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

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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

Learning is More Shared
Blogging Field Archeology Research (e.g., Lily Henry Roberts, UCLA digging in Hope, BC, Stó:lō First Nation people from 12,000 years ago)

Learning is More Video-Based
Online Learning Polyglots

“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

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.
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: 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

**Education 3.0?**
Introducing the free “TEC-VARIETY” Framework...

http://tec-variety.com/

**Examples of TEC-VARIETY**
1. **Tone/Climate: A. Threaded Video Discussions**, e.g., Flipgrid
   [http://flipgrid.com/#429f88c5](http://flipgrid.com/#429f88c5)

2. **Encouragement, Feedback, etc.: A. Demonstrations and Tutorials**
   Emerging technology specialist, IU UITS, Nitocris Perez, May 29, 2014

1. **Tone/Climate: B. Share Visuals of Favorite Places**, e.g., Panoramio

2. **Encouragement, Feedback, etc.: B. Voice/Audio Feedback**
   [http://vocaroo.com/delete/s0x8moQA1Yu/s37f0c96868b3c95](http://vocaroo.com/delete/s0x8moQA1Yu/s37f0c96868b3c95)
   (Recorded by Curt Bonk for the Open University of China)

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](http://www.youtube.com/watch?v=JzNHvmSv8TI)
   Chuck Severance, University of Michigan
   [https://www.coursera.org/course/pythonlearn](https://www.coursera.org/course/pythonlearn)

2. **Encouragement, Feedback, etc.: C. Online Practice Tests and Quizzes**, e.g., CPR, Human Embryology Animations
2. Encouragement, Feedback, etc.: D. Blog and Website Polling
(е.g., Poll Everywhere, BlogPolls, BlogPoll, MicroPoll)
http://www.polleverywhere.com/

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

2. Encouragement, Feedback, etc.: F. Videos and Online Quizzes
(е.g., Want to be an activist? Start with your toys - McKenna Pope, TEDEd)
http://www.youtube.com/user/tellymonitor#p/a/u/1/LhGeApsKjasr
http://www.labnews.co.uk/news/prehistoric-revolution/

3. Curiosity, Fun: A. Tracking the Life of a Scientist
(е.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/

3. Curiosity, Fun: B. Something in the News
(е.g., Chinese universities move up in world rankings, China Daily)
http://www.cnn.com/2014/12/17/asia/china-research-ranking-china-daily/

3. Curiosity, Fun: C. Something in the News
New 'massive' dinosaur skeleton discovered, USA Today,
September 5, 2014 (Dreadnoughtus)

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)

E. 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

F. Tracking the Life of a Computer Scientist (Wikipedia)

3. Curiosity, Fun:
F. Tracking the Life of a Computer Scientist (Wikipedia)

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

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.

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

RANDOM.ORG
Coin Flipper
Dice Roller
List Randomizer
March 13, 2015
5. Autonomy, Choice:
A. 20% Time in Education
Kendal Rasnake & Troy Cockrum, IU

March 5, 2015
Pink Time: New approach to student projects promotes passion, learning for its own sake,
Virginia Tech News
http://www.collegiatetimes.com/news/virginia_tech/article_4140ba24-ad6b-11e4-b05a-47eb57d77a1e.html

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

5. Autonomy, Choice:
C. Attend Webinar (pick weeks and reflect)
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. Autonomy, Choice:
F. Design Article Database in Facebook, Jenny Webeck
https://www.facebook.com/JennyBELTT/timeline

5. Autonomy, Choice:
G. Open Educational Resources (OER)
Digital Public Library of America
http://dp.la/

5. Autonomy, Choice:
H. Video Repositories and Portals
(e.g., Khan Academy, Computer Programming)

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. Relevance, Meaningfulness:
A. Guest Chats (e.g., Emily Hixon, January 20, 2015)
https://connect.iu.edu/p259wpbq9/

6. Relevance, Meaningfulness:
B. Video Scenario Learning Accounting Interviews and Preparatory Course Review Modules (Franklin University, cost and forensic accounting course)
http://video.franklin.edu/Franklin/acct/managerialAccounting/cost-behavior-player.html
http://video.franklin.edu/Franklin/acct/342/common/fraudScenario02.html
6. Relevance, Meaningfulness:
C. Case-Based Learning: Instructor Cases (e.g., Mark Braun, IU)

7. Interactive, Collaborative:
A. Negotiate Meanings Online (e.g., PiratePad: http://meetingwords.com/)
B. Backchannel Chat (TodaysMeet)
   https://todaysmeet.com/
   https://todaysmeet.com/R678_Emerging_Learning_Technologies
C. Q&A Web Conferencing (Adobe Connect, Jabber, iMeet, GoToMeeting, etc.)
   https://connect.iu.edu/p259wpiabg9/
D. Multiple Guest Experts
   Sara de Freitas and Jim Hensman, U of Coventry, UK
   Jay Cross, Berkeley
   https://connect.iu.edu/p2ie1yx6z6x/
E. 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/

B. Guest Speaker Quotes
(Rey Junco, February 25, 2013)

C. Interactive Timeline Maps,
October 22, 2014,
Second immigration wave lifts diversity to record high, Edward Greg Toppo and Paul Overberg, USA Today

