

## Where Are You R2D2?:

Addressing Diverse Learner Needs with the  
Read, Reflect, Display, and Do Model

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## What did Jean-Luc Picard say?



## That's right, Engage!



## A Dozen "C" Metaphors of Instructors



Ashley is a steamroller



## 1. Instructor as Credit Manager



## 2. Instructor as Camp Commandant



**3. Instructor as Court Room Judge**



**4. Instructor as Casino Operator**



**5. Instructor as Counselor**



**6. Instructor as Consultant**



**7. Instructor as Conductor**



**8. Instructor as Course Ambassador**



### 9. Instructor as Curator



### 10. Instructor as Concierge



### 11. Instructor as Camping Trip Guide



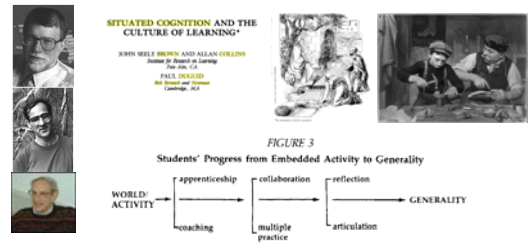
### 12. Instructor as Cultivator



### 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.



**Exactly 20 Years Later...  
Our minds were on fire!**



**The Next Generation is Here!**



**Where would we all like  
to work?**

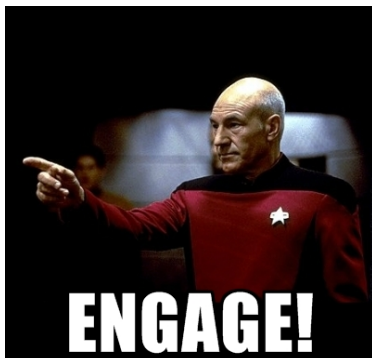


**ENGAGE UNIVERSITY**

**What was it that he said?**



**That's right, Engage!**



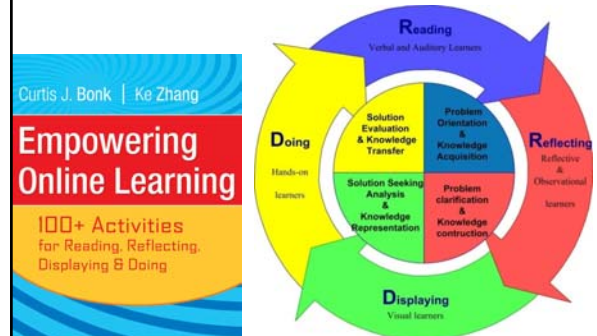
**How do  
we engage  
online?**



## How can technology address diverse learner needs?

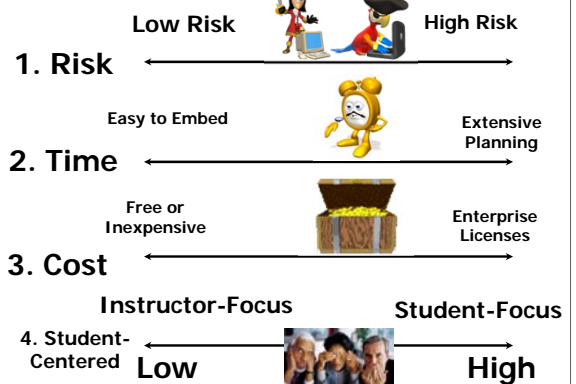


## Framework #1: The R2D2 Model



## 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. Twitter Fed Class Discussions



**Read 1b. Grammer Checkers**  
(e.g., Grammarly)  
<http://www.grammarly.com/>

Grammarly is an automated proofreader and your personal grammar coach. Correct up to 10 times more mistakes than popular word processors.

- Instantly find and correct over 100 types of grammatical mistakes
- Improve word choice with context-optimized vocabulary suggestions
- Avoid plagiarism by checking your texts against over 8 billion documents

Trusted by 5,000,000+ People  
Used at Hundreds of Universities Worldwide

Top 10 reasons you'll love Grammarly

**Read 1c. Interactive Stories**  
(e.g., Meograph)  
<http://www.meograph.com/>

Meograph

Easily tell interactive stories

Meograph for:

- Journalism
- Education

Play demo

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

Create Online Crossword Puzzles!

