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

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21 Things That Became Obsolete This Decade
December 11, 2009, Silicon Alley Insider

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15 Gadgets that Changed Everything This Decade
December 9, 2009, Jay Yarow, Silicon Alley Insider

Technology for Learning Expands
College tech 'catching up' with students
Kathleen Gray & Robin Erb, USA TODAY, Oct. 6, 2009

Senior Emily Smak, 20, tries out the treadmill workstation in one of the study lounges in the new Education and Human Services Building at Central Michigan University. There is a new iMac computer attached to it so students can get a little exercise while doing homework or other things on the computer.

Mobile Learning and Blended Learning Exploding
College tech 'catching up' with students
Kathleen Gray & Robin Erb, USA TODAY, Oct 6, 2009

- At Abilene Christian (University)...about 2,800 students and 70% of the 250 professors use the Apple technology for instructional purposes.
  - Art students use app to draft sketch and send it to the teacher and other students for advice before starting the real art pieces.
  - A drama teacher takes video of the lead dancer in a production and sends that along to other students for rehearsal.

Part I. Blended Learning

1. Definitions of blended learning
2. Advantages and disadvantages
3. Models of blended learning
4. Examples of blended learning
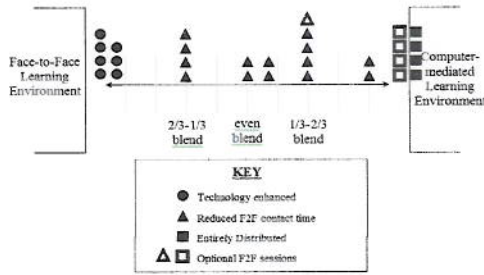5. Implications for blended learning

Myth #1: People will know what I am saying when I say "blended learning."
Myth #2: Blended is the same as "hybrid."
The Sloan Consortium

Proportion of content delivered online	Type of Course	Typical Description
0%	Traditional	Course with no online technology used - content is delivered in writing or orally.
1 to 29%	Web Facilitated	Course which uses web-based technology to facilitate what is essentially a face-to-face course. Might use Blackboard or WebCT to post the syllabus and assignments, for example.
30 to 79%	Blended/Hybrid	Course that is a blend of the online and face-to-face course. Substantial proportion of the content is delivered online, typically uses online discussions, typically has some face-to-face meetings.
80+%	Online	A course where the vast bulk of the content is delivered online. Typically has no face-to-face meetings.

Myth #3: Knowing "how much" to blend is vital.
Range of Blends in Pew Cases

Face-to-Face Learning Environment — Computer-mediated Learning Environment

2/3-1/3 blend   even blend   1/3-2/3 blend

KEY
● Technology enhanced
▲ Reduced F2F contact time
■ Entirely Distributed
△ □ Optional F2F sessions

Source: Graham, C. R., & Allen, S. (2005). Blended learning: An emerging trend in education. In C. Howard & J. V. Boettecher & L. Justice & K. D. Schenk & P. L. Rogers & G. A. Berg (Eds.), *Encyclopedia of Distance Learning* (pp. 172-179). Hershey, PA: Idea Group Inc.

Myths #4: Blended learning is easy to define.
Myth #5: Blended learning is hard to define.
Blending Online and F2F Instruction

- **"Blended learning refers to events that combine aspects of online and face-to-face instruction" (Rooney, 2003, p. 26; Ward & LaBranche, 2003, p. 22)**

Myth #6: Blended learning works everywhere.
Where is Blended Beneficial?

- **Large Classes (spanish, intro psych, algebra, elementary statistics, biology)**
- **Classes with working students**
- **Students spread over a distance**
- **Classes with certification**
- **Classes with need for standardization**
- **New requirements for a profession**
- **Writing intensive classes**
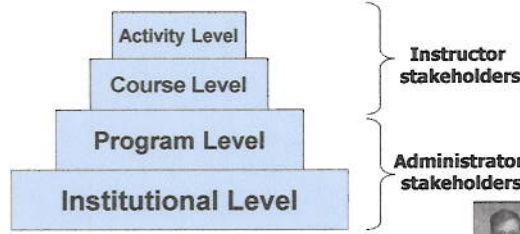- **Theory classes**

Myth #7: People learn more in face-to-face settings.
Fully Online and Blended Learning Advantages

