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

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What if our minds were on fire for learning?

MINDS ON FIRE: OPEN EDUCATION, THE LONG TAIL, AND LEARNING
JOHN SEELY BROWN AND RICHARD ADLER, EDUCAUSE REVIEW,
http://connect.educause.edu/Library/EDUCAUSE+Review/MindsonFire
OpenEducation/45823

Learner-Centered and Active Learning Principles
1. Authentic/Raw Data
2. Student Autonomy/Inquiry
3. Make Relevant/meaningful/Interests
4. Link to and Build on Prior Knowledge
5. Provide Choice and Challenge
6. Act as a Facilitator and Co-Learner
7. Foster Social Interaction and Dialogue
8. Embed Problem-Based and Student Generated Learning and Inquiry
9. Encourage Multiple Viewpoints and Perspectives
10. Foster Collab, Negotiation, & Reflection

Activities Part I: 10 Learner-Centered Technology Ideas

1. Anchored Instruction (find anchoring event (CTGV, 1992?)
(L/M = Cost, M = Risk, M = Time)
- In a synchronous lecture interrupt it with a summary video (could be a movie clip) explaining a key principle or concept.
- Refer back to that video during lecture.
- Debrief on effectiveness of it.

Nature AND Nurture: Pedagogy
Technology
People, Society, Culture, etc.
2. Cool Resource Provider (Bonk, 2004)
Capture and VideoStream Lectures (e.g., Apreso CourseCaster)
- 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 via synchronous meeting or asynchronous discussion post.

3. ORL or Library Day (L = Cost, M = Risk, H/T = Time) (Bonk, 1999)
- Have students spend a day in the library or online finding and summarizing a set number of articles.
- Have them bring to class or post abstracts to an online forum.
- Share in small groups interested in similar topics.
- Perhaps give each student 1-2 minutes to describe what found in a chat.

4. Online Warm-ups Activities
Just-In-Time-Teaching (JiTT)
http://webphysics.illinois.edu/jitt/jitt.html

5. Paired Weblog Critiques

6. Concept Mapping Tools
(VUE, Bubbl.us, Cmap, Freemind)

7. Exploration and Demonstration:
Virtual Fieldtrip, Tours, Timelines
http://simile.mit.edu/timeline/
8. Online Portal Explorations

9. Online Apprenticeship: Electronic Guests & Mentoring
(Simon Fraser University News:
http://www.sfu.ca/it/disp/hnews/2001/Sept01/itsnews.html)

10. Referenceware and Terminology Exercises
Online (e.g., Websters, Visual Thesaurus)
http://www.visualthesaurus.com/
($2.95/month; $19.95/year)

Activities Part II.
Motivational Ideas

Three Most Vital Skills
The Online Teacher, TAFE, Guy Kemshale-Bell (April, 2001)

- Ability to engage the learner (30)
- Ability to motivate online learners (23)
- Ability to build relationships (19)
- Technical ability (18)
- Having a positive attitude (14)
- Adapt to individual needs (12)
- Innovation or creativity (11)

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)
Ok, Million Dollar Question: What words come to mind when say motivation?

I even reflected on this for a moment...

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:
A. Coffee House Expectations
   1. Have everyone post 2-3 course expectations
   2. Instructor summarizes and comments on how they might be met
B. Public Commitments: Have students share how they will fit the coursework into their busy schedules
2. Encouragement, Feedback, etc.: A. Critical/Constructive Friends, Email Pals...

2. Encouragement, Feedback, etc.: B. Thinking About the Readings (TARS) JIIIT; Claude Cookman, IU, Photography Class

2. Encouragement, Feedback, etc.: B. Online Language Learning (Mixxer, Livemocha, Friends Abroad)

3. Curiosity, Fun: A. Games e.g., Online Jeopardy Game Games2Train: The Challenge; Thiagi.com

4. Variety, Novelty: A. Video Streamed Lectures & Expert Commenting

5. Autonomy, Choice: A. Clickers; Innovation is but one click away...
5. Autonomy, Choice:
B. Multiple Topics

- Generate multiple discussion prompts and ask students to participate in 2 out of 3
- Provide different discussion "tracks" (much like conference tracks) for students with different interests to choose among
- List possible topics and have students vote (students sign up for lead diff weeks)
- Have students list and vote.

6. Relevance: Meaningfulness:
A. Authentic Data Analysis

Jeanne Sept, IU, Archaeology of Human Origins; Components: From CD to Web
- A set of research q's and problems that archaeologists have posed about the site
- A complete set of data from site
- Students work collab to interpret age of site
- Interpret of ancient environments
- Analyze artifacts/fossils from site

7. Interactive, Collaborative:

A. Panels of Experts: Be an Expert/Ask an Expert: Have each learner choose an area in which to become expert and moderate a forum for the class. Require participation in a certain number of forums (choice)

B. Press Conference: Have a series of press conferences at the end of small group projects; one for each group

C. Symposia of Experts

D. Discussion: Starter-Wrapper (Hara, Bonk, & Angeli, 2000)

1. Starter reads ahead and starts discussion and others participate and starter summarizes what was discussed.
2. Startwrapper with roles—same as #1 but include roles for debate (optimist, pessimist, devil’s advocate).