Welcome to EclipseCrossword!

EclipseCrossword is the first, easy, free way to create crossword puzzles in minutes.

4,000,000 Four million downloads

Who can use EclipseCrossword?

- Teachers and parents: Use crossword to review vocabulary and lexicon for all subjects. Students may actually learn from doing the assignment. Crossword puzzles encourage logical thinking and correct spelling. Crosswords can be printed or published to your website.
- Professionals: You can easily create interactive crossword puzzle web pages with EclipseCrossword—crossword puzzles are a great way to get people to dig in on one site, and come back on the future. Your visitors can play the puzzle right on one website, or you can post a printable version to their own sites if that fits better.
- Puzzle enthusiasts: Regularly create your own puzzles. The online crossword puzzle web page and online people will not let a puzzle thinking is over. EclipseCrossword lets you easily save this that can be used in your word processor or publishing website.
- Your Android can use EclipseCrossword to produce great looking crossword puzzles. If you're not sure what you'd make a crossword about, check out our crossword ideas.

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

**Read 1e. Talking Dictionaries for Rare Languages**  
The Wall Street Journal, February 18, 2002  
<http://online.wsj.com/article/SB10001424052970204880404577228982976760026.html?articleTabs%3Dvideo>

Talking the Talk, for Priority

Video: Talking the Talk, for Priority

Talking the Talk, for Priority

**Read 1f. Wikibook or Wikipedia Editing or Critiques** (e.g., May 12<sup>th</sup>)  
[http://en.wikipedia.org/wiki/May\\_12](http://en.wikipedia.org/wiki/May_12)

- Ask students to critique a wikibook or page from Wikipedia

**Read 1g. Reading from Open Access Journals** (e.g., PLOS)  
<http://www.plos.org/>  
<http://www.plosbiology.org/>  
<http://www.plosgenetics.org/>

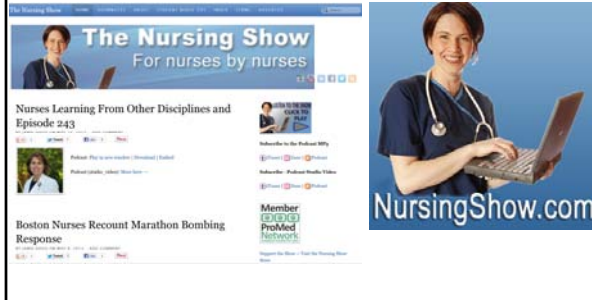
Welcome to PLOS

PLOS Announces Awarding Science Award Program

PLOS Announces Awarding Science Award Program

**Read 1h. Listen to Open Access Podcast Shows (and write papers)**

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



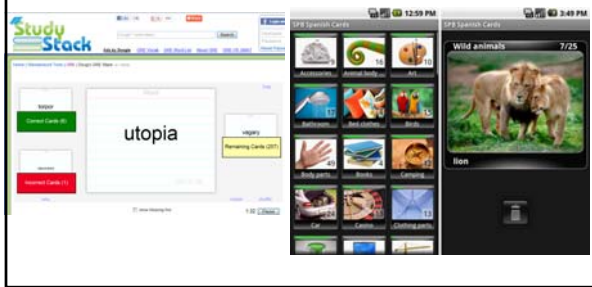
**Read 1i. Online Article Portals and Databases**

<http://r685articledatabase.weebly.com/>  
<http://ella.slis.indiana.edu/~bahallo/r685/>  
[http://php.indiana.edu/~cjbok/Syllabus\\_R685\\_Spring\\_of\\_2011.htm](http://php.indiana.edu/~cjbok/Syllabus_R685_Spring_of_2011.htm)

