A Five-Part Masterclass for Technology-Enhanced Teaching and Learning: Sampling across a Scrumptious Smorgasbord

Dr. Curtis J. Bonk, cjbonk@indiana.edu
Professor, Indiana University

Technology of the 1980s

Things That Became Obsolete This Decade
December 11, 2009, Silicon Alley Insider

Gadgets that Changed Everything This Decade
December 9, 2009, Jay Yarow, Silicon Alley Insider

New technologies hit us everyday!

So much to keep track of!
Poll #1: Who finds it hard to keep track of all the technology-related changes today???

It's Nature (i.e., technology) and Nurture (i.e., pedagogy?)

Old Models of Interactivity

John Dewey (Author of "How We Think" and "Democracy and Education")

Ivan Illich (author of "Deschooling Society")

Seymour Papert, MIT Media Lab
Shephen Heppell (co-developer of Notschool.net and the ULTRALAB)

John Seely Brown (author of "Minds on Fire" and The Social Life of Information)

Masterclass Part 1: The Rise of Shared Online Video, the Fall of Traditional Learning

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

Why Use Video?

1. Importance of shared online video: educational psychologists such as David Ausubel (1978) argued that knowledge was hierarchically organized.
2. New learning concepts and ideas to be subsumed under or anchored within prior learning experiences.

Why Use Video?

3. Ausubel suggested that new info is going to be meaningful if it is anchored (i.e., attached or related) to what learners already know and understand.
4. Advance Organizers: Provide a context, richer learning, can be replayed for key concepts, bring students to the real world, discussion, reflection, common experience, and the potential for higher order thinking skills.
Why Use Video?
5. Dual coding theory (learning information verbally and visually is more richly stored): Alan Paivio.
6. Anchored instruction and macrocontexts: John Bransford and colleagues.

Which of these video sharing sites do you use?
1. BBC News Video and Audio
2. CNN.com Video
3. MSNBC
4. Google Video, Yahoo Video
5. Current TV
6. Fox TV
7. MIT World
8. YouTube, YouTube Edu
9. TeacherTube
10. Link TV, Explore, Global Pulse, Latin Pulse
11. Howcast, Big Think, WonderHowTo, ExploTV, NASA TV, ClipChet, TV Lesson, SparkTV, EldersTV videos, MostSee, doFlick, the Research Channel, iVideosong

TeacherTube and WatchKnow

The Khan Academy
(videos on math, bio, trig, chemistry, money and banking, economics, statistics, etc.)

How TED Connects the Idea-Hungry Elite, Fast Company, Anya Kamenetz, September 1, 2010
http://www.fastcompany.com/1588866/anyasharpen-test-became-the-fast

TEDxRedmond: Interview with Rethinking Education Speaker Priya Ganesan, November 24
http://www.tedxredmond.org/priyaganesan.html?k

Chris Anderson: The entrepreneur bought TED in 2001. "It felt like something you could devote your life to," he says
Academic Earth

Free online video courses from leading universities.


http://www.learningtalks.com/videos/professional.htm

Shared Online Video (e.g., YouTube and the Royal Channel)

TV Lesson (expert videos)

Pubcasts! (videos of scientific papers and science; e.g., SciVee) NSF, the Public Library of Science, and the San Diego Supercomputer Center created a YouTube for scientists to help demystify important research papers.

Topical Lectures from Famous People (e.g., Big Think; Academic Earth)
More and More Shared Online Video (e.g., Link TV, TED Conference, Edutopia Videos)

ClipChef

Still More Shared Online Video (e.g., Howcast, WonderHowTo, Clip Chef, Link TV, Fora TV, etc.)

Five Anchors and Enders: Instructor Centered

1. Online Video Anchoring
   Online videos are used as an anchor or advance organizer of a class lecture.

Learning and Memory Videos
Anchored Instruction (find anchoring event: YouTube, CNN, BBC, TeacherTube, CurrentTV)

- 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. Online Video Ender

Online videos are used after discussion and activities as a class "ender" or capstone event.

3. Online Class Previews and Discussions

The instructor(s) finds videos and then posts them to the course management system for students to watch prior to or after class. If students participate in an online discussion based on such videos, the instructor should be clear about the length of post (e.g., two paragraphs) and how many comments of peers to respond to.

4. Pause and Reflect

The instructor(s) plays a portion of a YouTube video and pauses for reflections and then continues playing the video which is followed by still more class reflection.

RSA Animate - Drive: The surprising truth about what motivates us

http://www.youtube.com/watch?v=ubXFAHufELc

5. Key Concept Reflections

Instructor shows the YouTube video and asks students to reflect on concepts embedded in it. He may replay the video 1-2 more times while prompting the class for certain key concepts. He might ask students to say "pause" when they see a concept from a particular chapter or unit displayed.
Five Anchors and Enders: Student Centered

1. Course Resource Provider Handouts
Students find videos and show them in class and discussion unfolds. Students assigned as the cool resource providers for the week are asked to create a handout for the videos and other course resources selected.

