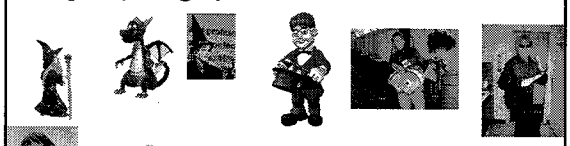
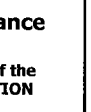
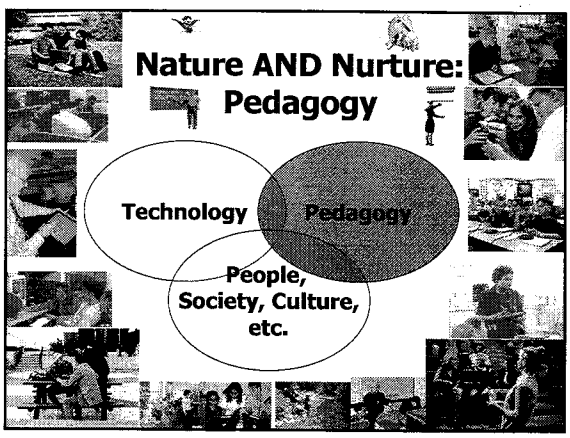
Active Learning with Technology: Myths, Magic, and Mucho Motivation



Dr. Curtis J. Bonk
Professor, Indiana University
President, SurveyShare, Inc.
http://mypage.iu.edu/~cjbonk/
cjbonk@indiana.edu



Nature AND Nurture: Pedagogy



Effects of interactive multimedia in distance learning

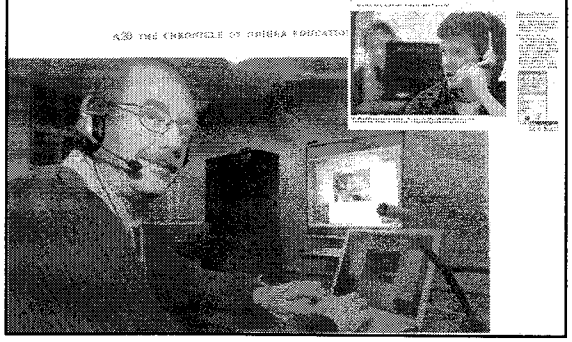
Giti Javidi and Ehsan Sheybani, 2004, In Proceedings of the IASTED International Conference WEB-BASED EDUCATION

"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/

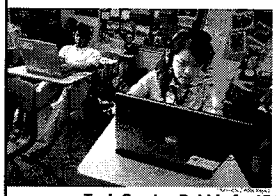
Skype says it is used by 136 million people worldwide

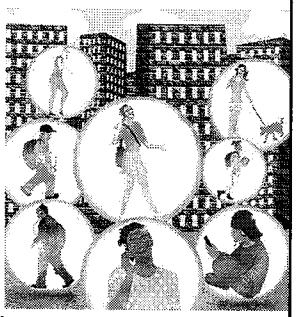


Monday April 30, 2007, USA Today
Top 25 Things that Shaped the Internet

- **747 Million adults logged on in Jan, 2007**
- **97 billion e-mails are sent each day**
- **Google had 500 million visitors in Dec, 2006**
- **USA: 1% broadband in 1998; 78% in 2007**
- **YouTube bought by Google for $1.7 billion**
- **Adobe's Flash player on 98% of machines**
- **There are 75 million blogs!!!**
- **19 million people play MMOG!**
- **173 million personalized pages in MySpace**

Next Generation of Students



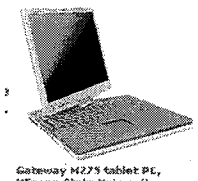


Tech Creates Bubble for Kids
Alejandro Gonzalez, USA TODAY, Updated 6/20/2006 10:34 AM ET

Yahoo News
Love me, love my blog," as Netorati couple-surf
BY SARA LEDWITH 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.**

Entice Students with Technology Giveaways



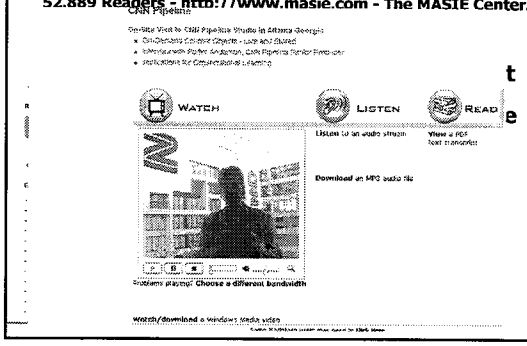
Gateway M275 tablet PC, Winona State University, Mayville State University
The schools will provide the tablet computers to full-time students who do not have laptops from previous programs.

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."

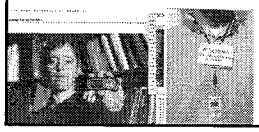
Podcast

Learning TRENDS by Elliott Masie - September 18, 2006.
#402 - Updates on Learning, Business & Technology.
52.889 Readers - http://www.masie.com - The MASIE Center.

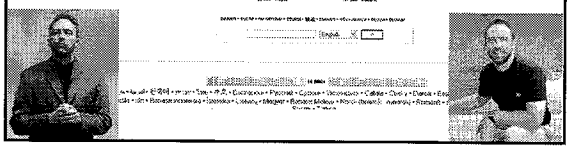


Podcast Questions

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 a vodcast?
5. Who thinks podcasting is simply more talking heads?




