

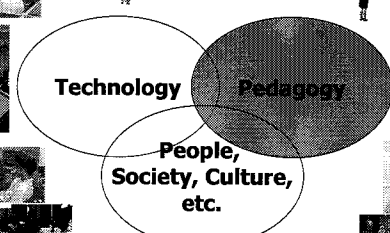
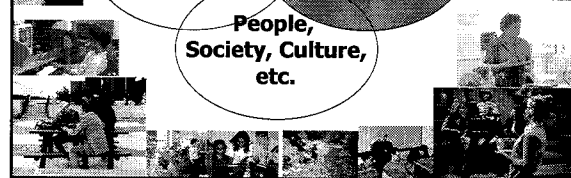



**R2D2 on the Matrix: A Galaxy of Online Learning Style, Motivational, Blended Learning and Learner-Centered Examples**

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

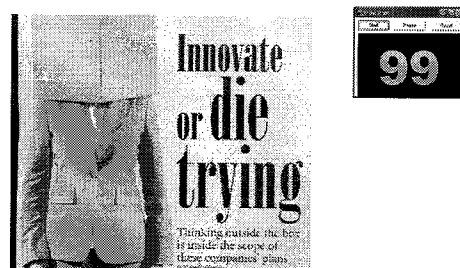



**Nature AND Nurture: Pedagogy**

	Low Risk	High Risk
<b>1. Risk</b>	←————→	
	Easy to Embed	Extensive Planning
<b>2. Time</b>	←————→	
	Free or Inexpensive	Enterprise Licenses
<b>3. Cost</b>	←————→	
	Instructor-Focus	Student-Focus
<b>4. Student-Centered</b>	Low	High

**Let's Think Outside the Box!**  
 (For 99 Seconds—what technologies that you might not think about using for learning, might students today prefer to use?)




**Innovate or die trying**

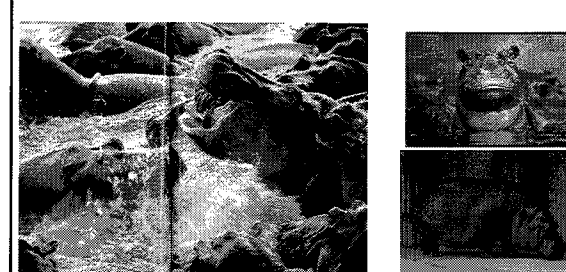
Thinking outside the box is inside the scope of these computer games.

**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)



**Part I: 10 Learner-Centered Technology Ideas**



## 1. Learner-Centered Learning Principles (American Psychological Association, 1993)

### Cognitive and Metacognitive Factors      Developmental and Social Factors

- |  |   |
|--|---|
| <ol style="list-style-type: none"> <li>1. Nature of the learning process</li> <li>2. Goals of the learning process</li> <li>3. Construction of knowledge</li> <li>4. Strategic thinking</li> <li>5. Thinking about thinking</li> <li>6. Context of learning</li> </ol> | <ol style="list-style-type: none"> <li>10. Developmental influences on learning</li> <li>11. Social influences on learning</li> </ol> |
|--|---|

### Individual Differences

12. Individual differences in learning
13. Learning and diversity
14. Standards and assessment

### Motivational and Affective Factors

7. Motivational and emotional influences
8. Intrinsic motivation to learn
9. Effects of motivation on effort



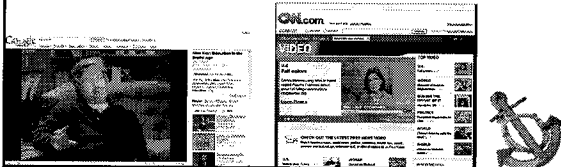
## 2. Constructivistic Teaching Principles (Brooks, 1990)

1. Build on student prior knowledge.
2. Make learning relevant.
3. Give students choice in learning activity.
4. Student autonomy & active learning encouraged
5. Use of raw data sources & interactive materials
6. Encourage student dialogue
7. Seek elaboration on responses and justification
8. Pose contradictions to original hypothesis
9. Ask open-ended questions & allow wait time
10. Encourage reflection on experiences



## 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 <sup>Cool Stuff</sup> (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.



