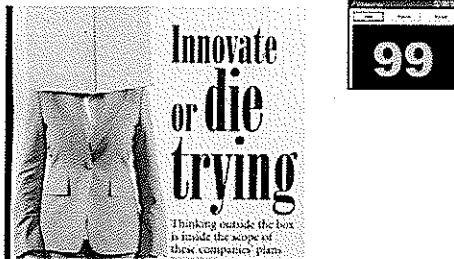**R2D2 on the Matrix: A Galaxy of Online Learning Style, Motivational, Blended Learning and Learner-Centered Examples**

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

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?)
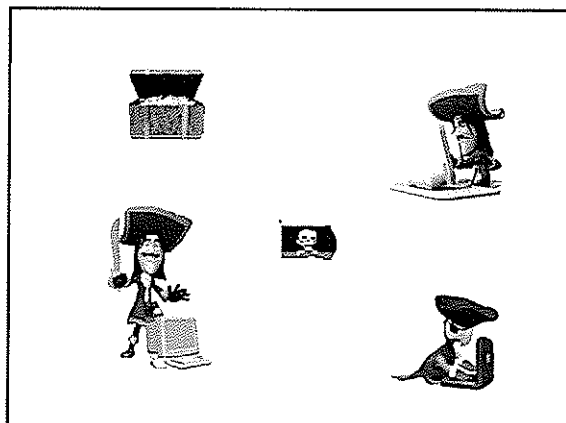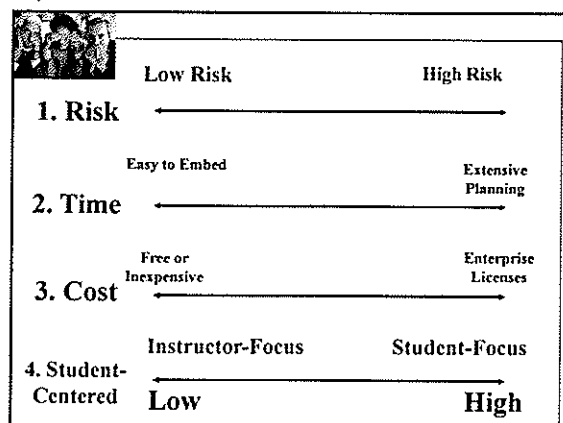

Innovate or **die** trying

Thinking outside the box is inside the scope of these companies' plans

99

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.
- "For my birthday, he upgraded my RAM and I thought it was incredibly romantic," writes Jess.

	Low Risk	High Risk
1. Risk	⟵————————⟶	
2. Time	Easy to Embed ⟵————————⟶	Extensive Planning
3. Cost	Free or Inexpensive ⟵————————⟶	Enterprise Licenses
4. Student-Centered	Instructor-Focus ⟵————————⟶ Low	Student-Focus High

Task

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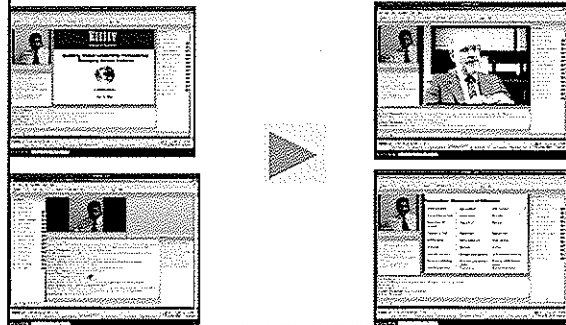- **Ideas you cannot use (cross off or put at the bottom)**

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. Video Course Intros
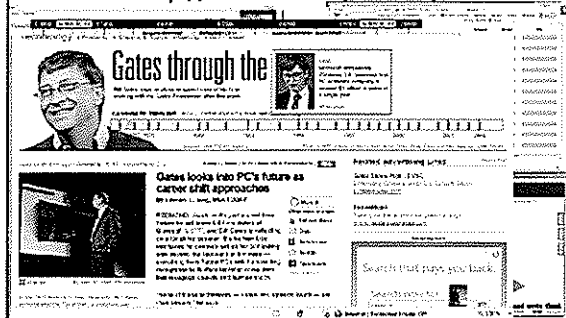(examples from Northern Virginia Community College and Indiana University KD (online MBA) program)