Wikis



Wiki Questions

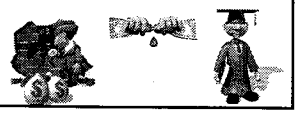
1. Who regularly reads Wikipedia articles just for fun?
2. Who regularly reads Wikibooks?
3. Who seeks Wikipedia for content?
4. Who has edited or written new articles on Wikipedia or Wikibooks?
5. Who thinks it is ok for college students to cite from Wikipedia?

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.

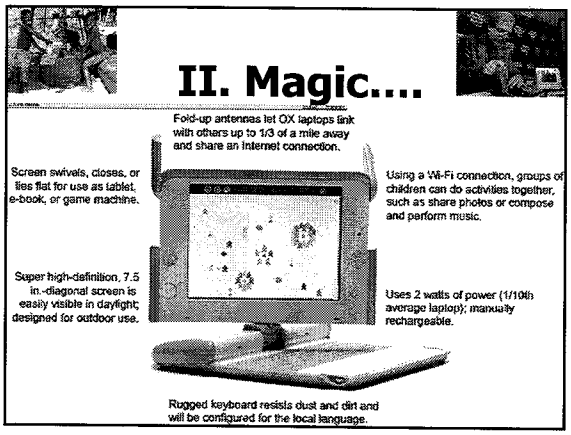
Instructor Technology Myths

1. Tech savvy instructors are young & loyal.
2. Can teach the same way.
3. Instructors will not share
4. Tech savvy instructors will use latest technology.
5. Nothing new here.
6. Technology does not improve learning.
7. Can't afford tech.
8. Must be a techie.



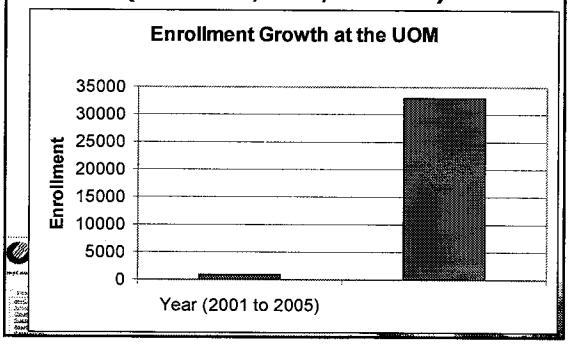
Myths: No Models or Best Practices

II. Magic....

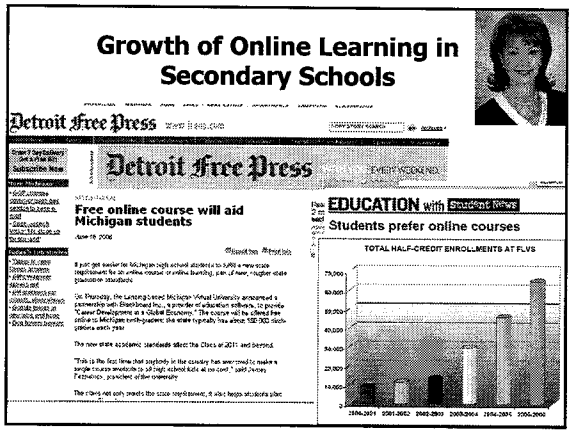


The OUM

(Abtar Kaur, 2005, Ed Media)

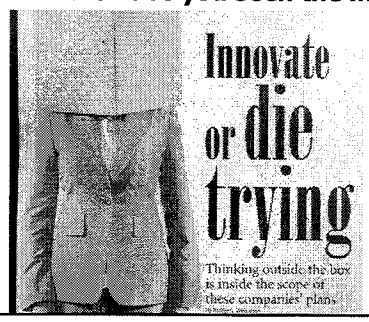


Growth of Online Learning in Secondary Schools

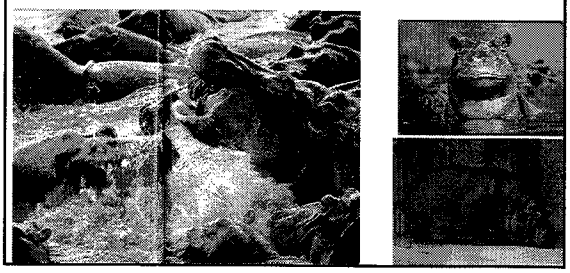


Let's Think Outside the Box!

(what are some myths you would like to dispel? Where have you seen the magic?)



Part I: 10 Learner-Centered Technology Ideas



	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

Boring & Learning

Experience. The difference.

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?)

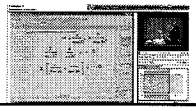
(L/M = Cost, M = Risk, M = Time)

- **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 Cool Stuff

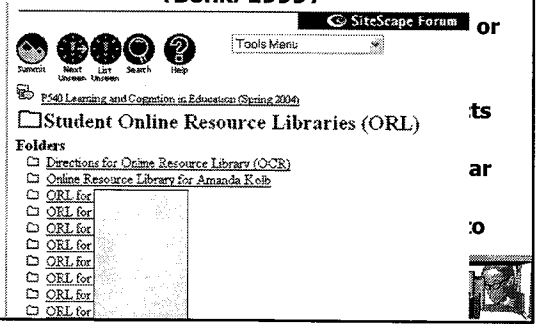
(Bonk, 2004) Capture and Videostream Lectures (e.g., Apreso CourseCaster)

- **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, M/H = Time) (Bonk, 1999)