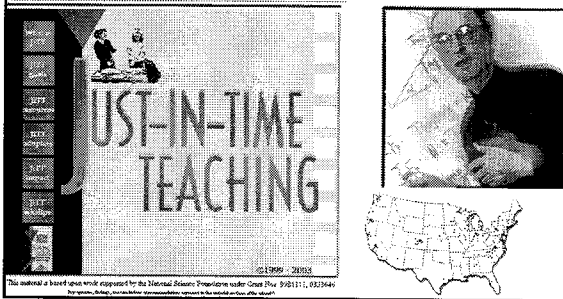
## 4. 99 Second Quotes (L = Cost, M = Risk, M = Time)

- 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



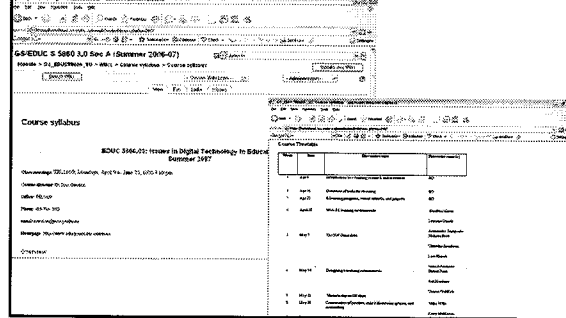
## 5: Online Warm-ups Activities Just-In-Time-Teaching (JITT)

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



## 6. Syllabus, Glossary, etc. in wiki: Students sign up for tasks

(Ron Owston, York University)



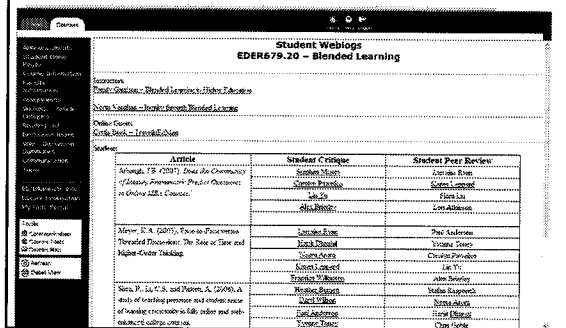
## 7. Six Hats (Role Play):

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

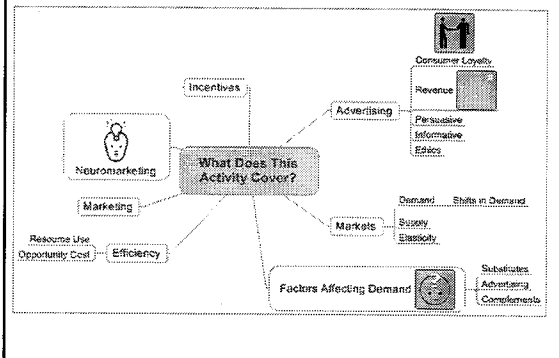
- **White Hat:** Data, facts, figures, info (neutral)
- **Red Hat:** Feelings, emotions, intuition, rage...
- **Yellow Hat:** Positive, sunshine, optimistic
- **Black Hat:** Logical, negative, judgmental, gloomy
- **Green Hat:** New ideas, creativity, growth
- **Blue Hat:** Controls thinking process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

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

## 8. Paired Weblog Critiques

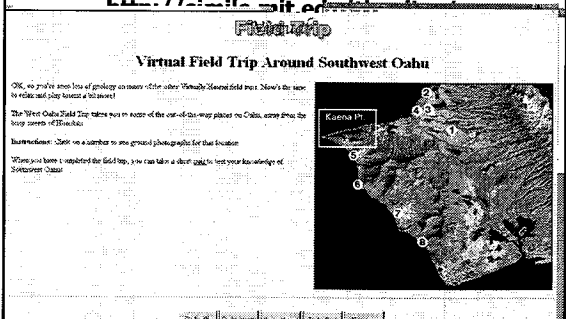


## 9. Concept Mapping Tools



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

<http://www.mit.edu>

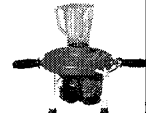
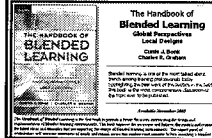