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

3. Curiosity, Fun:
A. Virtual Field Trips

With virtual field trips, students can have a personal tour of Hawaii Volcanoes National Park.

eSCHOOL NEWS

Gas prices fuel rise in virtual field trips
As soaring costs make traditional travel impossible for many schools, educators are turning to the internet

ThinkCentre M55 Bundle

3. Curiosity, Fun:
B. Exploration and Demonstration:
Virtual Tours and Timelines (HyperHistory)
http://simile.mit.edu/timeline/

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

5. Autonomy, Choice: B. 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.)

6. Relevance, Meaningfulness:
A. Mobile News (New York Times): A new way to take your news with you on the iPhone and iPod touch

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

7. Interactive, Collaborative:
B. Peer Mentoring Sessions
(Bonk, 1996)

1. Have students sign up for a chapter wherein they feel comfortable and one that they do not.
2. Have a couple of mentoring sessions in class.
3. Debrief on how it went.

8. Engagement, Effort:
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)
Friday, February 9, 2007, CBC News

9. Tension, Challenge, etc.:
A. Asynchronous Discussion of Weekly Topics

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. Produce a Podcast
JapanesePod, Arabic online, etc.

10. Yields Products, Goals:
B. Concept Maps, Video Papers, Virtual Timelines, Digital Movies

99 seconds: What have you learned so far?
- Solid and Fuzzy in groups of two to four
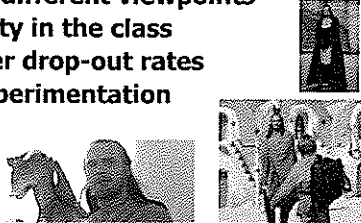
Part IV. Addressing Learning Styles

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
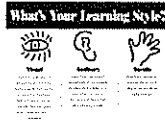- Fosters experimentation

Poll 1: Which learning style do you prefer?

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

VARK learning styles (Fleming & Mills (1992a, 1992b): Four types of learners and learning styles:

(1) visual;
(2) auditory;
(3) reading/writing;
(4) kinesthetic, tactile, or exploratory,

VARK learning styles (Fleming & Mills (1992a, 1992b). Four types of learners and learning styles

1. Visual learners prefer diagrams, flowcharts, graphics (they do not mention video, film, Webcasts, or PowerPoint presentations).
2. Auditory learners prefer to hearing directions, lectures, or verbal information.
3. Reading and writing learners prefer text passages, words, and written explanations.
4. Tactile or kinesthetic learners learn best by connecting to reality through examples, practices, or simulations.

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.

Active Experimentation vs. Reflective Observation

- **(AE)** - I often produce off-the-cuff ideas.
- **(RO)** - I am thorough and methodical.

- **(AE)** - I am flexible and open minded.
- **(RO)** - I am careful and cautious.

- **(AE)** - I am loud and outgoing.
- **(RO)** - I am quite and somewhat shy.

Abstract Conceptualization vs. Concrete Experiences

- **(AC)** - I am rational and logical.
- **(CE)** - I am practical and down to earth.

- **(AC)** - I plan events to the last detail.
- **(CE)** - I like realistic, but flexible plans.

- **(AC)** - I am difficult to get to know.
- **(CE)** - I am easy to get to know.

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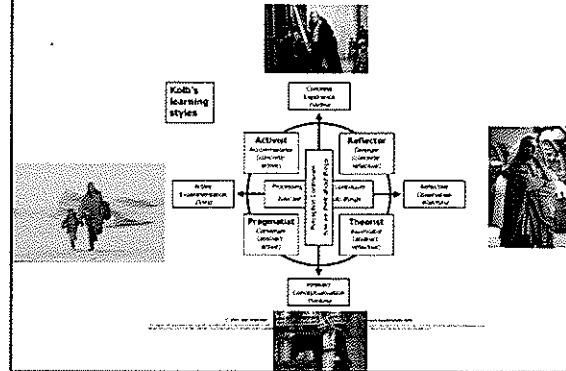
Index of Learning Styles Questionnaire
Barbara A. Soloman, North Carolina State Univ
http://www.engr.ncsu.edu/learningstyles/ilsweb.html

