Active Learning with Technology: Myths, Magic, and Mucho Motivation

Dr. Curtis J. Bonk
Professor, Indiana University
President, CourseShare, LLC
http://php.indiana.edu/~cjbonk,
cjbonk@indiana.edu

Technology of the 1980s

New technologies hit us everyday!

So much to keep track of!

Poll #1: Who finds it hard to keep track of all the technology-related changes today???

It's Nature (i.e., technology) and Nurture (i.e., pedagogy)!
Part I. Some Online Motivational Ideas

We are not motivating students with the technologies that they love!

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)


What if students minds were on fire for learning? i.e., Jumbo Motivation!

Ok, Million Dollar Question: How do you motivate online learners? What Words come to mind?

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.
I even reflected on this for a moment...and then something magical happened...

Magic #1: TEC-VARIETY Model 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: Social Ice Breakers
A. Public Commitments:
Have students share how they will fit the coursework into their busy schedules

B. Favorite Websites
1. Everyone posts 1-2 of their favorite Websites and explain why.
2. Peers comment on or rate them.

---

1. Tone/Climate: C. Video Course Intros (examples from Northern Virginia Community College and Indiana University KD (online MBA) program)

---

2. Encouragement, Feedback, etc.:
A. Online Self-Testing (e.g., self study in vocabulary, anatomy, chemistry, dissection, etc.)
2. Encouragement, Feedback, etc.:  
B. Tutorials with Screen Capture (e.g., Jing, Screencr)

2. Encouragement, Feedback, etc.:  
C. Video Scenario Learning Accounting Interviews and Preparatory Course Review Modules (Franklin University, cost and forensic accounting courses)
http://video.franklin.edu/faculty/essay/managementaccounting/interviews.html
http://video.franklin.edu/faculty/essay/managementaccounting/forensics.html

3. Curiosity, Fun:  
A. Online News (Giant jellyfish, Tiny T. rex, and Ardil)

3. Curiosity, Fun:  
B. Online Experiments (e.g., psychology)

3. Curiosity, Fun:  
C. WolframAlpha (access knowledge)
http://www.wolframalpha.com/
4. Variety, Novelty: A. Cool Resource Provider or Tech Demos
   - Have students sign up to be a cool resource provider once during the semester.
   - Have them find additional paper, people, electronic resources, etc.
   - Share and explain what found with class.

4. Variety, Novelty: B. Synchronous Session with Guest Expert

4. Variety, Novelty: C. Bridges to World of Expert and Practitioners (e.g., Watch or
Listen to Online Conferences, Expert blogs, chats, interviews)

Arlington Racetrack

Jockey’s are Important

5. Autonomy, Choice: A. Online Information Search (Class Google Jockeys)
   (links to text, soundtracks, video clips, etc.)
5. Autonomy, Choice:
B. Famous Person Web Explorations, Searches, Twitter Tracking, and Interviews
(e.g., Thomas Friedman, NY Times reporter)

5. Autonomy, Choice:
C. Online Cases (e.g., Mark Braun, IU)

6. Relevance, Meaningfulness:
A. Tour an Online Oil Drilling Site or Role
Play Situations (i.e., BP)

6. Relevance, Meaningfulness:
B. 60 Second Recap, Jenny Sawyer
http://www.60secondrecap.com/

7. Interactive, Collaborative:
A. Online Language Learning
(Skype, MSN, ECpod, Mixxer, Livemocha, Babbel, KanTalk etc.)

More Language Learning Tools
(e.g., Paltalk, iTalkie, Palabea)
7. Interactive, Collaborative:
B. Collaborative Groups (Ning, Google Groups, MSN Groups, Yahoo Groups)

7. Interactive, Collaborative:
C. Collaborative Documents (Google Docs)

8. Engagement, Effort:
A. Synchronous and Asynchronous Events (e.g., Breeze + Video + Online Forum + Online Papers)

8. Engagement, Effort:
B. Flash, 3-D Visualization, & Laboratory Software

8. Engagement, Effort:
C. Tour a Museum (e.g., British Museum, Smithsonian, Louvre)

8. Engagement, Effort:
D. Basic Acoustics of Musical Instruments (University of New South Wales)
9. Tension, Challenge, etc.:
B. Electronic Guests & Mentoring...MM

10. Yields Products, Goals:
B. Video Blogs...MM

Sing ALL the "Glee" Songs with iPhone or iPad!
http://www.youtube.com/watch?v=etJBG2Z10udA
It provides the ability for you to sing along with the singers of the show Glee and realize (less than 30 million dollar) correct your pitch and harmony - along with the ability to complete a group singing event from points around the world.
(see Echo360, learning Trends #813, September 6, 2010, company is called "iSonic")

