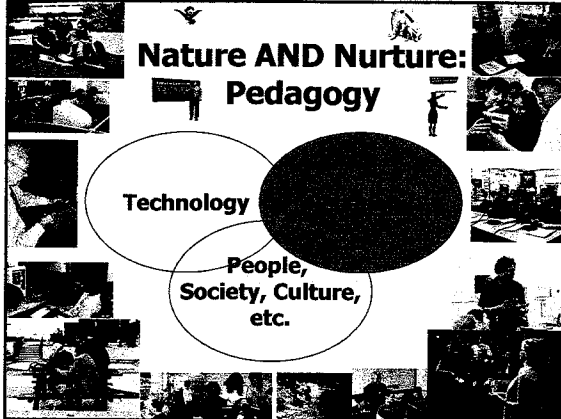


**Active Learning with Technology:
Myths, Magic, and Mucho Motivation**

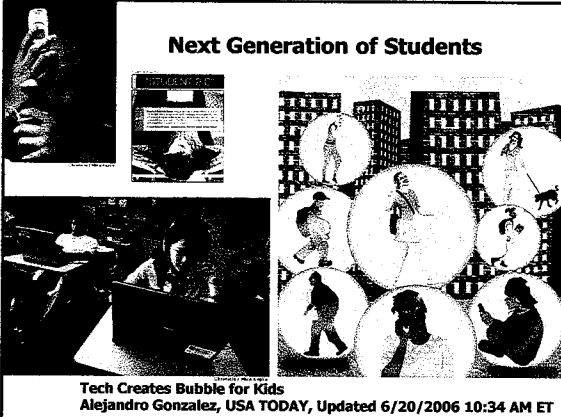
Dr. Curtis J. Bonk
Professor, Indiana University
President, SurveyShare, Inc.
<http://mypage.iu.edu/~cjbbonk/>
cjbbonk@indiana.edu



**Nature AND Nurture:
Pedagogy**

Technology

People,
Society, Culture,
etc.



Next Generation of Students

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




INFORMATION TECHNOLOGY

E-Mail Is for Old People

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.



Bonk's Addiction Q'er

1. Who has 2 or more cell phones with Internet access?
2. Who has 2 or more laptop computers with wireless connections?
3. Who is on email in the morning? At noon? Who does it at night?
4. Who suffers from nervous tension when you cannot get on email?
5. Who is on the Web right now?

I. Student Technology Myths

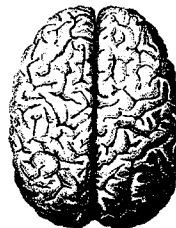
1. They all are Web 2.0 savvy and equipped.
2. Some will dominate and intimidate others.
3. Will be too off task and social online.
4. Online cheating is the key reason not to teach with tech.
5. Online students are located far away.



Brains Before and After e-Learning

Before After

Before



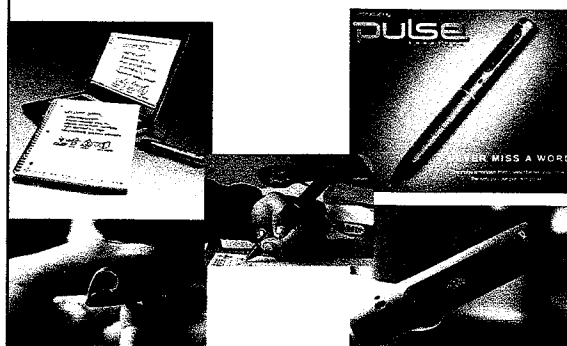
Myths: No Models or Best Practices



II. Magic....

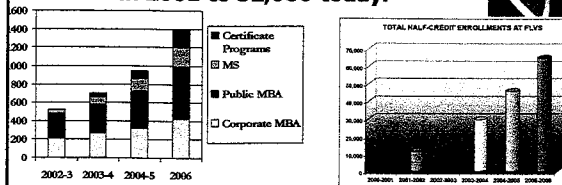


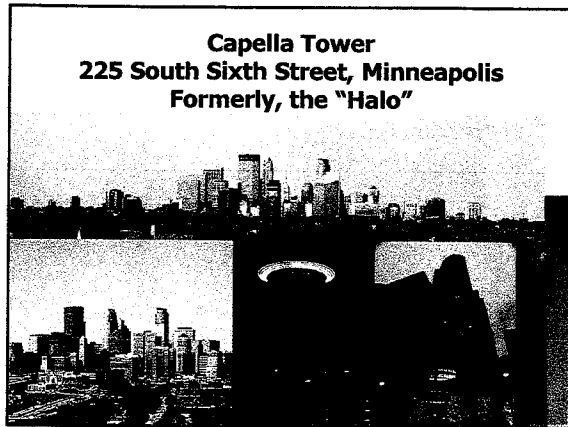
Magic Pens! (The Pulse from Livescribe)



The Growth of the Online programs (IU and Virtual Florida School) Magjuka helped launch Kelley Direct in 1999 with a class of 14 students. Today, the program serves 1,250 students.

