Learning is Changing Part II:
Models for Motivating and Retaining Online Learners (TEC-VARIETY AND R2D2)

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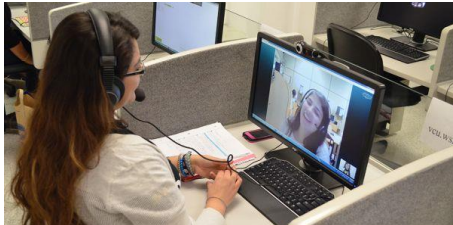cjbonk@indiana.edu
http://mypage.iu.edu/~cjbonk/

Language Learning is Changing!

Learning is More Collaborative
May 5, 2014
Technology Provides Foreign-Language Immersion at a Distance,
Danya Perez-Hernandez, Chronicle of Higher Education,
http://chronicle.com/article/Technology-Provides-146369/?cid=at&utm_source=at&utm_medium=en

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Learning is More Video-Based
Online Learning Polyglots
http://www.nytimes.com/2012/03/11/us/a-teenage-master-of-languages-finds-online-fellowship.html?_r=1&pagewanted=all


Timothy posts videos of himself speaking several languages on YouTube.

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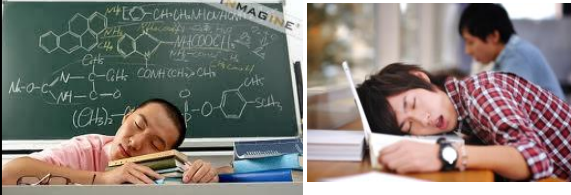## Learn Anytime, Always On/Mobile
"Everything I need to do today, I can do on my phone," says Robert Johnson (Louisville, KY)...He often grades papers and communicates with students from a cafe near his home.

Learning is More Self-Directed
iPod Learning from MIT OCW
(e.g., Wendy Ermold, University of Washington)
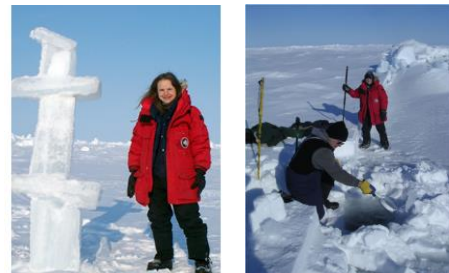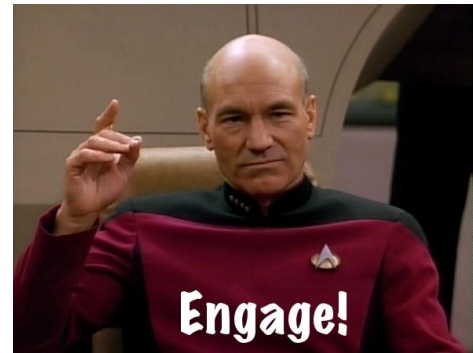
Motivation and Engagement

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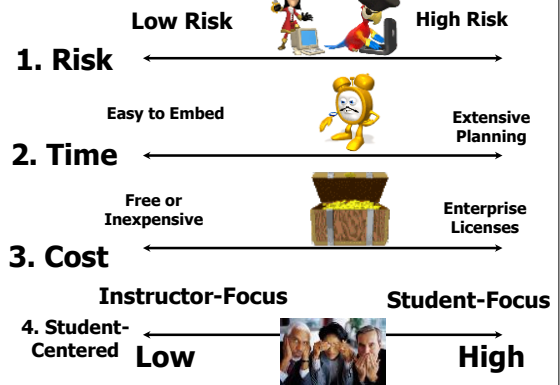### Introducing the free "TEC-VARIETY" Framework…
http://tec-variety.com/
http://tec-variety.com/TEC-VARIETY-Chinese.pdf

ADDING SOME TEC-VARIETY
100+ Activities for Motivating and Retaining Learners Online

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

Low Risk   **High Risk**
1. Risk

Easy to Embed   **Extensive Planning**
2. Time

Free or Inexpensive   **Enterprise Licenses**
3. Cost

Instructor-Focus   **Student-Focus**
4. Student-Centered   **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)

