Engage Number One:
Models for Motivating and Retaining Online Learners (TEC-VARIETY AND R2D2)

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

Learning is More Shared
Blogging Field Archeology Research
(e.g., Lily Henry Roberts, UCLA digging in Hope, BC, Stó:lō First Nation people from 12,000 years ago)

Learning is More Video-Based
Online Learning Polyglots

Timothy posts videos of himself speaking several languages on YouTube.

## Learning is More Ubiquitous
Learn Anytime, Always On/Mobile
"Everything I need to do today, I can do on my phone," says Robert Johnson (Louisville, KY)...He often grades papers and communicates with students from a cafe near his home.

Learning is More Immediate
Live Science (Nautilus Live allows people to watch expeditions live & listen to scientists in control rooms a discoveries made)

Learning is More Self-Directed
iPod Learning from MIT OCW
(e.g., Wendy Ermold, University of Washington)
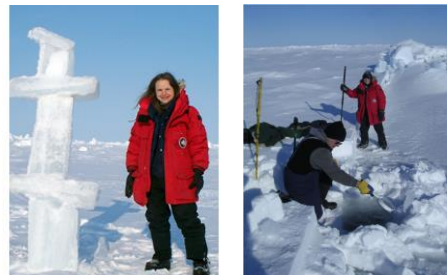
Learning is More Open
Learning from Localized OER and OCW
(e.g., Opensource Opencourseware Prototype
System (OOPS), Lucifer Chu, Janitor of OOPS)

The Biggest OCW Localization Volunteer
Group in the World

OOPS
Opensource Opencourseware Prototype System
開放式課程計劃 www.twocw.net
www.cocw.net

Learning is More Massive
**250 MOOCs and Counting: One Man's Educational
Journey, Chronicle of Higher Education**
http://chronicle.com/article/250-MOOCsCounting-One/229397/?cid=at
If the MOOC movement has faded, nobody told Jima Ngei, who lives
in Port Harcourt, Nigeria, has completed and passed 250.
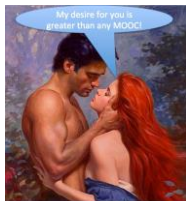Softcover ($30): http://www.parlorpress.com/invasion_of_the_moocs
Free (PDF): http://www.parlorpress.com/pdf/invasion_of_the_moocs.pdf

Philadelphia
India
Spain
The Netherlands

Invasion of the
MOOCs
The Promise and Perils of
Massive Open Online Courses

Edited by Steven D. Krause and Charles Lowe

Things are heating up!
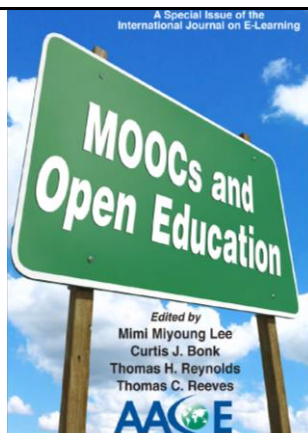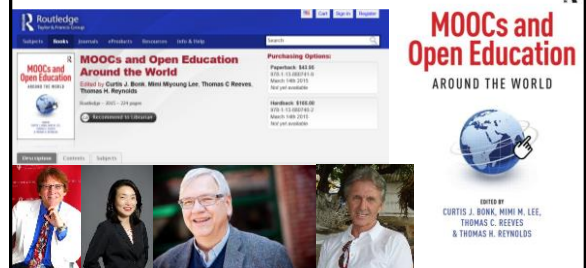http://routledge-ny.com/books/details/9781138807419/

My desire for you is
greater than any MOOC!

MOOCs and Open
Education Around
the Word
By Bonk, Lee, Reeves, & Reynolds

MOOCs and Open Education Around the World
http://routledge-ny.com/books/details/9781138807419/

Routledge
MOOCs and Open Education
Around the World
Edited by Curtis J. Bonk, Mimi Miyoung Lee, Thomas C. Reeves,
Thomas H. Reynolds

Purchasing Options:

MOOCs and
Open Education
AROUND THE WORLD

EDITED BY
CURTIS J. BONK, MIMI M. LEE,
THOMAS C. REEVES
& THOMAS H. REYNOLDS

A Special Issue of the
International Journal on E-Learning

MOOCs and
Open Education

Edited by
Mimi Miyoung Lee
Curtis J. Bonk
Thomas H. Reynolds
Thomas C. Reeves

AACE

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

CURTIS J. BONK
The World is Open

- **W**eb Searching in the World of e-Books (i.e., Darwin)
- **E**-Learning and Blended Learning
- **A**vailability of Open Source and Free Software (e.g., Moodle)
- **L**everaged Resources and OpenCourseWare (e.g., MIT)
- **L**earning Object Repositories and Portals (i.e., shared content)
- **L**earner Participation in Open Info Communities (YouTube)
- **E**lectronic Collaboration and Interaction (sync and async)
- **A**lternate Reality Learning (Online Massive Gaming, Simulations, and Virtual Worlds; e.g., Second Life)
- **R**eal-Time Mobility and Portability (e.g., iPhone)
- **N**etworks of Personalized Learning (Blogs, RSS)

The World is very open!
(in Ho Chi Minh City, Vietnam, Wednesday March 12th)

--
The World is Open for Learning!
Dr. Jiao Jianli, Professor of Educational Technology,
Director of Future Education Research Centre
Deputy Dean of School of Information Technology in Education,
South China Normal University
http://jiao.blogbus.com/

世界是开放的
网络技术如何变革教育
The World Is Open
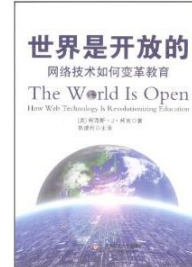
Audience Participation!

WE
ALL
LEARN!!!

Motivation and Engagement

How do we engage online?

What did Jean-Luc Picard say?