D. Interactive Map Timelines
(adults with college degrees by county, May 7, 2012)
http://todayscampus.com/article/Keith_Hampson_Interviews_Josh_Keller_on__Interactive_Graphics_for_Higher_Education

E. Google Map Gallery
September 16, 2014
http://maps.google.com/gallery/
8. Engagement, Effort: F. 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: G. Data Visualization Tools (Harvard and MIT MOOCs)
   Lawrence Biemiller, February 20, 2014, Chronicle of Higher Education
   http://www.globalforestwatch.org/map/3/3.72/27.00/ALL/grayscale/loss/596

8. Engagement, Effort: H. Interactive Timeline Tools
   e.g., Arab spring: an interactive timeline of Middle East protests, The Guardian, Garry Blight, and Sheila Pulham, July 12, 2011
   http://www.globalforestwatch.org/map/3/3.72/27.00/ALL/grayscale/loss/596

9. Tension, Challenge, etc.: A. Online Vocabulary and Math Competitions
   Vocabulary.com: https://www.vocabulary.com/
   March 15, 2015

9. Tension, Challenge, etc.: B. Controversial Issue Debates
   SXSW: Tackling the growing gender gap in technology
   Mike Snider, USA Today
   March 15, 2015

9. Tension, Challenge, etc.: C. Controversial Issue Debates
   R511 Midterm Video How to Create an Authentic Environment in a Content-Driven School?, R511, Nick and Nik
   March 13, 2015
   https://www.youtube.com/watch?v=BsX3_a2T_xQ&feature=youtu.be
March 13, 2015
9. Tension, Challenge, etc.:
D. Controversial Issue Debates
Gamification, Jeff Jenkins and Melody Childs, IU
https://www.youtube.com/watch?v=DFYe8SLHqSw

March 13, 2015
9. Tension, Challenge, etc.:
E. Controversial Issue Debates: Flipped Classroom, Board Meeting, Nora and Lauren, IU
https://www.dropbox.com/sh/geijknepvtjmxdc/AAAuQ9JCBcEtaiBcC
-
ZLxPuCa?dl=0

July 10, 2014
9. Tension, Challenge, etc.:
F. Controversial Issue Debates
Scholarly journal retracts 60 articles, smashes ‘peer review ring’, Fred Barbash, Washington Post

April 23, 2015
Can Behavioral Tools Improve Online Student Outcomes?
Experimental Evidence from a Massive Open Online Course, Richard W. Patterson
http://www.ilr.cornell.edu/sites/ilr.cornell.edu/files/cheri_wp165_0.pdf

10. Yields Products, Goals:
A. Goal Setting Tools
(e.g., I Done This, Milestone Planner, and 43 Things)
10. Yields Products, Goals:

B. Uploading Mobile Books (e.g., BookRix, http://www.bookrix.com/)

C. Student Created Mobile Apps
   The App Builder: http://www.theappbuilder.com/
   Mintian Guo: http://myapp.is/r685final

D. Student Created Videos
   Piercarlo Abate: http://www.youtube.com/watch?v=_TURzHO0aU
   Qi Li, Gangnam: http://www.youtube.com/watch?v=7Q429lqxZaU&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

E. 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.)

F. Business Plans and Virtual Mentoring toward Goals, September 22, 2014, Chronicle of HE
   http://chronicle.com/article/Start-Up-Slow-Down/148923/?cid=at

G. 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

Recap and Reflect with Neighbor: Explore Websites from this Session! Or Find the lieu...
Take a quick 5-10 minute break...

Part II Where Are You R2D2?: Addressing Diverse Learner Needs with the Read, Reflect, Display, and Do Model
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This Generation of Students

Addressing Learning Styles
**Question:** How can technology address diverse learner needs?

**Framework #2: The R2D2 Method**

1. **Read (Auditory and Verbal Learners)**
   - Auditory and verbal learners prefer words, spoken or written explanations.

2. **Reflect (Reflective Learners)**

3. **Display (Visual Learners)**

4. **Do (Tactile, Kinesthetic, Exploratory Learners)**
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 Kah  

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, 2015  
(e.g., Is curiosity essential for human flourishing?)  
[http://www.bigquestionsonline.com/content/do-we-have-souls]  

Reflect 2b. Interpreting Infographics  
July 24, 2014  
Woman in Computer Science  
[http://graduatesdegreesonline.info/2014/07/woman-computer-science/are-stereotypes-keeping-women-away-from-science/]
Reflect 2c. Workplace Internship, Practicum, and Field Experiences

Reflect 2d. Reflect on Virtual Timelines (Dipity, xtimeline, Simile, etc.)


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

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

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

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.

Where are we headed?
Where is Education 3.0?

February 20, 2013
Star Trek-like holodeck may be closer to reality than you think
Matt Hartley, Financial Post, Canada
http://business.financialpost.com/2013/02/20/star-trek-like-holodeck-may-be-closer-to-reality-than-you-think/?__lsa=054d-d58d

Any Questions or Comments?
Try TEC-VARIETY...Try R2D2
Slides at: TrainingShare.com
Papers: PublicationShare.com
Free Book: http://tec-variety.com/
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