## Part II: 10 Blended Learning Solutions



## Blending Online and F2F Instruction

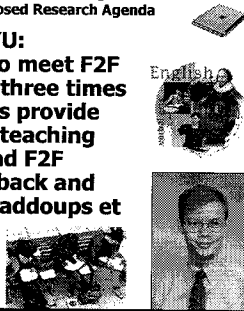
- “Blended learning refers to events that combine aspects of online and face-to-face instruction” (Rooney, 2003, p. 26; Ward & LaBranche, 2003, p. 22)



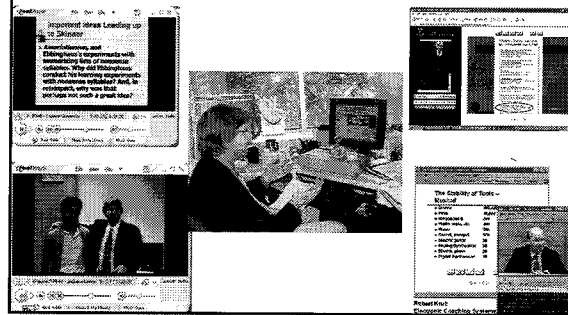
### Blended Solution #1. Divide Online and Class Experiences (e.g., English Classes Online)

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).



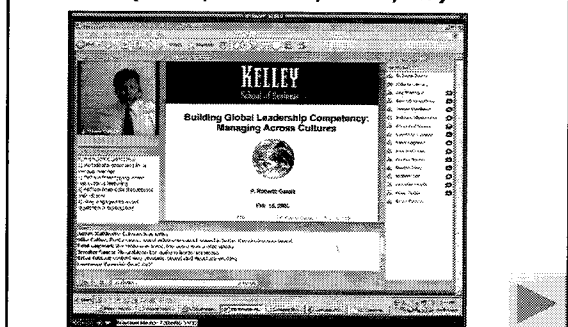
### Blended Solution #2. Video Streamed Lectures and Expert Commenting



### Blended Solution #3. Apprenticeship: Electronic Guests & Mentoring



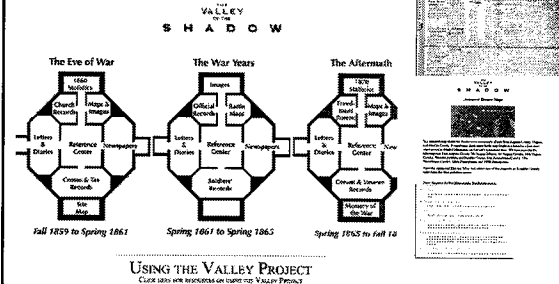
### Blended Solution #4. Instructor Presentation in Synchronous Sessions (Breeze, Elluminate, WebEX, etc.)



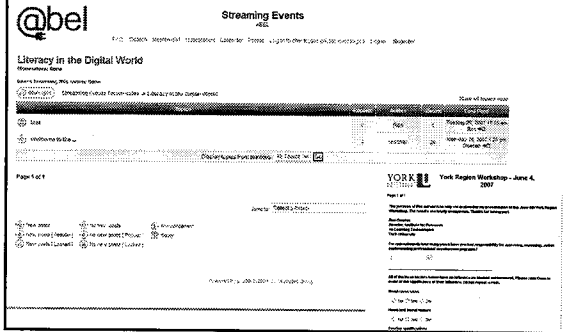
**Blended Solution #5. Online Literature Search (Class Google Jockeys)**  
**The Electronic Literati, in Search of a Voice,**  
**June 1, 2007, Chronicle of Higher Education,**  
**Jeffrey Young**  
**(links to text, soundtracks, video clips, etc.)**



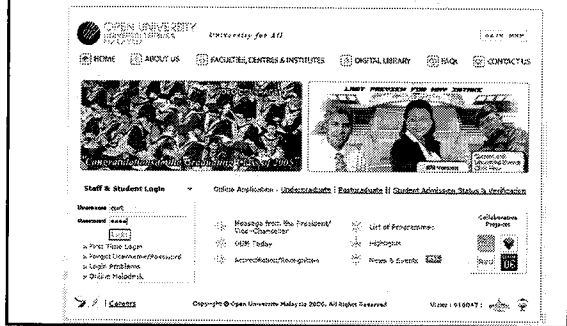
**Solution #6. Instructor Portal:**  
**e.g., self study in anatomy**



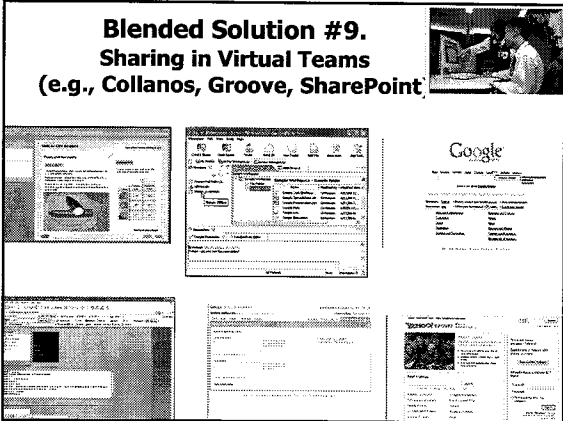
**Solution #7. Online Surveys and Discussions Prior to Meeting**



**Solution #8. Cross-Class Collab (Indiana Univ and Open U of Malaysia)**



**Blended Solution #9. Sharing in Virtual Teams (e.g., Collanos, Groove, SharePoint)**



**Blended Solution #10. Art and History Exhibits**



65



## 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

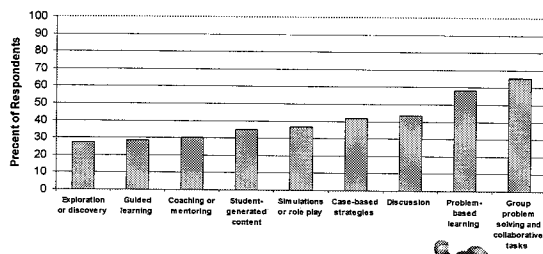
"...innate propensity to engage one's interests and exercise one's capabilities, and, in doing so, to seek out and master optimal challenges

(i.e., it emerges from needs, inner strivings, and personal curiosity for growth)

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



Instructional Approaches that Selected by Respondents as Among the Four Strategies Likley to Become More Widely Used



So, I reflected on this for a moment...



Ok, Million Dollar Question: How can you motivate learners online?