That's right, Engage!
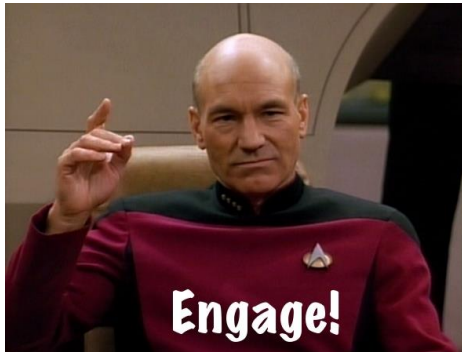
Poll #1: Million Dollar Question: What words come to mind when I say that I want to motivate learners?

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. **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

Education 3.0?
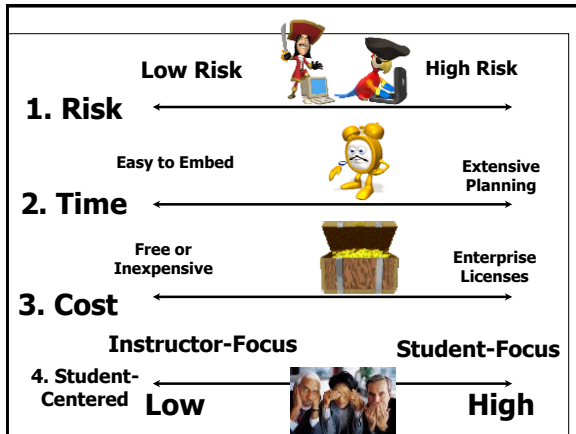### Introducing the free "TEC-VARIETY" Framework…
http://tec-variety.com/
http://tec-variety.com/TEC-VARIETY-Chinese.pdf

ADDING SOME TEC-VARIETY
100+ Activities for Motivating and Retaining Learners Online
CURTIS J BONK   ELAINE KHOO

在线学习动机与激励：
TEC-VARIETY 模型
——激励和留住在线学习者的 100 个活动
作者：Curtis J Bonk & Elaine Khoo   IU

1. Risk
Low Risk ←——————→ High Risk

2. Time
Easy to Embed ←——————→ Extensive Planning

3. Cost
Free or Inexpensive ←——————→ Enterprise Licenses

4. Student-Centered
Instructor-Focus   Student-Focus
Low ←——————→ High

Examples of TEC-VARIETY

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1. **T**one/Climate: A. Threaded Video Discussions, e.g., Flipgrid
http://flipgrid.com/#429f88c5)

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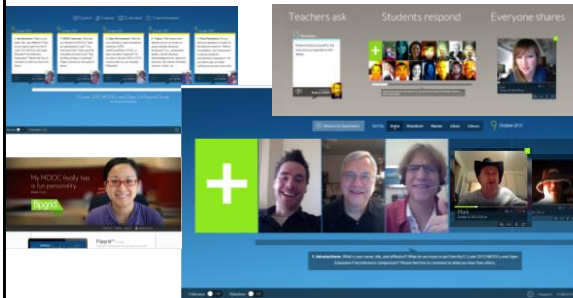
1. **T**one/Climate: B. Share Visuals of Favorite Places (e.g., Panoramio, http://www.panoramio.com/)

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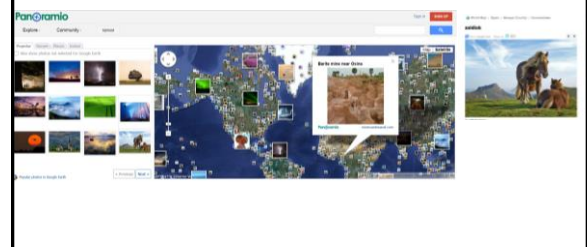
1. **T**one/Climate: C. Video Introductions (Office Hours in Other Countries)
Chuck Severance, U Michigan/Coursera) in Barcelona
http://www.youtube.com/watch?v=JzNHvmSv8TI
Chuck Severance, University of Michigan
https://www.coursera.org/course/pythonlearn

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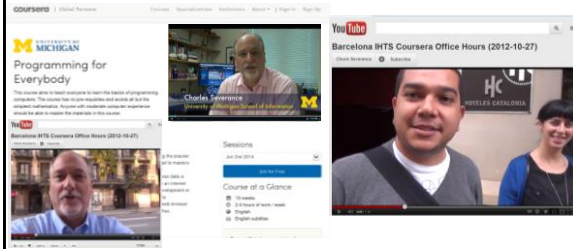
2. **E**ncouragement, Feedback, etc.: A. Demonstrations and Tutorials
Emerging technology specialist, IU UITS, Nitocris Perez, May 29, 2014
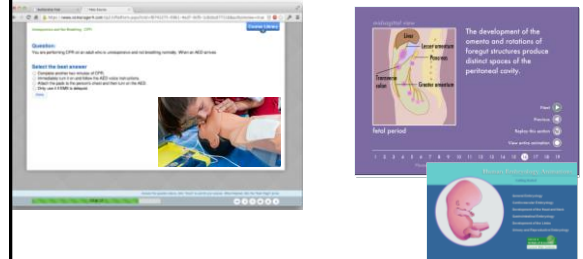http://inside.iub.edu/features/videos/2014-05-29-inub-vid-cib.shtml

2. Encouragement, **Feedback, etc.:** B. Voice/Audio Feedback
Vocaroo: http://vocaroo.com/
http://vocaroo.com/delete/s0x8moQAYAiu/a37bbc9408bb8c95
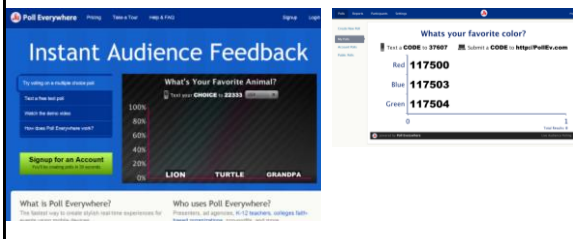(Recorded by Curt Bonk for the Open University of China)

