



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

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**February 9, 2012**  
**A first-hand look inside a flipped classroom,**  
 eSchool News, Meris Stansbury  
<http://www.eschoolnews.com/2012/02/09/a-first-hand-look-inside-a-flipped-classroom/>

Watch Lake Elmo Elementary's experience:



**February 2012**  
**SMILE: Stanford Mobile Inquiry-based Learning Environment (Tanzania)**



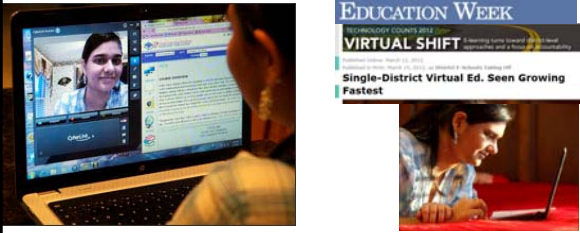
**February 2012**  
**Seeds for Empowerment, Tanzania**  
 (Alex Bonk and the kids...)



**February 21, 2012**  
**Rethinking Learning with Salman Khan, Stanford Graduate School of Business**  
<http://www.youtube.com/watch?v=W-v68hQa5w>  
 Khan Academy Founder Finds Simplicity Appeals in Online Education Experimentation  
<http://www.gsb.stanford.edu/news/headlines/sal-khan-academy.html>  
**Let's use video to reinvent education, TED, March 2011**  
[http://www.ted.com/talks/salman\\_khan\\_let\\_s\\_use\\_video\\_to\\_reinvent\\_education.html](http://www.ted.com/talks/salman_khan_let_s_use_video_to_reinvent_education.html)



**March 12, 2012**  
**Single-District Virtual Ed. Seen Growing Fastest**  
 Education Week, Katie Ash  
<http://www.edweek.org/wordpress/2012/03/12/single-district-virtual-ed-seen-growing-fastest/>



Roma Chokshi, a junior at Springfield High School in Springfield, Ohio, works at home on an online course she is taking as part of a program that gives more advanced students the opportunity to take virtual classes for additional credits.

**March 13, 2012,**  
**Britannica to Stop Publishing Books**  
 CNN Money Tech, Julianne Pepitone  
[http://money.cnn.com/2012/03/13/technology/encyclopedia-britannica-books/index.htm?hpt=hp\\_13](http://money.cnn.com/2012/03/13/technology/encyclopedia-britannica-books/index.htm?hpt=hp_13)

**Britannica to stop printing books**  
 By Julianne Pepitone @CNNAgencyTech March 13, 2012 6:24 PM ET

Britannica stops presses and goes digital

**March 24, 2012,**  
**In South Korean classrooms, digital textbook revolution meets some resistance,** Washington Post  
<http://www.washingtonpost.com/archive/local/localnews/2012/03/24/globe/2012-03-24/?hpid=hp-top-story-tablet%3Ahomepage%2Fstory&hpid=hp-top-story-tablet%3Ahomepage%2Fstory>

**In South Korean classrooms, digital textbook revolution meets some resistance**

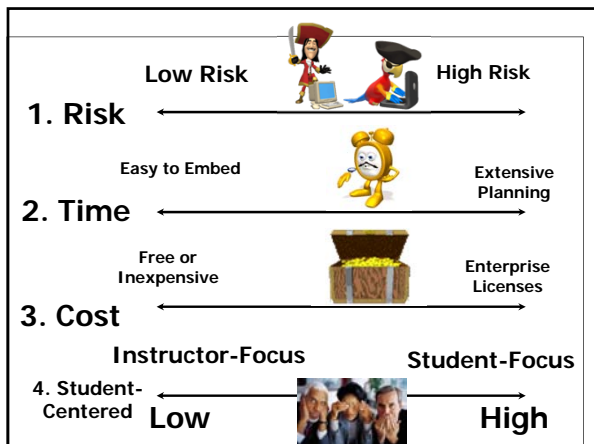
Ahn Young-joon/AP - Teacher Yeon Eun-jung, right, helps student Jeong Ho-seok study on a tablet PC during a lesson at Sosu Elementary School in Gwesan, South Korea in July. The country is now scaling back a plan to digitize classrooms by 2015.