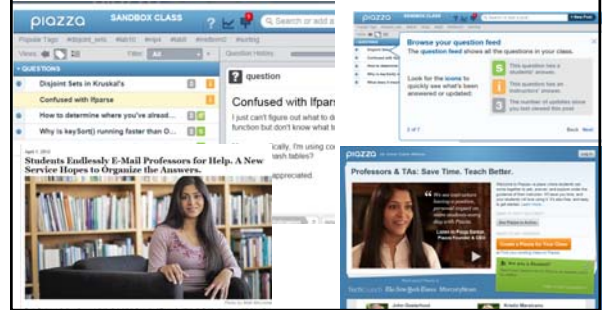


**Read 1j. Interactive Flashcards (e.g., Study Stack)**

<http://www.studystack.com/flashcard-136259>



**Read 1k. Online Instructor Q&A April 1, 2012, Piazza: <https://piazza.com/>**

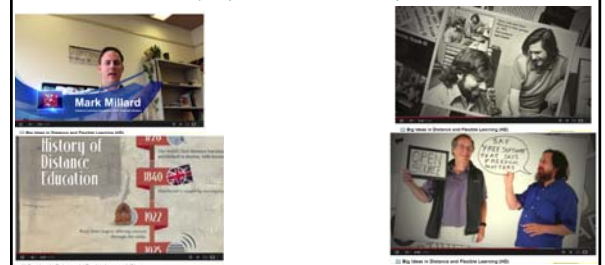


**2. Reflective and Observational Learners**

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



**Reflect 2a. Reflect on Big Ideas (on IQ Wall, April 22, 2013) Final project, Mark Millard Big Ideas in Distance and Flexible Learning (HD)**









## Reflect 2h. Case and Online Discussion (Kelley Direct, IU)

The screenshot shows an online discussion interface with a sidebar on the left containing user avatars and names. The main content area is titled "Meeting with the CEO" and contains several paragraphs of text. To the right of the text is a photograph of a classroom with students seated at desks, some looking at laptops. The Kelley School of Business logo is visible in the bottom right corner.

## 3. Visual Learners

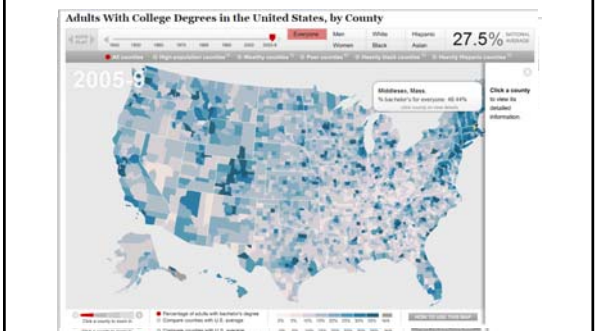
- Visual learners prefer diagrams, flowcharts, timelines, pictures, films, and demonstrations.



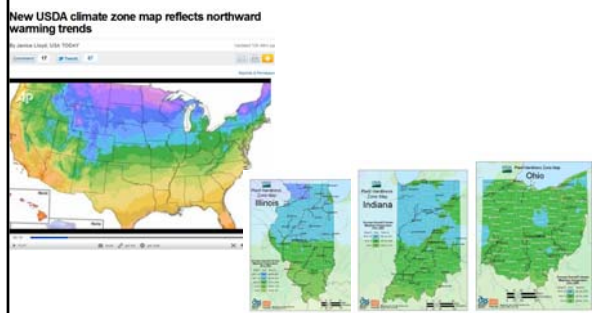
## Display 3a. Virtual Microscopes

The screenshot displays a virtual microscope interface. On the left is a large histological slide. On the right, there are two smaller images: an endoscopic view of a stomach and a microscopic view of tissue. Text labels describe the images as "Stomach, endoscopic examination and biopsy. Poorly differentiated tubular adenocarcinoma" and "Final conclusion: Advanced gastric carcinoma with multiple lung metastasis with lymphatic growth".

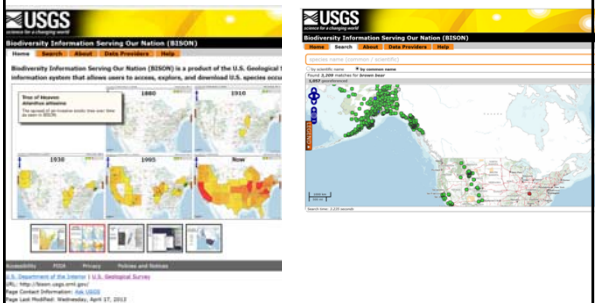
## Display 3b. Interactive Map Timelines (adults with college degrees by county, May 7, 2012)



## Display 3c. Interactive Weather Maps (e.g., New USDA climate zone map reflects northward warming trends, By Janice Lloyd, USA TODAY, January 26, 2012)