2. Encouragement, **Feedback, etc.:** C. Online Practice Tests and Quizzes (e.g., CPR, Human Embryology Animations)

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

October 4, 2014
2. Encouragement, **Feedback, etc.:**
E. Class Facebook Group
Dr. Bonk's creative fun time group (R546)
https://www.facebook.com/groups/830496290323899/
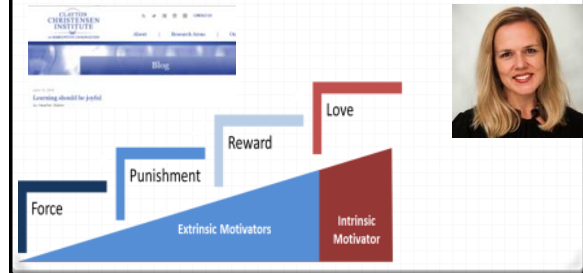

2. Encouragement, **Feedback, etc.:**
F. Videos and Online Quizzes
(e.g., Want to be an activist? Start with your toys - McKenna Pope , TEDEd)
http://ed.ted.com/lessons/want-to-be-an-activist-start-with-your-toys-mckenna-pope#watch
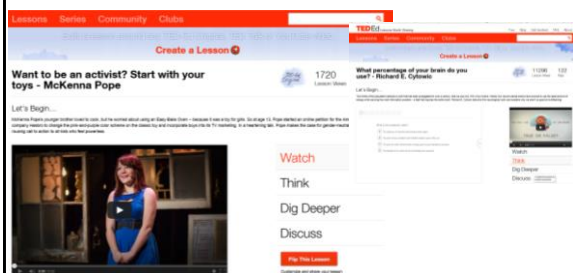
June 13, 2014
Learning should be joyful,
Heather Stacker, Blog Post, Clayton Christensen Institute
http://www.christenseninstitute.org/learning-should-be-joyful/

3. Curiosity, Fun:
A. 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/

May 25, 2015
3. Curiosity, Fun:
B. Something in the News
(e.g., Chinese universities move up in world rankings, China Daily)
http://www.cnn.com/2014/12/17/health/healthy-aging/index.html?hpt=hp_t2
http://espn.go.com/sports/endurance/story/_/id/8979487/fauja-singh-101-caps-career-10k-hong-kong
http://www.chinadaily.com.cn/china/2015-05/25/content_20805854.htm

3. Curiosity, Fun:
C. Something in the News
New 'massive' dinosaur skeleton discovered, USA Today,
September 5, 2014 (Dreadnoughtus)
http://www.usatoday.com/story/tech/2014/09/04/dinosaur-skeleton-discovered/15031803/
October 23, 2014: Goofy dinosaur blends Barney and Jar Jar Binks, SF Gate
http://www.sfgate.com/news/science/article/Goofy-dinosaur-blends-Barney-and-Jar-Jar-Binks-5840093.php
Incredible 50-foot 'dragon' dinosaur unearthed by Chinese farmers
January 20, 2015: Naomi Ng, for CNN
http://www.cnn.com/2015/01/30/asia/china-dragon-dinosaur/index.html

3. Curiosity, Fun:
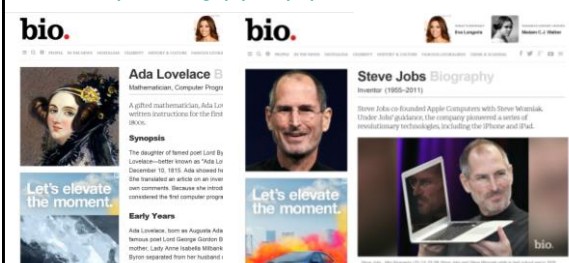**D. Something in the News**
(e.g., This may be the oldest surviving Photo of a human,
November 7, 2014, CNN, Brandon Griggs; But this
image, taken in Paris, France, in 1838)
http://www.cnn.com/2014/11/06/living/oldest-photograph-human-daguerre/index.html?hpt=hp_t4 kong

3. Curiosity, Fun:
E. Tracking the Life of a Computer
Scientist (bio.com)
http://www.biography.com/people/steve-jobs-9354805
http://www.biography.com/people/ada-lovelace-20825323

3. Curiosity, Fun:
F. Tracking the Life of a Computer
**Scientist (Wikipedia)**
http://en.wikipedia.org/wiki/Vannevar_Bush

Poll #2:
Which of these ideas might you use?

A. **Threaded video discussions (e.g., Flipgrid)**
B. **Video introductions (instructor or student)**
C. **Demonstrations and tutorials (Jing, Screenr, etc.)**
D. **Voice/Audio feedback (Vocaroo)**
E. **Online practice tests**
F. **Something in the news**
G. **Tracking life of scientist**

INTERNET
HIGH-FIVE
PLACE HAND
HERE

---

4. **V**ariety, Novelty, Fun:
A. 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

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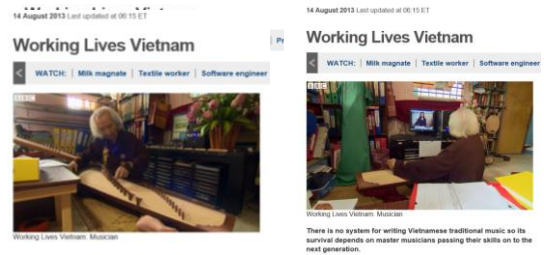
4. **V**ariety, Novelty, Fun, Fantasy:
B. Random Lists (Random.org—clocks, coins, playing cards, dice, integers, passwords, jazz scales, lists, sequences, etc.)