4. 99 Second Quotes

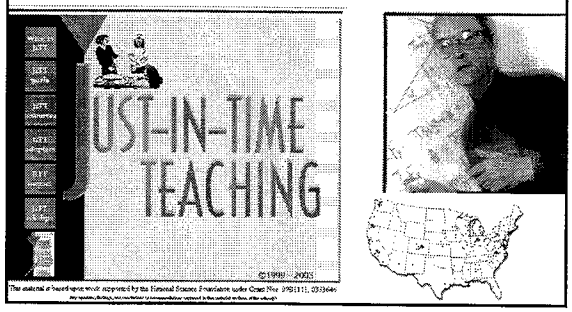
(L = Cost, M = Risk, M = Time)

- Everyone brings in a quote that they like from the readings
- You get 99 seconds to share it and explain why you choose it in a sync chat or videoconference
- Options
  - Discussion wrapped around each quote
  - Small group linkages—force small groups to link quotes and present them
  - Debate value of each quote in an online forum

5: Online Warm-ups Activities

Just-In-Time-Teaching (JiTT)

http://webphysics.iupui.edu/jitt/jitt.html

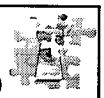


6. One minute papers or muddiest point papers

(L = Cost, M = Risk, M = Time)

- Have students write for 3-5 minutes what was the most difficult concept from a class, presentation, or chapter. What could the instructor clarify better.
- Send to the instructor via email or online forum.
- Optional: Share with a peer before sharing with instructor or a class.

7. Jigsaw



(L = Cost, M = Risk, H = Time)

- Form home or base groups of 4-6 students.
- Student move to expert groups—discussion ideas in a chat.
- Share knowledge in expert groups and help each other master the material in an online forum.
- Come back to base group to share or teach teammates.
- Students present in group what learned.

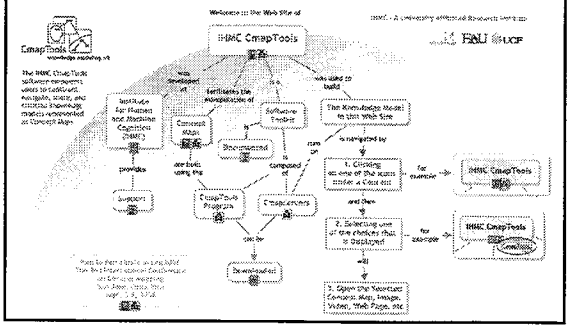
8. Six Hats (Role Play):

(from De Bono, 1985; adopted for online learning by Karen Belfer, 2001, Ed Media) (L = Cost, M = Risk, M = Time)

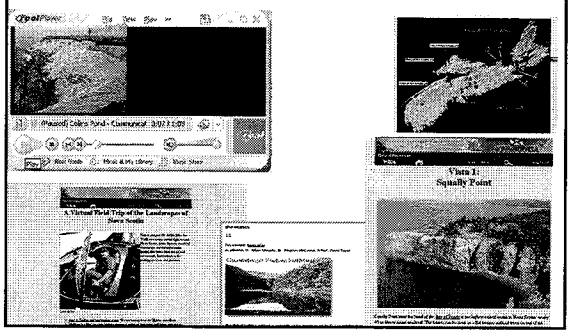
- White Hat: Data, facts, figures, info (neutral)
- Red Hat: Feelings, emotions, intuition, rage...
- Yellow Hat: Positive, sunshine, optimistic
- Black Hat: Logical, negative, judgmental, gloomy
- Green Hat: New ideas, creativity, growth
- Blue Hat: Controls thinking process & organization

Note: technique was used in a business info systems class where discussion got too predictable!

9. Concept Mapping Tools



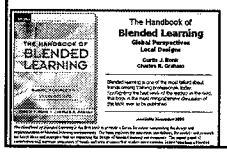
10. Exploration and Demonstration:
Virtual Fieldtrip, Tours, Timelines

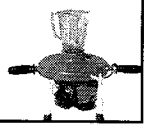


Part II: 10 Blended Learning Solutions

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)



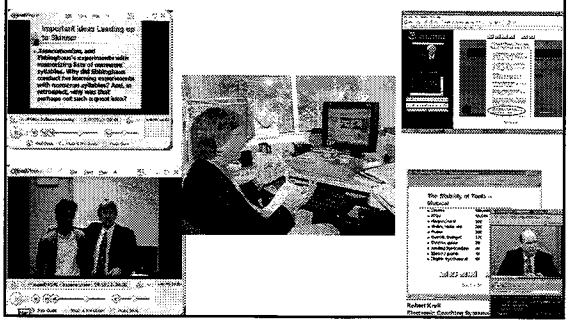


Blended Solution #1.
Divide Online and Class Experiences: English Classes Online

Graham, Ure, & Allen (2003, July). Blended Learning Environn
A Literature Review and Proposed Research Agenda

- Freshman English at BYU: Students are required to meet F2F once a week instead of three times a week. Online modules provide writing instruction and teaching assistants use online and F2F contact to provide feedback and guidance on writing (Waddoups et al., 2003).

