Engage, Number One: This is the Next Generation

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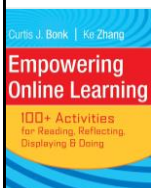http://mypage.iu.edu/~cjbonk/

Addressing Learning Styles

Question: How can technology address diverse learner needs?

Framework: 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. Follow Someone on Twitter (Twitter in Education)

http://twitterforeducation.wikispaces.com/Educational+Uses+of+Twitter

How might we use Twitter in the Classroom? (please share your ideas!)

1. Project brainstorming
2. Sharing online resources (internet sites)
3. Connecting to others around the world
4. Publishing or sharing links to published work.
5. Publicity for important events, blog posts, websites, podcasts, videos, live meetings/discussions, etc.
6. Twitter can serve as a resource to get help.
7. Twitter can serve as your support group when struggling with a difficult task.
8. Twitter provides a way to virtually attend conferences, workshops, conventions, etc. (via #hashtags).
9. Back channel during lecture (using event specific hashtags ie. #newtonfirstlaw) -- students can go back to Twitter to review, reflect, study key points shared
10. Back channel during videos/slideshows
11. Back channel during student presentations

30 Ways to Use Twitter in the Classroom (Google Presentation)
http://docs.google.com/present/view?id=dhn2vcv5_118cfb8msf8

Read 1b. Facebook Course Pages
(100 ways to use Facebook in education; e.g., homework help, polling students, highlight vocabulary, archive discussions)
http://www.teachthought.com/technology/100-ways-to-use-facebook-in-education-by-category/

1. **Ask for information:** Instead of trusting Wikipedia, ask the crowd on Facebook. One kindergarten teacher asked parents to research seeds and got great information about the largest seed in the world according to the *Guinness Book of World Records.*
2. **Attend remote lectures:** Using Facebook, you can tune into remote lectures and presentations from around the world.
3. **Museums and more:** Help your students follow along with local and international museums, art galleries, exhibits, and more for enriched learning on Facebook.
4. **Firsthand research:** Students can connect with family members for genealogy assignments, discuss issues with local celebrities and more through Facebook.
5. **Follow politicians:** If your class is studying the current election, use Facebook to follow politicians on the local, state, and national scale. You can even ask students to interact with the candidates, posting questions and getting feedback.
6. **Learning games:** Plenty of games are on Facebook, and many of Facebook crosswords, math games, and more as a reward in you
7. **Public polling:** Students can research and poll friends and famil Facebook.
8. **Applications:** Flashcards, Courses, and more offer easy ways to classroom.

Read 1c. 60 Second Recap
http://www.60secondrecap.com/

Read 1d.
Online Article Portals and Databases
http://r685articledatabase.weebly.com/
What Girls Say about STEM
(Girl Scouts, 2012)
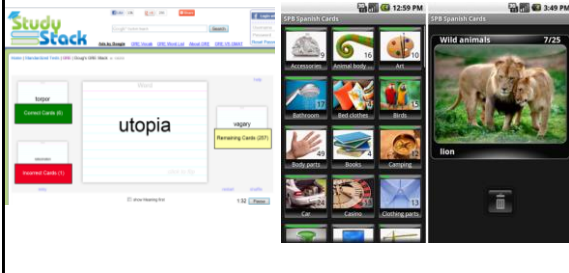https://www.girlscouts.org/research/pdf/generation_stem_full_report.pdf

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Read 1e. Online Crossword Puzzles
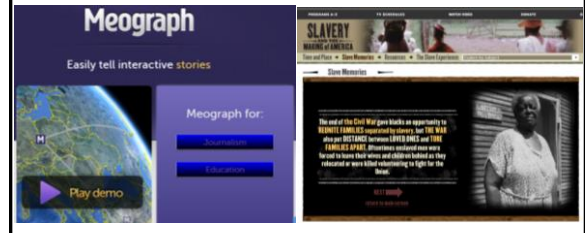(e.g., http://www.eclipsecrossword.com/)

Read 1f. Interactive Flashcards
(e.g., Study Stack
http://www.studystack.com/flashcard-136259)