2. Anchor Creators
Students create their own YouTube videos to illustrate course concepts.

3. Anchor Archives
An archive is created of videos from previous years and students are asked to update them.

4. Video Anchor Debates
Students are asked to find YouTube or other online video content on the pro and con sides of a key class issue and then use them in face-to-face or online discussions and debates.

5. Anchor Creator Interviews
Students find YouTube videos relevant to course concepts and email interview the creator about the purpose and potential uses of the video or perhaps request that the creator join the class in a synchronous chat.
Advice and Guidelines

1. Length of video for activities should be less than 10 minutes and preferably under 4 minutes.
2. Instead of finding all course videos, offer the student the chance to find and show 1-2 free online videos.

Advice and Guidelines

3. Test videos online (or, if FTF, in the room you will use) to check for link rot or video removal.
4. Have back-up videos in case do not work or are taken down.

Poll: How many ideas did you get from this talk?

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!

Now for 2 Minutes: Share your ideas with someone next to you and agree on three things maximum per category.

Masterclass Part 2: Online Motivation with the TEC-VARIETY Model

Dr. Curtis J. Bonk
Professor, Indiana University
http://php.indiana.edu/~cjbonk,
cjbonk@indiana.edu
We are not motivating students with the technologies that they love!

What if students minds were on fire for learning? i.e., Jumbo Movitation!

Ok, Million Dollar Question: How do you motivate online learners? What Words come to mind?

I even reflected on this for a moment...and then something magical happened...

Magic #1: 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

Low Risk	High Risk
1. Risk	Easy to Embed	Extensive Planning
2. Time	Free or Inexpensive	Enterprise Licenses
3. Cost	Instructor-Focus	Student-Focus
4. Student-Centered	Low	High
1. Tone/Climate: (open, inviting)
   A. Create a Class Wiki (Wikispaces)

2. Encouragement, Feedback, etc.:
   A. Online Self-Testing (e.g., self study in vocabulary, anatomy, chemistry, dissection, etc.)

3. Curiosity, Fun:
   A. Online News (Giant jellyfish, Tiny T. rex, and Ardi)

4. Tone/Climate: B. Video Course Intros from Instructors.
   (examples: from Northern Virginia Community College and Indiana University KD (online MBA) program; Tan Tien College, Open U Malaysia. Making Art Lessons Come Alive with Web 2.0
   http://www.youtube.com/watch?v=BO9rgJ1Gxo

2. Encouragement, Feedback, etc.:
   B. Tutorials with Screen Capture (e.g., Jing, Screencr)
3. Curiosity, Fun: C. Online Experiments (e.g., psychology)

3. Curiosity, Fun: D. Adventure Learning (e.g., GeoThentic, GoNorth, Polar Husky, Nat'1 Geographic; Aaron Doering, U of Minnesota)

3. Curiosity, Fun: E. Videoconference (e.g., Global Nomads Group, Int'l Studies for Indiana Schools (i.e., ISIS); Mandarin Chinese, Niger, Sudan, Life in Eastern Europe Today (Bulgaria), History and Culture of Mexico)

3. Curiosity, Fun: F. Live Science (e.g., Ice Stories)

3. Curiosity, Fun: G. Oceanographer touts deep sea web surfing (e.g., Nautilus Live allows people to not only learn about the expeditions but watch them live and listen to the scientists in the control rooms as discoveries are made, eSchool News, June 2010)

4. Variety, Novelty: A. Cool Resource Provider or Tech Demos
- 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.
4. Variety, Novelty: B. Bridges to World of Expert and Practitioners (e.g., Watch or Listen to Online Conferences, Expert blogs, chats, interviews)

Jockey's are Important

5. Autonomy, Choice: A. Online Literature Search (Class Google Jockeys) (links to text, soundtracks, video clips, etc.)

5. Autonomy, Choice: B. Clickers/Student Response Systems

5. Autonomy, Choice: C. Famous Person Web Explorations, Searches, Twitter Tracking, and Interviews Continued (e.g., famous Australian actors)
5. Autonomy, Choice:
D. Online Cases (e.g., Mark Braun, TU)

6. Relevance, Meaningfulness:
A. 60 Second Recap, Jenny Sawyer
http://www.60secondrecap.com/
Actress to students: "Lend me your earbuds!
English major, 26, barnstorming recaps the classics in 60-second Web videos; By Greg Toppo; USA TODAY, September 2009

6. Relevance, Meaningfulness:
B. Tour an Online Oil Drilling Site or Role Play Situations (i.e., BP)

7. Interactive, Collaborative:
C. Global Collaboration (e.g., EPals and IEARM (Int’l Education and Resource Network))

7. Interactive, Collaborative:
D. Create an Online Community in Ning, Google Groups, or Yahoo Groups.

7. Interactive, Collaborative:
E. Horizon and Flat Classroom Projects (combine blogs, videoconferencing, chat, async discussion, etc.)
7. Interactive, Collaborative:
F. Online Language Learning
(Skype, MSN, ECpod, Mixaxer, Livemocha, Babbel, KanTalk etc.)