1. Increased Learning (better papers, higher scores)
2. More effective pedagogy and interaction
3. Course access at one's convenience and flexible completion (e.g., multiple ways to meet course objectives)
4. Reduction in physical class or space needs, commuting, parking
5. Increased opportunities for human interaction, communication, & contact among students
6. Introverts participate more

Myth #8: Faculty can have a logical discussion with administrators about blended learning.
Models of Blending
Blending occurs at the following four levels:

Activity Level
Course Level
Program Level
Institutional Level

Instructor stakeholders

Administrator stakeholders

Myth #9: There is one best model of blended.
AMA Special Report, Effectively Implementing a Blended Learning Approach
(Steven Shaw & Nicholas Igneri, 2006)

Source: American Management Association, AMA at Work

Myth #10: Blended learning has exploded at the University of Phoenix.
Institutional-level Blending (Brian Linquist, 2006)

Example 2: University of Phoenix
- **Completely online courses**
- **Residential F2F courses**
- **Blended Courses**
  - *Local Model* = 5 week courses with first and last week F2F
  - *Distance Model* = 5 week courses with half first and half last week F2F (the last meeting of one course is coordinated to be back-to-back with the first meeting of the next 5 week course)

Blended Solution #1+.
Sample Activities for Brief Mtgs

1. Assign web buddies, email pals, critical friends based on interests, confidence, location, etc.
2. Ice breakers—paired introductions, corners.
3. Solve case in team competitions with awards.
4. Test technology in a lab.
5. Assign teams and exchange info for small teams using text messaging.
6. Library (digital and physical) scavenger hunt.
7. Do a podcast documenting the meeting.
8. Have everyone create a blog on the experience.
9. Open an e-portfolio for each student
10. Brainstorm how might use technology in program.

Blended Solution #2. Online Professional Development (e.g., STARLINK, www.starlinktraining.org)

Blended Solution #3. Expert Video Reflections and Scaffolds online (E-Reading First Ohio; reflect, share, and compare)

Blended Solution #4. Flash, 3-D Visualization, & Laboratory Software

Blended Solution #5. Online Portals
Basic Acoustics of Musical Instruments
2005 MERLOT Classics Award

Implications and Challenges for Blended Learning

1. Faculty and students are more mobile.
2. Students more choices.
3. Student expectations rise.
4. Greater self-determined learning.
5. More corporate university partnerships.
6. Courses increasingly modular.
7. Less predefined schedules.
8. When teaching less clear; when learning less clear.

Part II. Some Online Motivational Ideas

We are not motivating students with the technologies that they love

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

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)

See: Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior.* NY: Plenum Press.

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

Magic #1: TEC-VARIETY Model for Online Motivation and Retention
1. **T**one/Climate: Psych Safety, Comfort, Belonging
2. **E**ncouragement, Feedback: Responsive, Supports
3. **C**uriosity: Fun, Fantasy, Control ...
4. **V**ariety: Novelty, Intrigue, Unknowns
5. **A**utonomy: Choice: Flexibility, Opportunities
6. **R**elevance: Meaningful, Authentic, Interesting
7. **I**nteractive: Collaborative, Team-Based, Community
8. **E**ngagement: Effort, Involvement, Excitement
9. **T**ension: Challenge, Dissonance, Controversy
10. **Y**ields Products: Goal Driven, Products, Success, Ownership

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Low Risk — **High Risk**
1. Risk

Easy to Embed — **Extensive Planning**
2. Time

Free or Inexpensive — **Enterprise Licenses**
3. Cost

Instructor-Focus — **Student-Focus**
4. Student-Centered **Low** — **High**

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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.

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

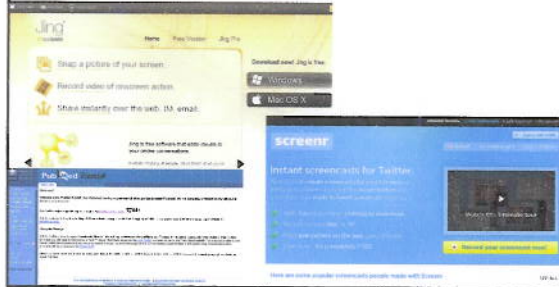**2. Encouragement, Feedback, etc.:**
A. Online Self-Testing (e.g., self study in vocabulary, anatomy, chemistry, dissection, etc.)