FLVU from a few dozen in 1997 to 6,000 in 2001 to 52,000 today.






What if our minds were on fire for learning?

MINDS ON FIRE: OPEN EDUCATION, THE LONG TAIL, AND LEARNING 2.0. JOHN SEELY BROWN AND RICHARD ADLER, EDUCAUSE REVIEW, JANUARY-FEBRUARY, 2008.
<http://connect.educause.edu/Library/EDUCAUSE+Review/MindsonFireOpenEducation/45823>


Activities Part I: 10 Learner-Centered Technology Ideas


Experience. The difference.

Task

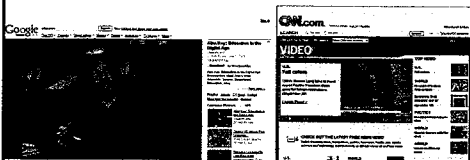

- Ideas definitely Can Use (Circle or write down)
- Ideas you might use (check off or write down in a separate column)
- Ideas you cannot use (cross off or put at the bottom)

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

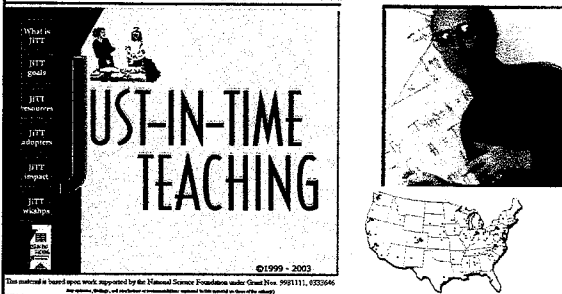
(L = Cost, M = Risk, M/H = Time) (Bonk, 1999)

- 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.

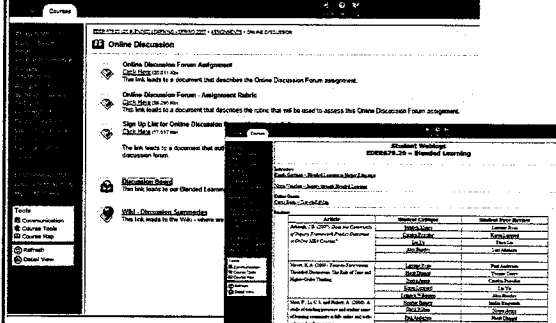


4: Online Warm-ups Activities Just-In-Time-Teaching (JITT)

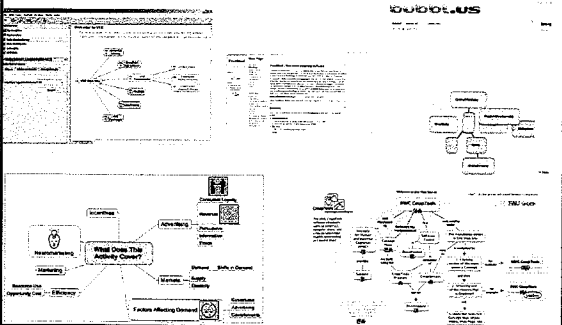
<http://webphysics.iupui.edu/jitt/jitt.html>