**April 12, 2012**  
**TEDx WallStreet, Michelle Rhee**  
 Under Spending, Overspending, or Misspending, April 12, 2012  
<http://www.studentsfirst.org/blog/entry/under-spending-overspending-or-misspending>  
<http://www.youtube.com/watch?v=85ilLNzi-cM>

**April 18, 2012**  
**Online-Education Start-Up Teams With Top-Ranked Universities to Offer Free Courses, Chronicle of Higher Education (e.g., Coursera)**  
<https://www.coursera.org/>



**What words come to mind for addressing diverse learner needs?**



## 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. Wikibook or Wikipedia Editing or Critiques

- Ask students to critique a wikibook or page from Wikipedia

## Read 1b. Online Crossword Puzzles

(e.g., <http://www.eclipsecrossword.com/>)

**Create Online Crossword Puzzles!**

Welcome to EclipseCrossword!

4,000,000  
Four million downloads.

Why use EclipseCrossword?

- Features and power: Use crossword to create, maintain, and license for all subjects. Multiple user actually use it!
- Using the program: Crossword puzzle, crossword logic, finding and solving, crossword on the internet, crossword on your website.
- Crossword: You can create online crossword puzzle with EclipseCrossword - crossword puzzle on a grid that you can use on your site, and cross back on the internet. Your visitors can play the puzzle right on your website, or you can print a printable version on their own site & their device.
- Crossword solution: Instead make your crossword! By solving a crossword puzzle and then, make people will find a solution. Download it from EclipseCrossword! You can create your own crossword puzzle on your own website or on a public website.
- You actually can use EclipseCrossword to produce great looking crossword puzzles. If you're not sure what you'd make a crossword puzzle, don't worry!

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

## Read 1c. Listen to Open Access Podcast Shows (and write papers)



**Read 1d. Learning Planet: Interactive Glossary**  
 Umida Khikmatillaeva, Dec. 2011, P540  
<http://learningplanet.shutterfly.com/>

**Read 1e. Talking Dictionaries for Rare Languages**  
 The Wall Street Journal, February 18, 2002  
<http://online.wsj.com/article/SB1000142405297020488040457728982976760026.html#articleTabs%3DVideo>

Talking the Talk, for Posterity  
 Oral Online Dictionaries Help Preserve Languages, Cultures Muted by Modernity



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

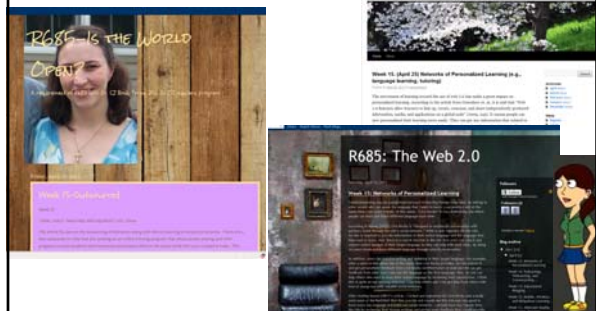
<http://r685articledatabase.weebly.com/>  
<http://ella.slis.indiana.edu/~bahalloc/r685/>  
[http://php.indiana.edu/~cjbokn/Syllabus\\_R685\\_Spring\\_of\\_2011.htm](http://php.indiana.edu/~cjbokn/Syllabus_R685_Spring_of_2011.htm)

**Read 1g. 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. Critical Friend Blog Postings (Kristen and Susan)



### Reflect 2b. Expert and Domain Specific Blog Reflections (English, Health, Business, etc. blogs)



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



### Reflect 2d. Workplace and Internship Reflections



### 3. Visual Learners

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



### Display 3a. Timeline Tools (e.g., USA Today, August 26, 2011)



**Display 3b.**  
**Tracking the Life of a Scientist**  
 (e.g., Brian J. Ford, independent scientist)  
<http://www.youtube.com/user/tellymonitor#p/a/u/1/LhGeApsKiasr>  
<http://www.labnews.co.uk/news/prehistoric-revolution/>  
<http://www.youtube.com/embed/kimNnRFHCzk?rel=0>

