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

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Audience Poll #1:
Has learning technology ever transformed your life.

Looking to the Past...
Change not possible as an accountant...
(Life as a CPA, 1981-1986)

Knowledge Navigator (1987)
Apple Computer
http://www.youtube.com/watch?v=hb4AzF6wEoc

Fast Forward 25+ Years...
“Anyone can now learn anything from anyone at any time.”
I. Learning is More Technology Driven

Robots teaching English and Virtual Worlds
Dr. Meeyong Kim, Dajeon, Korea, May 2012

II. Learning is More Video-Based

GETideas Channel, Cisco (Thought Leader Series uploaded to YouTubEdu), July 22, 2011

III. Learning is More Mobile

IV. Learning is More Open

New MOOC Provider Says It Fosters Peer Interaction
Chronicle of Higher Education, Jake New
http://novoed.com/

February 5, 2013
Bioelectricity: A Quantitative Approach,
Duke University’s First MOOC

VI. Learning is More Flipped

Facebook to help overhaul ICT curriculum,
Money, Andrew Marszal, Telegraph, Oct. 19, 2012

VII. Learning is More Empowering

iPad gives voice to kids with autism
Supraja Seshadri, CNN, May 14, 2012
iPad gives voice to kids with autism

VIII. Learning is More Social

Facebook reaches one billion users,
The Telegraph
IX. Learning is More Collaborative
Collaboration and Discussion in Google Hangouts or with iPad, Jan. 28, 2013
(Carrie Gong from Beijing Normal University)

X. Learning is More Modifiable
New Learning Space Designs

XI. Learning is More Bendable
Flexible displays bend what’s possible for computers,
Jon Swartz, USA Today (May 4, 2012)

XII. Learning is More Streamed
April 9, 2013
Computer fashions face social test: Can wearable computers fit in? Scott Martin, USA Today

XIII. Learning is More Personal
iPotty Aims To Entertain Toddlers During Toilet Training, Mashable, Kate Freeman
(January 10, 2013)
http://mashable.com/2013/01/10/ipotty/
XIV. Learning is More Global
(Book Review by Dr. Mimi Miyoung Lee: Ed Tech Magazine, May-June 2013)
(e.g., Taking It Global (TIG), RoundSquare, etc.)
RoundSquare (http://www.roundsquare.org/) and
Taking it Global (http://www.tigweb.org/)

Learning is Changing the World
(Book Review: Ed Tech Mag, May-June 2013)

XV. Learning is More Web-Based
April 15, 2013
Google boss: Entire world will be online by 2020, Doug Gross, CNN

The Web of Learning

It is very open!
(Norway, the Philippines, Saudi Arabia, etc.)
We are entering a jumping off point…

I’m an Armchair Indiana Jones…

Framework #1: WE-ALL-LEARN: Ten Forces that Opened the Learning World
- Web Searching in the World of e-Books (i.e., Darwin)
- E-Learning and Blended Learning
- Availability of Open Source and Free Software (e.g., Moodle)
- Leveraged Resources and OpenCourseWare (e.g., MIT)
- Learning Object Repositories and Portals (i.e., shared content)
- Learner Participation in Open Info Communities (YouTube)
- Electronic Collaboration and Interaction (sync and async)
- Alternate Reality Learning (Online Massive Gaming, Simulations, and Virtual Worlds; e.g., Second Life)
- Real-Time Mobility and Portability (e.g., iPhone)
- Networks of Personalized Learning (Blogs, RSS)

What did Jean-Luc Picard say?

That’s right, Engage!

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. Twitter Fed Class Discussions

Read 1b. Grammar Checkers (e.g., Grammarly)
http://www.grammarly.com/

The World’s Best Grammar Checker

Top 10 reasons you’ll love Grammarly®
Read 1c. Interactive Stories
(e.g., Meograph
http://www.meograph.com)

Read 1d. Online Crossword Puzzles
(e.g., 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

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. Workplace Internship, Practicum, and Field Reflections

Reflect 2b. BQO
(Big Questions Online), January 8, 2013
(e.g., Do We Have Souls?)
https://www.bigquestionsonline.com/content/do-we-have-souls
Reflect 2c. Cultural Blogs (e.g., Dr. Kim Foreman, San Fran State University, Come and See Africa Blog: http://comeandseeafrica.blogspot.com/)

Reflect 2d. Virtual Timelines with Media http://simile.mit.edu/timeline/

Reflect 2e. Interactive Timeline Tools (e.g., MLK Memorial Timeline)

Reflect 2f. Scenario Learning (e.g., Krispy Kreme Management 101)

3. Visual Learners

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

Display 3a. Wordle
APedagogy of Abundance or a Pedagogy to Support Human Beings? Participant Support on Massive Open Online Courses, IRRODL, Kop, Fournier, & Sui Fai Mak, November 2011