5. Paired Weblog Critiques

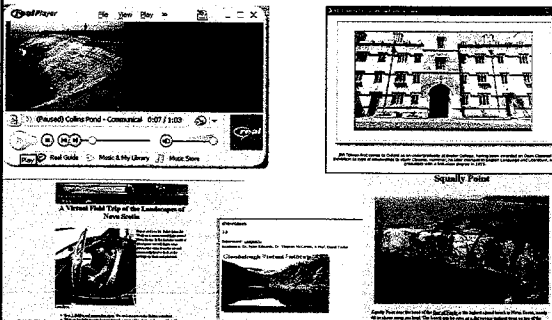


6. Concept Mapping Tools (VUE, Bubbl.us, Cmap, Freemind)

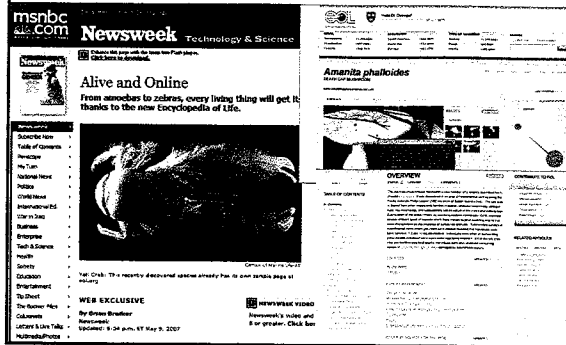


7. Exploration and Demonstration: Virtual Fieldtrip, Tours, Timelines

<http://simile.mit.edu/timeline/>



8. Online Portal Explorations

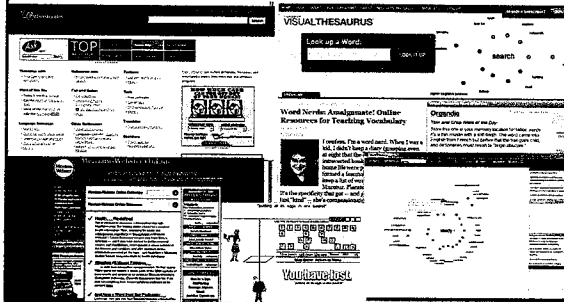


9. Online Apprenticeship: Electronic Guests & Mentoring

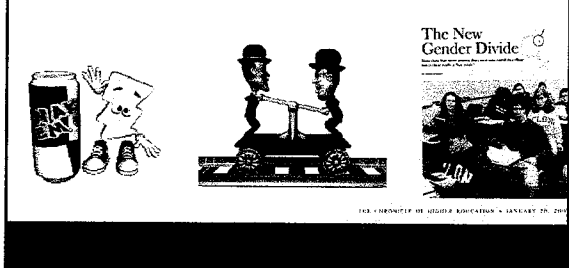
(Simon Fraser University News: <http://www.sfu.ca/mediaprif/news/2001/Sep16/fig1tech.html>)



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 Kemshall-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)



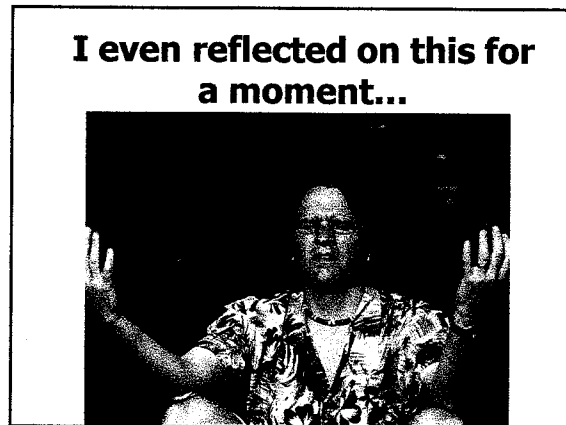
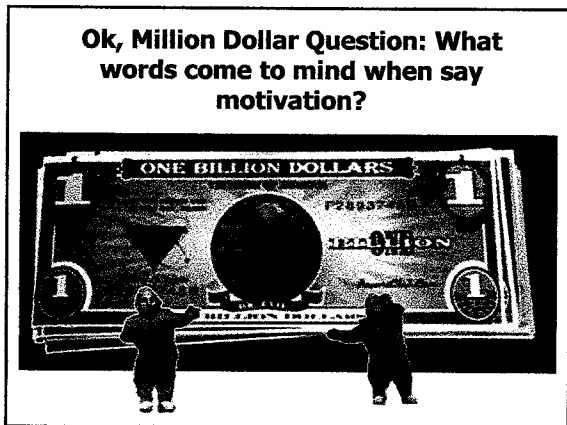
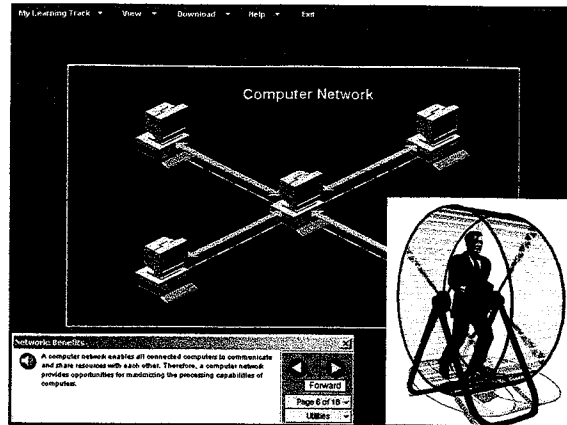
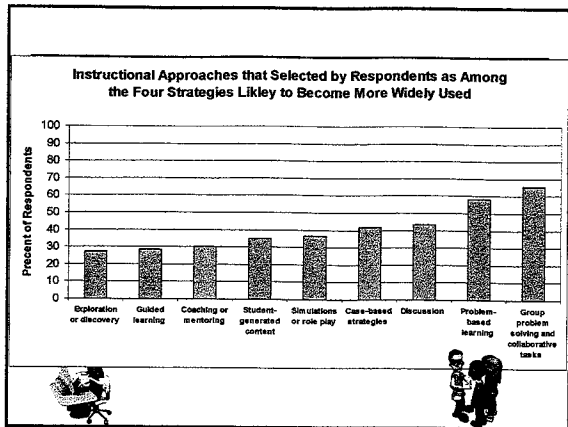
Intrinsic Motivation

"...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)

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





- 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
-

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. Critical/Constructive Friends, Email Pals...