March 13, 2015
5. **A**utonomy, Choice:
A. 20% Time in Education
Kendal Rasnake & Troy Cockrum, IU
https://www.dropbox.com/s/tcsr5oae2lcgwuk/20_Time_in_Education-Cockrum_and_Rasnake.mov?n=57312573

March 5, 2015
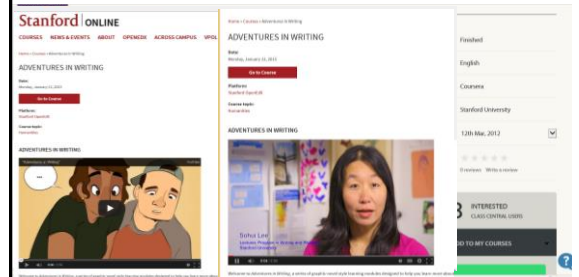**Pink Time: New approach to student projects promotes passion, learning for its own sake, Virginia Tech News**
http://www.collegiatetimes.com/news/virginia_tech/article_4140ba24-ad6b-11e4-b05a-47eb57d77a1e.html
http://www.vtnews.vt.edu/articles/2015/01/012315-cnre-pinktime.html
http://chronicle.com/blognetwork/theubiquitouslibrarian/2015/03/04/confronting-the-unexpected-unlocking-intrinsic-learning/?cid=at&utm_source=at&utm_medium=en

Dr. Tim Baird speaks about his concept of "Pink Time" during the Seventh Annual Conference on Higher Education Pedagogy, February 5, 2015.

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5. **A**utonomy, Choice:
B. Enroll in a MOOC and Reflect (e.g., see Class Central)

5. **A**utonomy, Choice:
C. Attend Webinar (pick weeks and reflecti)
Cathy Davidson, The End of Higher Education
http://connectedcourses.net/thecourse/why-we-need-a-why/

5. **A**utonomy, Choice:
D. Design Multimedia Glossaries
Ozgur Ozdemir, December 2012
http://r685glossary.shutterfly.com /
Umida Khikmatillaeva, Dec. 2011, P540
http://learningplanet.shutterfly.com/

5. **A**utonomy, Choice:
E. Design Article Database in Pinterest, Jenny Webeck
https://www.pinterest.com/jennifertwebeck/emerging-learning-technologies/

5. **A**utonomy, Choice:
F. Design Article Database in Facebook, Jenny Webeck
https://www.facebook.com/JennyBELTT/timeline

5. **A**utonomy, Choice:
G. Open Educational Resources (OER)
Digital Public Library of America
http://dp.la/

5. **A**utonomy, Choice:
H. Video Repositories and Portals
(e.g., Khan Academy, Computer Programming)
https://www.khanacademy.org/computing/computer-programming

Poll #3:
Any light bulbs going off in your head so far...?

A. Yes definitely***

B. Yes maybe!

C. Not yet (but hopefully soon...)

6. **R**elevance, Meaningfulness:
A. Guest Chats (e.g., Emily Hixon, January 20, 2015)
https://connect.iu.edu/p259wpiabg9/

6. **R**elevance, Meaningfulness:
B. 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. **R**elevance, Meaningfulness:
C. *Case-Based Learning: Instructor Cases* (e.g., Mark Braun, IU)

7. **I**nteractive, Collaborative:
A. Negotiate Meanings Online
(e.g., PiratePad: http://meetingwords.com/)
http://blogs.elon.edu/technology/6-collaborative-writing-applications-for-group-projects-or-papers/
MeetingWords, Google Docs, NowComment, MixedInk

January 27, 2015
7. **I**nteractive, Collaborative:
B. Backchannel Chat (TodaysMeet)
https://todaysmeet.com/
R678_Emerging_Learning_Technologies
https://todaysmeet.com/R678_Emerging_Learning_Technologies

7. Interactive, Collaborative:
C. Q&A Web Conferencing
(Adobe Connect, Jabber, iMeet, GoToMeeting, etc.)
https://connect.iu.edu/p259wpiabg9/
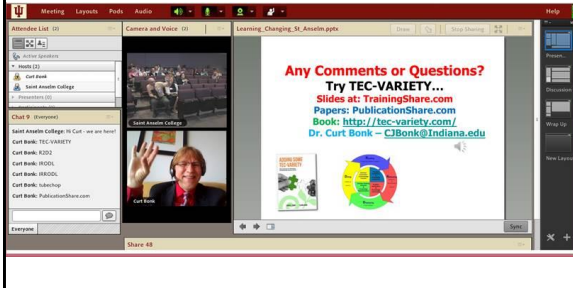
7. Interactive, Collaborative:
D. Multiple Guest Experts
Sara de Freitas and Jim Hensman, U of Coventry, UK
(https://connect.iu.edu/p2ie1yx6z6x/)
Jay Cross, Berkeley (https://connect.iu.edu/p4bytsoronh/)
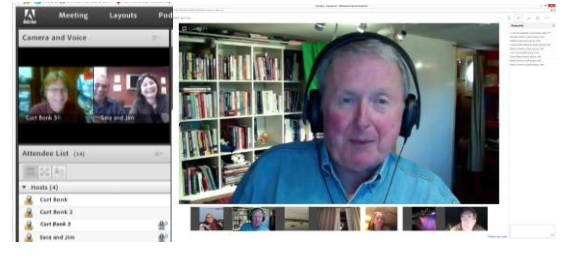
7. Interactive, Collaborative:
E. Collaboration and Discussion in
Google Hangouts, Jabber, Skype, etc
(January 29 and February 25, 2013)

Poll #4:
Which of these ideas might you use?

A. **Student designed multimedia glossaries**
B. **Article database in Pinterest**
C. **Guest chats with former students**
D. **Negotiate meanings online (e.g., PiratePad)**
E. **Backchannel chat (Todaysmeet)**
F. **Class Facebook group**
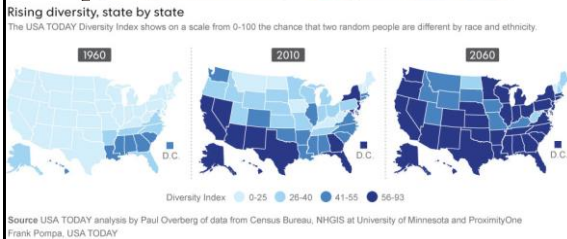G. **Discussion in Google Hangouts**