9. Tension, Challenge, etc.:
A. Ethical Debates

10. Yields Products, Goals:
A. Student YouTube Products...MM
http://www.youtube.com/watch?v=etJBG2Z10udA
http://www.youtube.com/watch?v=xwNLpWpe6C0
http://www.youtube.com/watch?v=x6FyHIPlp_u
http://www.youtube.com/watch?v=emC_fleq3z0

10. Yields Products, Goals:
C. Photo Festivals and Competitions (e.g., COFA at UNSW, Scrapblog, flickr, etc.)
TEC-VARIETY Model for Online Motivation and Retention
- Tone/Climate
- Encouragement, Feedback
- Curiosity
- Variety
- Autonomy
- Relevance
- Interactive
- Engagement
- Tension
- Yields Products

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

99 seconds: What have you learned so far?
- Solid and Fuzzy in groups of two to four

II. Addressing Diverse Learners

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. Reading from Open Access Journals (e.g., PLOS)

Poll 2: Podcast Questions
a. Who has listened to a podcast?
b. Who listens to a certain podcast on a regular basis?
c. Who has created a podcast?
d. Who has created a vocal podcast?
e. Who thinks podcasting is simply more talking heads?

Read 1b. Course Announcements
(e.g., Teaching with Twitter)

twitter

Read 1c. Podcast Paper Reflections

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...MM

Poll 3: Blogging Questions
a. Who has a blog?
b. Who regularly reads other people's blogs?
c. Who assigns blogging tasks?
d. Who has created a video blog?
e. Who thinks it is an utter waste of time to blog?

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

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

Reflect 2d. Analyze Online Cases (problems, solutions, etc.) ...MM

Reflect 2e. Workplace and Field Reflections...MM
Reflect 2f. ORL or Library Day
(e.g., The Thompson Library at Ohio State University)

Reflect 2g. Videos on Book Websites (e.g., Brain Rules, John Medina)

Reflect 2h. Topical Lectures from Famous People (e.g., Big Think; Academic Earth)

Reflect 2i. Life of a Scientist or Famous People Website (e.g., Brian J Ford, Independent Scientist)

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

Display 3a. Pubcasts! (videos of scientific papers and science)
NSF, the Public Library of Science, and the San Diego Supercomputer Center created a YouTube for scientists to help demystify important research papers. See SciVee.
Display 3b. Anchored Instruction Discussions (YouTube, CNN, BBC, TeacherTube, CurrentTV) ...MM

Display 3c. Shared Online Video (e.g., Howcast, WonderHowTo, Clip Chef, Link TV, Fora TV, etc.)

Display 3d. Videos of the Periodic Table

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

Display 3f. Timeline Tools (e.g., SMILILE from MIT, Learning Tools from UBC)

Timeline of Technology for Teaching, NY Times, September 15, 2010
Display 3g. World Trends and Indices (e.g. Worldmapper)

Display 3h. Online Portals of Rich Data
United Nations Opens World Digital Library, Turning the Pages from the British Library, etc. (history, culture, literature, writing, art, etc.)

Display 3i. Weather-Related Visuals and Animations

Display 3k. Online History Portals and Resources (Civil Rights Digital Library and Amistad)

Display 3L. Medical Animations and Videos (e.g., YouTube, CNN, BBC)

Display 3n. Download and Use Online 3D Sketches (Art, Drawing, Architecture, etc. Google SketchUp)
Display 3o. Mash-Ups (Indexing Sounds in Cities with Google Maps in Sociology)

Display 3p. Virtual History (e.g., Archaeology from Brown University)

Display 3p. Science/Medicine in Action (e.g., Foldit for Biology) (puzzles that explain the shape that proteins fold into the results can have huge impacts on scientific discoveries needed for Alzheimer's, AIDS, Cancer, etc.):
- http://fold.it/portal/
- (made sense of Paste/Paste Silverman, 2010-96)

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. Wikibooks: International Collaboration (Web 2.0 and Emerging Learning Technologies (The WELT))

Do 4b. Syllabus, Glossary, etc. in wiki: Students sign up for tasks (Ron Owston, York University)
Do 4c. Survey Research and Market Analysis (e.g., Mister Poll, MicroPoll, Zoomerang, SurveyShare)

Do 4d. Online Warm-ups Activities Just-In-Time-Teaching (JITT)

Do 4e. Podcast Productions and Virtual Performances for students of pronunciation class (e.g., Tzu-Su Chen, Taiwan)

Do 4f. International and Global Education and Competitions (e.g., Global Game Jams, online role play, Global Videocasting)

Poll #2: How many ideas did you get from the second part of this talk?

a. None—you are an idiot.
b. 1 (and it is a lonely #).
c. 2 (it can be as bad as one).
d. 3-5
f. Higher than I can count!

Try the R2D2 Method!
Try TEC-VARIETY!
And hope for some magic!!!

Sample papers:
http://www.publicationshare.com/
Archived talks:
http://www.trainingshare.com/