Masterclass Part 2:

Where are You R2D2?: Addressing Diverse Online Learner Needs with the Read, Reflect, Display, and Do Model

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

January 15, 2017
3 Reasons to Read the Higher Ed Supplement to National EdTech Plan
(e.g., conversation starter, examples of innovation, cross-section of expertise)
Joshua Kim, Inside Higher Ed
https://www.insidehighered.com/blogs/technology-and-learning/3-reasons-read-higher-ed-supplement-national-edtech-plan-0

January 2017
Higher Education Supplement to the National Education Technology Plan
U.S. Department of Education, Office of Educational Technology
https://tech.ed.gov/files/2017/01/Higher-Ed-NETP.pdf

January 2017
Higher Education Supplement to the National Education Technology Plan
U.S. Department of Education, Office of Educational Technology
https://tech.ed.gov/files/2017/01/Higher-Ed-NETP.pdf
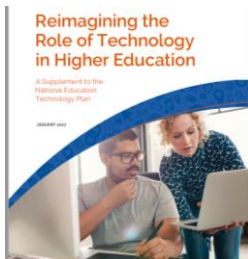
'New Normal' Students in Higher Education

74% of all undergraduate students have at least one nontraditional characteristic

66% transfer between institutions prior to completion | 62% work either full or part time | 43% attend part time

28% have at least one dependent | 35% are enrolled in two-year colleges | 63% are first-gen students

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January 2017
Higher Education Supplement to the National Education Technology Plan
U.S. Department of Education, Office of Educational Technology
https://tech.ed.gov/files/2017/01/Higher-Ed-NETP.pdf

Poll #1: How many of you cannot keep up with educational technology reports and are frustrated?

Longing to disconnect from work while you're not on the job?

January 7, 2017
Overworked? Join the club. Here's how to handle It.
Laura Petrecca, USA Today
http://www.usatoday.com/story/money/2017/01/07/overworked-americans/96235044/

IS YOUR WORKLOAD EXCESSIVE?
Percentage of employees, comparing 2016 to 2011, who don't think so:
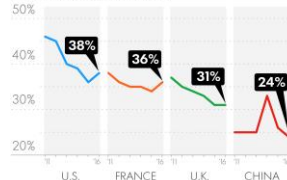
U.S. 38% FRANCE 36% U.K. 31% CHINA 24%

January 7, 2017
Overworked? Join the club. Here's how to handle It.
Laura Petrecca, USA Today
http://www.usatoday.com/story/money/2017/01/07/overworked-americans/96235044/

WORK SEEPS INTO PERSONAL TIME
American workers say they:

Have dreamed about work	60%
Check email after leaving work	49%
Work during non-business hours	46%
Are up at night thinking about work	44%
Gave up vacation days in 2015¹	15%
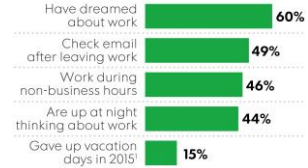
Solution?: The R2D2 Model: Read, Reflect, Display, Do...

Curtis J. Bonk | Ke Zhang
Empowering Online Learning
100+ Activities for Reading, Reflecting, Displaying & Doing

Reading — Verbal and Auditory Learners
Doing — Hands-on learners
Reflecting — Reflective & Observational learners
Displaying — Visual learners
Solution Evaluation & Knowledge Transfer
Problem Orientation & Knowledge Acquisition
Solution Seeking Analysis & Knowledge Representation
Problem clarification & Knowledge contruction

Addressing Learning Styles with R2D2

Question: How can technology address diverse learner needs?

August 12, 2015
Create Engaging Learning Experiences

Image adapted from Bonk, C.J. & Zhang, K. (2008). Empowering online learning: 100+ activities for reading, reflecting, displaying, & doing. San Francisco, CA: Jossey-Bass.