## 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: Ice Breakers

### C. Eight Nouns Activity:

1. Introduce self using 8 nouns
2. Explain why choose each noun
3. Comment on 1-2 peer postings



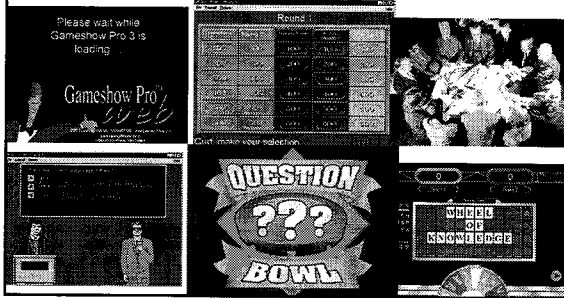
### D. Two Truths and One Lie

1. Post 3 things and students must figure out which is the lie.

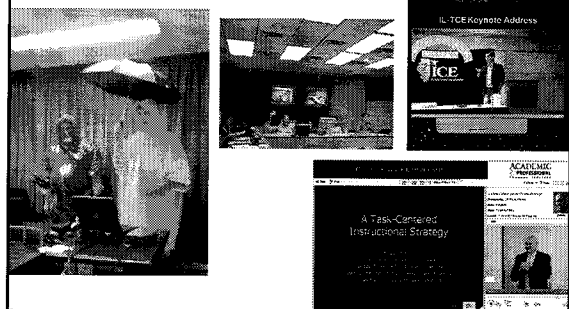


## 2. Encouragement, Feedback, etc.: A. Critical/Constructive Friends, Email Pals...

## 3. Curiosity, Fun: A. Games e.g., Online Jeopardy Game www.km-solutions.biz/caa/quiz.zip; Games2Train: The Challenge; Thiagi.com



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



## 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: B. Authentic Data Analysis

**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.

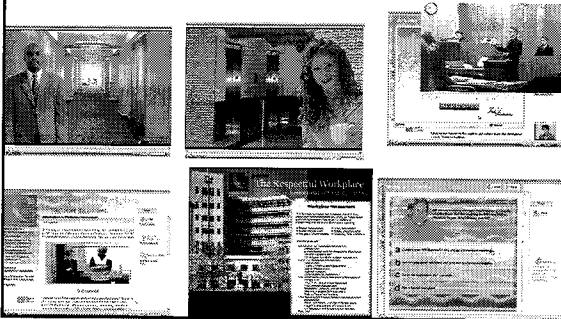
CBCnews CANADA | EDMONTON

**Text-message course helping newcomers learn English**

A pen and paper aren't necessary in an Edmonton classroom where students are learning English with a tool — text messages on their cellphones.



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

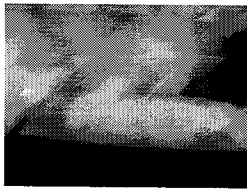


**10. Yields Products: Concept Maps,  
Video Papers, Virtual Timelines**

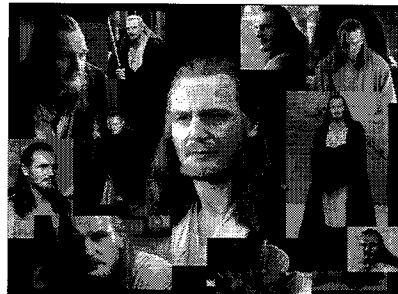


**99 seconds: What have you learned so far?**

- Solid and Fuzzy in groups of two to four



**Part IV. Addressing Learning Styles**



## 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



## Poll 1: Which learning style do you prefer?

- Read (Auditory and Verbal Learners)
- Reflect (Reflective Learners)
- Display (Visual Learners)
- 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.

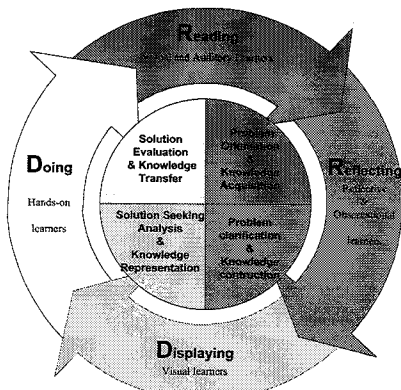


## Index of Learning Styles Questionnaire

Barbara A. Solomon, North Carolina State Univ  
<http://www.engr.ncsu.edu/learningstyles/ilsweb.html>

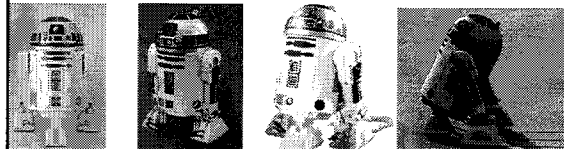


- If I were a teacher, I would rather teach a course
  - (a) that deals with facts and real life situations.
  - (b) that deals with ideas and theories.
- I prefer to get new information in
  - (a) pictures, diagrams, graphs, or maps.
  - (b) written directions or verbal information.