## Display 3d. Interactive Species Maps USGS (US Geological Survey) (Biodiversity Serving Our Nation or BISON) (<http://bison.usgs.gov/>)



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

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

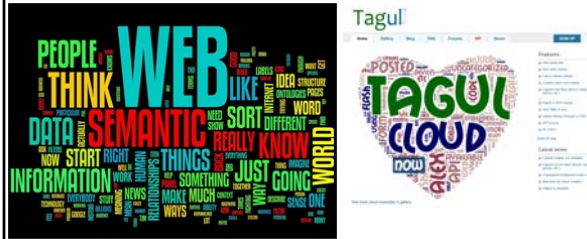
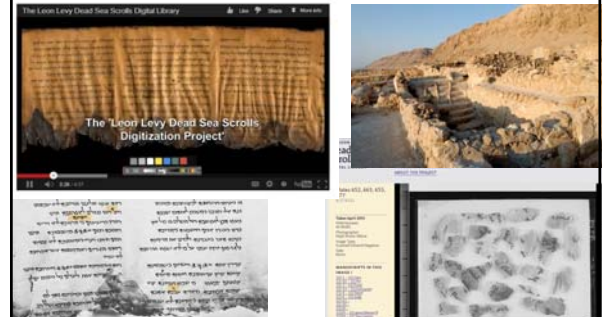


Figure 4. PLENK2010 Wordle.

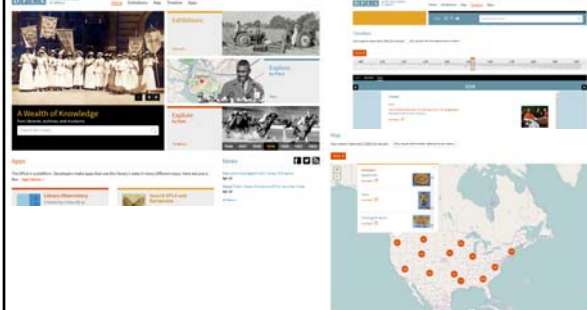
**Display 3f. OER Rare Documents**  
(e.g., Dead Sea Scrolls)

<http://www.deadseascrolls.org/Exhibitions/TheArchive>  
<http://www.deadseascrolls.org/Exhibitions/DeadSeaScrolls-4>



**Display 3g. Visual Library Search**  
DPLA (Digital Public Library Of America)

<http://dp.la/>



**Display 3h. Video Art Tutorials**  
ArtMaker.com

<http://artmaker.com>



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



**Display 3j. Online Timelines**  
(US Presidents)



## Display 3k. TV Lesson (expert videos)

The screenshot shows a website interface with a navigation bar (Home, Network, Today, Upload) and a main content area. The main area features a large image of a woman with red hair and the 'Triage' logo. Below this, there are several smaller images and text blocks, including one with a person in a white lab coat and another with a person in a blue shirt. The text includes 'Get Medical & Stay Healthy with Triage' and 'Jackie reviews Triage: your own medical assistant that will help you be healthier and smarter!'.

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

The left video frame shows a person in a white lab coat performing a procedure on a patient lying on a table. The right video frame shows a close-up of a person's hands performing a procedure on a patient's neck. Below the right video frame, there is Korean text: '환자의 양쪽에서, 왼손으로 환자의 오른쪽 갑상선을 반대편으로 밀고,'.

## Display 3m. Medical Animations (e.g., YouTube, CNN, BBC)

The screenshot shows a YouTube video player interface. The video title is 'Health Matters: Gastric Bypass Surgery'. The video content shows a person in a white lab coat performing a procedure on a patient lying on a table. The video player includes a search bar, a play button, and a progress bar.

## Display 3n. Human Embryology Animations (Valerie O'Loughlin, Indiana University)

The screenshot shows a website interface for 'Human Embryology Animations'. The website has a blue header with the title and a search bar. Below the header, there is a large image of a human embryo and a list of topics: General Embryology, Cardiovascular Embryology, Development of the Head and Neck, Gastrointestinal Embryology, Development of the Limbs, and Urinary and Reproductive Embryology. To the right, there is a diagram of a fetus with labels for 'Lung', 'Pancreas', 'Stomach', and 'Chest cavity'. Below the diagram, there is text: 'The development of the cements and rotations of foregut structures produce distinct spaces of the peritoneal cavity.' and a 'fetal period' label.