2. Encouragement, Feedback, etc.: B. Instructor Presentation in Synchronous Sessions (Breeze, Elluminate, WebEx, etc.)

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

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

4. Variety, Novelty: A. Teaching with Twitter

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

This block contains three screenshots. The top-left shows a person in a lecture hall with a large screen displaying a presentation. The top-right shows a close-up of a person's face, possibly a student or expert, in a video stream. The bottom-left shows a smaller video stream of a person speaking. The bottom-right shows a person's hands interacting with a device, possibly a tablet or a specialized input device.

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

This block features several articles and images. At the top left is a stack of clickers. Below it is an article titled 'Interactive tech transforms the cl' with a sub-headline 'The benefits of clickers'. To the right is an advertisement for 'Iclicker' described as 'A two-way RF polling system'. Below these are images of a person using a clicker, a hand holding a clicker, and a close-up of a clicker's buttons.

5. Autonomy, Choice: B. Read, Listen, etc. to online books (e.g., "An International Episode" by Henry James)

This block shows screenshots of the Open Content Alliance website. The main heading is 'OPEN Content Alliance'. Below it, there is text about building a digital archive of global content for universal access. There are also images of books and a list of participating institutions.

5. Autonomy, Choice: C. 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.)

This block displays a grid of small, square images, likely representing search results or digital artifacts related to online literature. The images are arranged in a roughly rectangular pattern and show various text-based content, possibly snippets of articles or book covers.

5. Autonomy, Choice:
C. Multiple Topic Forums or Task Options

- 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.

This block includes a list of four bullet points describing a forum or task option. Below the text is a screenshot of a web interface showing a list of topics or options, with columns for names and possibly votes or dates.

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

This block features a list of five bullet points related to authentic data analysis in archaeology. It includes the name 'Jeanne Sept, IU, Archaeology of Human Origins' and the title 'Components: From CD to Web'. Below the text are several small images, including a person's face, a map, and what appears to be a data visualization or software interface.

6. Relevance: Meaningfulness: B. Real World Problems (PBL online): Real-time Cases

7. Interactive, Collaborative: A. Online Language Learning (Mixer, Livemocha, Friends Abroad)

7. Interactive, Collaborative: B. 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).
- C. 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 one or more sessions



24.3. [I am so wise...so listen.](#) [Aristotle](#) 11/25/03 05:49 PM

- Training Magazine might have a little bit of a bias too. Also, I h boring instructional animations and videos. Classroom or e-learnin a good audiotape - they can all be good for learning. Cost-effective to go away as an issue, so we might as well face it instead of sayin learning is better than another - because it costs more! How did y of the Huns? Didn't you compare prices on spears and horses bef global conquests?

24.3.1. [Again my opinion - e-learning is NOT cost-effective and is NOT value for money, and does NOT equate good quality](#) [Amia the Hun](#)

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

10. Yields Products: A. 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)

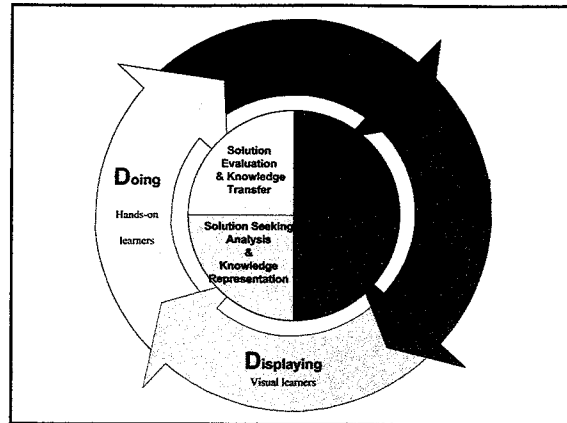
- According to Kolb, effective learning involves four phases:
 - from getting involved (Concrete Experience) to
 - listening/observing (Reflective Observation) to
 - creating an idea (Abstract Conceptualization) to
 - making decisions (Active Experimentation).
- A person may become better at some of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

Index of Learning Styles Questionnaire
 Barbara A. Soloman, North Carolina State Univ
<http://www.engr.ncsu.edu/learningstyles/ilsweb.html>



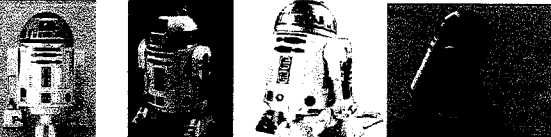
6. If I were a teacher, I would rather teach a course
 (a) that deals with facts and real life situations.
 (b) that deals with ideas and theories.

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

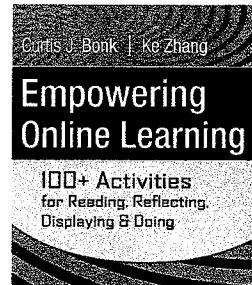


The R2D2 Method

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




R2D2 Book
 (to be printed July 4, 2008)



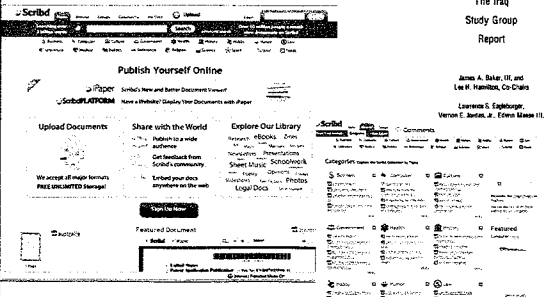
Curtis J. Bonk | Ke Zhang
Empowering Online Learning
 100+ Activities for Reading, Reflecting, Displaying & Doing

1. Auditory or Verbal Learners

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



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

A GRAIN OF RICE

The image shows a news article on the left and a screenshot of a computer game on the right. The game interface features a map of the United States and text that reads: "For each word you get right, we donate 20 grains of rice through the United Nations to help end world hunger." Below this, there are sections for "How to Play" and "Helpful Hints".

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

The image shows a screenshot of the PubMed website. Annotations include:

- A box pointing to the "Register" link: "To register for a My NCBI account, click on the Register link at the top right of the screen."
- A box pointing to the "Limits" tab: "Click the Limits tab to easily:
 - Add an author or journal to your search.
 - Limit to citations with links to free full text.
 - Select multiple languages, publication types, and do more.
- A box pointing to the "Limits" section: "Target your results using the improved Limits page!"

1d. The Complete Works of Charles Darwin

The image shows a screenshot of the website "The Complete Works of Charles Darwin Online". It features a portrait of Charles Darwin and a list of contributors, including names like "David R. Hunt" and "John Van Dine".

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

The image includes a circular diagram on the left with arrows indicating a cycle between "Think", "Act", and "Learn". To the right are three photographs of individuals, likely representing reflective and observational learners.

2a. Post Model Answers

EMPLOYMENT LAW AND ETHICS PROJECT

Question 1

Would it be illegal for Laura to recommend Billings instead of Lewis? Explain, being specific about the legal doctrines that would apply?

Answer 1

Under both Title VII of the 1964 Civil Rights Act and Section 1981 it is illegal to discriminate on the basis of race or color, and Lewis would likely win a lawsuit using the claim of disparate treatment if he were not recommended for the promotion. If Laura does not recommend Lewis, she is guilty of violating the law. None of the three primary defenses—seniority, merit, or bona fide occupational qualification—apply to this situation since Lewis has higher seniority, equal skills, and more direct experience with power tools, than does the other candidate Frank Billings.

Title VII "prohibits discrimination based on race, color, religion, sex, and national origin in hiring, firing, job assignments, pay, access to training and apprenticeship programs, and most other employment decisions." AEPCCO is a covered entity under Title VII because they are "employing 15 or more employees and engaging in an industry affecting interstate commerce" and as the case footnotes point out "as of November 21, 1991, the Civil Rights Act of 1991 extended protection from discrimination in employment to U.S. citizens working in foreign countries while employed by U.S. firms."

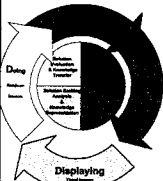

In this case, Title VII's disparate impact is not applicable since AEPCCO's policy clearly states to "promote the most

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

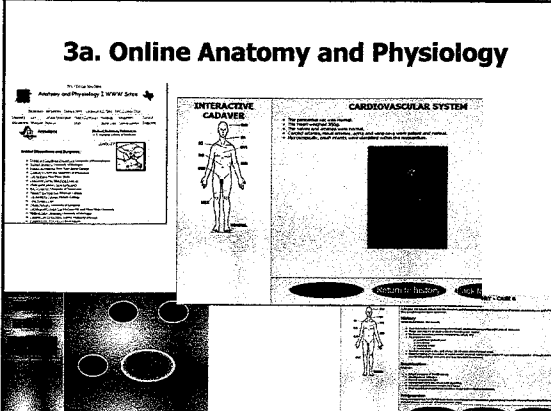
The image shows a screenshot of a chat interface. A question is posted: "45. Real-time Chat Is Enabled...And also More Async Questions for Bob, Erping, Julia, John, or Kira or anyone else." Below it, an answer is provided: "Chat Book Posted on 11/05/01 07:16 PM Modified by Chin Heng Wang on 11/05/01 07:27 PM". The answer includes a list of links: "Click here for more Chapter 8, 9, or 10 questions here", "Bob, John, Erping, Kim, Paul, and others might reply. Thanks", "Click here to view the chat transcript", "View the chat transcript ordered by time", and "View the chat transcript ordered by length".