3
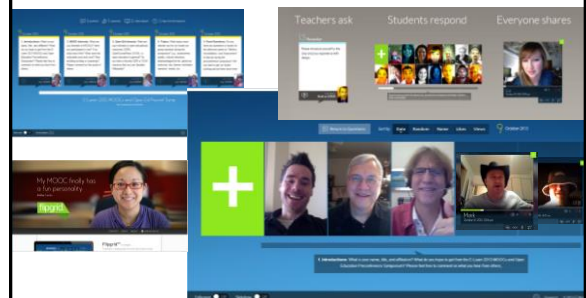
1. Tone/Climate:
B. Share Visuals of Favorite Places
(e.g., Panoramio,
http://www.panoramio.com/)
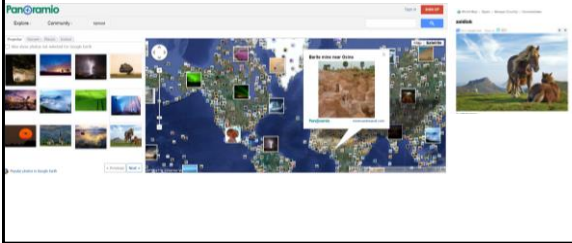
1. Tone/Climate: C. Video
Introductions (Office Hours in Other Countries)
Chuck Severance, U Michigan/Coursera, in Barcelona
http://www.youtube.com/watch?v=JzNHvmSv8TI
Chuck Severance, University of Michigan
https://www.coursera.org/course/pythonlearn
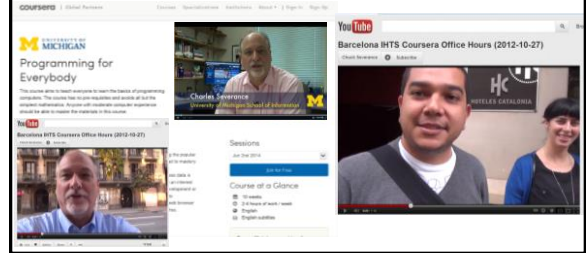
2. Encouragement, Feedback,
etc.: A. Demonstrations and Tutorials
Emerging technology specialist, IU UITS, Nitocris Perez,
May 29, 2014
http://inside.iub.edu/features/videos/2014-05-29-inub-vid-cib.shtml

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
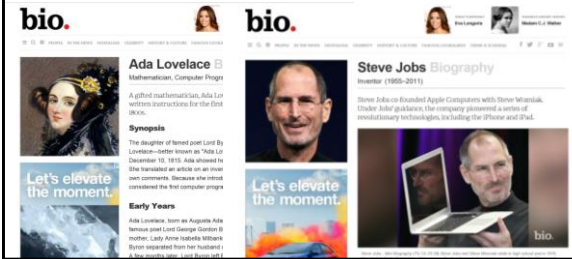Quizzes (e.g., CPR, Human Embryology
Animations)**

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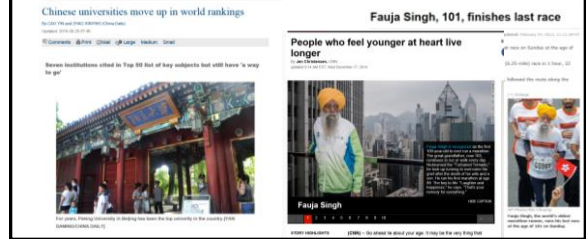**D. Class Facebook Group**
Dr. Bonk's creative fun time group (R546)
https://www.facebook.com/groups/830496290323899/

3. Curiosity, Fun:
A. 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

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
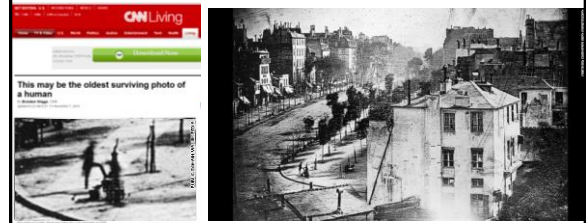

Poll #2:
Which of these ideas might you use?