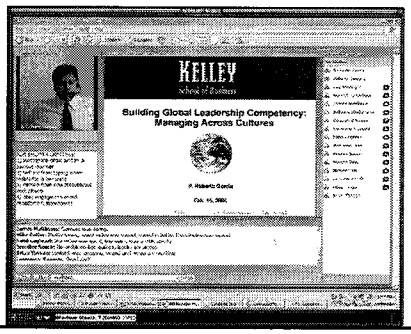
Blended Solution #2. Video Streamed Lectures and Expert Commenting



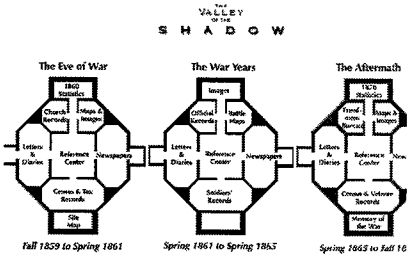
Blended Solution #3. Apprenticeship: Electronic Guests & Mentoring

(Simon Fraser University News:
http://www.sfu.ca/mediapr/sfnews/2001/Sept6/hightech.html)

Blended Solution #4. Instructor Presentation in Synchronous Sessions (Breeze, Elluminate, WebEx, etc.)

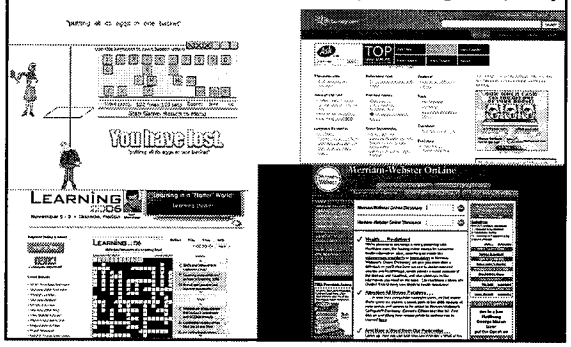


Solution #5. Instructor Portal: e.g., self study in anatomy

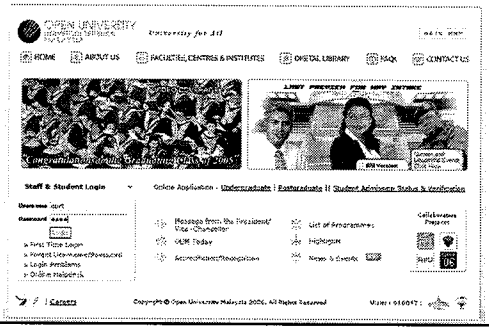


USING THE VALLEY PROJECT

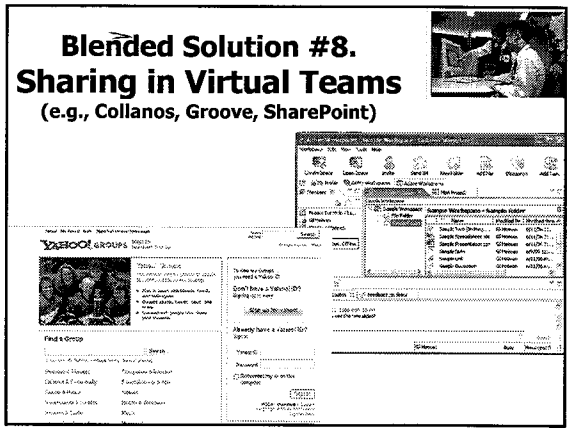
Solution #6. Referenceware and Terminology Exercises Online (puzzles, games, etc.)



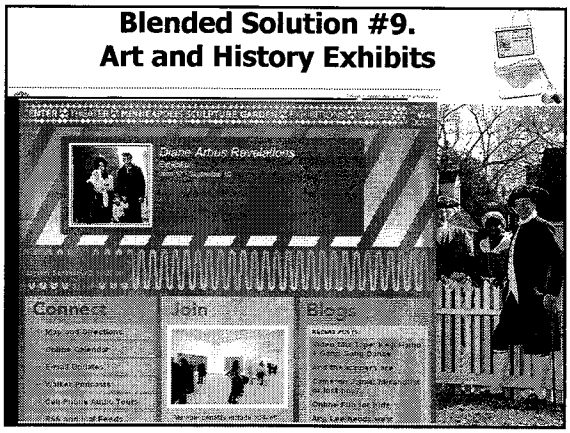
Solution #7. Cross-Class Collab (Indiana Univ and Open U of Malaysia)



Blended Solution #8. Sharing in Virtual Teams (e.g., Collanos, Groove, SharePoint)



Blended Solution #9. Art and History Exhibits



Blended Solution #10. 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

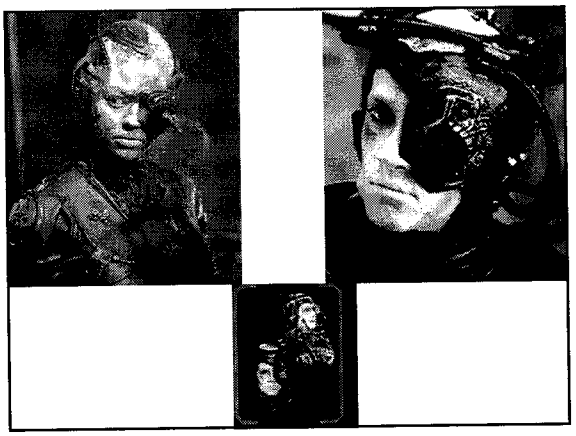
3

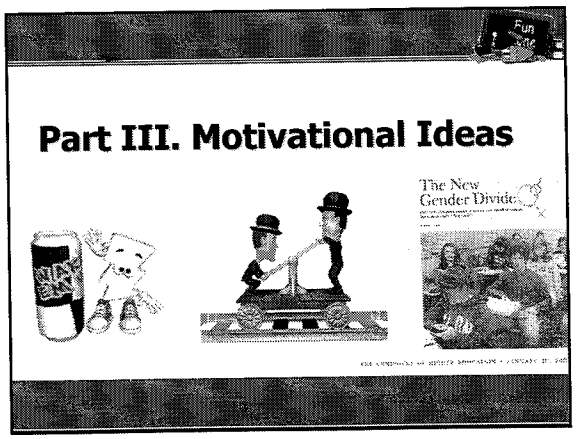
Reflection: What are 3 things you learned so far?