2. Encouragement, Feedback, etc.:
B. Tutorials with Screen Capture
(e.g., Jing, Screenr)

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

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. Expert Chats
(Bonk, 2007; Liang & Bonk, 2009)

1. Agree to a weekly chat time.
2. Bring in expert for discussion or post discussion topics or issues.
3. Summarize or debrief on chat discussion.

5. Autonomy, Choice: A. Online Literature Search (Class Google Jockeys)
(links to text, soundtracks, video clips, etc.)

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

5. Autonomy, Choice:
C. Famous Person Web Explorations,
Searches, Twitter Tracking, and Interviews
(e.g., Thomas Friedman, NY Times reporter)

6. Relevance, Meaningfulness:
A. 60 Second Recap, Jenny Sawyer
http://www.60secondrecap.com/
Actress to students: Lend me your earbuds!
English major, 24, rambunctiously recaps the classics in 60-
second Web videos; By Greg Toppo; USA TODAY, September 2009

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

7. Interactive, Collaborative:
B. Collaborative Groups (Ning, Google
Groups, MSN Groups, Yahoo Groups, Diigo)

7. Interactive, Collaborative:
C. Collaborative Documents (Google Docs) and
Bookmarking (Diigo, Delicious)

8. Engagement, Effort:
A. Synchronous Learning

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

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

Students to protest human body exhibit

Maggie Ybarra

9. Tension, Challenge, etc.:
B. Electronic Guests & Mentoring
(Simon Fraser University News:
http://www.sfu.ca/mediapr/sfnews/2001/Sept6/hightech.html)

10. Yields Products, Goals:
A. Movie Festivals, Concept Maps, Video Papers/Blogs, Virtual Timelines, Digital Movies

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.
7. More than 10.

99 seconds: What have you learned so far?

- Solid and Fuzzy in groups of two to four

III. Addressing Diverse Learners

Magic #2: The R2D2 Model

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

Curtis J. Bonk | Ke Zhang

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. Publishing in Open Access Journals (e.g., PLOS)

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

twitter

Read 1c. Podcast Paper Reflections

- Students listen to a podcast.
- Reflect on what they learned in an online forum.
- Students comment on each other's post.

Read 1d. Podcasting Medical Lectures (School of Dentistry, Univ of Michigan)
Educause Quarterly, 29(3), 2006,
http://connect.educause.edu/Library/EDUCAUSE+Quarterly/Po
dcastingLectures/39987

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

Reflect 2b. Expert and Domain Specific Blogs (English Teacher Blogs)

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

Reflect 2d. Workplace and Field Reflections

1. Instructor provides reflection or prompt for job related or field observations
2. Reflect on job setting or observe in field
3. Record notes on Web and reflect on concepts from chapter
4. Respond to peers
5. Instructor summarizes posts

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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 Supercomputing Center created a YouTube for scientists to help demystify important research papers. See SciVee

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Display 3b. Anchored Instruction Discussions (YouTube, CNN, BBC, TeacherTube, CurrentTV)

- 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.

Display 3c. Adventure Learning

Australian adventurer Don McIntyre and teenage circumnavigator Mike Perham to re-enact Capt William Bligh's epic mutiny on the Bounty open boat voyage, September 9, 2009

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

Display 3e. World Trends and Indices (e.g. Worldmapper)

Display 3f. United Nations Opens World Digital Library, April 21, 2009
Chronicle of Higher Ed, http://www.wdl.org/en/

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

Display 3h. Online Historical Document (e.g., Turning The Pages, British Library)

Display 3i. Medical Animations and Videos (find anchoring event (YouTube, CNN, BBC, TeacherTube, CurrentTV)

Display 3j. Online Timelines (US Presidents)

Display 3k. Videos of the Periodic Table

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

Display 3m. Human Embryology Animations
(Valerie O'Loughlin, Indiana University)

Display 3n. Download and Use Online 3D Sketches (Google SketchUp; download http://sketchup.google.com/3dwarehouse)

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))

Web 2.0 and Emerging Learning Technologies

Do 4b. Survey Research and Market Analysis
(e.g., Mister Poll, MicroPoll, Zoomerang, SurveyShare)

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

Do 4d. Syllabus, Glossary, etc. in wiki:
Students sign up for tasks
(Ron Owston, York University)

Do 4e. Podcasts for students of pronunciation class
(e.g., Tzu-Su Chen, Taiwan)

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**
e. **6-10**
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/