Southern Illinois University, Carbondale, Illinois
Heidi Jung and Cheryl L Bosarge
Instructional Designer
Center for Teaching Excellence
Heidi Lynn Jung hjung@siu.edu
Cheryl L Bosarge cbosarge@siu.edu

READ — Read · Listen · Watch
Auditory & Verbal Learning
REFLECT — Reflective & Observational Learning
DISPLAY — Visual Learning
DO — Hands-On & Exploratory Learning
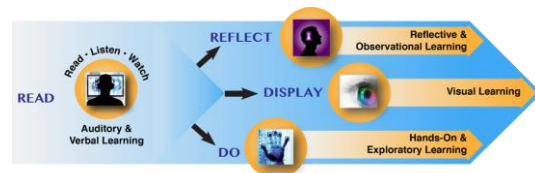
The R2D2 Method

1. **Read (Auditory and Verbal Learners)**
2. **Reflect (Reflective Learners)**
3. **Display (Visual Learners)**
4. **Do (Tactile, Kinesthetic, Exploratory Learners)**
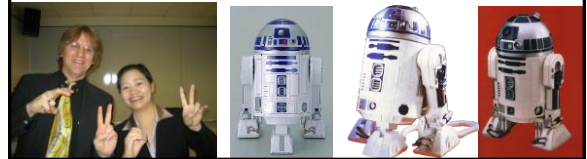
1. Auditory or Verbal Learners

- **Auditory and verbal learners prefer words, spoken or written explanations.**

January 20, 2016
Read 1a. Podcasts
IU Bloomington podcast series to launch Jan. 24, Steve Hinnefeld, IU Newsroom
http://inside.indiana.edu/headlines/2016-01-20-new-campus-podcast.shtml?utm_source=2016-01-20&utm_medium=enewsletter&utm_content=Something-in-the-air&utm_campaign=2016-inside-iub-distribution

IU's Media School dean James Shanahan, at left, will host a new campus podcast. Senior Luqmann Ruth will read the news for the inaugural podcast. | PHOTO BY JENNIFER PIUREK, OFFICE OF THE PROVOST

Read 1b. Collect Oral Histories
e.g., Joan Kang Shin, George Mason University, has her students write "This I believe" Statements.
(EFL teachers around the world interview elders in their community for a rich database of oral histories and documentaries for social change)
Oral History Society: http://www.ohs.org.uk/
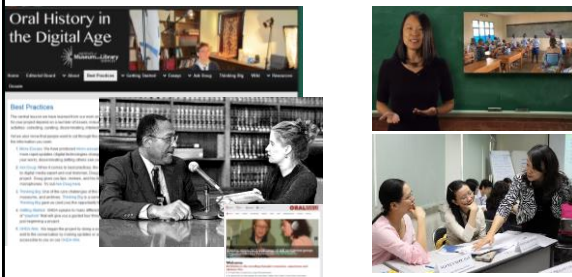
Read 1c.
Reading Life Histories
(bio.com)
http://www.biography.com/people/bob-marley-9399524

Read 1d. Using Unique Open Educational Resources and Portals
(e.g., Mozart: http://www.mozartproject.org/)

Read 1e.
Exploring Various Resources to Track the Life of a Prominent People
(e.g., Vannevar Bush in Atlantic Monthly, Wikipedia, Time, etc.)
http://en.wikipedia.org/wiki/Vannevar_Bush

May 28, 2015
Read 1f. Open Access Scientific Reports/Studies
New species from Ethiopia further expands Middle Pliocene hominin diversity, Nature
http://www.cnn.com/2015/05/28/africa/ethiopia-fossil-hominin-ancestor/index.html
http://www.nature.com/nature/journal/v521/n7553/full/nature14448.html

May 28, 2015
Read 1g. Immediate Science
Ancient jawbones put new species on the human family tree, researchers say, Laura Smith-Spark, CNN
http://www.cnn.com/2015/05/28/africa/ethiopia-fossil-hominin-ancestor/index.html

January 28, 2015
Read 1h. 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 1i. Grammer Checkers
(e.g., Grammarly, Ginger, GrammarCheck, PaperRater, and SpellCheckPlus)
http://www.grammarly.com/

2. Reflective and Observational Learners

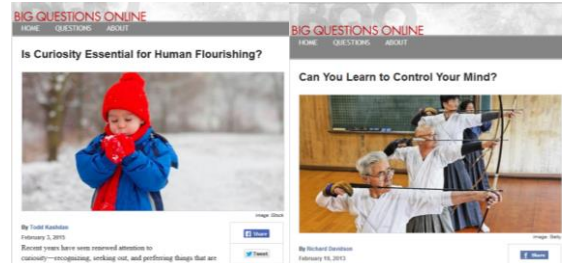- **Reflective and observational learners prefer to reflect, observe, view, and watch learning; they make careful judgments and view things from different perspectives**