3

What can we say about blended and learner-centered learning then???

- **It is everywhere!!!!!!!!**
- **Resistance is futile!!!!!!!**





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

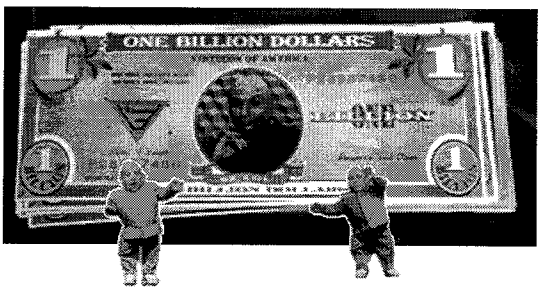
Behavioristic Interactivity

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)

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

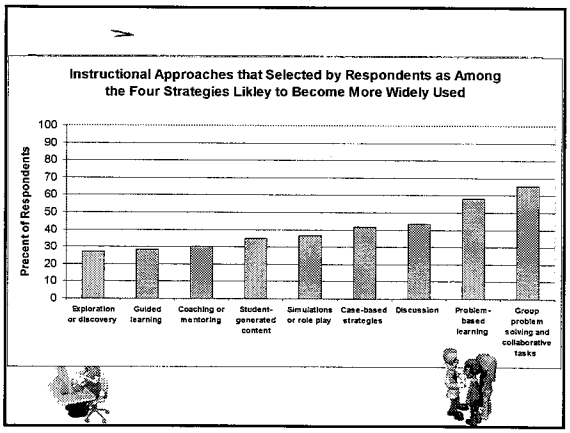


Intrinsic Motivation

"...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.



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

...

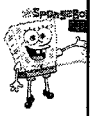
4. Variety: Novelty, Intrigue, Unknowns
5. Autonomy: Choice: Flexibility, Opportunities
6. Relevance: Meaningful, Authentic, Interesting
7. Interactive: Collaborative, Team-Based, Community
8. Engagement: Effort, Involvement, Excitement
9. Tension: Challenge, Dissonance, Controversy
10. Yields Products: Goal Driven, Products, Success, Ownership

1. Tone/Climate:

A. Coffee House Expectations

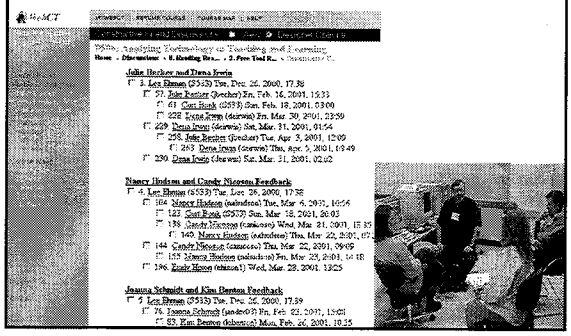
1. Have everyone post 2-3 course expectations
2. Instructor summarizes and comments on how they might be met

B. Public Commitments: Have students share how they will fit the coursework into their busy schedules



2. Encouragement, Feedback, etc.:

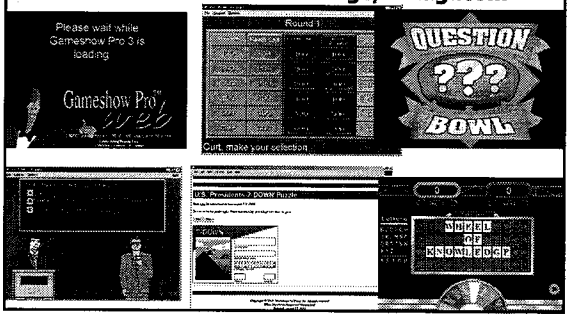
A. Critical/Constructive Friends, Email Pals...



3. Curiosity, Fun: A. Games

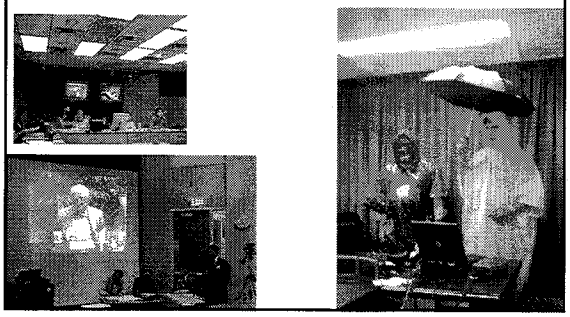
e.g., Online Jeopardy Game

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 & background info
- Students work collaboratively to integrate multidisciplinary data & 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).