8. Engagement, Effort:
A. 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.
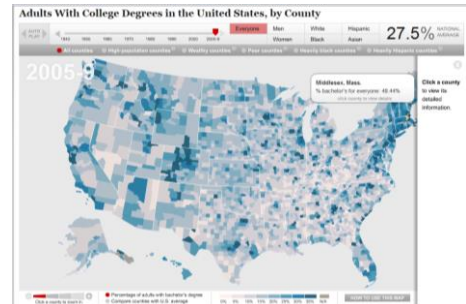**Digital Dubliners: http://digitaldubliners.com/**
James Joyce: http://joyceways.com/
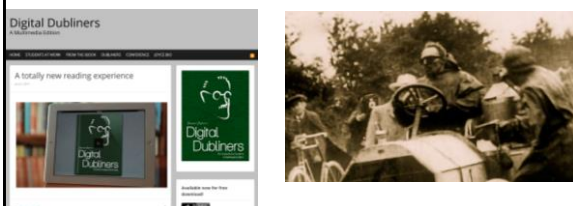
8. Engagement, Effort:
B. Guest Speaker Quotes
(Rey Junco, February 25, 2013)
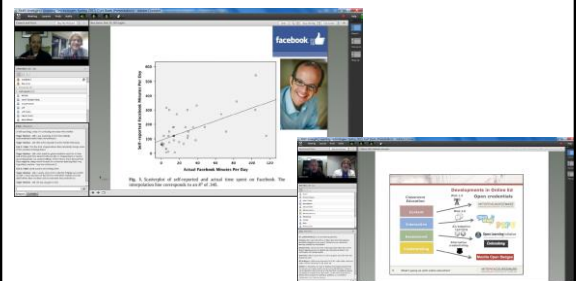
8. Engagement, Effort:
C. Interactive Timeline Maps,
October 22, 2014, Second immigration wave lifts diversity to record high, Edward Greg Toppo and Paul Overberg, USA Today
http://www.usatoday.com/longform/news/nation/2014/10/21/diversity-race-ethnicity-change-100-years/16211133/
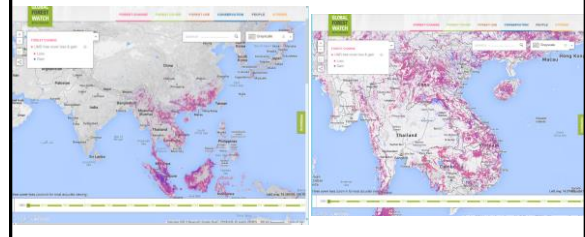

8. Engagement, Effort:
D. Interactive Map Timelines
(adults with college degrees by county, May 7, 2012)
http://todayscampus.com/article/Keith_Hampson_Interviews_Josh_Keller_on__Interactive_Graphics_for_Higher_Education

8. Engagement, Effort:
E. Google Map Gallery
September 16, 2014
http://maps.google.com/gallery/

8. Engagement, Effort:
F. 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:
G. Data Visualization Tools (Harvard and MIT MOOCs) Lawrence Biemiller, February 20, 2014, Chronicle of Higher Education
http://chronicle.com/blogs/wiredcampus/harvard-and-mit-release-visualization-tools-for-trove-of-mooc-data/50631?cid=pm&utm_source=pm&utm_medium=en
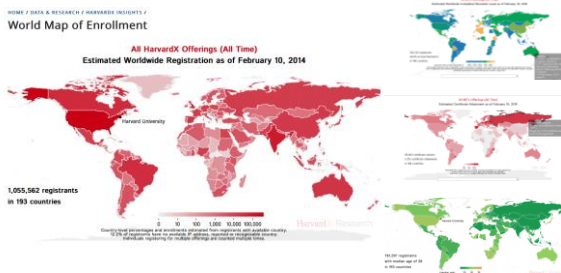

8. Engagement, Effort: **H. Interactive Timeline Tools** (e.g., Arab spring: an interactive timeline of Middle East protests, The Guardian, Garry Blight, and Sheila Pulham, July 12, 2011
http://www.guardian.co.uk/world/interactive/2011/mar/22/middle-east-protest-interactive-timeline

9. Tension, Challenge, etc.:
A. Online Vocabulary and Math Competitions
Vocabulary.com: https://www.vocabulary.com/
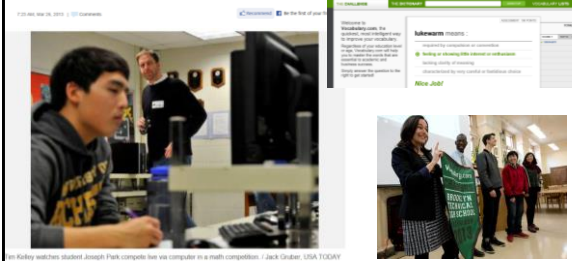
March 15, 2015
9. Tension, Challenge, etc.:
B. Controversial Issue Debates
SXSW: Tackling the growing gender gap in technology
Mike Snider, USA Today
http://www.usatoday.com/story/tech/2015/03/15/sxsw-geek-girls-chic-technology-gender-gap/24808699/
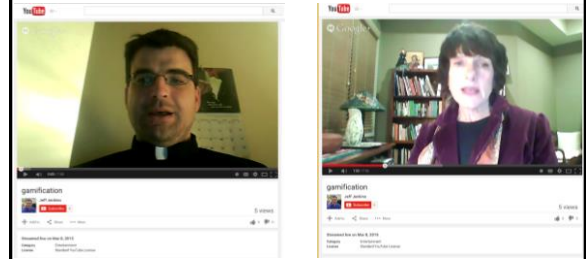

March 13, 2015
9. Tension, Challenge, etc.:
C. Controversial Issue Debates
R511 Midterm Video How to Create an Authentic Environment in a Content-Driven School?, R511, Nick and Nik
https://www.youtube.com/watch?v=Bcr3_aZT_xQ&feature=youtu.be
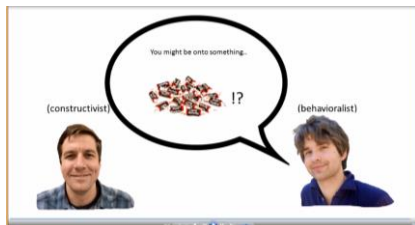
March 13, 2015
9. Tension, Challenge, etc.:
D. Controversial Issue Debates
Gamification, Jeff Jenkins and Melody Childs, IU
https://www.youtube.com/watch?v=DYe85LMiq5w