Read 1g. Collect and Listen to Interactive Stories
(e.g., Meograph: http://www.meograph.com/)
Timelines with Oral Histories, Slavery and the Making of America
Time and Place, PBS
http://www.pbs.org/wnet/slavery/timeline/1857.html

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. Internship and Practicum Experiefnces

Reflect 2b. Big Issue Reflections
(Big Questions Online (BQO)), January 8, 2013
(e.g., Do We Have Souls?)
https://www.bigquestionsonline.com/content/do-we-have-souls
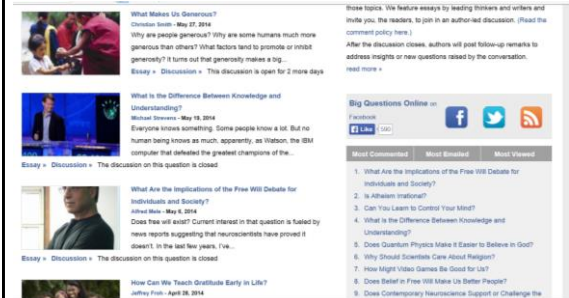
Reflect 2c.
Reflect on Virtual Timelines
(Dipity, xtimeline, Simile, etc.) (How Facebook changed our lives, Marco della Cava, USA Today, February 3, 2014)
http://www.usatoday.com/story/tech/2014/02/02/facebook-turns-10-cultural-impact/5063979/
http://www.usatoday.com/tech/news/story/2011-09-22/steve-jobs-dies/50672498/1
http://www.usatoday.com/news/destinations/story/2011-08-25/Martin-Luther-King-Jr-Memorial-in-Washington-A-closer-look/50136470/1?csp=34news
http://www.usatoday.com/story/life/movies/2013/04/10/harrison-ford-jackie-robinson/2001783/
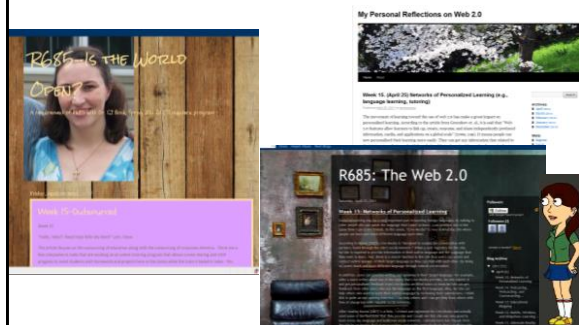
Reflect 2d. Expert and Domain Specific Blog Reflections (English, Health, Business, etc. blogs)

Reflect 2e. Cultural Blogs (e.g., Dr. Kim Foreman, San Fran State Univ, Come and See Africa Blog; http://comeandseeafrica.blogspot.com/)

Reflect 2f. Critical Friend Blog Postings (Kristen and Susan)

3. Visual Learners

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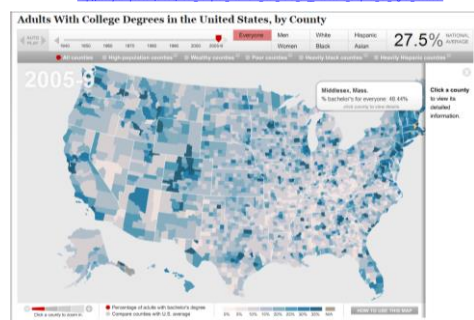

Display 3a. Virtualize Words Used (e.g., Wordle, Tagzedo, Tagul, WordSift, Word It Out)
http://shellyterrell.com/2010/02/14/12-word-cloud-resources-tips-tools/

Display 3b. Interactive Map Timelines (adults with college degrees by county, May 7, 2012)
http://todayscampus.com/article/Keith_Hampson_interviews_Josh_Keller_on__Interactive_Graphics_for_Higher_Education