Figure 4. PLENK2010 Wordle.
Display 3b. Interactive Maps
(adults with college degrees by county, May 7, 2012)
http://todayscampus.com/article/Keith_Hampson_Interviews_Josh_Keller_on__Interactive_Graphics_for_Higher_Education

Display 3c. More Interactive Maps
Where and Who the College Graduates Are,
Chronicle of HE, February 24, 2013

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

Display 3e. More Interactive Maps
Mapping the Dead: Gun Deaths Since Sandy Hook,
Huffington Post, March 22, 2013
http://data.huffingtonpost.com/2013/03/gun-deaths

Display 3f. 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 3g. Visual Library Search
DPLA (Digital Public Library Of America)
http://dp.la/
Display 3h. Concept Mapping and Timeline Tools
(VUE, Bubbl.us, Cmap, Freemind, Gliffy, Mindmeister, or Mindomo)

Display 3i. Human Embryology Animations
(Valerie O’Loughlin, Indiana University)

Display 3j. Online Timelines
(US Presidents)

Display 3k. Video Art Tutorials
ArtMaker.com
http://artmaker.com

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. Community Oral Histories
(e.g., The History Harvest, December 21, 2012)
http://historyharvest.unl.edu/collections

Do 4c. Student Expertise
(e.g., Learnist)
http://learnist.org/category/featured/

Do 4d. Student Class Documentaries
Umida’s R546 Documentary Project
http://www.youtube.com/watch?v=EMLTzqCV_SA

Do 4e. Negotiate Meanings Online
(e.g., 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. Everyone’s changes are instantly reflected on all screens.
Work together on meeting notes, brainstorming sessions, homework, team programming and more!

Poll #2: What phase of the R2D2 Method will you use most?
A. Read (Auditory and Verbal Learners)
B. Reflect (Reflective Learners)
C. Display (Visual Learners)
D. Do (Tactile, Kinesthetic, Exploratory Learners)
Poll #3: 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.

What was it that he said?

That’s right, Engage!

Where would we all like to work?

Sleepy U?

Can Colleges Manufacture Motivation?, Dab Berrett, Chronicle of Higher Ed
Ok, 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.
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)


Framework #3: 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
1. **Tone/Climate:** A. React to Visuals
   The happiest and saddest states according to Twitter
   Heather Kelly, CNN Tech, February 19, 2013
   [http://www.cnn.com/2013/02/19/tech/social-media/twitter-happiness-index.html](http://www.cnn.com/2013/02/19/tech/social-media/twitter-happiness-index.html)

2. **Encouragement, Feedback, etc.:** A. Create Screencasts
   Jing, GoView, Screenr, slide from Zaid Ali Alsagoff
   [zaid.alsagoff@gmail.com](mailto:zaid.alsagoff@gmail.com)

2. **Encouragement, Feedback, etc.:** B. Blog and Website Polling
   (e.g., Poll Everywhere, BlogPolls, BlogPoll, MicroPoll)

2. **Encouragement, Feedback, etc.:** C. Vocab Sushi ($25 for 3 months)
3. Curiosity, Fun:
A. Online Social Networking Games (e.g., scrabble, hangman, etc.)
B. Online Database Activities (e.g., WolframAlpha)
http://www.wolframalpha.com/
C. Track a Scientist, Scholar, Celebrity, Writer (e.g., Biography.com, biography online, FamousPeople.com)
D. 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/
E. Cross-Cultural Exchanges (e.g., Georgetown Learning Initiatives in Soliya)
http://pl.georgetown.edu/#soliya
F. Blog Adventures Tracing the fate of Algal Carbon Export in the Ross Sea, Antarctica TRACERS: The NBP13-02 Cruise, February 12 to April 5, 2013
http://tracers.nbp392.blogspot.com/p/the-project.html
From: Cassandra Brooks [cbrooks1@stanford.edu]
Sent: Thursday, January 31, 2013 12:09 AM
Subject: I’m heading out today to New Zealand, then flying to Antarctica where we pick up our NSF icebreaker. We’ll be out at sea for about 54 days.
3. Curiosity, Fun:
G. Something in the News
(e.g., Fauja Singh, 101, finishes last race, February 24, 2013)

4. Variety, Novelty, Fun, Fantasy:
A. Timers (Random.org, Stopwatches, coins, playing cards, dice, Countdown Timers, Stopwatch Bombs, etc.; http://www.online-stopwatch.com/countdown-timer/)

4. Variety, Novelty:
B. Sync Session with Guest Speakers
Designing a New Learning Environment
Professor Paul Kim, Stanford University
http://venture-lab.org/education/lectures/45