March 13, 2015
9. Tension, Challenge, etc.:
E. Controversial Issue Debates: Flipped Classroom, Board Meeting, Nora and Lauren, IU
https://www.dropbox.com/sh/geijknepvtjmxdc/AAAuQ9JCBcEtaiBcC-ZLxPuCa?dl=0#lh:null-b03ea104-0935-a723_1329.mp4

July 10, 2014
9. Tension, Challenge, etc.:
F. Controversial Issue Debates
Scholarly journal retracts 60 articles, smashes 'peer review ring', Fred Barbash, Washington Post
http://www.washingtonpost.com/news/morning-mix/wp/2014/07/10/scholarly-journal-retracts-60-articles-smashes-peer-review-ring

9. Tension, Challenge, etc.:
G. Cage Matches or Debates
(with online audience topical suggestions)
**Cage Match on MOOCs at SXSWedu 2013**
(Curt Bonk & Chuck Severance)
http://chronicle.com/blogs/wiredcampus/at-south-by-southwest-education-event-tensions-divide-entrepreneurs-and-educators/42777
https://soundcloud.com/sxswedu/cage-match-the-massive-open

April 23, 2015
Can Behavioral Tools Improve Online Student Outcomes?
Experimental Evidence from a Massive Open Online Course,
Richard W. Patterson
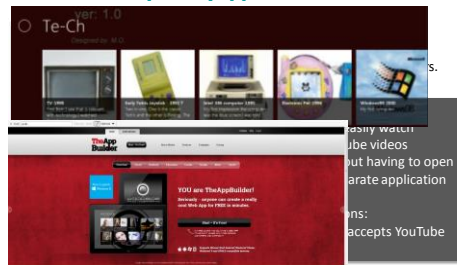http://www.ilr.cornell.edu/sites/ilr.cornell.edu/files/cheri_wp165_0.pdf

10. Yields Products, Goals:
A. Goal Setting Tools
(e.g., I Done This, Milestone Planner, and 43 Things)

10. Yields Products, Goals:
B. Uploading Mobile Books
(e.g., BookRix, http://www.bookrix.com/)
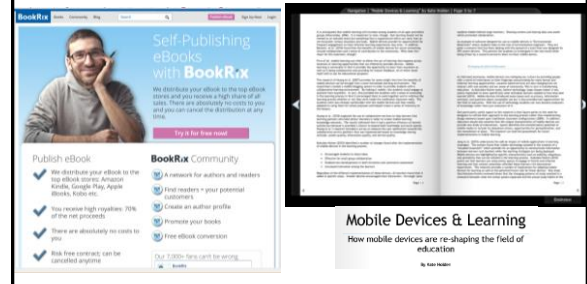
10. Yields Products, Goals:
C. Student Created Mobile Apps
The App Builder: http://www.theappbuilder.com/
Mintian Guo: http://myapp.is/r685final

10. Yields Products, Goals:
D. Student Created Videos
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
Kendal Rasnake (Is IT Right For You?): https://www.youtube.com/watch?v=MJ3GUDICIGw

January 23-25, 2015
10. Yields Products, Goals:
E. Global Game Jam
25,000 participants. 518 jam sites. Egypt had more than 800 participants. Over 5,000 games made. Includes Belarus, Cuba, Ecuador, Faroe Islands, Georgia, Ghana, Guatemala, Guernsey and Luxembourg as first time participants.
http://globalgamejam.org/news/ggj15-closes (reflect, discuss, etc.)

10. Yields Products, Goals:
F. Business Plans and Virtual Mentoring toward Goals,
September 22, 2014, Chronicle of HE
http://chronicle.com/article/Start-Up-Slow-Down/148923/?cid=at
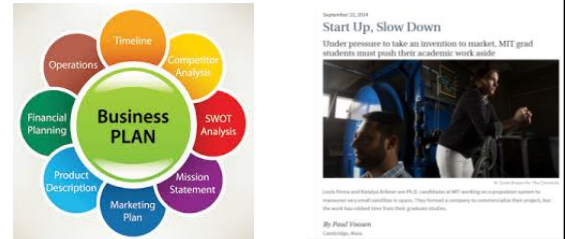
10. Yields Products, Goals:
G. Interactive Archive/Gallery of Exemplary First-Year Writing Projects
(Fresh Writing, University of Notre Dame, September 24, 2014; https://freshwriting.nd.edu/)

Poll #5:
Which of these ideas might you use?

A. Guest speaker quotes
B. Data visualization tools
C. Challenge debates (cage matches?)
D. Student designed video productions
E. Student designed e-books
F. Goal setting tools
G. Gallery of exemplary work

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

Recap and Reflect with Neighbor:
Explore Websites from this Session!
Or Find the lieu…
Take a quick 5-10 minute break…

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

Part II
Where Are You R2D2?:
Addressing Diverse Learner Needs with the Read, Reflect, Display, and Do Model

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

This Generation of Students

Learning is Resource Rich
March 22, 2015
Madagascar marvel:
Divers find fossils of extinct giant lemurs
Daisy Carrington, for CNN, March 22, 2015
http://www.cnn.com/2015/03/19/africa/underwater-fossil-lemur-graveyard-madagascar/index.html

November 25, 2014
OER Research Hub, OER Evidence Report:
Building Understanding of Open Education
2013-2014
http://oerresearchhub.files.wordpress.com/2014/11/oerrh-evidence-report-2014.pdf

What about the Instructor in the Open World?