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
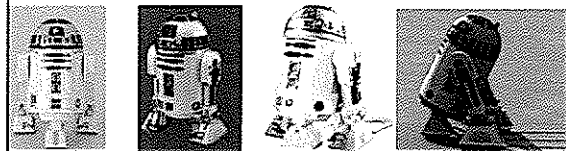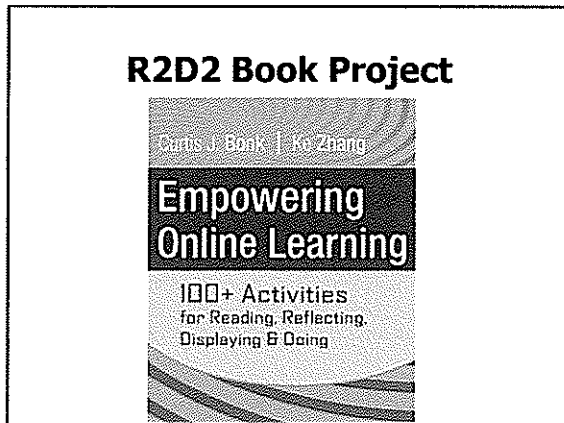   - ○ (b) written directions or verbal information
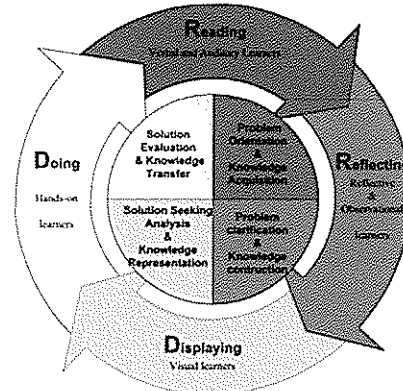
Dean of IU School of Education
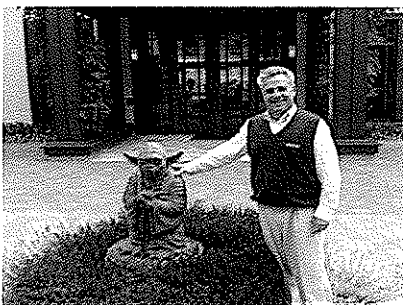

The R2D2 Method

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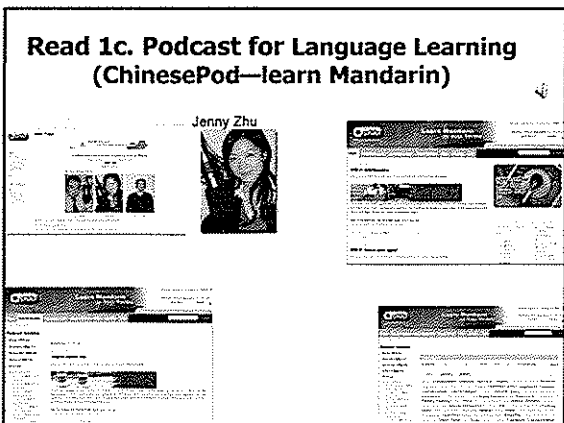4. **Do (Tactile, Kinesthetic, Exploratory Learners)**

R2D2 Book Project

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.**

Read 1a. Course Announcements (e.g., Teaching with Twitter)
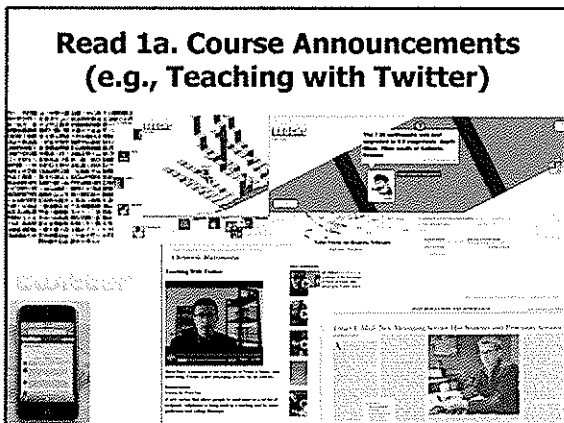
Read 1b. Podcasts for Peace (World Bridges and EdTechTalk)