8. Engagement, Effort:
A. Video Scenario Learning Accounting Interviews
and Preparatory Course Review Modules (Franklin University cost and forensic accounting course)
http://www.alibaba.com/wholesale/Accounting-Information-Systems-457.html

8. Engagement, Effort:
B. Synchronous and Asynchronous
Events (e.g., Breeze + Video + Online Forum +
Online Papers)

8. Engagement, Effort:
C. Tour a Museum (e.g., British Museum, Smithsonian, Louvre)

9. Tension, Challenge, etc.:
A. Controversial Science (e.g., Ids (a transitional species) 47-Million-Year-Old Darwinius Masillae fossil
the Missing Link? (www-owned, May 20, 2009)
9. Tension, Challenge, etc.:
   B. Ethical Debates

10. Yields Products, Goals:
    A. Movie Festivals, Virtual Timelines, Digital Movies

10. Yields Products, Goals:
    B. Student YouTube Products
    http://www.youtube.com/watch?v=xmSxH0yrsQ
    http://www.youtube.com/watch?v=yjJu4Ps_E
    http://www.youtube.com/watch?v=O.AwaeuSsU0

10. Yields Products, Goals:
    C. Video Blogs

10. Yields Products, Goals:
    D. Photo Festivals and Competitions (e.g., COFA at UNSW, Scrapblog, flickr, etc.)

TEC-VARIETY Model for Online Motivation and Retention
- Tone/Climate
- Encouragement, Feedback
- Curiosity
- Variety
- Autonomy
- Relevance
- Interactive
- Engagement
- Tension
- Yields Products
Poll #1: How many ideas did you get so far?
1. 0 if I am lucky.
2. Just 1.
3. 2, yes, 2...just 2!
4. Do I hear 3? 3!!!
5. 4-5.
6. 5-10.

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

Do you feel JUMBO MOTIVATION?
Note: Bonk papers and talks at:
http://www.publicationshare.com/
http://www.trainingshare.com/

Masterclass Part 3: Addressing Learning Styles and Diverse Learners with the R2D2 Model
Dr. Curtis J. Bonk
Professor, Indiana University
http://php.indiana.edu/~cjbonk,
cjbonk@indiana.edu

Magic #2: The R2D2 Model
Empowering Online Learning

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.

Read 1a. Art and History Podcasts

Read 1b. Reading from Open Access Journals (e.g., PLOS)

Poll 2: Podcast Questions
   a. Who has listened to a podcast?
   b. Who listens to a certain podcast on a regular basis?
   c. Who has created a podcast?
   d. Who has created a vodcast?
   e. Who thinks podcasting is simply more talking heads?

Read 1c. Course Announcements (e.g., Teaching with Twitter; Course announcements and following people (e.g., microblogging))

Read 1d. Podcast Paper Reflections
Read 1e. Wiki Steps on How to do Something: Wikihow
http://www.wikihow.com/

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

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 2a. Kids Blogs

Reflect 2b. Teacher Classroom Blogs

Reflect 2c. Expert and Domain Specific Blog Reflections (English, Health, Business, etc. blogs)
Reflect 2d. Cultural Blogs (e.g., Dr. Kim Foreman, San Fran State University, Come and See Africa Blog; http://comeandseeafrica.blogspot.com/)

Reflect 2e. Analyze Online Cases (problems, solutions, etc.)

Reflect 2f. Workplace, Internship, and Field Reflections

3. Visual Learners
• Visual learners prefer diagrams, flowcharts, timelines, pictures, films, and demonstrations.

Display 3a. Find Open Source Photography (e.g., Flickr, Everystockphoto.com; courses on Winter Olympics, photography, motivation, geography, culture, meteorology, physics, etc)

Display 3b. Concept Mapping and Timeline Tools (VUE, Bubbl.us, Cmap, Freemind, Gliffy, Mindmeister, or Mindomo)
Display 3c. World Trends and Indices (e.g. Worldmapper)

Display 3d. Online Portals of Rich Data
United Nations Opens World Digital Library; Turning the Pages from the British Library, etc. (history, culture, literature, writing, art, etc.)

Display 3e. Download and Use Online 3D Sketches (Google SketchUp; download http://sketchup.google.com/3dwarehouse)

Display 3f. Indexing Sounds in Cities with Google Maps

Display 3g. Timeline Tools (e.g., SMILILE from MIT, Learning Tools from UBC)

Display 3h. Radical Cartography
http://www.radicalcartography.net/index.html/3d/annabode

Boston City Limits
annabode and webT 104—112
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.

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?

Do 4a. Student Work in a Wiki
(e.g., Wet Paint, a free wiki tool for online collaboration; e.g., medical education)

4b. Learner Blogging
Read 1c. Learner Podcasts

Do 4d. Online Performances Virtual Worlds and Podcasts
(e.g., Shakespeare plays reenacted)

Do 4e. Class Developed Wikibooks
(and Wikibooks Junior)

Do 4f. Online Warm-ups Activities
Just-In-Time-Teaching (JITT)
http://webphysics.iupui.edu/jitt/jitt.html

Do 4g. International and Global Education and Competitions
(e.g., Global Game Jams, online role play, Global Videoconferencing, computer war games)

99 Seconds Stop and Share: Top Three Things you can use!