Nine "C"
Metaphors of Instructors
(e.g., "Cat Herders")

1. Instructor as Credit Manager

2. Instructor as Court Room Judge

3. Instructor as Counselor

4. Instructor as Consultant

5. Instructor as Conductor

6. Instructor as Course Ambassador

7. Instructor as Curator

8. Instructor as Concierge
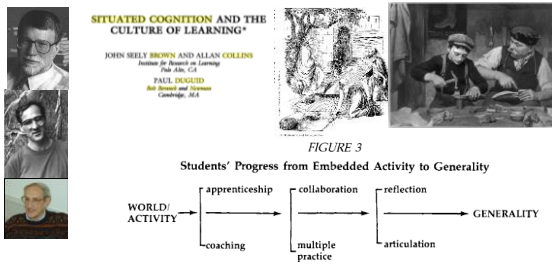

9. Instructor as Camping Trip Guide

How About Instruction as a Cognitive Apprenticeship?

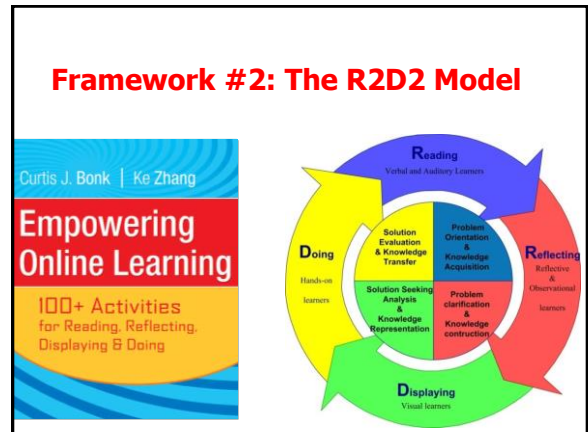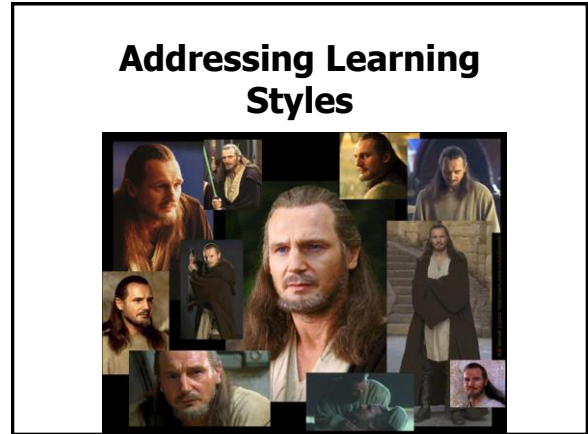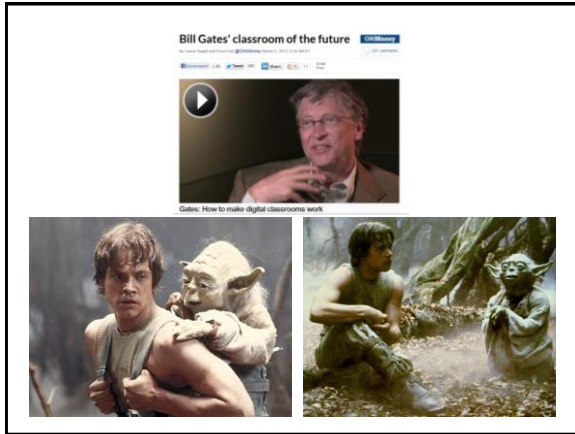**Brown, J. S., Collins, A., & Duguid, P. (1988).**
Cognitive apprenticeship, situated cognition, and social interaction.
Bolt, Beranek, and Newman, Inc., Technical Report No. 6886.

Expert Apprenticeship from Video

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. Collect and Listen to Interactive Stories
(e.g., Meograph: http://www.meograph.com/)

January 28, 2015
Read 1b. Twitter Fed Class Discussions
Live-Tweeting Assignments: To Use or Not to Use?
he Chronicle of Higher Education, Adeline Koh
http://chronicle.com/blogs/profhacker/live-tweeting-assignments-to-use-or-not-to-use/58949
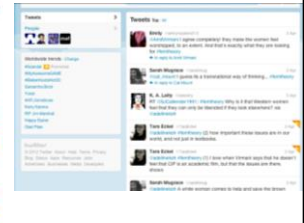
Read 1c. Grammer Checkers
(e.g., Grammarly, Ginger, GrammarCheck, PaperRater, and SpellCheckPlus)
http://www.grammarly.com/

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. Big Issue Reflections
(Big Questions Online (BQO)), Feb 3, 3015
(e.g., Is curiosity essential for human flourishing?)
https://www.bigquestionsonline.com/content/do-we-have-souls
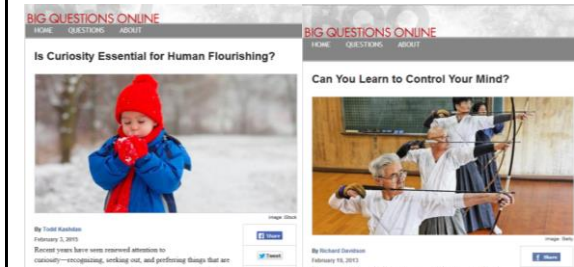
Reflect 2b.
Interpreting Infographics
July 24, 2014
Woman in Computer Science
http://graduatedegrees.online.njit.edu/mscs-resources/mscs-infographics/women-in-computer-science/

**Reflect 2c.** Workplace Internship, Practicum, and Field Experiences

Reflect 2d.
Reflect on Virtual Timelines
(Dipity, xtimeline, Simile, etc.)
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://usatoday30.usatoday.com/tech/news/story/2011-09-22/steve-jobs-dies/50672498/1
http://www.cnet.com/news/steve-jobs-a-timeline/