Read 1c. Podcast for Language Learning (ChinesePod—learn Mandarin)

Jenny Zhu

Read 1d. Educational Applications of Podcasting (Essex, 2006, Leftwich, 2007)

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

Read 1e. Referenceware and Terminology
Exercises Online (e.g., Websters, Visual Thesaurus)
http://www.visualthesaurus.com/
($2.95/month; $19.95/year)

Read 1f. Wiki Steps on How to do
Something: Wikihow
http://www.wikihow.com/

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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

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Reflect 2a. ORL or Library Day
(L = Cost, M = Risk, M/H = Time)
(Bonk, 1999)

Reflect 2b. Reflection Papers: Individual Reflections or Super Summaries of what learned in the course (3-4 page)

- Learning journeys/Super Summaries:
  - Have students reflect on their learning journeys in a course.
  - Have them reflect and compare the concepts that they have learned to others.
  - Perhaps compare to sample papers from previous semesters.

LEARNING
JOURNEYS

Reflect 2c. Paired Weblog Critiques

Reflect 2d. Six Hats (Role Play):
(from De Bono, 1985; adopted for online learning by Karen Belfer, 2001, Ed Media)

- 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

Reflect 2e. Partner & Team Blogs
(especially English writing class)

Blogging Questions

1. Who has a blog?
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?

Reflect 2f. Personal Learner Weblog
(Bonk, 2007; Mei-Ya Liang, 2007)

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

Reflect 2g. Course Weblog
(Bonk, 2007; Mei-Ya Liang, 2007)

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

Reflect 2h. Reuse Blog, Chat Transcripts, Presentations

Reflect 2i. Blogs with Critical Friends
(e.g., http://travelinedman.blogspot.com/)

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

Half-Way...Brief Intermission
Please Share Best Idea so far
with neighbor

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 http://www.scivee.tv/

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

Display 3c. Shared Online Video Demonstrations (e.g., Monkey See, doFlick)

Display 3d. 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

Display 3e. Adventure Blogging
(Ben Saunders, Mark Fennell, Andrew Revkin)

Display 3f. Online Video (e.g., geography classes; YouTube, TeacherTube, CurrentTV)
CHARLES McGRATH, Published: July 8, 2008, A Private Dance? Four Million Web Fans Say No, The New York Times

Display 3g. Anchored Instruction (find anchoring event (YouTube, CNN, BBC, TeacherTube, Cu...

Display 3h. Electronic Cameras and Maps (e.g., Google Earth/Maps)

Display 3i. Online Timelines
(US Presidents)

Display 3j. 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)

Display 3k. Concept Mapping Tools
(VUE, Bubbl.us, Cmap, Freemind)

Display 3l. Expert Mentoring E-Art & E-Design
(COFA Online, Omnium Project, Creative Waves—online graphics and photomedia project)

Display 3m. Explore Virtual Worlds and Online Representations (UCLAs CVRLab, Univ of Virginia, June 11, 2007)

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

Display 3p. Math Representation

Display 3q. Online Research Channels
(Research Channel, UChannel)

Display 3r. OpenCourseWare Video Browser (New Ways to Find Lectures)

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

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: Cross-Institutional Collaboration (Web 2.0 and Emerging Learning Technologies (The WELT) and POLT)

Do 4b. Using Online Video (e.g., YouTube) to Memorize Sonnets and Poems

Do 4c. Virtual Worlds (limited programming skill; e.g., Google Lively)

Do 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

Do 4e. Mobile Learning and Social Networking
(e.g., Mixi, Yayoi Anzai, Professor Japan)

Do 4f. Cool Resource Provider
(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.