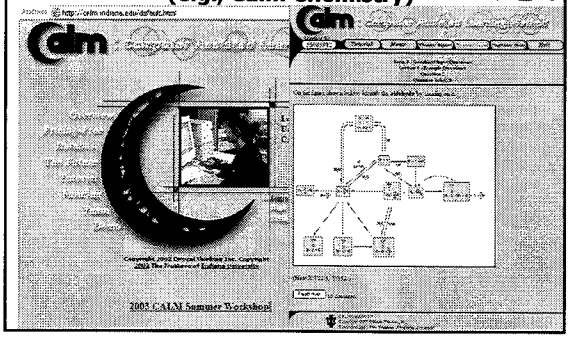
E. Alternative: Facilitator-Starter-Wrapper (Alexander, 2001)

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

8. Engagement: A. Text Messaging

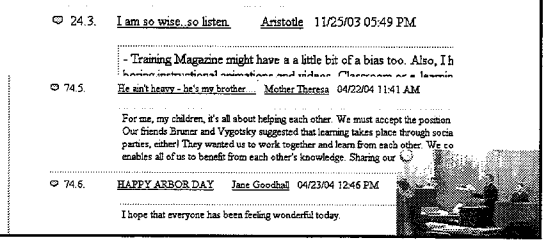
Students at the Mennonite Centre for Newcomers are testing mobile learning - downloading an English grammar lesson, then answering a series of multiple choice, or true or false questions. (Edmonton)

8. Engagement: B. Student Self-Testing (e.g., Calm Chemistry)

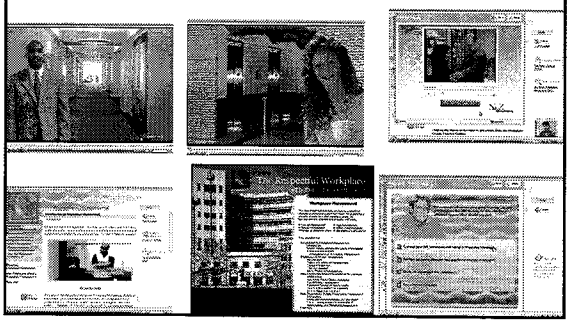


9. Tension, Challenge, etc.:
A. Online Role Play of Famous People, Mock Trial, Debates, etc.

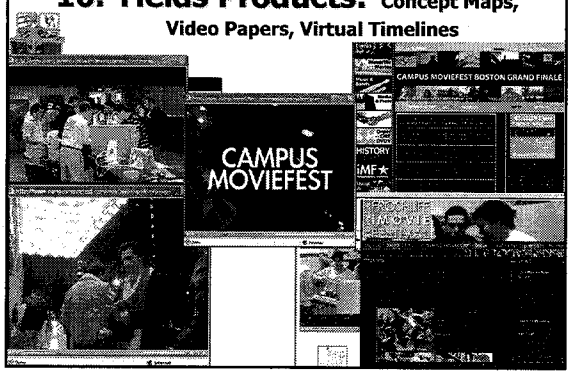
- Enroll famous people in your course
- Students assume voice of that person for one or more sessions



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

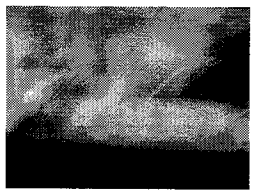


10. Yields Products: Concept Maps, Video Papers, Virtual Timelines



99 seconds: What have you learned so far?

- Solid and Fuzzy in groups of two to four



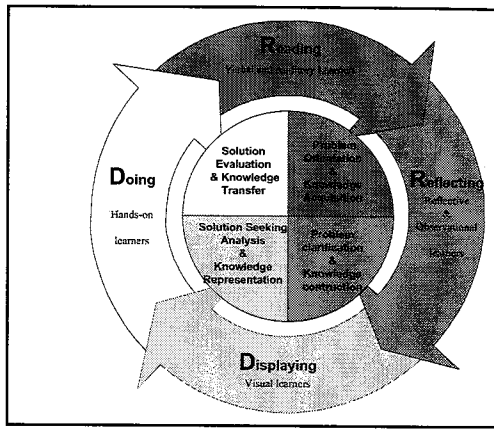
Part IV. Addressing Learning Styles

Poll 1: Which learning style do you prefer?

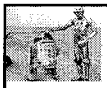
a. Read (Auditory and Verbal Learners)
b. Reflect (Reflective Learners)
c. Display (Visual Learners)
d. Do (Tactile, Kinesthetic, Exploratory Learners)

Kolb (1984)

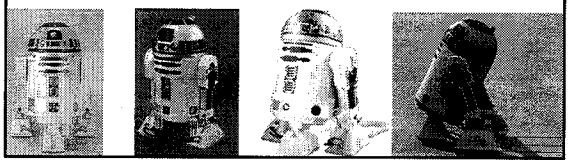
- According to Kolb, effective learning involves four phases:
  - from getting involved (Concrete Experience) to
  - listening/observing (Reflective Observation) to
  - creating an idea (Abstract Conceptualization) to
  - making decisions (Active Experimentation).
- A person may become better at some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



The R2D2 Method



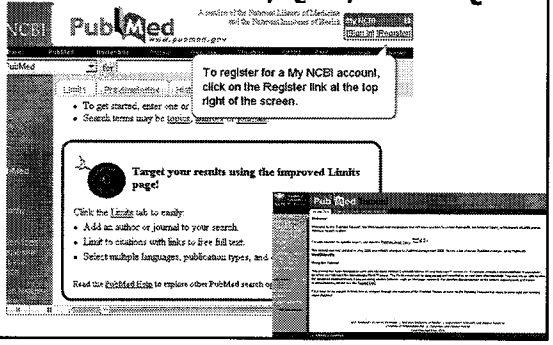
1. Read (Auditory and Verbal Learners)
2. Reflect (Reflective Learners)
3. Display (Visual Learners)
4. Do (Tactile, Kinesthetic, Exploratory Learners)



1. Auditory or Verbal Learners

- Auditory and verbal learners prefer words, spoken or written explanations.