**Origins of Humans, Brian J. Ford, Microbiologist, Cambridge, UK**  
<http://www.youtube.com/user/tellymonitor#p/a/u/1/LhGeApsKiasr>  
 Origin of Humans: <http://www.youtube.com/user/tellymonitor#p/u/2/sWWnVEdl8cU>  
 Tellymonitor's Channel: <http://www.youtube.com/user/tellymonitor>  
 BBC programs omit living cells: <http://www.youtube.com/watch?v=rdNpTh6Cx6Y>  
 Secret Weapons: <http://www.youtube.com/user/tellymonitor#p/u>  
 Dinosaurs (Laboratory News, April 1, 2012): <http://www.labnews.co.uk/news/prehistoric-revolution/>

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

**Display 3d.**  
**Shared Online History Videos**  
 (e.g., "History for Music Lovers" with over 50 songs including:  
 Trojan War "Tainted Love" by Soft Cell; Charlemagne "Call Me" by Blondie, Cleopatra, Napoleon, Shakespeare, the Vikings)

**Display 3e.**  
**Using Online Encyclopedias**  
 (e.g., the Encyclopedia of Earth:  
<http://www.eoearth.org/>  
[http://en.wikipedia.org/wiki/Encyclopedia\\_of\\_Earth](http://en.wikipedia.org/wiki/Encyclopedia_of_Earth))

**Display 3f.**  
**Educational Videos: TED-Ed**  
<http://education.ted.com/>



### Display 3g. Radical Cartography

<http://www.radicalcartography.net/index.html?chicago0dot5>

**Boston City Limits**  
annexations and landfill, 1804-1912

### Display 3h. Concept Mapping and Timeline Tools (VUE, Bubbl.us, Cmap, Freemind, Glify, Mindmeister, or Mindomo)

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

**WORLDMAPPER** The world as you've never seen it before

Home | Map Categories | Thumbnail Index | A-Z Map Index | About Worldmapper | Help

Science Growth | Map No. 206 | Open PDF poster | Next Map >

This map shows the growth in scientific research of territories 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 126 per million by 2001. This increase was experienced primarily in territories with strong existing scientific research. However, the United States, with the highest total publications in 2001, experienced a smaller increase since 1990 than that in Japan, China, Germany and the Republic of Korea. Singapore had the greatest per person increase in scientific publications.

Territory size shows the proportion of the number of extra scientific papers that were published in 2001 compared with 1990, whose authors work there.

"Singapore is emerging robustly in the materials science research, as its position surmounts for the global, knowledge-driven economy, and for our next phase of development as a society." Thaman Shanmuganathan, 2003

- Open PDF poster, designed for printing. You need Acrobat Reader.
- View labeled territory map or population map for comparison.
- Data files: Excel (large with map), Excel (small no map), OpenDoc format (see notes)
- Technical notes for this data.
- All of the data we use is estimated; see data page

### Display 3j. The Planet (In Fact)

<http://apps.forskning.se/InfactPlaneten/index.html?lang=eng>

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

Google 3D warehouse

Models | Search

Result's models > Result's bridges > Roosevelt Island Bridge & Motorgate Parking

Roosevelt Island Bridge & Motorgate Parking

Image | Map

Image 3D View

Made with Google SketchUp

This model was made with SketchUp, a 3D modeling tool from Google. [Learn more](#)

Collections containing this model

Result's bridges

Related items

More models by Result's

Classical sketches

Views: 946 (133 in 7 days) | Downloads: 340 (52 in 7 days) | Download Model

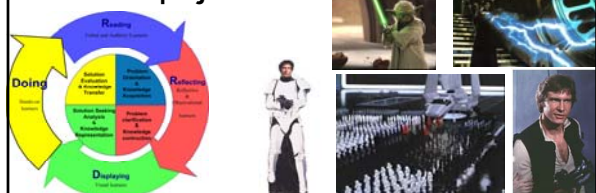
### Display 3l. Weather-Related Visuals and Animations





