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/

Four Storms are Approaching!

I. Emerging Technology
II. Escalating Demands
III. Erased Budgets
IV. Enhanced Teaching

Growth of Online Learning in Secondary Schools

Open University of Israel (overall enrollment growth)

The OUM

Open Source Courseware
Accessible Technology

The project aims to build peer-to-peer communications
Negroponte says the new laptop is designed to be kid-friendly
OLPC aims to turn the tide of urban poverty

A Different Generation??? Multitasking...
"YOUNG AND WIRED," Katherine Seligman, San Fran Chronicle, Sunday, May 14, 2006

Gloria Kwan listens to her iPod while text messaging a friend who's in class. Chronicle photo by Mike Kepka

Top 5 "In" Things on Campus
June 7, 2006, USA Today

Yahoo News
Love me, love my blog," as Netorati couple-surfs
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.
Brandon Hall, Chief Learning Officer Magazine, July 2006

"A blog is a Web journal containing dated entries on a given topic or scheme. They can include search, feedback from readers and links to other sites. They can be written by one person or a group. Blogs can be used to share a viewpoint, enable collaborative discussion, present new product ideas, or explain ongoing news or changes."

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?

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

Wikis

For Teachers New to Wikis
- Wikis are a writing space
- Writers build upon, edit, and revise
- Power and authority reside in the community not in an individual
- Permissions can be set to limit readers and writers who participate

How use in teaching
1. Provide space for free writing
2. Debate course topics and readings
3. Share resources (websites, conferences, writing, etc.)
4. Maintain group progress journal
5. Require group or class essay
6. Have student revise Wikipedia pages
7. Write a wikibook
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?

Wiki Research

Age of Wikibookians

- Under 10: 29%
- 10-19: 12%
- 20-24: 4%
- 25-34: 4%
- 35-50: 20%
- 51-65: 16%
- Over 65: 16%

Podcasting, Webcasting, and Coursecasting

(Adam Curry; www.dailysourcecode.com)

Students download complete lecture.

Webcasts: WorldBridges Goals

What is WorldBridges?

- Worldbridges is a network of individuals and organizations that use live, interactive webcasting and other new media technologies to help people connect, learn, & collaborate.
  (Webheads, Koreabridge, Worldbridges Tibet, EdTechTalk, etc.)

Goals & Values

- Our primary goal is to foster understanding and cooperation amongst the citizens of the world. We value civility and respect, open source collaboration, fair distribution of income, and a sense of world identity.

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.

Podcasting and Coursecasting

(Adam Curry; www.dailysourcecode.com)

"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)
### Educational Applications of Podcasting

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

### 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 Learning Centered Technology Ideas

<table>
<thead>
<tr>
<th>Low Risk</th>
<th>High Risk</th>
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<tbody>
<tr>
<td>1. Risk</td>
<td></td>
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<tr>
<td>Easy to Embed</td>
<td>Extensive Planning</td>
</tr>
<tr>
<td>2. Time</td>
<td></td>
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<tr>
<td>Free or Inexpensive</td>
<td>Enterprise Licenses</td>
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<tr>
<td>3. Cost</td>
<td></td>
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<td>4. Student-Centered</td>
<td>Student-Focus</td>
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<tr>
<td>Low</td>
<td>High</td>
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1. Learner-Centered Learning Principles  
(American Psychological Association, 1993)

<table>
<thead>
<tr>
<th>Cognitive and Metacognitive Factors</th>
<th>Developmental and Social Factors</th>
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<tbody>
<tr>
<td>1. Nature of the learning process</td>
<td>10. Developmental influences on</td>
</tr>
<tr>
<td>2. Goals of the learning process</td>
<td>learning</td>
</tr>
<tr>
<td>3. Construction of knowledge</td>
<td>11. Social influences on learning</td>
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<td>4. Strategic thinking</td>
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<tr>
<td>5. Thinking about thinking</td>
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<td>6. Context of learning</td>
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<tr>
<td>Motivational and Affective Factors</td>
<td>Individual Differences</td>
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<tr>
<td>7. Motivational and emotional influences</td>
<td>12. Individual differences in learning</td>
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<tr>
<td>8. Intrinsic motivation to learn</td>
<td>13. Learning and diversity</td>
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</table>

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 lrng 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

Learner-Centered on the Web
(Bonk & Cummings, 1998)