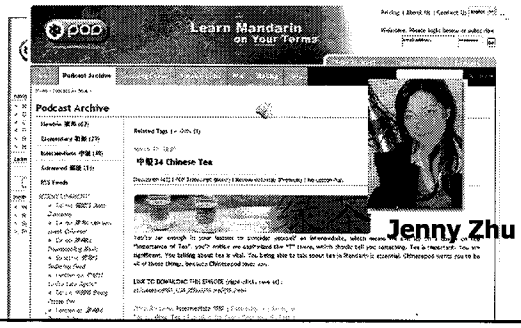
1a. Online Tutorials, Help, Announcements, Q&A, and FAQs



1b. Instructor and Learner Podcasts

"Just the word 'podcast' scares a lot of teachers away," Ms. Schrock said. "There are a lot of misconceptions."
"All you need is a computer, access to the Internet and a microphone that you can buy at Toys 'R' Us," Mr. Warlick said. "I listen to podcasts on my computer." (NY Times, Jan 25, 2006)

1c. Language Learning (ChinesePod—learn Mandarin)



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

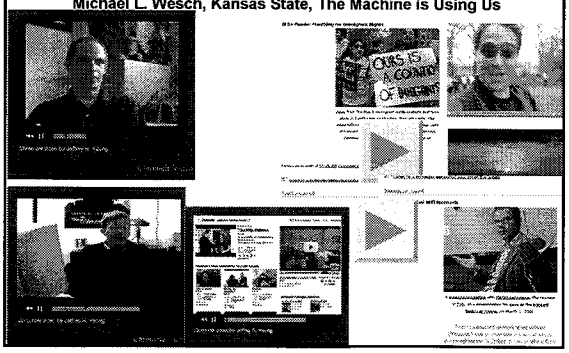
- Reflective and observational learners prefer to reflect, observe, view, and watch learning; they make careful judgments and view things from different perspectives

2a. 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. Vlogging (Video Blogging) e.g., Andy Calvin's Waste of Bandwidth

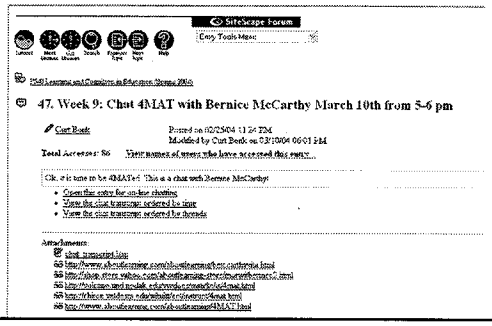
Michael L. Wesch, Kansas State, The Machine is Using Us



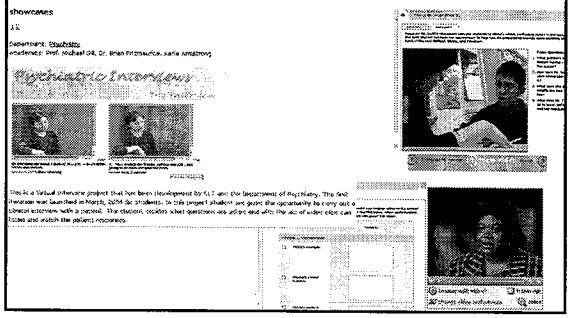
Blogging Questions

1. Who has a blog? Any for a specific class?
2. Who regularly reads other people's blogs?
3. Who assigns blogging tasks?
4. Who has created a video blog?
5. Who thinks it is an utter waste of time to blog?

2c. Reuse Blog or Chat Transcripts

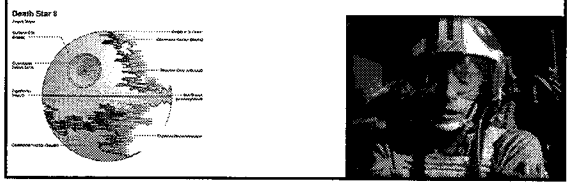


2d. Online Expert Video Reflections
(e.g., E-Reading First Ohio; reflect, share, and compare)

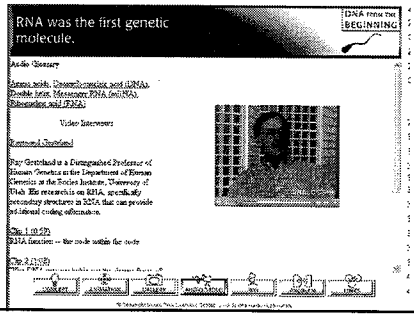


3. Visual Learners

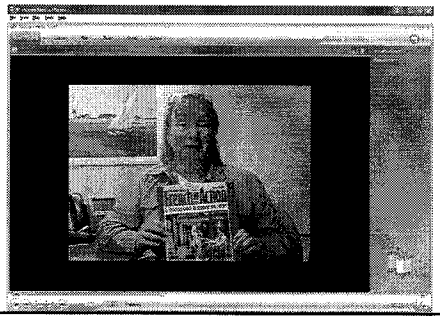
- **Visual learners prefer diagrams, flowcharts, timelines, pictures, films, and demonstrations.**



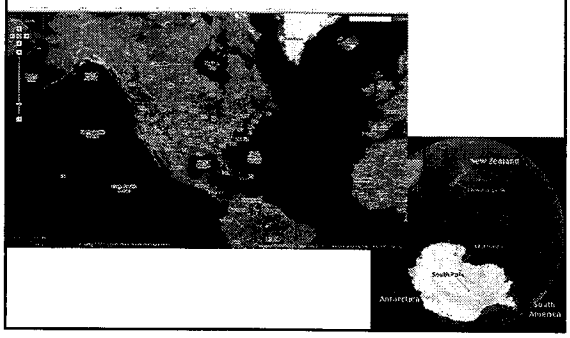
3a. Animations, Video Clips, Audio, Pictures, Web Resources, etc.