3. Visual Learners

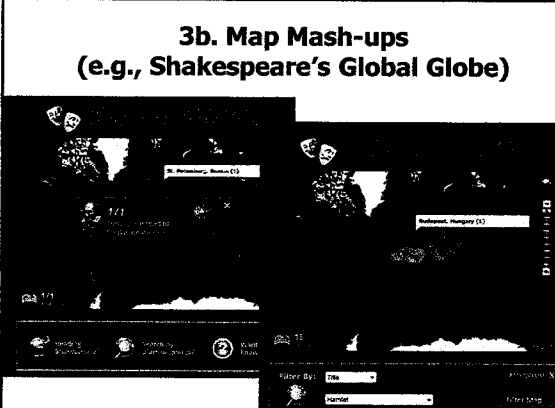
- Visual learners prefer diagrams, flowcharts, timelines, pictures, films, and demonstrations.

3a. Online Anatomy and Physiology

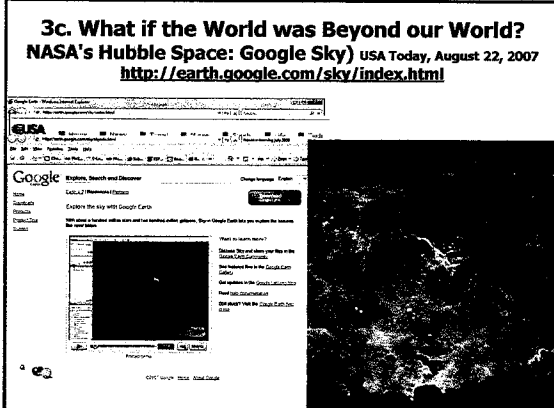


3b. Map Mash-ups (e.g., Shakespeare's Global Globe)

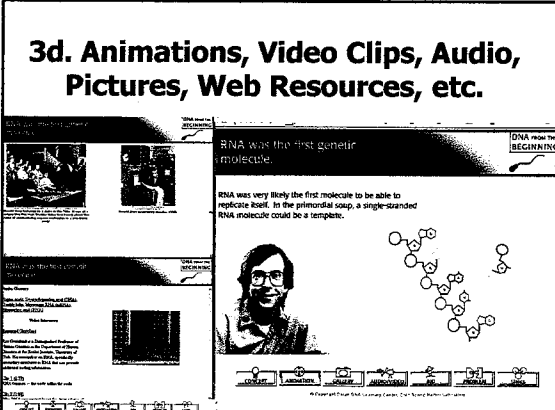


3c. What if the World was Beyond our World? NASA's Hubble Space: Google Sky

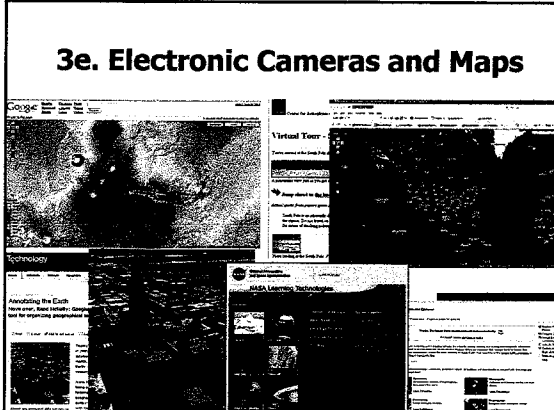
USA Today, August 22, 2007
<http://earth.google.com/sky/index.html>



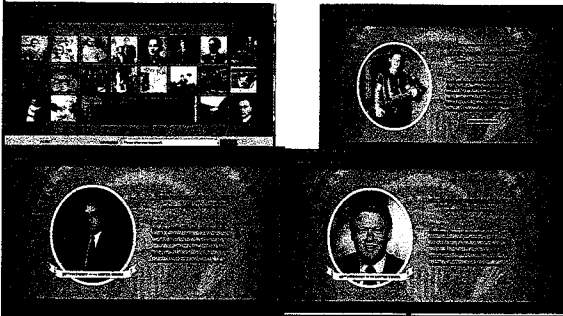
3d. Animations, Video Clips, Audio, Pictures, Web Resources, etc.



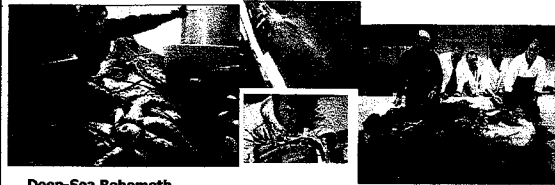
3e. Electronic Cameras and Maps



3f. Online Timelines (US Presidents)



3g. 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.