Display 3c. Virtual Microscopes
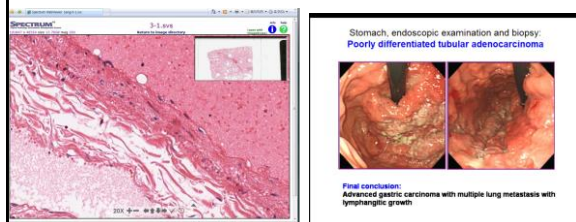
Display 3d. Interactive Species Maps
USGS (US Geological Survey)
(Biodiversity Serving Our Nation or BISON)
http://bison.usgs.ornl.gov/
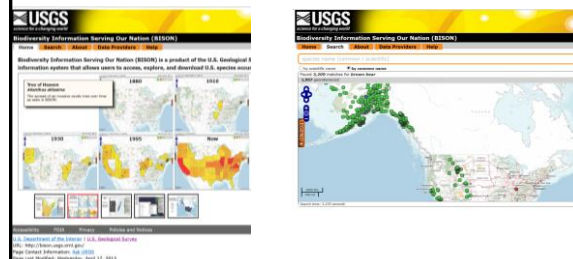
Display 3e. Online Timelines
(US Presidents)

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

Display 3g. Video Profiles of
successful female scientists,
(e.g., For Girls in Science)
http://forgirlsinscience.org/video-profiles/?key=GEOC4jhUkbg
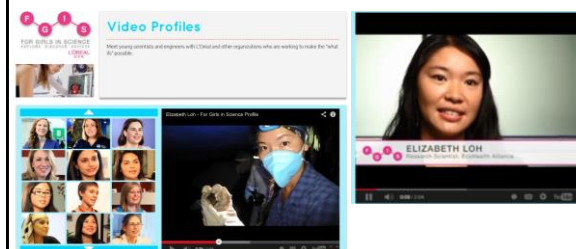
Display 3h. Modeling Experiments
(e.g., STEM Education Center for Girls)
http://stemefg.org/

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.**
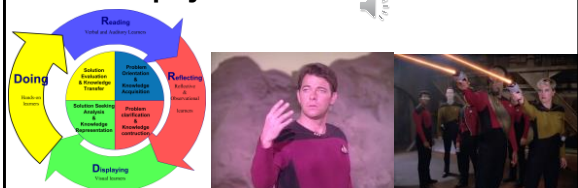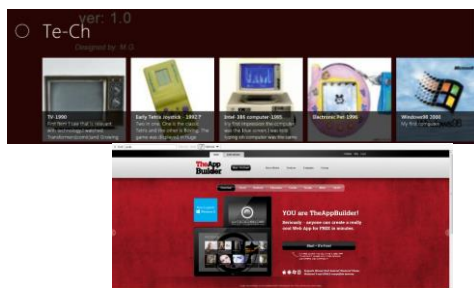

Do 4a.
Survey Research and Market Analysis
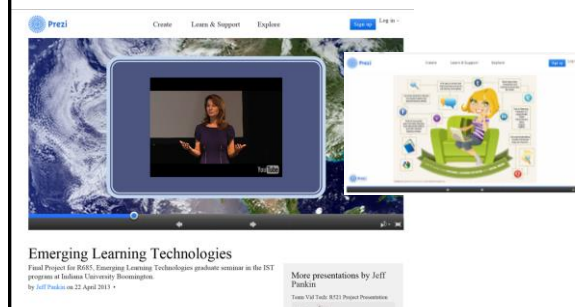**(e.g., Mister Poll, MicroPoll, Zoomerang, SurveyShare)**
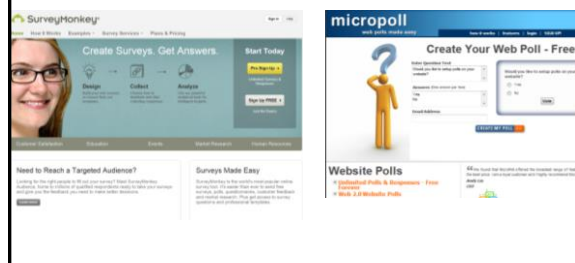
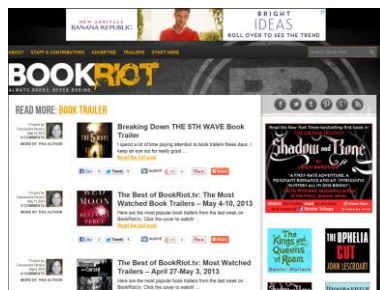## Do 4b. Student Mobile App Creation
The App Builder: http://www.theappbuilder.com/
Mintian Guo (April 2013): http://myapp.is/r685final