## Display 3o. Radical Cartography <http://www.radicalcartography.net/index.html?chicagodots>

The screenshot shows a website interface for 'Radical Cartography'. The website features a map of Boston with various colored regions. Below the map, there is a list of dates and locations: 1795 South Boston, 1804 East Boston, 1836 Washington Village, 1855 Roxbury, 1867 Breed's Island, 1869 Dorchester, 1873 West Roxbury Brighton Charlestown, and 1912 Hyde Park. The text below the list reads: 'Boston City Limits annexations and landfill, 1804-1912'.

## Display 3p. World Trends and Indices (e.g. Worldmapper)

The screenshot shows the 'Worldmapper' website interface. The website has a blue header with the title and a search bar. Below the header, there is a world map with various colored regions. The map is titled 'Science Growth' and shows the growth of scientific research of nations between 1990 and 2001. Below the map, there is text: 'This map shows the growth in scientific research of nations between 1990 and 2001. If there was no increase in scientific publications that territory has no area on the map. In 1990, 80 scientific papers were published per million people living in the world. This increased to 136 per million by 2001. This increase was experienced primarily in countries with strong existing scientific research. However, the United States, with the highest total publications in 2001, experienced a smaller increase since 1990 than did in Japan, China, Germany and the Republic of Korea. Singapore had the greatest per person increase in scientific publications.' Below the text, there is a 'Singapore is engaging robustly in the materials science research, as we position ourselves for the global, knowledge-driven economy, and for our next phase of development as a society.' quote from 'Tharman Shanmugaratnam, 2003'. At the bottom, there are links for 'Open PDF poster' and 'Open Population Map for comparison'.



**Display 3q. Download and Use Online 3D Sketches** (Google SketchUp; download <http://sketchup.google.com/3dwarehouse>)



**Display 3r. Online Art**

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



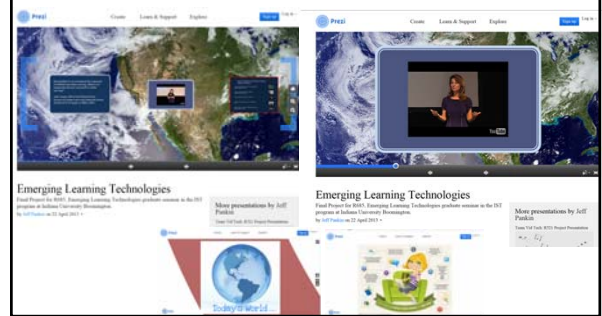
**4. Tactile/Kinesthetic Learners**

- 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.

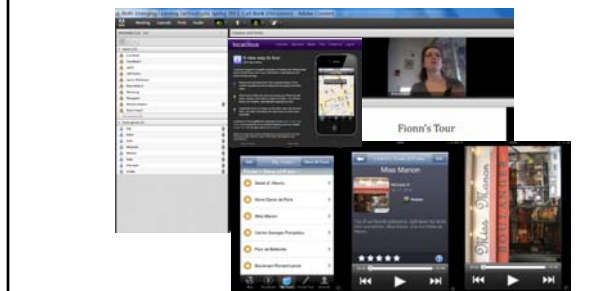


**Do 4a. Course Recap Prezi Presentations**

Jeff Pankin, MIT, Prezi, Emerging Learning Technologies  
<http://prezi.com/03f8wv0rjct/Converging-Technologies-Tools-And-Data-2012/>  
Jeffrey Barnette, Today's World  
<http://prezi.com/-j1eyv0tst-7/r685-final-project>

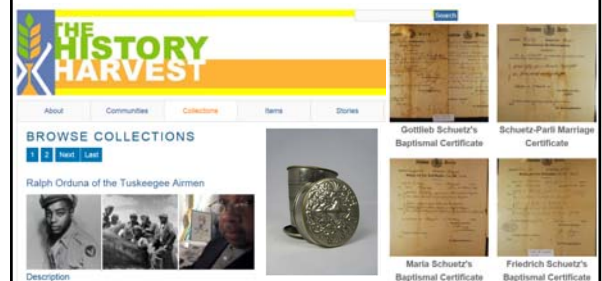


**Do 4b. Mobile Audio Tours**  
**Locacious Final Class Project**  
(Michele Kelmer, April 22, 2013)  
<http://www.locacious.net/>