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

14

Next up: The MATRIX!!!!!!!!!!!
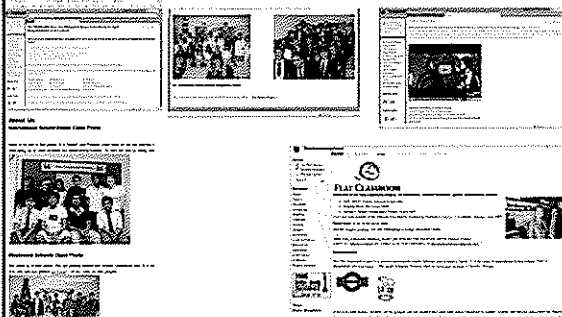
- **M**obile
- **A**uditory
- **T**hought-stimulating
- **R**eflective/**R**eal-World
- v**I**sually **I**nteractive
- e**X**tremely Hands-on
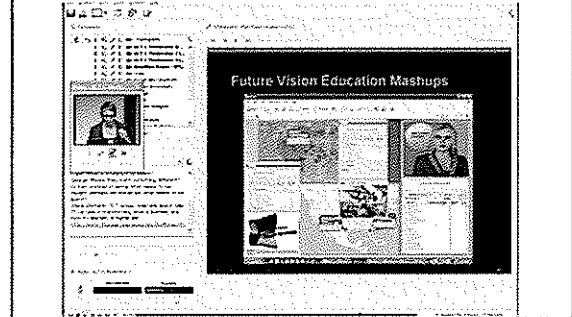
Time for Convergence!!! (activities that do not fit neatly)

Combining Web 2.0 and Other Online Technology Trends
(Twelve Examples)
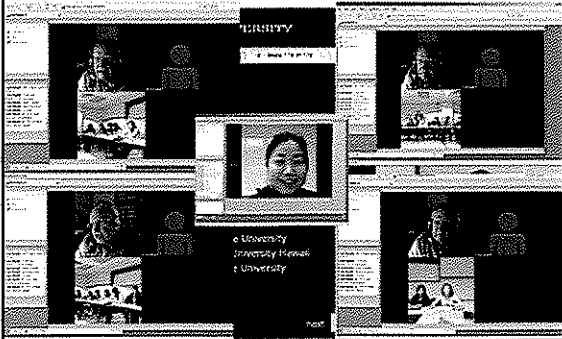
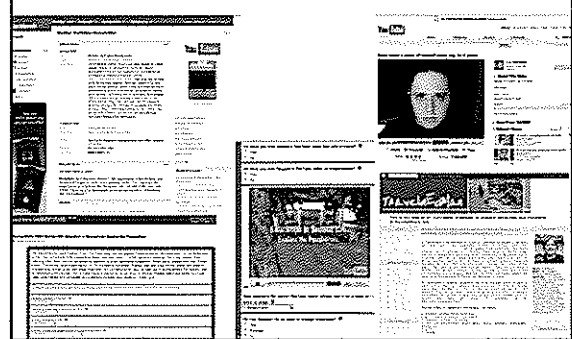## 1. Flat Schools and Flat Classroom Projects!!!

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2. Michelle Selinger, ALT-C Keynote, September 2007, Univ of Nottingham

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3. Breeze in Higher Education

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4. YouTube Research Group in Facebook

5. Elliott Masie, Podcast + Video + Transcript
Learning TRENDS by Elliott Masie

6. Archive Last Lectures
(Randy Pausch, Carnegie Mellon University)

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

8. Indexing Sounds in Cities with Google Maps

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)
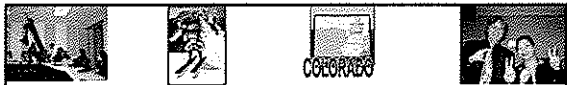
10. Vlogging (Video Blogging)
e.g., Andy Calvin's Waste of Bandwidth
Michael L. Wesch, Kansas State, The Machine is Using Us

Poll #3: How many ideas did you get from today?

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!!!**

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

Stand and Share Ideas

- Will Work: _____
- Might Work: _____
- No Way: _____

Boring e-Learning

Experience. The difference.