Do 4c. Course Recap Prezi Presentations
Jeff Pankin, MIT, Prezi, Emerging Learning Technologies
http://prezi.com/tzbawrgjrnzf/emerging-learning-technologies/?auth_key=4ec2f45a718fab699b35ea460e91a46d9e1bdac7
Jeffrey Barnette, Today's World
http://prezi.com/-ijzyothst-r/r685-final-project

Do 4d. Book Trailers for Readers
http://www.booktrailersforreaders.com/How+to+make+a+book+trailer
http://www.booksurge.com/content/Video_Book_Trailer_Samples.htm
http://www.thebooklife.com/2012/01/upcoming-2012-ya-book-trailers.html
http://bookriot.com/category/book-trailer/
http://scottwesterfeld.com/blog/2009/09/leviathan-trailer/

Do 4e. Class or Community Oral Histories
(e.g., The History Harvest, December 21, 2012)
http://historyharvest.unl.edu/collections
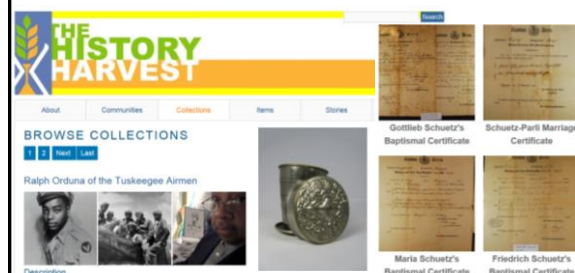
Do 4f. **Student Expertise**
(e.g., Learnist)
http://learni.st/category/featured#/category/featured
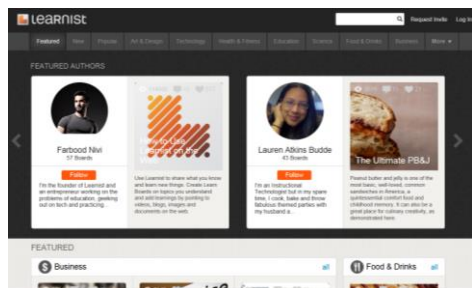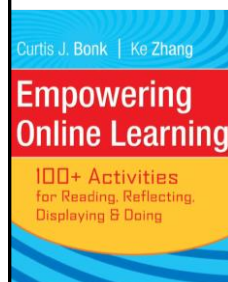

Poll: What phase of the R2D2 Method do you like best?
A. **Read (Auditory and Verbal Learners)**
B. **Reflect (Reflective Learners)**
C. **Display (Visual Learners)**
D. **Do (Tactile, Kinesthetic, Exploratory Learners)**
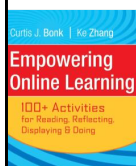
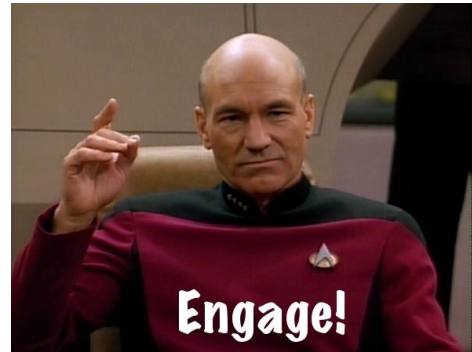**How will you use R2D2?**

Motivation and Engagement

A Vision of Today's Students

What did Jean-Luc Picard say?

That's right, Engage!

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?

ONE BILLION DOLLARS

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.

Jumbo Motivation is Needed!