5. Autonomy, Choice:
A. Online Resource Search
(Class Google Jockeys)

5. Autonomy, Choice:
B. Web Exploration Assignments
1. Complete Works of Charles Darwin Online: http://darwin-online.org.uk/
4. Einstein Archives Online: http://www.alberteinstein.info/
11. Commonwealth of Learning, March 2013

5. Autonomy, Choice:
C. Commonwealth of Learning, March 2013
5. Autonomy, Choice:
D. Center for Open Educational Resources and Language Learning
http://www.coerll.utexas.edu/coerll/
LRC (Language Resource Center)
http://www.nflrc.org/

Poll #4:
Which of the first 5 motivational principles will you use the most?
A. Tone/ Climate
B. Encouragement/ Feedback
C. Curiosity/ Fun
D. Variety/ Novelty
E. Autonomy/ Choice/ Flexibility

Poll #5:
Any light bulbs going off in your head so far...?
A. Yes definitely
B. Maybe
C. No

6. Relevance, Meaningfulness:
B. Multimedia Glossaries
Ozgur Ozdemir, December 2012
http://r685glossary.shutterfly.com/

6. Relevance, Meaningfulness:
A. Online Cases (e.g., Mark Braun, IU)

7. Interactive, Collaborative:
A. Online Language Learning
(Skype, MSN, ECpod, Mixxer, Livemocha, Babbel, KanTalk etc.)
7. Interactive, Collaborative: B. Online Teams
Paul Km, Stanford: Oct 28, 2012
17,380 students. I haven't met f2f. I am shocked to see students from places where Internet is very limited. You will find students from even Zanzibar!!! Many teams are formed and they meet f2f in the region where they live.
http://venture-lab.org/education/

8. Engagement, Effort: C. Collaboration and Discussion in Google Hangouts
(January 29 and February 25, 2013)

http://www.guardian.co.uk/world/interactive/2011/mar/22/middle-east-protest-interactive-timeline

8. Engagement, Effort: B. Life on Timeline.
How Jimmy Wales’ Wikipedia Harnessed the Web as a Force for Good, Ted Greenwald, March 19, 2013, Wired Magazine
http://www.wired.com/wiredenterprise/2013/03/jimmy-wales-wikipedia/2/

8. Engagement, Effort: C. Timelines with Oral Histories, Slavery and the Making of America Time and Place, PBS
http://www.pbs.org/wnet/slavery/timeline/1857.html

8. Engagement, Effort: D. Guest Speaker Quotes
(Rey Junco, February 25, 2013)
8. Engagement, Effort:
E. Interactive Simulations
http://phet.colorado.edu/en/simulation/energy-skate-park

F. Cyber-Anatomy
http://www.cyber-anatomy.com/

G. Visualizing Emancipation (June 12, 2012, Chronicle of HE, Angela Chen, Interactive Map Traces Slaves’ Path to Emancipation)
https://dsl.richmond.edu/emancipation/

9. Tension, Challenge, etc.:
A. Google Hangouts/Google On Air
(Jay Cross, 10 MOOC experts; February 27, 2013
https://www.jaycross.com/wp/2013/02/businessmoocs-the-hangout-recording/

B. Cage Match or Debate
MOOCs at SXSWedu (Curt Bonk & Chuck Severance)

C. Final Four Competitions; i.e., Math March Madness
Greg Toppo, March 26, 2013, USA Today
http://www.stargazette.com/article/20130326/NEWS02/303260008/Fibonacci-Final-Four-Math-March-Madness-coming
9. Tension, Challenge, etc.:
D. Articulate Storyline

9. Tension, Challenge, etc.:
E. Peer Discussion on Final Projects
(from Paul Kim's MOOC, Stanford)

10. Yields Products, Goals:
A. Student YouTube Products
Qi Li: R685 Gangnam Style, December 2012
http://www.youtube.com/watch?v=7Q429lqxZaU&feature=youtu.be

10. Yields Products, Goals:
B. Interactive Timelines
(e.g., The Big Sleep, Kate Hurd)
http://hurdinsuranceagency.com/thebigsleep/

10. Yields Products, Goals:
C. Wikibook Chapter
http://en.wikibooks.org/wiki/Web_2.0_and_Emerging_Learning_Technologies/Andragogy_and_Technology
**Poll #6:**
Which of the last 5 motivational principles will you use the most?

A. Relevance/ Meaningfulness  
B. Engagement/ Effort  
C. Interactive/ Collab/ Community  
D. Tension/ Challenge/ Dissonance  
E. Yielding Products/ Goals

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**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

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**Poll #7:**
Do you feel “MOTIVATED” to try any of this out?

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

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**Stop and Share:**
Three Words from Today’s Session!

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

- Slides at: TrainingShare.com
- Papers: PublicationShare.com
- Book: http://worldisopen.com/
- Email: curt@worldisopen.com

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**DON'T JUST WISH FOR A GREAT 2013,**
MAKE IT SO.