Reflect 2e. Cultural Blogs (e.g., Dr. Kim Foreman, San Fran State Univ, Come and See Africa Blog; http://comeandseeafrica.blogspot.com/)
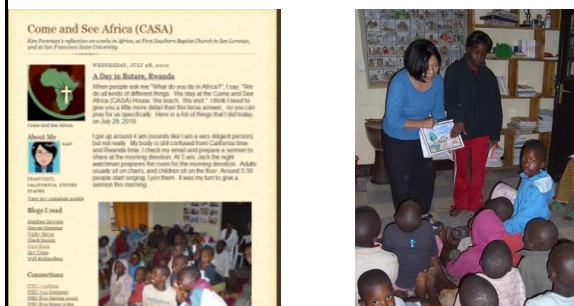
Poll #6:
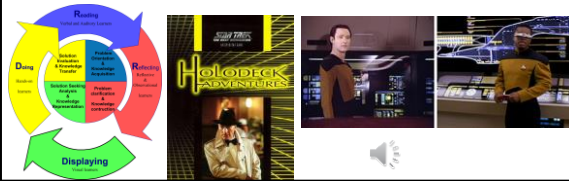**Any light bulbs going off in your head so far…?**
A. Yes definitely
B. Maybe
C. No

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. (April 28, 2015)
Concept Mapping and Timeline Tools
(Bubbl.us, Cmap, Gliffy, Spicynodes, or Mindomo)
http://www.spicynodes.org/index.html
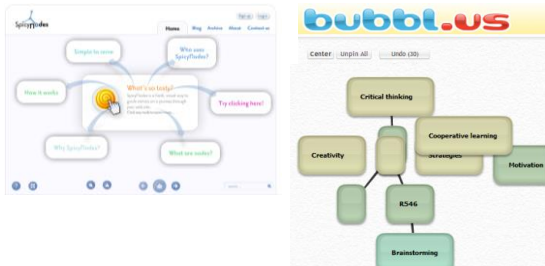
Display 3c. Videos for clinical education
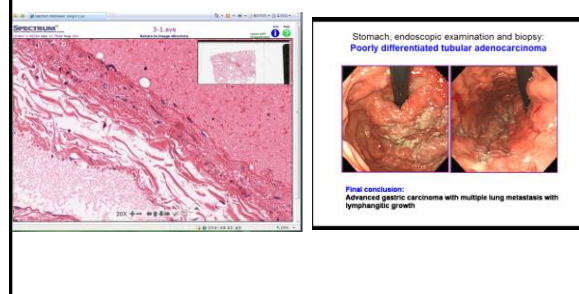(Sungkyunkwan University School of Medicine, www.mededu.or.kr)

환자의 앞쪽에서, 왼손으로 환자의 오른쪽 갑상샘을 반대편으로 밀고,

Display 3d. Unique OER (e.g., Dead Sea Scrolls)
http://www.deadseascrolls.org.il/explore-the-archive
http://www.deadseascrolls.org.il/explore-the-archive/search?q=site_en:Qumran,_Cave_4
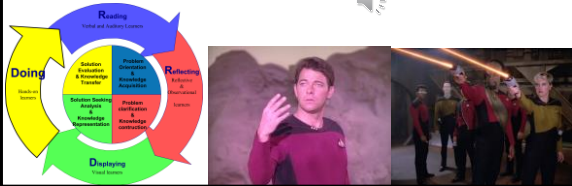http://www.deadseascrolls.org.il/home
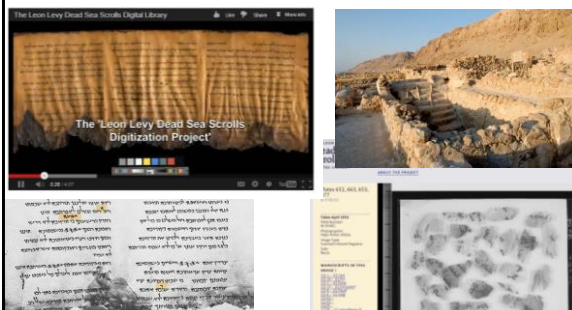
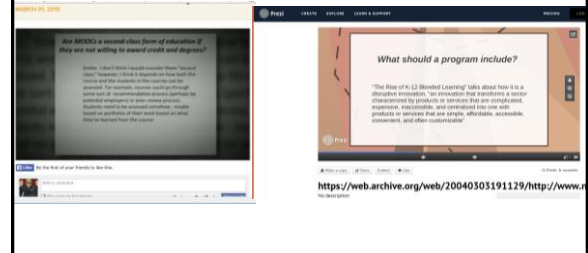**Display 3e.** Virtual Microscopes

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.**

February 8, 2015
Do 4a. Recap Discussion (e.g., Prezi from Thuy Han for R678 class Week 4)
https://prezi.com/r4vkwqokrn9/httpswesbarchiveorgweb20040303191129httpwwwnetco/?utm_campaign=share&utm_medium=copy

https://web.archive.org/web/20040303191129/http://www.n

Do 4b. Student Music Recordings of Course Content
April 26, 2015
IST Groove Song, Jeffrey Jenkins, R511: https://soundcloud.com/jeffjenkins25/ist-groove
The World is Open , Jill Kaufman, R678: https://www.youtube.com/watch?v=ZRGV0Mg5Vmw&feature=youtu.be
Daniel Halluska, P540: http://www.youtube.com/watch?v=tOL7lrGsqnw

Poll #7: Which do you prefer... (A) TEC-VARIETY or (B) R2D2?

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1. **Tone/Climate:** Psychological Safety, Comfort, Sense of Belonging
2. **Encouragement:** Feedback, Responsiveness, Praise, Supports
3. **Curiosity:** Surprise, Intrigue, Unknowns
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8. **Engagement:** Effort, Involvement, Investment
9. **Tension:** Challenge, Dissonance, Controversy
10. **Yielding Products:** Goal Driven, Purposeful Vision, Ownership

Poll #8: 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.

Where are we headed? Where is Education 3.0?

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

Any Questions or Comments?
Try TEC-VARIETY...Try R2D2
Slides at: TrainingShare.com
Papers: PublicationShare.com
😊 **Free Book:** **http://tec-variety.com/**
http://tec-variety.com/TEC-VARIETY-Chinese.pdf
Dr. Curt Bonk – CJBonk@Indiana.edu