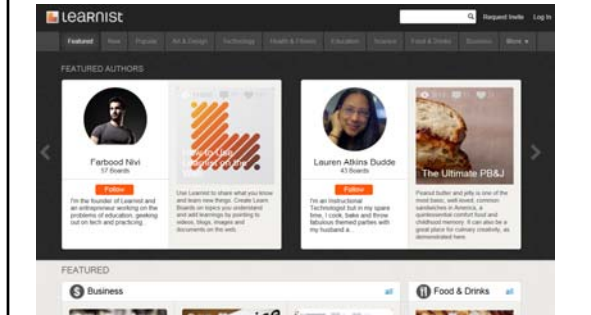
**Do 4c. Class or Community Oral Histories**

(e.g., The History Harvest, December 21, 2012)  
<http://historyharvest.unl.edu/collections>



## Do 4d. Student Expertise (e.g., Learnist)

<http://learni.st/category/featured#/category/featured>



## Do 4e. Student Class Documentaries

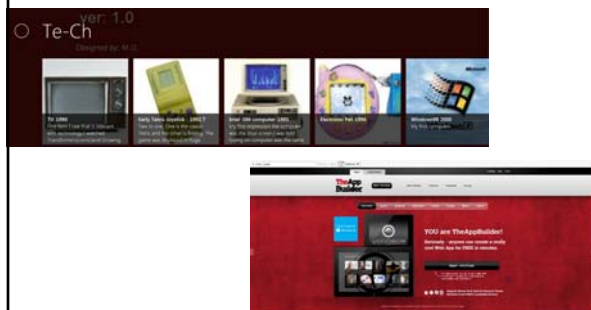
Umida's R546 Documentary Project

[http://www.youtube.com/watch?v=FMLTzqCV\\_5A](http://www.youtube.com/watch?v=FMLTzqCV_5A)



## Do 4f. Student Mobile App Creation

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

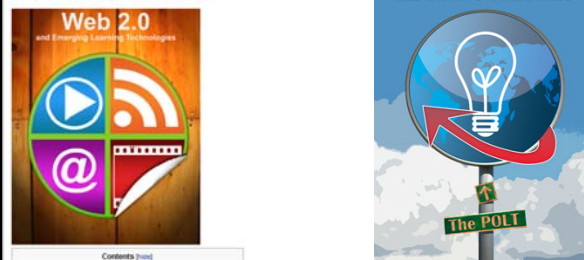


## Do 4g. Podcast Productions and Shows

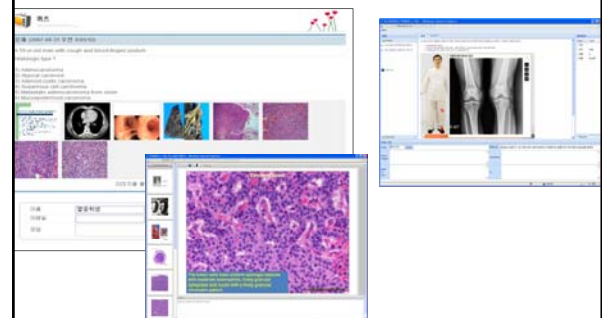


## Do 4h. Wikibooks: International Collaboration (Web 2.0 and Emerging Learning Technologies (The WELT))

Web 2.0 and Emerging Learning Technologies  
From Wikibooks, the open-content textbooks collection



## Do 4i. Virtual Quizzes (Sungkyunkwan (SKKU) University School of Medicine, www.mededu.or.kr)



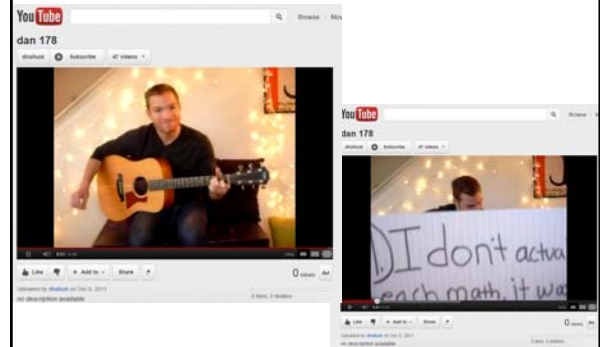
## Do 4j. Virtual Worlds (e.g., Second Life)