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. **T**one/Climate: Psych Safety, Comfort, Belonging
2. **E**ncouragement, Feedback: Responsive, Supports
3. **C**uriosity: Fun, Fantasy, Control
   …
4. **V**ariety: Novelty, Intrigue, Unknowns
5. **A**utonomy: Choice: Flexibility, Opportunities
6. **R**elevance: Meaningful, Authentic, Interesting
7. **I**nteractive: Collaborative, Team-Based, Community
8. **E**ngagement: Effort, Involvement, Excitement
9. **T**ension: Challenge, Dissonance, Controversy
10. **Y**ields Products: Goal Driven, Products, Success, Ownership

Introducing the "TEC-VARIETY book…

What motivates?
1. **T**one/Climate: Psychological Safety, Comfort, Sense of Belonging
2. **E**ncouragement: Feedback, Responsiveness, Praise, Supports
3. **C**uriosity: Surprise, Intrigue, Unknowns
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5. **A**utonomy: Choice, Control, Flexibility, Opportunities
6. **R**elevance: Meaningful, Authentic, Interesting
7. **I**nteractivity: Collaborative, Team-Based, Community
8. **E**ngagement: Effort, Involvement, Investment
9. **T**ension: Challenge, Dissonance, Controversy
10. **Y**ielding Products: Goal Driven, Purposeful Vision, Ownership

Introducing the "TEC-VARIETY website…
http://tec-variety.com/

Every Chapter is Free in TEC-VARIETY…
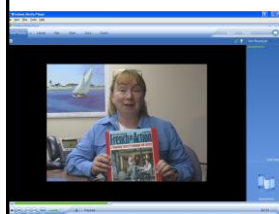### http://tec-variety.com/freestuff.php

Examples of TEC-VARIETY

1. Tone/Climate: A. Video Course Intros
(examples from Northern Virginia Community College and Indiana University KD (online MBA) program)
Yun Yun Chow, Open U Malaysia, Making Art Lessons Come Alive with Web 2.0
http://www.youtube.com/watch?v=BO9rqJD1GXo

1. Tone/Climate: Social Ice Breakers

B. 8 nouns (adjectives, verbs)

- **List of nouns: (e.g., pirate, computer, traveler, roadrunner, wind, bookworm, musician, mentor, etc.)**
  - http://www.momswhothink.com/reading/list-of-nouns.html
- **List of adjectives: (e.g., lazy, powerful, shy, bored, exotic, cooperative, sloppy, rebel, etc.)**
  - http://www.momswhothink.com/reading/list-of-adjectives.html
- **List of verbs: (e.g., coordinate, entertain, amuse, push, unite, beg, dream, publicize, etc.)**
  - http://www.momswhothink.com/reading/list-of-verbs.html

2. Encouragement, Feedback, etc.: A. Voice Feedback
Vocaroo; http://vocaroo.com/
http://vocaroo.com/i/s1eLIImtEmlm1 (Tulsa Tech)

3. Curiosity, Fun:
A. Something in the News
News: March 4, 2014
Resources to engage girls in STEM learning,
Laura DeVaney, eSchool News
http://www.eschoolnews.com/2014/03/04/girls-stem-resources-837/?ps=39929-0013000000j08qF-0033000000q5TNf

3. Curiosity, Fun:
B. History for Music Lovers
The French Revolution ("Bad Romance" by Lady Gaga)
Trojan War ("Tainted Love" by Soft Cell)
Charlemagne ("Call Me" by Blondie)
The Vikings ("Personal Jesus" by Depeche Mode)
http://www.youtube.com/user/historyteachers

3. Curiosity, Fun:
C. Career Modeling (e.g., Techbridge:
Inspire Girls to Change the World)
http://techbridgegirls.org/
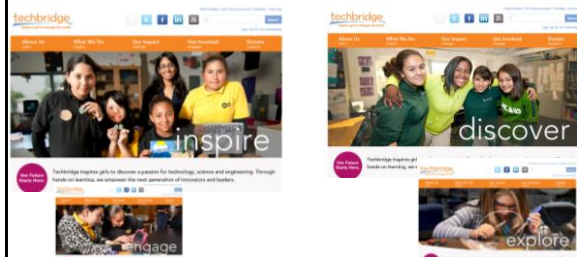
3. Curiosity, Fun:
**C. Career Modeling
(e.g., For Girls in Science)**
http://forgirlsinscience.org/

4. Variety, Novelty, Fun, Fantasy:
**A. Timers (Stopwatches, Countdown Timers,
Stopwatch Bombs, etc.;** http://www.online-
stopwatch.com/countdown-timer/**)**