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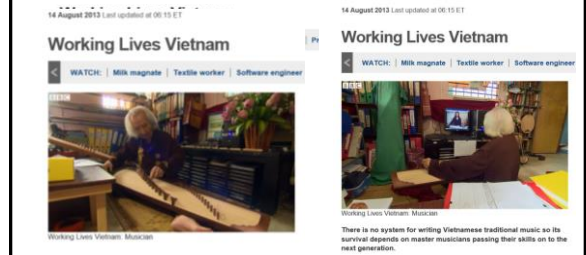
4. Variety, Novelty, Fun, Fantasy:
B. Random Lists (Random.org—clocks, coins, playing cards, dice, integers, passwords, jazz scales, lists, sequences, etc.)

March 13, 2015
5. Autonomy, 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

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

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

5. Autonomy, 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

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. 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
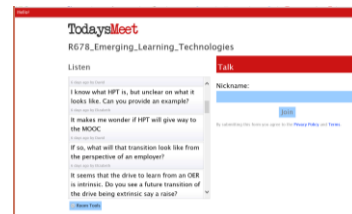
7. Interactive, Collaborative:
C. Q&A Web Conferencing
(Adobe Connect, Jabber, iMeet, GoToMeeting, etc.)
https://connect.iu.edu/p259wpiabg9/
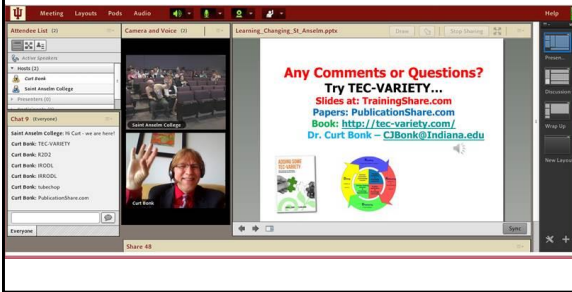
7. Interactive, Collaborative:
D. Collaboration and Discussion in Google Hangouts, Jabber, Skype, etc
(January 29 and February 25, 2013)


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)
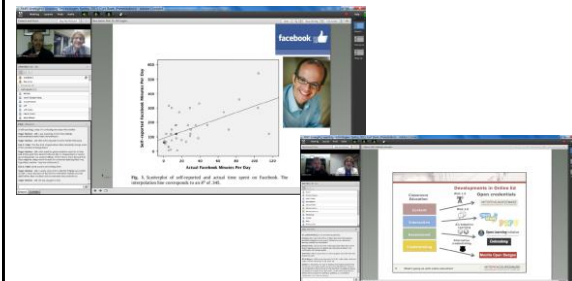
8. Engagement, Effort:
C. Interactive Timeline Maps,
October 22, 2014, Second immigration wave lifts diversity to record high, Edward Greg Toppo and Paul Overberg, USA Today
http://www.usatoday.com/longform/news/nation/2014/10/21/diversity-race-ethnicity-change-100-years/16211133/
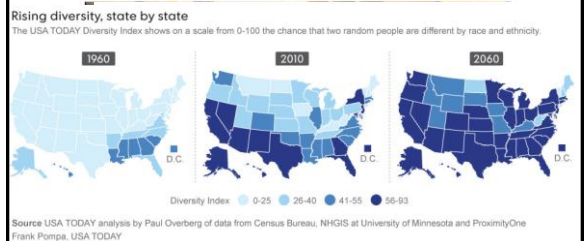
8. Engagement, Effort:
D. Google Map Gallery
September 16, 2014
http://maps.google.com/gallery/