E. Alternative: Facilitator-Starter-Wrapper (Alexander, 2001)

Instead of starting discussion, student acts as moderator or questioner to push student thinking and give feedback

8. Engagement: A. Text Messaging

Students at the Memonite Centre for Newcomers are testing mobile learning - downloading an English grammar lesson, then answering a series of multiple choice, or true or false questions. (Edmonton)

Text-message course helping newcomers learn English

8. Engagement:
B. Student Self-Testing (e.g., Calm Chemistry)
9. Tension, Challenge, etc.:  
A. Online Role Play of Famous People, Mock Trial, Debates, etc.  
- Enroll famous people in your course  
- Students assume voice of that person for one or more sessions

9. Tension, Challenge, etc.:  
B. Scenario Learning (Emmis Communications example)

10. Yields Products:  
Concept Maps, Video Papers, Virtual Timelines, Digital Movies

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

Activities Part III.  
Addressing Learning Styles

Why Address Learning Styles?  
- Promotes reflection on teaching  
- Move from just one mode of delivery  
- View from different viewpoints  
- Offer variety in the class  
- Might lower drop-out rates  
- Fosters experimentation
Kolb (1984)

- According to Kolb, effective learning involves four phases:
  - from getting involved (Concrete Experience) to
  - listening/observing (Reflective Observation) to
  - creating an idea (Abstract Conceptualization) to
  - making decisions (Active Experimentation).
- A person may become better at some of these learning skills than others; as a result, a learning style develops.

The R2D2 Method

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

R2D2 Book
(to be printed July 4, 2008)

Empowering Online Learning
100+ Activities for Reading, Reflecting, Displaying & Doing

1a. Documents on Web
Scribd: http://www.scribd.com/
1b. Vocabulary Practice Feeds the World
A Grain of Rice: A Bloomington man’s computer vocab game
feeding the world, Herald Times, Wednesday February 6, 2008
Mike Leonard

1c. Online Tutorials, Help, Announcements, Q&A, and FAQs
A network of educational tools and resources for learning
NCBI PubMed

1d. Educational Applications of Podcasting (Essex, 2006, Leftwich, 2007)
1. Recordings of lectures (Coursecasting)
2. Supplemental textbook or entire book
3. Student projects
4. Interviews
5. Language lessons
6. Oral reports
7. K-12 classroom interactions
8. Downloadable library of resources
9. Recordings of performances

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

2a. Post Model Answers
Employment Law and Ethics Project

Question 1
Would the judge of this case maintain that embedded text on the legal document was not applicable? Why or why not?

Answer 1
Under the FAA (the Fair Labor Standards Act) and scenario 1, it is not illegal to discriminate on the basis of race or sex, and Lowe would likely view a complaint using the same topic as a comparison. However, the use of current discrimination, sexual orientation, and gender identity may be considered in determining the relevance of the issue.

2b. Use of Weblogs (especially English writing class)
1. Instructor or Tutor blog: resources, information, space to chat
2. Learner blog: reflections, sharing links and pics, fosters ownership of learning
3. Partner blog: work on team projects or activities
4. Class blog: international exchanges, projects, PBL
5. Revision: review and explore sentences from previous posts, add details
6. Nutsell: summarize themes or comments across blogs
7. Blog on blog: reflections on feelings, confusions, and experiences with blogs
2c. Reuse Blog, Chat Transcripts, Presentations

2d. Reflecting on Adventure Blogging
(Ben Saunders, Mark Fennell, Andrew Revkin)

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

3a. Online Anatomy and Physiology

3b. Map Mash-ups
(e.g., Shakespeare’s Global Globe)
3c. What if the World was Beyond our World?
NASA's Hubble Space: Google Sky) USA Today, August 22, 2007
http://earth.google.com/sky/index.html

3d. Animations, Video Clips, Audio, Pictures, Web Resources, etc.

3f. Electronic Cameras and Maps
(Class Google Jockeys)
The Electronic Literati, in Search of a Voice, June 1, 2007, Chronicle of Higher Education, Jeffrey Young
(links to text, soundtracks, video clips, etc.)

3g. Online Literature Search

3h. Online Timelines
(US Presidents)

3i. Tracking Live Internet Thawing:
A Colossal of an Idea

Deep-Sea Behemoth
Captain John Bennett examines the world's first intact adult male colossal squid on board his New Zealand fishing boat in February, 2007, in the Ross Sea near Antarctica. The gigantic sea creature weighs a world record 1,089 pounds. After being frozen whole for over a year, scientists at New Zealand's national museum will thaw the squid for further study.
3j. Vodcast for Medical Training
(e.g., "Sonosite on the small screen: The Bothell-based company uses podcasts for its ultrasound scanner training."

3k. Expert Mentoring Online in Art and Design
(COFA Online, Omnium Project, Creative Waves—online graphics and photomedia project)

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.

4a. Romantic Poetry Project
(Professor Mike Phillipson, English at Bowdoin College)

4b. YouTube to Memorize Sonnets and Poems

4c. Videoconferencing with Hearing Impaired Students Online
- College students tutoring high schools on their homework
- Instructors observing how teacher education students are doing in field placements (practice presentation and communication skills)
- Interpret speaker via Web cam
4d. Virtual Worlds/Virtual Reality/MMOG
Wednesday, August 30, 2006
Harvard Law School (Charles & Rebecca Nesson)
Chronicle of Higher Ed (open to the public)

4e. Survey Research and Market Analysis
(e.g., WebSurveyor, Zoomerang, SurveyShare, SurveyKey)

4f. Mobile Learning and Social Networking
(e.g., Mixi, Yayoi Anzai, Professor Japan)

Next up: The MATRIX!!!!!!!!!!
• Mobile
• Auditory
• Thought-stimulating
• Reflective/Real-World
• vIsually Interactive
• eXtremely Hands-on

It is both Nature AND Nurture as well as PEOPLE!!! Technology is just part of the Equation

Technology  Pedagogy
People, Society, Culture, etc.

Try the R2D2 Method!!!
Try TEC-VARIETY!!!
Sample papers at: http://www.publicationshare.com/
Archived talks at: http://www.trainingshare.com/