### 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. Podcast Productions and Shows



### Do 4b. Students/Instructors Publish Own Books (e.g., Apple's new electronic textbook initiative)

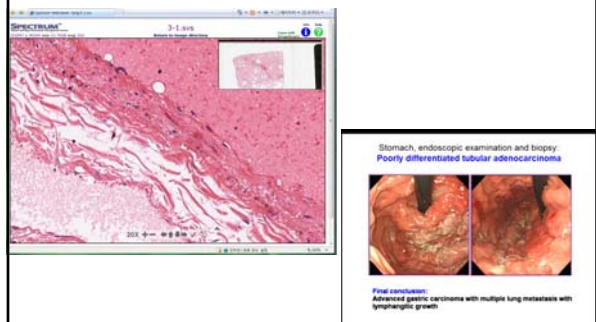


### Do 4c. Negotiate Meanings Online (e.g.m MeetingWords: <http://meetingwords.com/>)

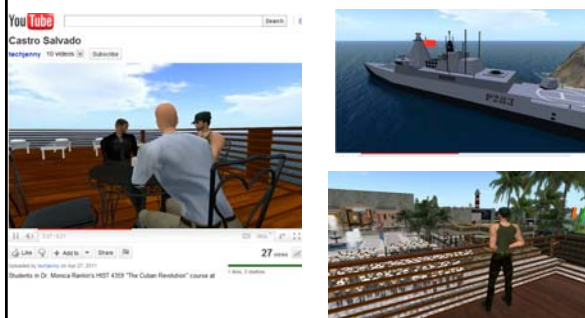
MeetingWords is a simple text editor for the web. Your text is saved on the web, and more than one person can edit the same document at the same time. Everybody's changes are instantly reflected on all screens. Work together on meeting notes, brainstorming sessions, homework, team programming and more!



### Do 4d. Virtual Microscopes



### Do 4e. Virtual Worlds (e.g., Dr. Monica Rankin's class, UT Dallas, Cuban Revolution) <http://www.youtube.com/watch?v=D4uBhZN9Oos>



**Do 4f. Singing YouTube Summaries**  
 Daniel Halluska, P540, Fall 2011  
<http://www.youtube.com/watch?v=tOL7lrGsqnw>

**Do 4g. Visual presentations (e.g., Prezi)**  
<http://prezi.com/ihmhh159xd46/is-the-world-open/>  
<http://prezi.com/8h7grxlyaymv/the-world-is-open/>  
[http://prezi.com/3xaqzbcvxlbf/learning-theories-in-p540/?auth\\_key=fccecd8640794bd2158267616e1786a0dd54a701](http://prezi.com/3xaqzbcvxlbf/learning-theories-in-p540/?auth_key=fccecd8640794bd2158267616e1786a0dd54a701)  
<http://prezi.com/ihmhh159xd46/is-the-world-open/>

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

**Poll #1: How many ideas did you get so far?**

- 0 if I am lucky. 
- Just 1.
- 2, yes, 2...just 2!
- Do I hear 3? 3!!!! 
- 4-5.
- 5-10.
- More than 10. 

**Cards and Commitments:**  
**Stop and Share:**  
**Which Phase of the R2D2 model do you use the most?**

**Mooresville's Shining Example (It's Not Just About the Laptops)**  
 By **ALAN SCHWARZ**, New York Times. February 12, 2012  
[http://www.nytimes.com/2012/02/13/education/mooresville-school-district-a-laptop-success-story.html?\\_r=1&pagewanted=all](http://www.nytimes.com/2012/02/13/education/mooresville-school-district-a-laptop-success-story.html?_r=1&pagewanted=all)

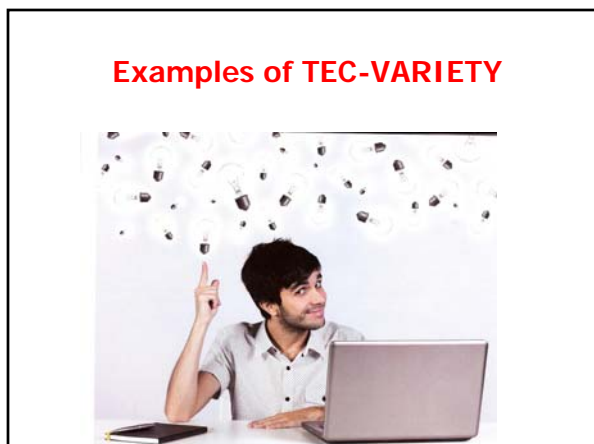
**BREAK TIME** Matthew Ward regrouping during class, where each student has a school-issued laptop.



