/04/10/harrison-ford-jackie-robinson/2001783/>



### 3. Visual Learners

- Visual learners prefer diagrams, flowcharts, timelines, pictures, films, and demonstrations.



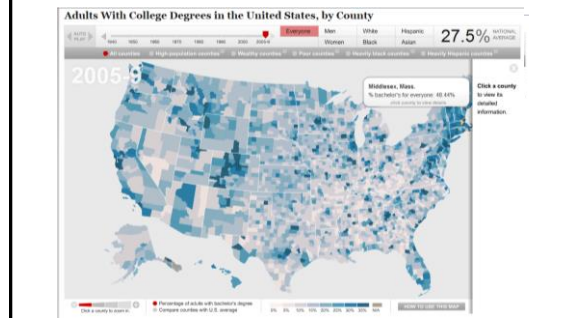
### Display 3a. Virtualize Words Used (e.g., Wordle, Taggedo, Tagul, WordSift, Word It Out)

<http://shellyterrell.com/2010/02/14/12-word-cloud-resources-tips-tools/>

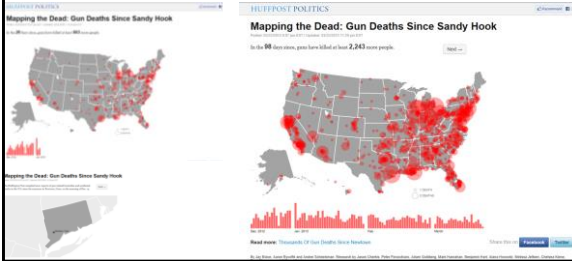


### Display 3b. Interactive Map Timelines (adults with college degrees by county, May 7, 2012)

<http://hotdyscampus.com/2012/05/07/interactive-graphics-for-higher-education>



**Display 2c. Reflections on Interactive Maps**  
**Mapping the Dead: Gun Deaths Since Sandy Hook,**  
**Huffington Post, March 22, 2013**  
<http://data.huffpost.com/2013/03/gun-deaths>



**Display 3d. Big Data Visualization Tools,**  
**January 20, 2014, 6.00x Introduction to**  
**Computer Science and Programming**  
**MITx on EdX Course**  
[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2382322](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2382322)

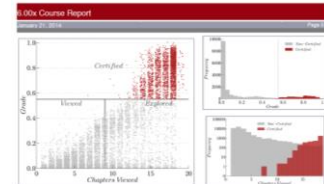
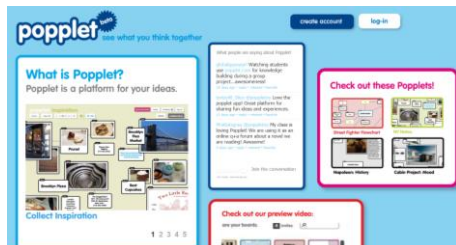


Figure 4: Scatter plot of grade versus chapters viewed (left), highlighting student sub-optimalities; certified students are red points and all points are shown. Manages of grade and number of chapters viewed (right) distinguished by

**Display 3e.**  
**Student Collaborative Knowledge**  
**Building and Sharing**  
 (e.g., Popplet: <http://popplet.com/>)



**Display 3f.**  
**Concept Mapping and Timeline Tools**  
 (Bubbl.us, Cmap, Gliffy, Mindmeister, or Mindomo)

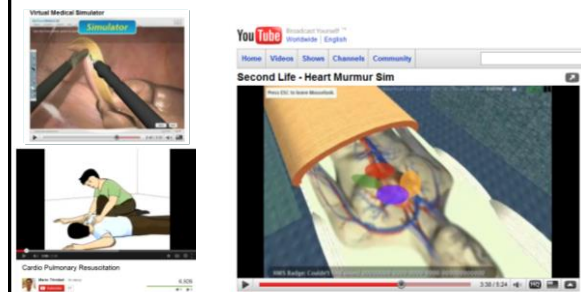


**Display 3g. Videos for clinical**  
**education (Sungkyunkwan University School of**  
**Medicine, Seoul, Korea, www.mededu.or.kr)**