5. Autonomy, Choice:
A. Demonstrate, Explore, and Share Websites
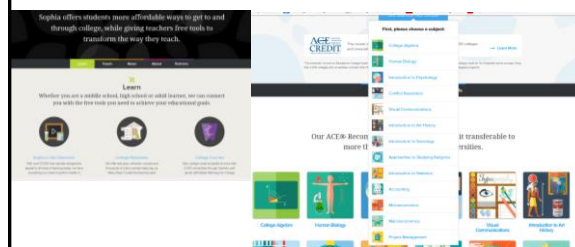
Poll #2:
**Which of the first 5 motivational
principles will you use the most?**

A. Tone/Climate

B. Encouragement/Feedback

C. Curiosity/Fun

D. Variety/Novelty

E. Autonomy/Choice/Flexibility

Poll #3:
**Any light bulbs going off in your
head so far…? If so, where?**

A. Yes definitely

B. Maybe

C. No

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/fraudScenario02.html

6. Relevance, Meaningfulness:
B. Project-based Learning

7. Interactive, Collaborative:
A. External Guests
(e.g., Jay Cross, Internet Time Group)

7. Interactive, Collaborative:
B. National Girls Collaborative Project
http://www.ngcproject.org/

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

8. Engagement, Effort: **B.** **Arab spring: an interactive timeline of Middle East protests,** The Guardian, Garry Blight, and Sheila Pulham, July 12, 2011
http://www.guardian.co.uk/world/interactive/2011/mar/22/middle-east-protest-interactive-timeline

9. Tension, Challenge, etc.:
A. 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

9. Tension, Challenge, etc.:
B. Explore Future and Challenge Games
(e.g., CanTEEN)
http://canteengirl.org/

10. Yields Products, Goals:
A. Final Product Video Summaries
Piercarlo Abate: http://www.youtube.com/watch?v=_-TURzHO0aU
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=8cmCFWi9lW8

10. Yields Products, Goals:
B. 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

The End...
Two Cheers for Web U!
A. J. Jacobs, New York Times
http://www.nytimes.com/2013/04/21/opinion/sunday/grading-the-mooc-university.html?pagewanted=1&_r=3&emc=eta1&

Poll #4:
Which of the last 5 motivational principles will you use the most?

A. Relevance/Meaningfulness
B. Engagement/Effort
C. Interactive/Collab/Community
D. Tension/Challenge/Dissonance
E. Yielding Products/Goals

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.

I just Love It when they "make it so!"

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/?__lsa=054d-d58d

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

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Any questions or comments on the new book "TEC-VARIETY?
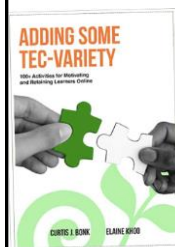
ADDING SOME TEC-VARIETY
100+ Activities for Motivating and Retaining Learners Online

CURTIS J. BONK   ELAINE KHOO

What motivates?
1. **T**one/Climate: Psychological Safety, Comfort, Sense of Belonging
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8. **E**ngagement: Effort, Involvement, Investment
9. **T**ension: Challenge, Dissonance, Controversy
10. **Y**ielding Products: Goal Driven, Purposeful Vision, Ownership

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Stop and Share:
Three Words from This Session!

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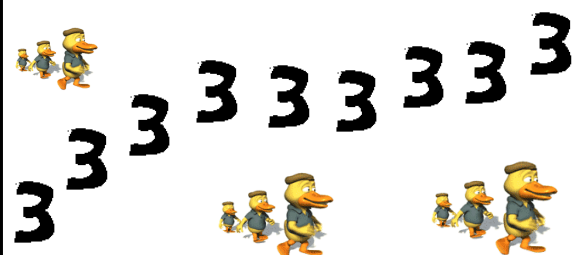
Any Questions?
Try TEC-VARIETY…
Slides at: TrainingShare.com
Papers: PublicationShare.com
Book: http://tec-variety.com/
Dr. Curt Bonk – CJBonk@Indiana.edu