## The R2D2 Method

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

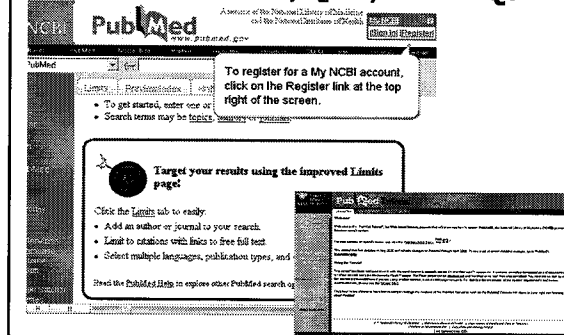


## 1. Auditory or Verbal Learners

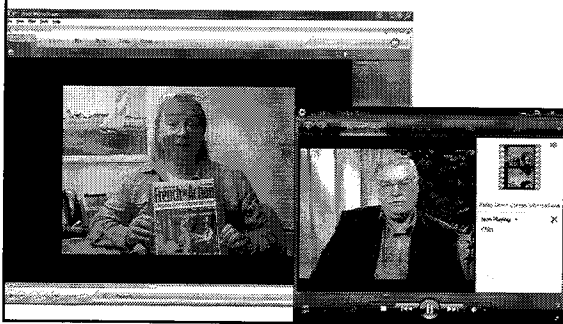
- Auditory and verbal learners prefer words, spoken or written explanations.



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



## 1b. Video Course Introductions (examples from Northern Virginia Community College and Indiana University KD (online MBA) program)

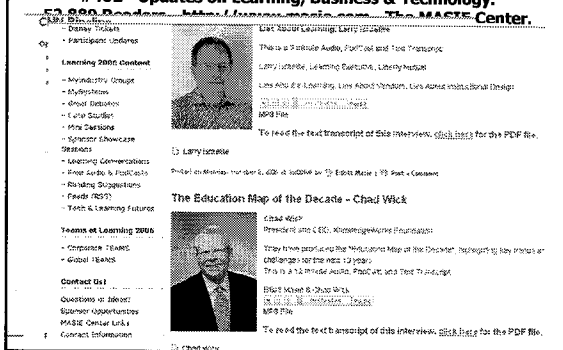


## 1c. Use of Weblogs (especially English writing class)

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

## 1d. Podcast

Learning TRENDS by Elliott Masie - September 18, 2006.  
#402 - Updates on Learning, Business & Technology.







## Educational Applications of Podcasting (Essex, 2006, Leftwich, 2007)

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



## 2. Reflective and Observational Learners

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

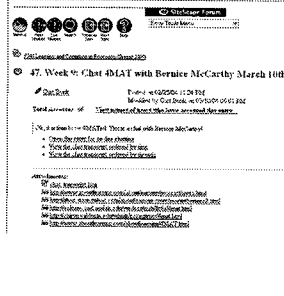
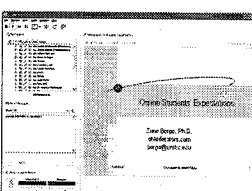
## 2a. Post Model Answers

Employment Law and Ethics Project

**Question 1**  
Would it be illegal for Laure 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 Laure does not recommend Lewis, she is guilty of violating the law. None of the three primary defenses—seniority, merit, or bona fide occupational qualifications—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." ARPCO 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 who employed by U.S. firms." In this case, Title VII's disparate impact is not applicable since ARPCO's policy clearly states to "promote the most

## 2b. Reuse Blog, Chat Transcripts, Presentations

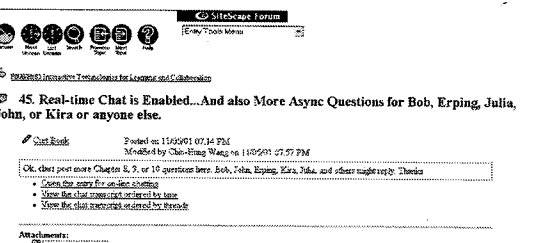



## 2c. Reflecting on Adventure Blogging

(Ben Saunders, Mark Fennell, Andrew Rowlin)



## 2d. 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.