### Framework #2: TEC-VARIETY for Online Motivation and Retention

1. **Tone/Climate:** Psych Safety, Comfort, Belonging
2. **Encouragement, Feedback:** Responsive, Supports
3. **Curiosity:** Fun, Fantasy, Control
- ...
4. **Variety:** Novelty, Intrigue, Unknowns
5. **Autonomy:** Choice: Flexibility, Opportunities
6. **Relevance:** Meaningful, Authentic, Interesting
7. **Interactive:** Collaborative, Team-Based, Community
8. **Engagement:** Effort, Involvement, Excitement
9. **Tension:** Challenge, Dissonance, Controversy
10. **Yields Products:** Goal Driven, Products, Success, Ownership

### Ok, Million Dollar Question: What words come to mind when I say that I want to motivate learners?



### 1. Tone/Climate: Social Ice Breakers

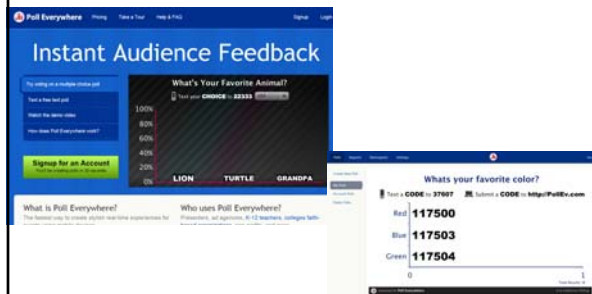
#### A. 8 nouns (adjectives, verbs)

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



## 2. Encouragement, Feedback, etc.: A. Poll Everywhere

<http://www.poll everywhere.com/>



## 2. Encouragement, Feedback, etc.: B. student response systems, Socrative)

<http://www.socrative.com/how-it-works.php>



## 2. Encouragement, Feedback, etc.: C. Create Screencasts

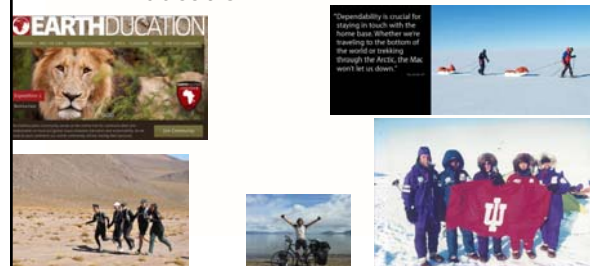
(slide from Zaid Ali Alsagoff [zaid.alsagoff@gmail.com])



## 3. Curiosity, Fun:

A. Adventure and Environmental Learning

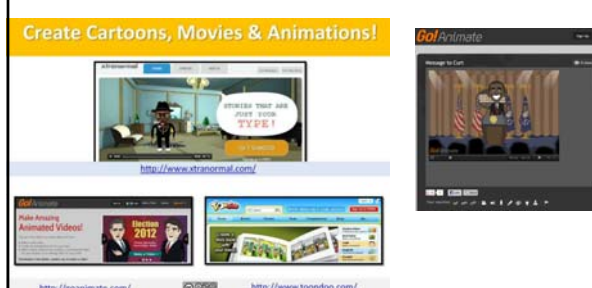
PenguinScience, Impossible2Possible, EARTHducation



## 3. Curiosity, Fun:

B. Create Cartoons, Movies, and Animations

(slide from Zaid Ali Alsagoff [zaid.alsagoff@gmail.com])



## 3. Curiosity, Fun:

C. Record Webinars and Guest Expert Talks

(slide from Zaid Ali Alsagoff [zaid.alsagoff@gmail.com])



### 3. Curiosity, Fun:

#### D. Online Social Networking Games (e.g., scrabble, hangman, etc.)

Google takes swing at Facebook in social games

By Mike Snider and Scott Martin, USA TODAY August 12, 2011

USA TODAY

WOWEIIIA

WOWEIIIA

### 3. Curiosity, Fun: E. Online Database Activities (e.g., WolframAlpha)

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

WolframAlpha

A Quick Introduction to WolframAlpha by Stephen Wolfram

### 4. Variety, Novelty, Fun, Fantasy:

#### A. Random Lists (Random.org—clocks, coins, playing cards, dice, integers, passwords, jazz scales, lists, sequences, etc.)