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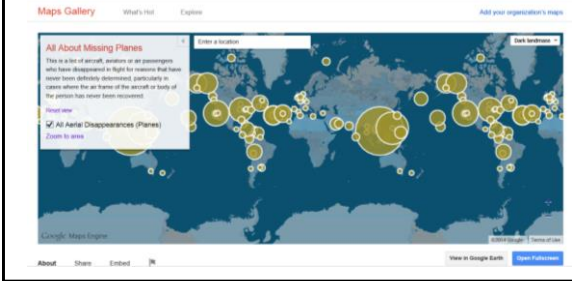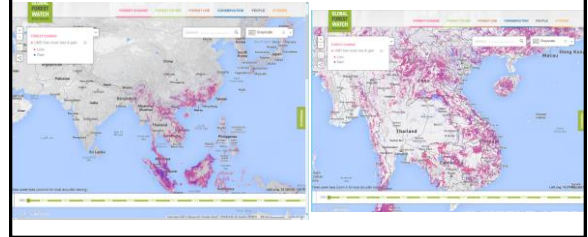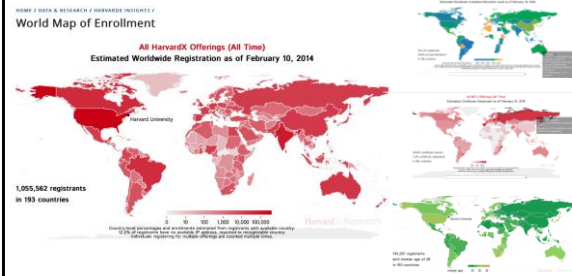http://www.globalforestwatch.org/map/3/-3.72/27.00/ALL/grayscale/loss/596

8. Engagement, Effort:
F. 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

January 23-25, 2015
9. Tension, Challenge, etc.:
C. 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.)

March 13, 2015
9. Tension, Challenge, etc.:
B. 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
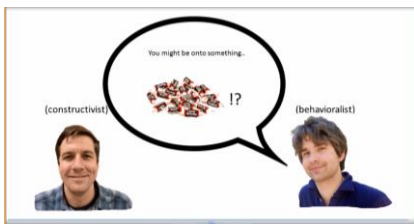
July 10, 2014
9. Tension, Challenge, etc.:
C. Controversial Issue Debates
Scholarly journal retracts 60 articles, smashes 'peer review ring', Fred Barbash, Washington Post
http://www.washingtonpost.com/news/morning-mix/wp/2014/07/10/scholarly-journal-retracts-60-articles-smashes-peer-review-ring
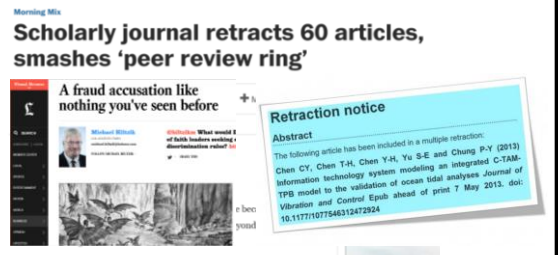
10. Yields Products, Goals:
A. Student Created Mobile Apps
The App Builder: http://www.theappbuilder.com/
Mintian Guo: http://myapp.is/r685final

10. Yields Products, Goals:
B. Student Created Videos
Piercarlo Abate: http://www.youtube.com/watch?v=_-TURzHO0aU
Qi Li, Gangnam: http://www.youtube.com/watch?v=7Q429lqxZaU8&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

10. Yields Products, Goals:
C. 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 for 1-2 minutes...
Or Explore Websites from this Session!
Or Find the lieu...

Take a quick 1-2 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

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/
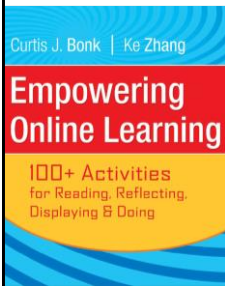

This Generation of Students

Addressing Learning Styles

Question: How can technology address diverse learner needs?