Reflect 2a. Big Issue Reflections
(Big Questions Online (BQO)), Feb 3, 2015
(e.g., Is curiosity essential for human flourishing?)
https://www.bigquestionsonline.com/content/do-we-have-souls

October 6, 2016
Reflect 2b. What-if Reflections
What if Aaron Burr had missed Alexander Hamilton?, Thomas Fleming, CNN
http://www.cnn.com/2016/10/06/politics/alexander-hamilton-aaron-burr-duel-missed/index.html

September 21, 2016
Reflect 2c. Discussion Starter News Stories
Aboriginal Australians are Earth's oldest civilization: DNA study, Emiko Jozuka, CNN
http://edition.cnn.com/2016/09/22/asia/indigenous-australians-earths-oldest-civilization/index.html

Elder Thomas Wales, of the Thanakwith Pine River People, is one of the co-authors of the study.

January 12, 2017
Reflect 2d. Sharing Future Forecasts and Projections
Meet the giants of tomorrow: The tallest buildings rising in 2017, Ian Spula, CNN
http://www.cnn.com/2017/01/11/architecture/tallest-buildings-top-out-2017/

April 13, 2016
Reflect 2e. Interpreting Interactive Graphs
Tech billionaire announces $250 million in cancer immunotherapy funding, Jayne O'Donnell, USA Today
http://www.usatoday.com/story/news/2016/04/13/billionaire-announces-250-million-cancer-immunotherapy-funding/82821198/

Dr. Jedd D. Wolchok , Chief, Melanoma and Immunotherapeutics Service at Memorial Sloan Kettering Cancer Center in Photo by John OBoyle, Freelance ORG XMIT: JO 134700 seanparker 4/7/2016 [Via MerlinFTP Drop}

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

Reflect 2g. Case Analysis and Online
Discussion (e.g., Kelley Direct, IU)

Reflect 2h. Workplace Internship,
Practicum, and Field Experiences

Reflect 2i. Online Database Queries
(e.g., WolframAlpha)
http://www.wolframalpha.com/

Reflect 2j. Dual Coding Content
(Dual Coding Theory: Text + Video)
Text: http://en.wikipedia.org/wiki/Ray_Dolby
Video (September 20, 2000): http://www.gigwise.com/news/84155/audio-pioneer-

Reflect:
Jot down 2-3 new ideas that
you learned so far...

3. Visual Learners

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

Display 3a.
Interpreting Infographics
August 5, 2015
How much rainforest in that chocolate bar?
Global Forest Watch, Nancy Harris, Octavia Payne and Sarah Mann
http://blog.globalforestwatch.org/2015/08/how-much-rainforest-is-in-that-chocolate-bar/

Display 3b. **Virtualize Words Used (e.g., Wordle, Tagzedo, Tagul, WordSift, Word It Out)**

Display 3c. Map Animations
Yes, Mr. President, We Remade Our Atlas to Reflect Shrinking Ice
Christine Dell'Amore, National Geographic, August 3, 3015
http://news.nationalgeographic.com/2015/08/150803-arctic-ice-obama-climate-nation-science/?utm_content=buffer8a394&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer

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December 23, 2016
Display 3d. Global Data Visualizations
The Arctic is showing stunning winter warmth, and these scientists think they know why, Charles Mooney, Washington Post
https://www.washingtonpost.com/news/energy-environment/wp/2016/12/22/the-arctic-is-behaving-so-bizarrely-and-these-scientists-think-they-know-why/?utm_term=.bfa3f702a8bd&wpisrc=nl_most-draw7&wpmm=1

Visualization of a very wavy northern hemisphere jet stream. Credit: NASA

December 2, 2016
Display 3e. Global Data Visualizations
With Google Earth Timelapse you can now view 32 years of Landsat satellite images, Aleks Buczkowski
http://geoawesomeness.com/google-earth-timelapse-can-now-view-32-years-landsat-satellite-images/