## Do 4k. Singing YouTube Summaries

Daniel Halluska, P540, Fall 2011

<http://www.youtube.com/watch?v=tOL7lrGsqw>



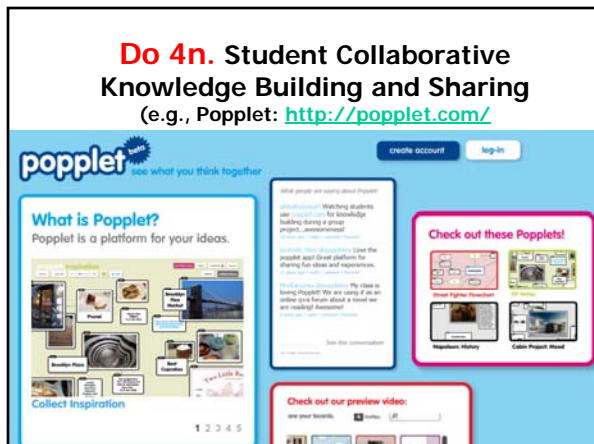
## Do 4L. Survey Research and Market Analysis (e.g., Mister Poll, MicroPoll, Zoomerang, SurveyShare)



## Do 4m. Podcasts for students of pronunciation class (e.g., Tzu-Su Chen, Taiwan)



## Do 4n. Student Collaborative Knowledge Building and Sharing (e.g., Popplet: <http://popplet.com/>)

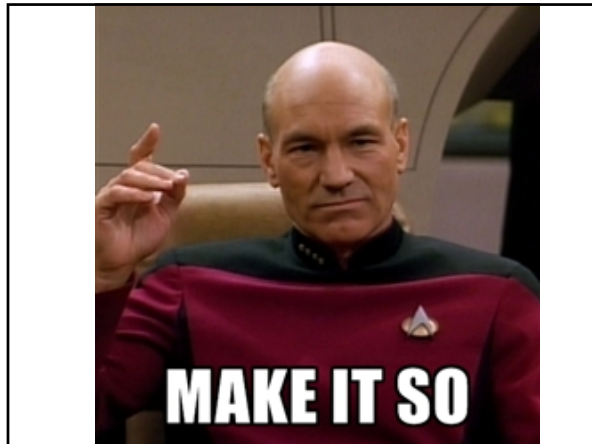


## Poll #1: What phase of the R2D2 Method did you get the most ideas from ?

- Read (Auditory and Verbal Learners)
- Reflect (Reflective Learners)
- Display (Visual Learners)
- Do (Tactile, Kinesthetic, Exploratory Learners)







**Poll #2: How many new ideas did you get from Part 1?**

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.



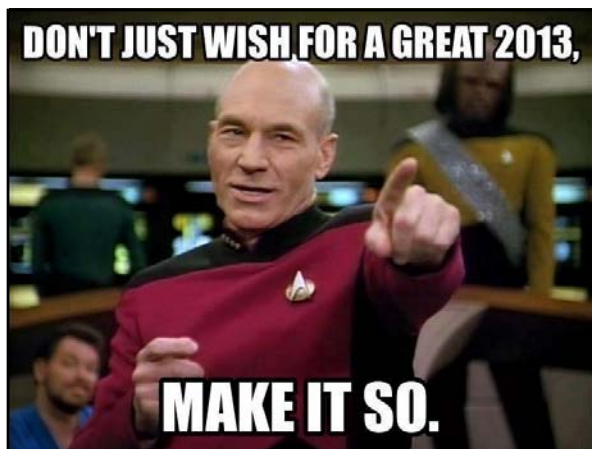






**Poll #3:**  
Do you feel "MOTIVATED" to try any of this out?

- A. Yes, R2D2
- B. Yes, TEC-VARIETY
- C. Yes, both
- D. Neither

**Any Questions?**  
Try the R2D2 Model!  
Try TEC-VARIETY too...



 Slides at: [TrainingShare.com](http://TrainingShare.com)  
 Papers: [PublicationShare.com](http://PublicationShare.com)  
 Book: <http://worldisopen.com/>  
 Email: [curt@worldisopen.com](mailto:curt@worldisopen.com)