3b. Video Course Introductions
(example from Northern Virginia Community College)



3c. Electronic Cameras and Maps

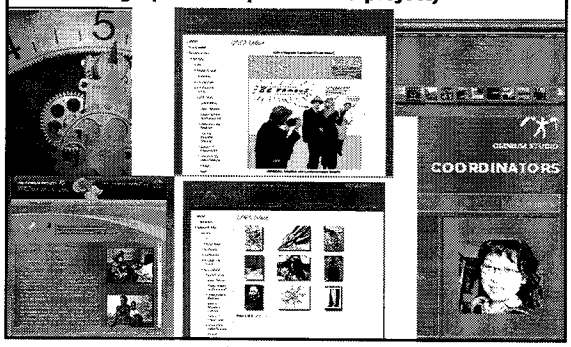


3d. Vodcast for Medical Training

(e.g., "SonoSite on the small screen: The Bothell-based

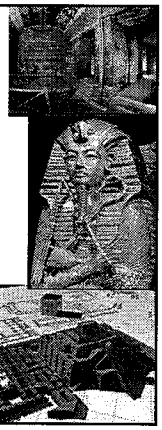
3e. Expert Mentoring Online in Art and Design

(COFA Online, Omnium Project, Creative Waves—onine graphics and photomedia project)



3f. 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.

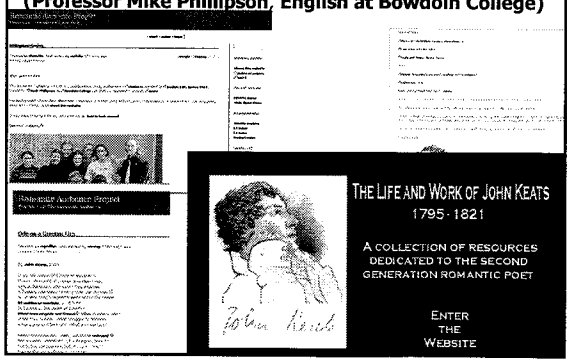


4. Tactile/Kinesthetic Learners

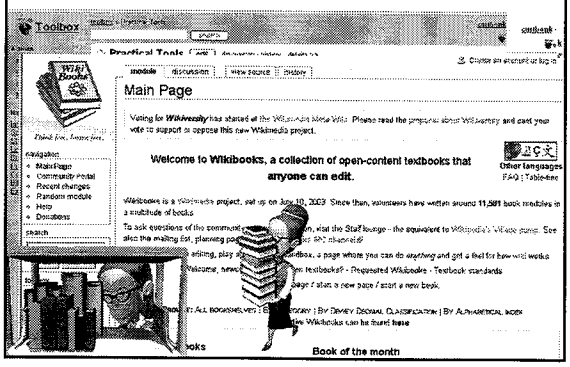
- Tactile/kinesthetic senses can be engaged in the learning process are role play, dramatization, cooperative games, simulations, creative movement and dance, multi-sensory activities, manipulatives and hands-on projects.

4a. Romantic Poetry Project

(Professor Mike Phillipson, English at Bowdoin College)



4b. Wikibook Creation and Collaboration

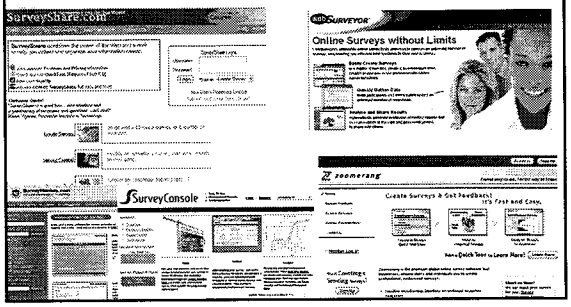


4c. Virtual Worlds/Virtual Reality/MMOG

Wednesday, August 30, 2006
Harvard Law School (Charles & Rebecca Nesson)
Chronicle of Higher Ed (open to the public)
http://chronicle.com/daily/2006/08/2006083001t.htm

4d. Survey Research and Market Analysis

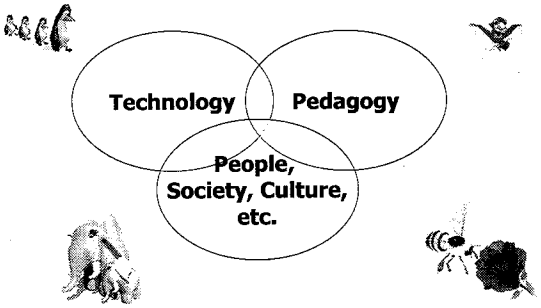
(e.g., WebSurveyor, Zoomerang, SurveyShare, SurveyKey)



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



The End...Remember

Try the R2D2 Method!!!
Try TEC-VARIETY!!!

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