RANDOM.ORG

RANDOM.O

Coin Flipper

Dice Roller

List Randomizer

### 4. Variety, Novelty, Fun, Fantasy:

#### B. Timers (Stopwatches, Countdown Timers, Stopwatch Bombs, etc.; <http://www.online-stopwatch.com/countdown-timer/>)

www.online-stopwatch.com

00:01:39

Start Clear

### 5. Autonomy, Choice, Control:

#### A. LearningZillion <http://learnzillion.com/>

LEARNZILLION

Great video lessons from great teachers

EXPLORE LESSONS

### 5. Autonomy, Choice:

#### B. Web Exploration Assignments

1. Complete Works of Charles Darwin Online: <http://darwin-online.org.uk/>
2. The Complete Works of William Shakespeare: <http://shakespeare.mit.edu/>
3. Edgar Allan Poe Society of Baltimore: <http://www.eapoe.org/>
4. Einstein Archives Online: <http://www.alberteinstein.info/>
5. Federal Resources for Educational Excellent project: <http://free.ed.gov/>
6. Global Text Project: <http://globaltext.org/>
7. iBerry (Open Courseware Directory): <http://iberry.com/>
8. Jane Austen: <http://www.janeausten.org/>
9. The Jane Goodall Institute: <http://www.janegoodall.org/>
10. Timeless Hemmingway: <http://www.timelesshemmingway.com/>

**6. Relevance, Meaningfulness:**  
**A. 60 Second Recap, Jenny Sawyer**  
<http://www.60secondrecap.com/>  
 Access to students: Lend me your earbuds!  
 English major, 24, rambunctiously recaps the classics in 60-second Web videos; By Greg Toppo; USA TODAY, September 2009

**7. Interactive, Collaborative:**  
**A. Touch, Highlight, and Take Notes on the Tablet Computer** (e.g., Apple starts selling interactive iPad textbooks, Yahoo! News, Peter Svensson, Assoc Press, Sat, Jan 21, 2012)  
<http://news.yahoo.com/apple-starts-selling-interactive-ipad-textbooks-17394947.html>  
<http://www.viddler.com/explore/enqadqet/videos/3937/>

**8. Engagement, Effort: A. 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-protests-interactive-timeline>

**8. Engagement, Effort: B. Interactive Simulations**  
<http://phet.colorado.edu/en/simulation/energy-skate-park>

**8. Engagement, Effort: C. National Geographic Prehistoric Timeline**  
<http://science.nationalgeographic.com/science/prehistoric-world/prehistoric-time-line.html>

**8. Engagement, Effort: D. Virtual field trip to help teach the history of immigration in America, eSchool News, March 21, 2012**



## 9. Tension, Challenge, etc.:

### A. Ethical Debates

## 10. Yields Products, Goals:

### A. Student and Teacher Created Video Products

**February 24, 2012**

Lorma International School, the Philippines  
(Hannah Kimberly Obar, First Grade teacher)

<http://www.youtube.com/watch?v=1C435Ut-GzA>  
<http://www.youtube.com/watch?v=JZp1rEjgAak>  
[http://www.youtube.com/watch?feature=player\\_embedded&v=UHMh177Ac6E](http://www.youtube.com/watch?feature=player_embedded&v=UHMh177Ac6E) (1<sup>st</sup> grade kids)

## Cards and Commitments:

### Stop and Share:

### Which principle of TEC-VARIETY do you use?

## Recap #1:

### The R2D2 Method

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

## Recap #2:

### The TEC-VARIETY Model

**Tone/Climate**  
**Encouragement, Feedback**  
**Curiosity**

**Variety**  
**Autonomy**  
**Relevance**  
**Interactive**  
**Engagement**  
**Tension**  
**Yields Products**

## 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)**