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

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 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 quiet 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. Solomon, North Carolina State Univ
http://www.engr.ncsu.edu/learningstyles/lsweb.html

6. If I were a reader, I would rather teach a course
   ○ to students
   ○ on facts and data
   ○ that deals with abstractions and theories

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

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. Book reviews and critiques (e.g., LibraryThing)

Read 1d. Find and Post Online Documents; Scribd
   Scribd: http://www.scribd.com/
Read 1e. Vocabulary Practice Feeds the World
A Grain of Rice: A Bloomington man's computer game feeding the world, Herald Times, Wednesday February 6, 2008
Mike Leonard

Read 1f. Free Text Chats
(Bonk, 2007; Mei-Ya Liang, 2007)
1. Agree to a weekly chat time.
2. Bring in expert for discussion or post discussion topics or issues.
3. Summarize or debrief on chat.
4. Advantages:
   1. Involve all learners in real time.
   2. Can type in different fonts, styles, colors, capital letters, graphic images, etc.
   3. Transcript of the discussion can be saved for later discussion.

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

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

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

Reflect 2a. Reflection on Online Contents:
The Carlyle Letters Exploring Victorian World Through Letters and The Diary of Samuel Pepys, John Evelyn

Reflect 2b. Online Portal Explorations
(e.g., The Complete Works of Charles Darwin)

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

Reflect 2d. 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.
Reflect 2e. Posting Model Answers

Employment Law and Ethics Project

Question 1
Wardrope has signed an employment contract which contains a non-compete clause, and he has signed a non-disclosure agreement. This means that he cannot disclose any information about the company or its operations to his new employers.

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Reflect 2f. Paired Weblog Critiques

Reflect 2g. Six Hats (Role Play):
(from De Bono, 1985; adapted for online learning by Karen Bevel, 2004, 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 2h. Partner & Team Blogs (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 explore 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

Reflect 2i. 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 2j. 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 2k. Reuse Blog, Chat Transcripts, Presentations

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

Reflect 2m. Practitioner Feedback:
Asynchronous Threaded Discussion plus Sync Expert Chat (e.g., Starter-Wraper + 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. Video Supported Language Learning (e.g., ECPod)

Display 3e. Visual Resources (e.g., Periodic Table of Visualization; Visual Thesaurus http://www.visualthesaurus.com/; http://www.visual-literacy.org/periodic_table/periodic_table.html)

Display 3f. Online Anatomy and Physiology
Display 3l. Electronic Cameras and Maps (e.g., Google Earth/Maps)

Display 3m. Map Mash-ups
(e.g., Shakespeare's Global Globe, PopGICL, June 13, 2008, Michael Bahar
Google Earth Environment Guide: The Free Software from Google
gives Scientists a New World View)

Display 3n. Online Timelines
(US Presidents)

Display 3o. Tracking Live Internet Events (e.g., Thawing: A Colossal of an Idea)
(caught Feb. 2007; thawed April 30, 2008)

The Kracken! A Sea Serpent!
A Gigantic Squid!
(California Coast June 27, 2008)

Display 3p. Vodcast for Medical Training
(e.g., "SonoSite on the small screen: The Bothell-based company uses podcasts for its ultrasound scanner training."
Display 3q. Concept Mapping Tools
(VUE, Bubble.us, Cmap, Freemind)

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

Display 3s. 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.

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

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

Display 3v. Math Representation

Maple 11 Now Shipping
4. Tactile/Kinesthetic Learners

- Tactile/kinesthetic senses can be engaged in the learning process through role play, dramatization, cooperative games, simulations, creative movement and dance, multi-sensory activities, manipulatives and hands-on projects.
Do 4b. Wiki: Romantic Poetry Project
(Professor Mike Phillipson, English at Bowdoin College)

THE LIFE AND WORK OF JOHN KEATS
1795 - 1821
A COLLECTION OF RESOURCES DEDICATED TO THE LITERARY AND HISTORICAL CONTEXT OF THE ROMANTIC MOVEMENT
Enter the Website

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

Do 4d. Virtual Worlds/Virtual Reality/MMOG
Harvard Law School (Charles & Rebecca Nesson)
Chronicle of Higher Ed (open to the public)

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

Do 4f. Survey Research and Market Analysis
(e.g., WebSurveyor, Zoomerang, SurveyShare, SurveyKey)

Do 4g. Mobile Learning and Social Networking
(e.g., Mii, Yayoi Anzai, Professor Japan)
Do 4h. Online Warm-ups Activities
Just-In-Time-Teaching (JiTT)
http://webphysics.iupui.edu/jitt/jitt.html

Do 4i. Videoconferencing with Hearing Impaired Students Online
- College students tutoring high schools on their homework
- Instructors observing how teachers are doing in field placements (practice presentation and communication skills)

Do 4j. 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 4k. Virtual Crime Scene:
Explore Murder Evidence
(Auruna Multimedia, Bloomington, IN)

Poll #3: How many ideas did you get from this morning?
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
f. 6-10
f. Higher than I can count!
What can we say about Web-based technology???

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

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

It is the End!!!