Framework #2: The R2D2 Model

Curtis J. Bonk | Ke Zhang

Empowering Online Learning
100+ Activities for Reading, Reflecting, Displaying & Doing

Reading
Verbal and Auditory Learners

Doing
Hands-on learners

Solution Evaluation & Knowledge Transfer

Problem Orientation & Knowledge Acquisition

Reflecting
Reflective & Observational learners

Solution Seeking Analysis & Knowledge Representation

Problem clarification & Knowledge contruction

Displaying
Visual learners
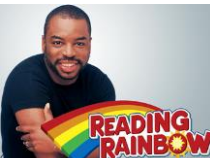
The R2D2 Method

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
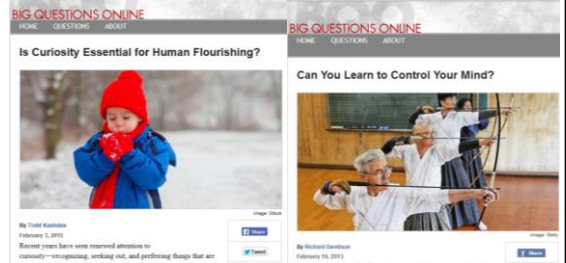
Reflect 2b.
Interpreting Infographics
July 24, 2014
Woman in Computer Science
http://graduatedegrees.online.njit.edu/mscs-resources/mscs-infographics/women-in-computer-science/

## 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/)
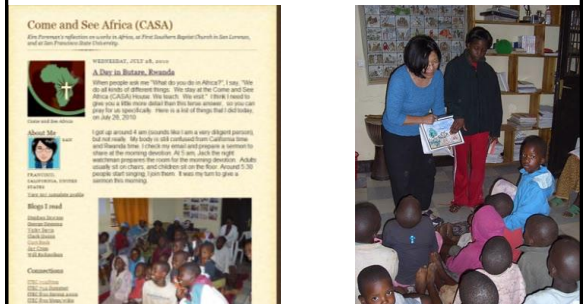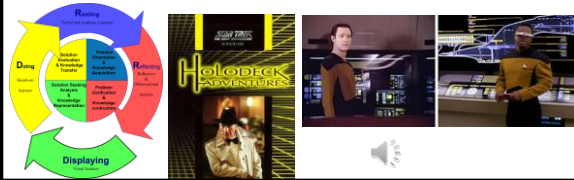
Poll #6:
Any light bulbs going off in your head so far...?

A. Yes definitely

B. Maybe

C. No

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3. Visual Learners

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

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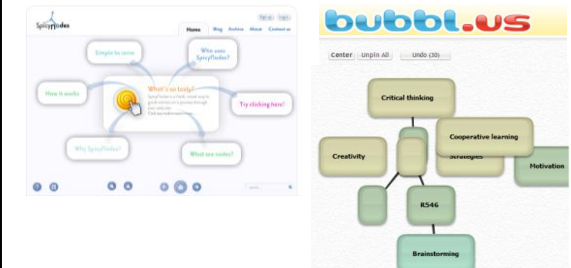**(Sungkyunkwan University School of Medicine, www.mededu.or.kr)**

환자의 앞쪽에서, 왼손으로 환자의 오른쪽 갑상샘을 반대편으로 밀고,

Display 3b. 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 3c. (April 28, 2015)
Concept Mapping and Timeline Tools
(Bubbl.us, Cmap, Gliffy, Spicynodes, or Mindomo)
http://www.spicynodes.org/index.html

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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.**
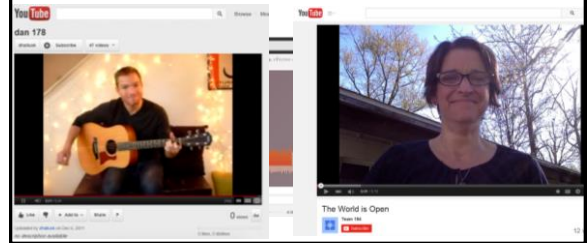
February 8, 2015
Do 4a. Recap Discussion (e.g., Prezi from Thuy Han for R678 class Week 4)
https://prezi.com/r4vkwqolkrn9/httpswebarchiveorgweb20040303191129httpwwwnetco/?utm_campaign=share&utm_medium=copy

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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 Haluska, P540: http://www.youtube.com/watch?v=tOL7lrGsqnw

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

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

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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?

Any Questions or Comments?
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Dr. Curt Bonk – CJBonk@Indiana.edu