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

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Nature AND Nurture: Pedagogy

Technology
People, Society, Culture, etc.

Who Uses Technology to Accelerate Student Learning?

Accelerate Learning

Open Access Books

Effects of interactive multimedia in distance learning

"The advancement in technology is shaping every aspect of our life, including education. One decade ago, the Internet was not critical to education. However, now, it has become an integral part of learning process. Internet technology is having a dramatic effect on colleges and universities, producing what may be the most challenging period in the history of higher education."

Social Networking Software
- Classmates: http://www.classmates.com/
- Facebook: http://www.facebook.com/
- Friendster: http://www.friendster.com/
- Friendzy: http://www.friendzy.com/
- MySpace: http://www.myspace.com/
- Orkut: https://www.orkut.com/
- Tribes: http://www.tribe.net/
- YouTube: http://www.youtube.com/
Yahoo News
Love me, love my blog," as Netorati couple-surf
BY SARA LEDWICH Thu Aug 3, 8:30 AM ET

- Nick Currie and his girlfriend Shizu Yuasa (R) surf the Internet over breakfast in Tokyo in this handout photo. As the Internet evolves -- with its webcams, iPods, Instant Messaging, broadband, wi-fi and weblogs -- its image as a relationship-wrecker is changing. Now a sociable habit is emerging among the Netorati couple-surfing. (Nick Currie/Handout/Reuters)
- "For my birthday, he upgraded my RAM and I thought it was incredibly romantic," writes Jess.

Learning with iPods
(Campus Technology, Dec, 2006)
Georgia College & State University, The Department of Music and Theatre, which had foreign language speakers come in to do recordings that are helping the school's chorus. Learners singing in Korean, Portuguese, and many other languages," "Now we can listen to the diction, and make sure that we're pronouncing everything correctly."

Podcast Questions
1. Who has listened to a podcast?
2. Who listens to a certain podcast on a regular basis?
3. Who has created a podcast?
4. Who has created aodcast?
5. Who thinks podcasting is simply more talking heads?

Wikis
Wiki Questions
1. Who regularly reads Wikipedia articles just for fun?
2. Who regularly reads Wikibooks?
3. Who seeks Wikipedia for content?
4. Who has edited or written new articles on Wikipedia or Wikibooks?
5. Who thinks it is ok for college students to cite from Wikipedia?

Student Technology Myths
1. They all are Web 2.0 savvy and equipped.
2. Some will dominate and intimidate others.
3. Will be too off task and social online.
4. Online cheating is the key reason not to teach with tech.
5. Online students are located far away.

Brains Before and After e-Learning

Before

After

Myths: No Models or Best Practices

II. Magic....

The Growth of the Online MBA at Indiana University
Growth of Online Learning in Secondary Schools

What if our minds were on fire for learning?

A Circle of Knowledge Building and Sharing

Create
Support for creating representations of pedagogical knowledge

Open Knowledge Exchange Zone
Provide venues for sharing experienced evidence to improve practice.

Use
Encourage teachers to review, critique, and learn from others' representations of knowledge.

Re-mix
Enable teachers to integrate others' knowledge into their own.

Promote these organically and sustainably

From the Web 2.0 to Learning 2.0

Part I: 10 Learner-Centered Technology Ideas

Task

- Ideas definitely Can Use (Circle or write down)
- Ideas you might use (check off or write down in a separate column)
- Ideas you cannot use (cross off or put at the bottom)

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
1. Anchored Instruction (find anchoring event (CTGV, 1990?)
(L/M = Cost, M = Risk, M/H = 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.

2. Cool Resource Provider (Bonk, 2004) Capture and Videostream Lectures (e.g., Apresco 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, M/H = Time) (Bonk. 1999)

4. Online Warm-ups Activities
Just-In-Time-Teaching (JITT)
http://vrsubversive.vrlab.uidaho.edu/Read/assignment1.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
(Simone Fraser University News:
http://www.cfca.ca/feature/news09/duplithoughts.html)

10. Referenceware and Terminology
Exercises Online (puzzles, games, etc.)

3
Reflection: What are 3 things you learned so far?

3

Part III. Motivational Ideas
Top Reasons for Dropping Out (Deosnews, May 2004; Frankola, 2001)

- Lack of time
- Lack of management oversight
- Lack of motivation
- Lack of student support
- Individual learning preference
- Poorly designed course
- Substandard/Inexperienced instructor

Three Most Vital Skills
The Online Teacher, TAFE, Guy Kemshal-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)


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So, I 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:
   - Need to create a positive and supportive learning environment to foster intrinsic motivation.
   - Focus on creating a warm, welcoming, and safe space for students to learn.
   - Encourage open dialogue and respectful discussion to promote a sense of community.
   - Foster an environment where students feel comfortable taking risks and asking questions.

2. Encouragement, Feedback:
   - Encourage students to take initiative and be proactive in their learning.
   - Provide timely and specific feedback to help students understand their progress and areas for improvement.
   - Emphasize growth mindset over fixed mindset, promoting resilience and persistence.

3. Curiosity:
   - Create learning opportunities that stimulate students' natural curiosity and interest.
   - Encourage students to explore and discover new ideas and concepts on their own.
   - Foster a culture of inquiry and questioning to stimulate curiosity and critical thinking.

4. Variety:
   - Offer a wide range of learning activities and materials to cater to diverse learning styles.
   - Use a variety of teaching methods and approaches to engage students and keep them interested.
   - Incorporate multimedia and interactive elements to make learning more engaging.