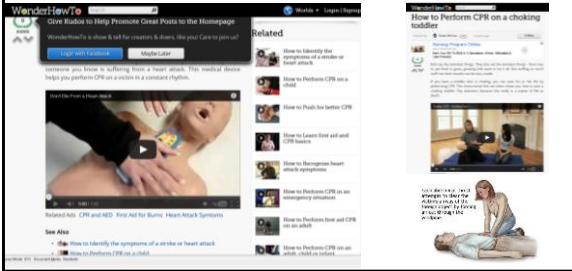


**Display 3h. Medical Animations**  
 (e.g., YouTube, CNN, BBC)

[http://www.youtube.com/watch?v=gMpXrk2\\_Qzc](http://www.youtube.com/watch?v=gMpXrk2_Qzc)



### Display 3i. Anchored Instruction in Shared Online Videos (e.g., WonderHowTo)



### Display 3j. Online Labs and Simulations

<http://www.biheartinstitute.org/patient-resources.php>



### Display 3k. Anchored Instruction (with video demonstration)

October 6-12, 2013 Is Fire Prevention Week, ASHI, Kristine Rice, October 9, 2013

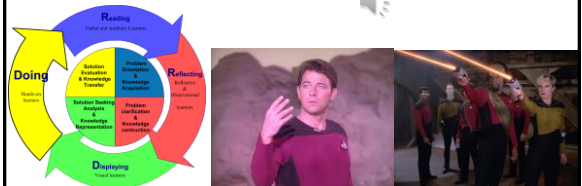
<http://www.hsi.com/Blog/bid/102423/October-6-12-2013-Is-Fire-Prevention-Week>

Dealing with Burn Injuries



### 4. Tactile/Kinesthetic Learners

- Tactile/kinesthetic senses can be engaged in the learning process are role play, dramatization, cooperative games, simulations, creative movement and dance, multi-sensory activities, manipulatives and hands-on projects.



### Do 4a. DC Circuit Construction Kits



### Do 4b. Student Mobile App Creation

The App Builder: <http://www.theappbuilder.com/>  
Mintian Guo (April 2013): <http://myapp.is/r685final>





**Do 4c. Student Class Documentaries**

**Umida's R546 Documentary Project**

[http://www.youtube.com/watch?v=EMLTzqCV\\_5A](http://www.youtube.com/watch?v=EMLTzqCV_5A)



**Poll #3: Which do you prefer... R2D2 or TEC-VARIETY?**



**What motivates?**

1. Tone/Climate: Psychological Safety, Comfort, Sense of Belonging
2. Encouragement: Feedback, Responsiveness, Praise, Supports
3. Curiosity: Surprise, Inquire, Uncertainty
4. Variety: Novelty, Fun, Fantasy
5. Autonomy: Choice, Control, Flexibility, Opportunities
6. Relevance: Meaningful, Authentic, Interesting
7. Interactivity: Collaborative, Team-Based, Community
8. Engagement: Effort, Involvement, Investment
9. Tension: Challenge, Dissonance, Controversy
10. Yielding Products: Goal Driven, Purposeful Vision, Ownership

**Poll #4: How many ideas did you get from this talk?**

1. 0 if I am lucky.
2. Just 1.
3. 2, yes, 2...just 2!
4. Do I hear 3? 3!!!!
5. 4-5.
6. 5-10.
7. More than 10.



**Time to Stop and Think:**  
**Explore Websites from this Session!**  
**Find the lieu...**  
**Take a break...**



**Poll #5: Who is Stretched Now?**

**Try TEC-VARIETY...Try R2D2**

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

**Papers: [PublicationShare.com](http://PublicationShare.com)**

**Book: <http://tec-variety.com/>**

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