3i. Vodcast for Medical Training

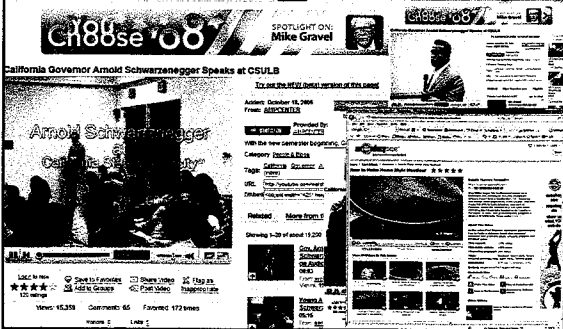
(e.g., "SonoSite on the small screen: The Bothell-based company uses podcasts for its ultrasound scanner training,"
 By Eric Fetters, Herald Writer, Everett, WA, Sept 25, 2006)



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



3k. Anchored Instruction and Shared Online Video: Assign Videos to Watch and Reflect on (YouTube, Monkey See, TeacherTube, CurrentTV)



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.



3m. Flash, 3-D Visualization, & Laboratory Software

3n. Visual Resources (e.g., Periodic Table of Visualization; Visual Thesaurus)

<http://www.visualthesaurus.com/>; http://www.visual-literacy.org/periodic_table/periodic_table.html

A PERIODIC TABLE OF VISUALIZATION METHODS

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)
<http://chronicle.com/daily/2006/08/2006083001t.htm>

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)

4g. Virtual Crime Scene: Explore Murder Evidence
 (Arjuna Multimedia, Bloomington, IN)

Next up: The MATRIX!!!!!!!!!!!!

- Mobile
- Auditory
- Thought-stimulating
- Reflective/Real-World
- vIsually Interactive
- eXtremely Hands-on

It's Over...

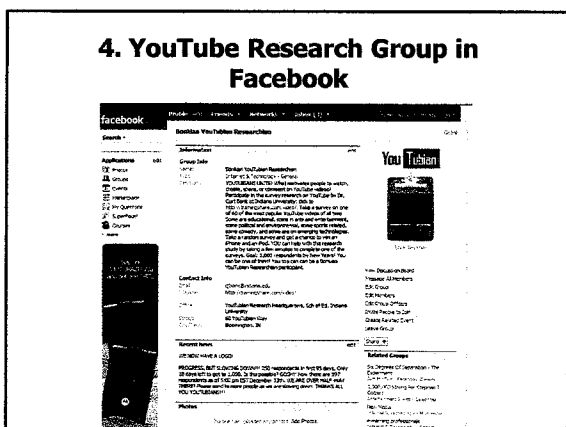
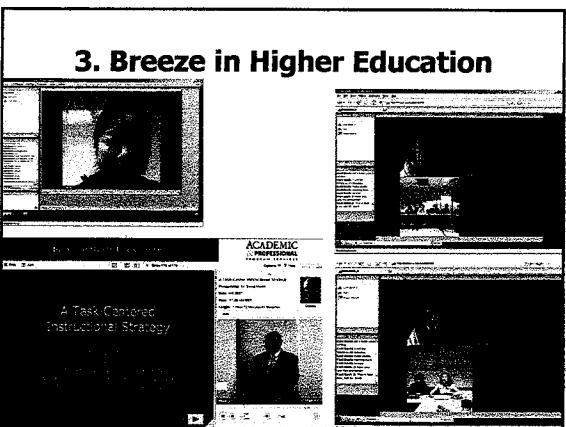
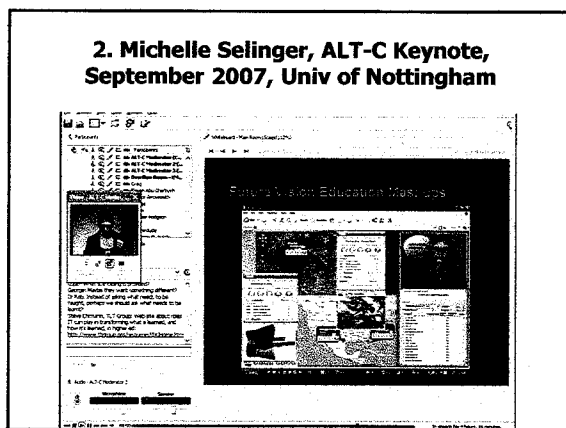
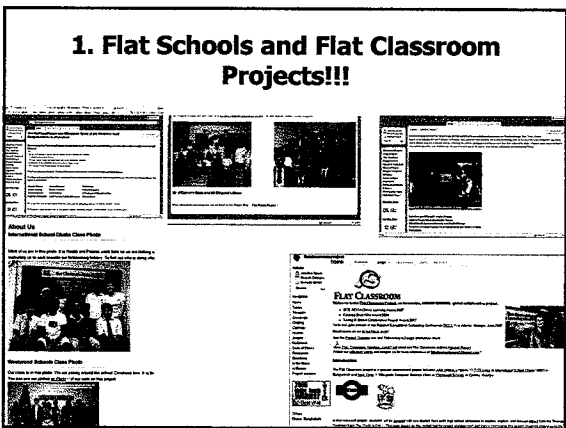
Poll: Ok, then, who wants more???