<table>
<thead>
<tr>
<th>Learner-Centered on the Web</th>
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<tbody>
<tr>
<td>1. Safe Lrng Community:</td>
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<tr>
<td>2. Foster Engagement:</td>
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<tr>
<td>3. Give Choice:</td>
</tr>
<tr>
<td>4. Facilitate Learning:</td>
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<td>5. Offer Feedback:</td>
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<td>6. Apprentice Learning:</td>
</tr>
<tr>
<td>7. Use Recursive Tasks:</td>
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<tr>
<td>8. Use Writing &amp; Reflection</td>
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<td>9. Build On Web Links:</td>
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<td>10. Be Clear &amp; Prompt Help:</td>
</tr>
<tr>
<td>11. Evaluate Dimensionally:</td>
</tr>
<tr>
<td>12. Personalize in Future:</td>
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</tbody>
</table>

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. 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.

3. Cool Resource Provider
(Bonk, 2004) (L = Cost, M = Risk, M = Time)

- 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.
4. 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.

5. 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.

6. 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

7. Six Hats (Role Play):
(from De Bono, 1985; adopted for online learning by Karen
Beifer, 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. Structured Controversy
and Instructor (or student) Generated
Virtual Debates
(L = Cost, M = Risk, M = Time)
1. Select controversial topic (with input from
class)
2. Divide class into subtopic pairs: one critic and
one defender.
3. Assign each pair a perspective or subtopic
4. Critics and defenders post initial position
statements in an online thread
5. Rebut person in one’s pair
6. Reply to 2+ positions with comments or q’s
7. Formulate and post personal positions.

9. Best 3 Activity
(Thiagi, personal conversation, 2003)
(L = Cost, L = Risk, L/M = Time)
- After a lecture, have students decide
on the best 3 ideas that they heard
(perhaps comparing to a handout or
dense sheet of paper).
- Work with another who has 3 as well
and decide on best 3 (or 4).
- Those pairs work with another dyad
and decide on best 3 (or 4).
- Report back to class.
10. Scavenger Hunt
   (L = Cost, R = Risk, M = Time)
   1. Create a 20-30 item scavenger hunt
   2. Post scores

99 seconds: What have you learned so far?
   • Solid and Fuzzy in groups of two to four

Part II: 10 Blended Learning Solutions

Ok, Million Dollar Question: How can you blend learning?

Blended Solution #1. Video Streamed Lectures and Expert Commenting

Blended Solution #2: Warm-ups Online Just-In-Time-Teaching (JiTT)
   http://webphysics.iupui.edu/jitt/jitt.html
Blended Solution #9. Instructor Presentation in Synchronous Sessions (Breeze, Illuminate, WebEx, etc.)

Blended Solution #10. Video Observations (e.g., Virtual Psychiatric Interview, Trinity College, Dublin)

99 Second Stretch Break and Chat!!!

Part III. Mucho Motivation 10 Ideas

Intrinsic Motivational Terms
1. Tone/Climate: Psych Safety, Comfort, Belonging
2. Feedback: Responsive, Supports, Encouragement
3. Engagement: Effort, Involvement, Excitement
4. Meaningfulness: Interesting, Relevant, Authentic
5. Choice: Flexibility, Opportunities, Autonomy
6. Variety: Novelty, Intrigue, Unknowns
7. Curiosity: Fun, Fantasy, Control
8. Tension: Challenge, Dissonance, Controversy
9. Interactive: Collaborative, Team-Based, Community
10. Goal Driven: Product-Based, Success, Ownership
1. Tone/Climate: Ice Breakers
   A. Eight Nouns Activity:
      1. Introduce self using 8 nouns
      2. Explain why choose each noun
      3. Comment on 1-2 peer postings
   B. Coffee House Expectations
      1. Have everyone post 2-3 course expectations
      2. Instructor summarizes and comments on how they might be met

3. Engagement: C. Clickers; Innovation is but one click away...

4. Meaningfulness:
   A. Authentic Data Analysis

5. Choice:
   A. 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. Variety:
   A. 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).
   B. Alternative: Facilitator-Starter-Wrapper (Alexander, 2001)
      Instead of starting discussion, student acts as moderator or questioner to push student thinking and give feedback.
7. Curiosity: A. Games
Online Jeopardy Game
www.lmsolutions.biz/caa/quiz.zip;
Games2Train: The Challenge; Thingl.com

8. Tension: A. Online Role Play of Scholars, Personalities, or Famous People
- Enroll famous people in your course
- Students assume voice of that person for one

  24.3. I saw my son, en listen.
  Activity: 12/23/03 05:49 PM

  - Tracing Magazine might have a little bit of a bias too. Also, 11
  boring instructional formats and videos. Classrooms or e-learning
  a good school - they can be good for learning. Over-effects
to go away or decay, so we might as well face it instead of keep
leaving it better than another - because it costs money! How did y
of the time? Didn't you compare prices on spices and homework
    global cousins?