November 19, 2016
Display 3f. Cartograms, Maps, and Other Visualizations
Metrocosm: Cartograms Archive
The Housing Value of Every County in the U.S.
http://metrocosm.com/category/cartograms/

March 24, 2015
Display 3g. Maps of Languages
Langscape, Language at Maryland
https://languagescience.umd.edu/beyond-umd/langscape
http://theweek.com/articles/545768/cool-interactive-map-lets-explore-worlds-languages
http://langscape.umd.edu/map.php

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

December 17, 2015
Display 3i. Graphical Recordings
Elliott Masie's Learning 2015, Nov 1-4, 2015
http://learningtalks.com/learning-2015-videos/sabrina-kay-the-learner/
http://www.imagethink.net/

Display 3j. 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

March 22, 2015
Display 3k. Online News with Embedded Media
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

September 14, 2016
Display 3L. Exploring Online 3-D Exhibits
3-D Google exhibit to tell history of black America, Jessica Guynn, USA Today
http://www.usatoday.com/story/tech/news/2016/09/14/google-creates-interactive-exhibit-smithsonian-national-museum-of-african-american-history-and-culture/90342372/

December 15, 2016
Display 3m. Interactive Media Timelines
The Digital Era: How 50 years of the information age transformed college forever, *Ben Myers & Erica Lusk, The Chronicle of Higher Education*
http://www.chronicle.com/interactives/50-years-of-technology

March 10, 2016
Display 3n. Videostreamed Conferences
Watch SXSWedu Live, Connie Yowell
http://sxswedu.com/live?utm_campaign=Edu+2016&utm_source=hs_email&utm_medium=email&utm_content=27144469&_hsenc=p2ANqtz-ag6U7VJGlpYaciareNq6mryKvA63kCR5O3U8JVQkfAYp7yiTnncHnxw7_PmMpcjioI9V7z1-01hvyCrDPVEAR-xGHwO&_hsmi=27144469

Display 3o.
Short Educational Videos:
CNN, BBC, TED, TED-Ed, ForaTV
BBC One-Minute World News (August 31, 2015)
http://www.bbc.com/news/business-34105708

March 7, 2016
Display 3p. Brief Training Videos
Chief Learning Officer
http://www.clomedia.com/media/videos/play/306?utm_source=MyEmma&utm_medium=Email&utm_campaign=CLO%20Today&utm_source=newsletter&utm_medium=email&utm_content=Is%20Online%20Education%20Up%20For%20a%20Facelift%3F&utm_campaign=CLO_Today_101615

Display 3q. Video Tutorials, Demonstrations, and How-To's
(WonderHowTo and Howcast)
http://www.howcast.com/
http://www.wonderhowto.com/
http://www.howcast.com/?s=tune+a+drum

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

Display 3s. Virtual Microscopes

January 20, 2016
Display 3t. Embedded Videos
Why the Future Is Bright for the World's Poorest
Farmers, Gates Notes, the blog of Bill Gates
https://www.gatesnotes.com/Development/The-Future-of-
Farming?WT.mc_id=01_20_2016_20_FutureofFarming_BG-LI_&WT.tsrc=BGLI
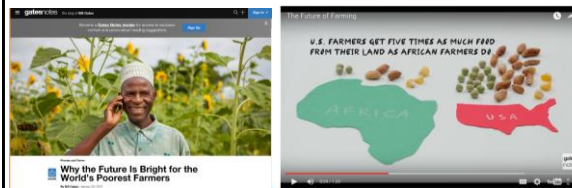
October 6, 2016
Display 3u. Explanatory Videos
Why Governments Should Invest in
Innovation, Bill Gates, YouTube (1:19)
https://www.youtube.com/watch?v=TJNVNWQa4ak

Display 3v.
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/

March 2, 2016
Display 3w. Weekly 1 minute Video Updates
(e.g., Pinkcasts from Daniel Pink)
http://www.danpink.com/pinkcast/

October 31, 2014
Display 3x. Live Science
Penguin Science (Penguin Cam) Jean Pennycook
http://www.penguinscience.com/
http://www.thistle.org/pcam2/images.shtml
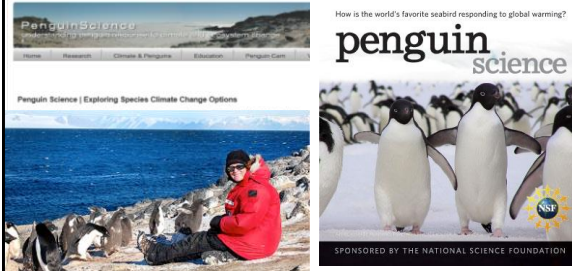
November 12, 2016
Display 3y. Online Documentaries and Films
Drokpa (Yan Chun Su is a self-taught documentary filmmaker currently based in Colorado.)
http://www.drokpafilm.com/

Display 3z. Short Video Anchors
(e.g., TubeChop of V-PORTAL: Video Primers in an Online Repository of e-Teaching and Learning)
Curt Bonk: http://www.tubechop.com/watch/378752
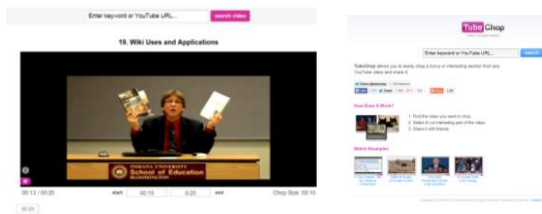
4. Tactile/Kinesthetic Learners

- 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. Goal Setting Tools
(e.g., I Done This, Milestone Planner, and 43 Things)
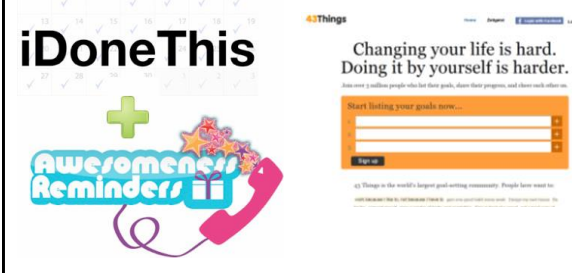
February 8, 2015
Do 4b. Recap Discussion (e.g., Prezi from Thuy Han for R678 class Week 4)
https://prezi.com/r4vkwgolkrn9/httpswebarchiveorgweb20040303191129httpwwwwnetco/?utm_campaign=share&utm_medium=copy
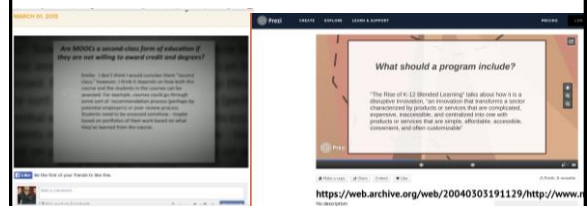
December 8, 2015
Do 4c. Take a MOOC
P540 Final Assignment for Meina Zhu: MOOC, Coursera, Introduction to Psychology, University of Toronto
https://www.coursera.org/course/intropsych
https://www.futurelearn.com/courses/mental-health-and-well-being
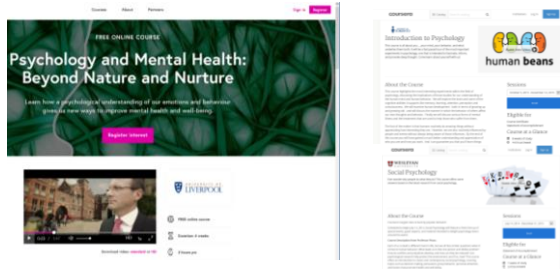
December 8, 2015
Do 4d. Student Final Project Videos
P540 Final Assignment: Learning Theories and Psychotherapy, Shu-Yi Wang
https://www.youtube.com/watch?v=PNMpGjnXAjM
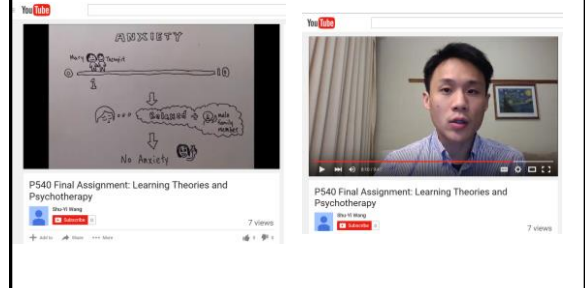
October 26, 2016
Do 4e. Student Created Marketing and Explanatory Videos
R511, Kai Westerfield, Jennifer Blankenship, And Colbi Lehman, Online Degree Programs, (11:54) Go Animate
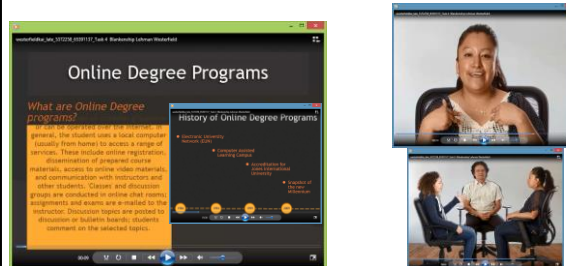
Do 4f. Student Music Recordings of Course Content
IST Groove Song, Jeffrey Jenkins, R511: https://soundcloud.com/jeffjenkins25/ist-groove
The World is Open , Jill Kaufman, R678: https://www.youtube.com/watch?v=ZRGV0Mg5Vmw&feature=youtu.be
Daniel Halluska, P540: http://www.youtube.com/watch?v=tOL7lrGsqnw
Weipeng (William) Yang: IST History (1:40):
https://drive.google.com/file/d/0B9YDNkNTIa4DaDNSVXdOeDM1SkU/view
IST Paradise (2:52) (It all started with IST) https://drive.google.com/file/d/0B9YDNkNTIa4DSzhNd3VBdzVpZlE/view

October 26, 2016
### Do 4g. Student Debate Animations
Debate: How The Evolution of Healthcare Education as it Applied to Imaging Sciences: MRI—The Past, Present, and Future, R511, Latrice Booker, Sarah McDonough, (10:24) Go Animate

October 26, 2016
Do 4h. Student Exploration Video
**R511, Merge Basdogan, Self-Regulated Learning (6:08)**
https://www.youtube.com/watch?v=G1FpopGmk1c&feature=youtu.be#t=3.346833
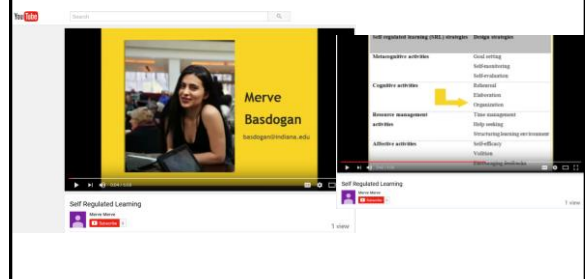
October 26, 2016
Do 4i. Student Research Recap Video
R511, Rob Elliot, Erin Milanese, and Patrick Walsh
Traditional Textbook (8:11)
https://drive.google.com/file/d/0B25AtCR9Ddd5NE9DaS16RlpiMW8/view

Do 4j. Student Website Development
R511 Final Projects, April 2016
IT and HPT Comparison (Website), Doug Hsu
http://dougandindira.wix.com/r511finalproject
"IST Construction, Co."
Rob Elliot, Patrick Walsh, Erin Milanese, R511, December 2016
http://relliott.net/istconstruction/index.php
"Cousins but Not Twins: Instructional Technology and Human Performance Technology,"
Merve Basdogan and Brett Gary, R511, December 2016
http://educbasdogan.wixsite.com/511final
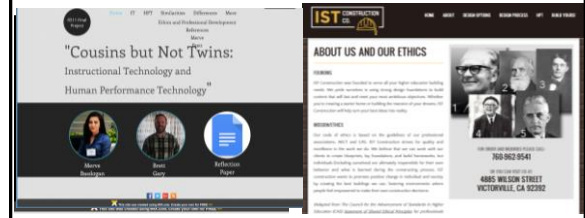
Do 4k. Interactive Archive/Gallery of Student Work
e.g., Exemplary First-Year Writing Projects
(Fresh Writing, University of Notre Dame, September 24, 2014;
https://freshwriting.nd.edu/)

Three Words from this Session…?
e.g., "I am happy!" and…
My minions are happy!

Poll #2: Which do you prefer…
(A) TEC-VARIETY or (B) R2D2?

Any Questions or Comments?
Slides at: TrainingShare.com
Papers: PublicationShare.com
Free book: http://tec-variety.com/
Dr. Curt Bonk – CJBonk@Indiana.edu