- A. Yes
- B. No
- C. Not sure



Time for Convergence!!!

Combining Web 2.0 and Other Online Technology Trends (Twelve Examples)



5. Elliott Masie, Podcast + Video + Transcript

Learning TRENDS by Elliott Masie

This screenshot shows the 'Learning Trends' website by Elliott Masie. It features a prominent video player on the left, a central text area with a transcript, and a podcast player on the right. The site layout is clean and professional, with a clear focus on multimedia content.

6. Archive Last Lectures

(Randy Pausch, Carnegie Mellon University)

This screenshot displays the 'Last Lecture' archive website for Randy Pausch at Carnegie Mellon University. The page includes a header with the site's name, a main content area with a video player and text, and a sidebar with navigation options. The design is simple and functional, emphasizing the educational content.

7. Combining The Web 2.0 (e.g., Second Life, Blogging, and Photo Posting)

Stephen Mandelbrot

This block is a collage of images illustrating Web 2.0 concepts. It includes a screenshot of a virtual world (Second Life) with avatars, a blog post titled 'Science of the Invisible', and a photograph of a person. The collage demonstrates the integration of different digital media and social networking tools.

8. Indexing Sounds in Cities with Google Maps

This screenshot shows a Google Maps interface with various sound indexing overlays. The map displays geographical data points and sound recordings, illustrating how digital audio can be geotagged and indexed for location-based services.

9. Cluster Maps (who is reading your blog or using your product); Blog of Will Richardson, famous K-12 blogger (left) and Learning Theories Book of Michael Orey, Univ of Georgia (right)

This block contains two screenshots. On the left is a screenshot of the ClusterMaps tool, which visualizes user interactions and connections. On the right is a screenshot of a blog post titled 'Networks of Learning' by Will Richardson, discussing online networking in education. The text in the blog post reads: "Should schools promote online networking? The technology is available, and it's important to think about the implications of how and why educators should be incorporating the latest capabilities into their teaching practices."

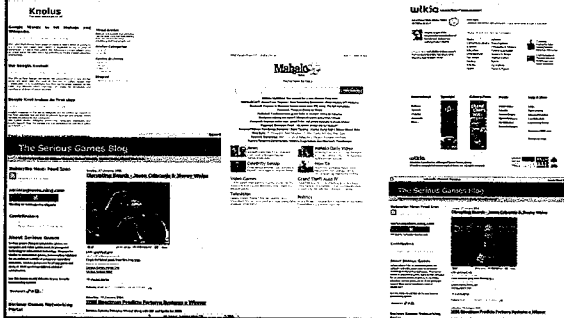
10. Vlogging (Video Blogging)

e.g., Andy Calvin's Waste of Bandwidth

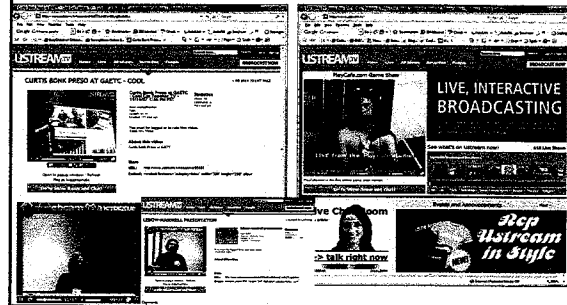
Michael L. Wesch, Kansas State, The Machine is Using Us

This block is a collage of vlogging-related content. It includes several video player screenshots, some showing vloggers like Andy Calvin and Michael L. Wesch. The collage highlights the format of video blogging and its use in sharing personal or educational content.

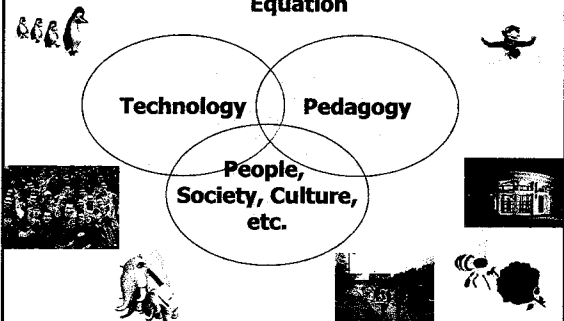
11. Serious Games Blog with video of Wikipedia and Mahalo Founders and Google scanning people in background



12. You Ustreamed my Ustream: Now that's a Twitter of an Idea



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



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

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