5. Autonomy:
   - Allow students to have a say in their learning by giving them choices and opportunities to take ownership of their education.
   - Encourage students to take responsibility for their learning and set personal goals.
   - Foster a sense of autonomy and self-direction in the learning process.

6. Relevance:
   - Connect learning to real-world applications and situations to make it more meaningful and relevant.
   - Show how the content can be applied to real-life situations to increase engagement.
   - Use examples and case studies to illustrate the practical significance of the material.

7. Interactive:
   - Encourage collaboration and teamwork among students.
   - Foster a collaborative learning environment where students can learn from each other.
   - Use group projects, peer feedback, and discussions to promote interaction and engagement.

8. Engagement:
   - Create a learning environment that is fun, exciting, and engaging.
   - Use active learning strategies to keep students involved and motivated.
   - Incorporate multimedia and interactive elements to create an immersive learning experience.

9. Tension:
   - Challenge students to think critically and solve problems.
   - Encourage students to take on bigger projects and tasks.
   - Foster a sense of urgency and responsibility in the learning process.

10. Yields Products:
    - Ensure that learning activities lead to clear goals and objectives.
    - Encourage students to take ownership of their learning and set personal goals.
    - Foster a sense of responsibility and accountability in the learning process.
2. Encouragement, Feedback, etc.: A. Critical/Constructive Friends, Email Pals...

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

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

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

3. Curiosity, Fun: B. Electronic Seance
- Students read books from famous dead people
- Convene when dark (sync or asynchronous)
- Present present day problem for them to solve
- Participate from within those characters (e.g., read direct quotes from books or articles)
- Invite expert guests from other campuses
- Keep chat open for set time period
- Debrief

4. Variety, Novelty: A. Video Streamed Lectures & Expert Commenting
4. Variety, Novelty:  
B. Brainstorming Chat  
- Come up with interesting or topic or problem to solve  
- Anonymously brainstorm ideas in a chat discussion  
- Encourage spin off ideas  
- Post list of ideas generated  
- Rank or rate ideas and submit to instructor  
- Calculate average ratings and distribute to group  

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  

7. Interactive, Collaborative:  
D. Discussion: Starter-Wrapper (Hara, Bonk, & Angeli, 2000)  
1. Starter reads ahead and starts discussion and others participate and wrapper summarizes what was discussed.  
2. Start-wrapper 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 Mennonite 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)

9. Tension, Challenge, etc.: A. Online Role Play of Famous People, Mock Trial, Debates, etc.

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
Part IV. Addressing Learning Styles

Poll 1: Which learning style do you prefer?

a. Read (Auditory and Verbal Learners)
b. Reflect (Reflective Learners)
c. Display (Visual Learners)
d. Do (Tactile, Kinesthetic, Exploratory Learners)

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.

Index of Learning Styles Questionnaire
Barbara A. Solomon, North Carolina State Univ
http://www.engr.ncsu.edu/learningstyles/lisweb.html

6. If I were a teacher, I would rather teach a course
   (C) that deals with facts and real-life situations.
   (R) that deals with ideas and theories.

7. I prefer to get new information in
   (P) pictures, diagrams, graphs, or maps.
   (W) written directions or verbal information.
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 Project

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

1. Auditory or Verbal Learners
   • Auditory and verbal learners prefer words, spoken or written explanations.

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
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
- Should the company Lee's to account or evaluate instead of Lee's, being specific about the legal decisions that would apply?

Answer 1

Under both Title VII of the 1964 Civil Rights Act and Section 503, an employer must take steps to ensure that decisions on the basis of race or color,

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 explode sentences from previous posts, add details
6. Nutshell: summarize themes or comments across blogs
7. Blog on blog: reflections on feelings, confusions, and experiences with blogs

2b. Personal Learner Weblog
(Bonk, 2007; Mei-Ya Liang, 2007)
1. Create personal learner blogs.
2. Note online learning materials found or read (e.g., online news sites, Web search engines, online dictionaries, etc.)
3. Outline of key points of readings.
4. Write reflections on news stories.
5. Record results of group activities in news sites and text chat rooms.
6. Provide peer comments on blogs.

2b. Course Weblog
(Bonk, 2007; Mei-Ya Liang, 2007)
1. Create a class blog site (e.g., using Blogger (http://myliang.blogspot.com/) to create a sense of instructor presence and to link people from all over the world.
2. Post assignments and instructional prompts.
3. Group projects and news summaries are posted.
4. Add course-related links for online materials, resources, tools, and Websites.
5. Add instructor's profile with bio and contact info.
2c. Reuse Blog, Chat Transcripts, Presentations

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

2e. Practitioner Feedback: Asynchronous Threaded Discussion plus Sync Expert Chat (e.g., Starter-Wrapper + Sync Guest Chat) (L/M = Cost, M = Risk, M = Time)

3. Visual Learners

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

3g. Online Literature Search
(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.)

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)

3l. Historical Documents
discoverbabylon.org

- In its final form, the multi-player game will let you march through three-dimensional recreations of the first city-states, around 3000 B.C., the first empires, around 2300 B.C., and finally the famous Iron Age empire of Assyria...offers three-dimensional walk-throughs of sites in the Valley of the Kings.

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 Phillips, English at Bowdoin College)

THE LIFE AND WORK OF JOHN KEATS
1795 - 1821
A COLLECTION OF RESOURCES DEDICATED TO THE WEICHE GENERATION ROMANTIC POET
OPEN THE WEBSITE
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 Nessan)
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.publicationsshare.com/
Archived talks at: http://www.trainingshare.com/