  24.3.1. Again, my opinion - e-learning is NOT cheap.
  Again, the film
  effective and is NOT costs for classes, and does
  NOT require good skills.

9. Team Collaboration:
A. Court Room Forum (Bus Law)

Grounded Research and Production. Video
Paper Builder (http://vpb.concord.org/)

How many have ever felt that they hit
the wall as far as teaching online?

BONK!
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

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,

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 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.
**One View of Learning Styles**

- Active Engagement - I learn most by doing and experimenting.
- Concrete Experience - I like to start with concrete examples before moving to abstract concepts.
- Abstract Conceptualization - I prefer to think about ideas and concepts before applying them to real-world situations.
- Reflective Observation - I learn best by reflecting on what I have observed.

**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.

**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 quiet and somewhat shy.

**Index of Learning Styles Questionnaire**

Barbara A. Solomon, North Carolina State Univ

http://www.engr.ncsu.edu/learningstyles/lisweb.html

6. If I were a teacher, I would prefer 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 descriptions or verbal explanations.

**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 Resource Libraries

1b. Online Audio Cases

Audio Dramas
eCollege Wales, Univ. of Glamorgan

1c. Synchronous Conferencing

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. Learner-Self Interactions and Reflections
2b. Post Model Answers

Employment Law and Ethics Project

Question 1

Would the Trump administration Title IX policy change be a legal challenge or not? Explain.

Answer 1

A legal challenge is likely to occur if the Title IX policy change is implemented. The change may face scrutiny under existing case law and regulations, potentially leading to legal disputes. The policy's impact on educational institutions could result in a range of challenges, including compliance issues and potential court challenges. The new policy may be tested in court to determine its legality and effectiveness in addressing gender-based harassment.

2c. Reuse Chat Transcripts

S0c4 "What are the effects of the new policy change on the Title IX policy?"

S0c4 "Will the new policy be challenged in court?"

S0c4 "What are the implications of the new policy for educational institutions?"


In the Math Emporium, students can take advantage of diagnostic quizzes, an electronic hyperlinked textbook, and interactive, self-paced tutorials. There are also group sessions, GTAs, and faculty in the emporium to guide students through problems they do not understand. The tutorials and quizzes are developed by Robert Olin.

2e. Reflection and Observation: E-Portfolios

2f. Reflection Sheets and Scaffolds online (E-Reading First Ohio)

(reflect, share, and compare)

2g. Practitioner Feedback:

Asynchronous threaded discussion plus
Sync Expert Chat (e.g., Starter-Wrapper + Sync Guest Chat) (L/M = Cost, M = Risk, R = Time)
3. Visual Learners

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

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

3b. Virtual Tour (Center for Astrophysical Research in Antarctica)

3c. Current Events: Interactive Online New Stories & Cases

3d. Video Library of Concepts, Cases, or Experts

3e. Digital Libraries (LibraryShare)
3f. Online Modeling: Watch Expert Performances
(Music, Cyber Fashion Shows, etc.)

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

3h. Capture and Videostream Lectures
(e.g., Apreso CourseCaster)

3i. Virtual Surgery: multisource, real-time,
interactive lesson in anatomy and surgery
(Corn project)

3j. Internet2 Video
Conferencing Applications

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. Educational Simulations, Scenarios, and Manipulations

4b. 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

4c. Historical Documents
discoverbabylon.org
- In its final form, the multiplayer 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 walkthroughs of sites in the Valley of the Kings.

4d. Digital Storytelling

4e: Internally Built Web Links
(Human Intelligence Homepage, Jonathan Plucker, IU)

4f. Romantic Poetry Project

The Life and Work of John Keats 1795-1821
A collection of resources dedicated to the English Romantic poet
Enter the website
4g. Continuous Writing Tools and Resources (e.g., Writer's Window)

4h. Virtual Worlds/Virtual Reality/MMOG

Virtual gaming
Video games are one of the main ways the Web has changed the way young people socialize and interact differently.
Percentage of video games made by age, September 2014

Next up: The MATRIX!!!!!!!!!!
- Mobile
- Auditory
- Thought-stimulating
- Reflective/Real-World
- Visually Interactive
- Extermely Hands-on

Try the R2D2 Method!!!

Stand and Share
- Will Work: 
- Might Work: 
- No Way: