

Best Practices for Online Learning: Introducing the R2D2 and TEC- VARIETY Models

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



1728: 1st correspondence course advertised Boston
 (learn shorthand from Caleb Phillips thru weekly mailed lessons)

The First University Correspondence Course
 (University of London, External Program, 1858)

1728-1990s – Generally postal system based

1930s – phonograph and radio

1950s and 1960s – television

1970s and 1980s – VHS tapes

1980s and 1990s – DVD

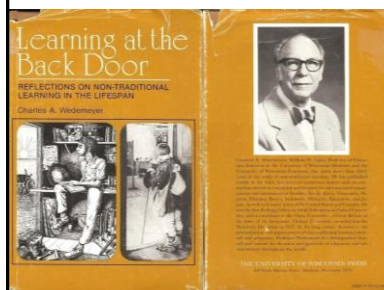


May 10, 2013

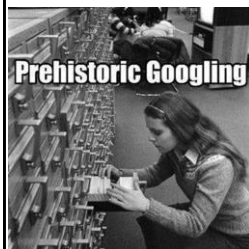
10 ed-tech tools of the 70s, 80s, and 90s



Took Correspondence & TV Courses
 (thanks to Bob Clasen and Charles
 Wedemeyer, the University of Wisconsin)



Part I. Learning is Changing
New Technologies =
New Delivery Methods...



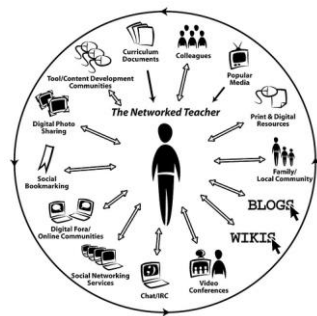
May 20, 2013

The New Greatest Generation:
Why Millennials will Save Us All, Time, Joel Stein

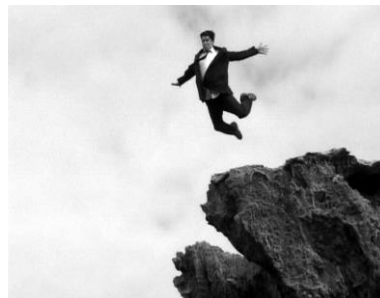
<http://www.time.com/time/magazine/article/0,9171,2143001,00.html>



The Web of Learning



We are entering a jumping off point...



Framework #1: WE-ALL-LEARN: Ten Forces that Opened the Learning World

- **W**eb Searching in the World of e-Books (i.e., Darwin)
- **E**-Learning and Blended Learning
- **A**vailability of Open Source and Free Software (e.g., Moodle)
- **L**everaged Resources and OpenCourseWare (e.g., MIT)
- **L**earning Object Repositories and Portals (i.e., shared content)
- **L**earner Participation in Open Info Communities (YouTube)
- **E**lectronic Collaboration and Interaction (sync and async)
- **A**lternate Reality Learning (Online Massive Gaming, Simulations, and Virtual Worlds; e.g., Second Life)
- **R**ead-Time Mobility and Portability (e.g., iPhone)
- **N**etworks of Personalized Learning (Blogs, RSS)



Audience Participation!

WE

ALL

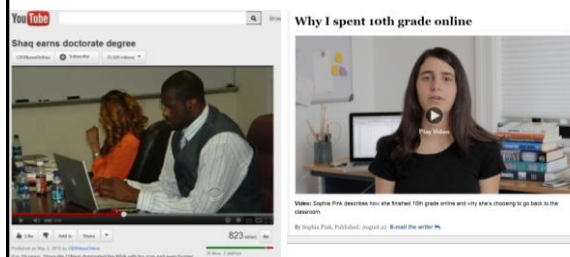
LEARN!!!



Opener #1. Web Searching (e.g., Google, MSN, Yahoo!) in the World of e-Books (i.e., Darwin, Shakespeare, etc.)



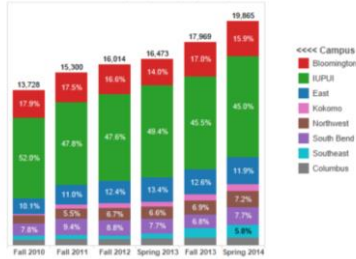
Opener #2. E-Learning and Blended Learning



February 2014 IU Online Enrollments (at least one class online)

<http://www.iuonlinelearning.com/OnlineStudents/AtLeastOneOnlineClassDashboard/AtLeastOneOnlineClass/ReportCount.asp?ReportCount=one>

Headcount Over Time By Campus Display - Campuses

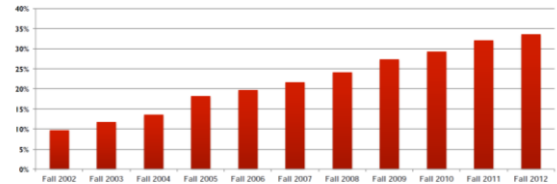


January 2014 Grade Change: Tracking Online Education in the United States, 2013, The Sloan Consortium, I. Elaine Allen & Jeff Seaman,

2013 Survey of Online Learning Report

<http://sloanconsortium.org/publications/survey/grade-change-2013>
Direct connect: <http://www.onlinelearningurvey.com/reports/gradechange.pdf>

ONLINE ENROLLMENT AS A PERCENT OF TOTAL ENROLLMENT: FALL 2002 - FALL 2012



March 2014 Learning is More Massive Free Courses on How to Design Learning Environments (Gilly Salmon, Swinburne University, Melbourne and Paul Kim from Stanford University)



Opener #3. Availability of Open Source and Free Software Moodle (July 18, 2013: 72 million users in 237 countries, 84,518 sites, 7.6 million courses)



Opener #4. Leveraged Resources and OpenCourseWare (OCW) (e.g., free courses from Harvard Edx, MITx, CORE, OOPS)

Saylor.org: <http://www.saylor.org/>
RedHoop: <http://redhoop.org/>



Learning is More Open (80-Year-Old WGU Texas Grad Keeps His Promise, November 30, 2012, Reeve Hamilton, Texas Tribune)



The World is very open! (at least in Norway)



Opener #5. Online Learning Object Repositories and Portals (shared content)

<http://www.deadseascrolls.org.uk/explore-the-archive>
<http://www.deadseascrolls.org.uk/explore-the-archive#the-ship-the-queen-carve-4>
<http://www.deadseascrolls.org.uk/home>



Learning is More Video-Based Adora Svitak, WFP Youth Representative - 2013 ECOSOC Youth Forum, March 27, 2013

"Shaping tomorrow's innovation: Leveraging science, technology, innovation and culture for today's youth", Statement by the World Food Programme Youth Representative, Mr. Adora Svitak at the 2013 ECOSOC Youth Forum.
<http://webtv.un.org/meetings-events/economic-and-social-council/youth-meetings/2013/adora-svitak-wfp-youth-representative-2013-ecosoc-youth-forum-shaping-tomorrows-innovation-leveraging-science-technology-innovation-and-culture-for-todays-youth/2257975055001>



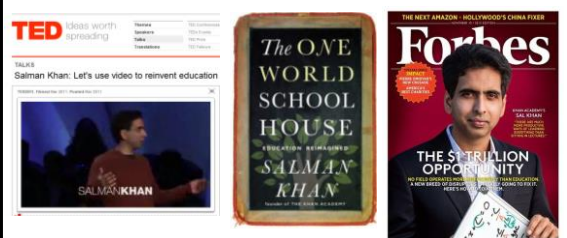
October 2010, The V-PORTAL (Bonk, IU)

"Video Primers in an Online Repository for e-Teaching and Learning" V-PORTAL,
TravelinEdMan (27 free/open YouTube videos)
<http://www.youtube.com/user/TravelinEdMan>

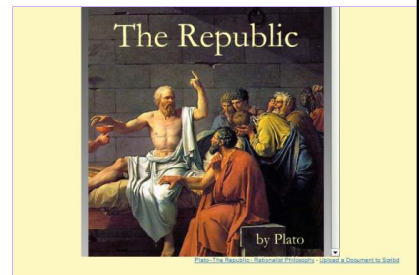


Learning is More Flipped

One Man, One Computer, 10 Million Students:
How Khan Academy Is Reinventing Education,
Forbes, November 19, 2013, Michael Noer
<http://www.forbes.com/sites/michaelnoer/2013/11/09/one-man-one-computer-10-million-students-how-khan-academy-is-reinventing-education/>
 The One World Schoolhouse (Twelve, Oct. 2, 2012)



Opener #6. Learner Participation in Open Information Communities (e.g., Wikipedia, YouTube, Scribd)



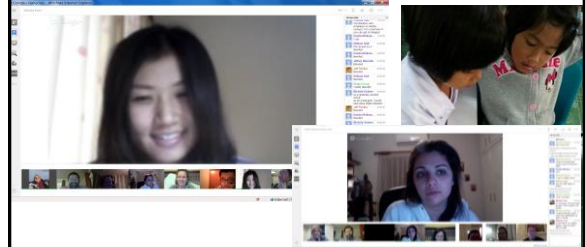
Opener #7. Electronic Collaboration and Interaction (synchronous & asynchronous)

Soliya Connect

<http://gli.georgetown.edu/#soliya>



Collaboration and Discussion in Google Hangouts or with iPad, Jan. 28, 2013 (Carrie Gong from Beijing Normal University)



Learning is More Global UC Irvine (2013 report)

Example 3: Fundamentals of Japanese

Dr. Hidemi Riggs, Fall 2012 & Winter 2013, Tech-enhanced: [EEE AdvancedWebbase \(Dreamweaver\)](#), [Skype](#) video conferencing tool, [Active Learning](#), Format: 5 - 1A lectures (24 students maximum); 3 - 2A lectures (24 students maximum); 2 - 3A lectures (24 students maximum)



Opener #8. Alternate Reality Learning (Online Massive Gaming, Simulations, and Virtual Worlds; e.g., Second Life)



Opener #9. Real-Time Mobility and Portability (e.g., iPhone, iPads, smart watches (September 4, 2013))

The Samsung Galaxy Gear smartwatch



Learning is More Mobile Open Learning on Smartphone

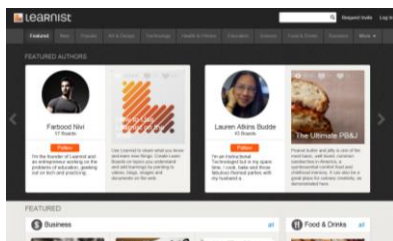
<http://blog.coursera.org/post/69518555384/this-holiday-season-learn-on-the-go-with-the-new>

	Beijing 2008	London 2012
Smartphones	139.3 million	657 million
Facebook	90 million	901 million
Twitter	<1 million	300 million
Tweets / day	1.1 million	140 million
Tablets	0	54.8 million
App store downloads	300+ million	25+ billion

Sources: Nielsen, eMarketer, Forrester, Apple



Opener #10. Networks of Personalized Learning (Blogs, Podcasts, Facebook, and RSS feeds, etc.)



What about the Instructor in the Open World?



Instructor as Curator



Instructor as Concierge



Part II. Motivation and Engagement



Poll #1: Million Dollar Question: What words come to mind when I say that I want to motivate learners?



Motivation Research Highlights (Jere Brophy, Michigan State University)

1. **Supportive**, appropriate **challenge**, **meaningful**, moderation/optimal.
2. Teach **goal** setting and self-reinforcement.
3. Offer **rewards** for good/improved performance.
4. Novelty, **variety**, **choice**, adaptable to interests.
5. Game-like, **fun**, fantasy, curiosity, suspense, active.
6. Higher levels, divergence, dissonance, **peer interaction**.
7. Allow to create finished **products**.
8. Provide immediate **feedback**, advance organizers.
9. Show intensity, **enthusiasm**, interest, minimize anxiety.
10. Make content **personal**, concrete, familiar.



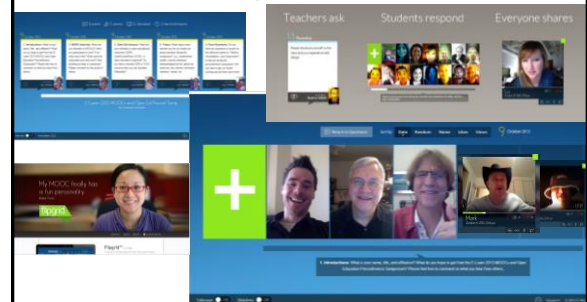
Framework #2: TEC-VARIETY for Online Motivation and Retention

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

Examples of TEC-VARIETY



1. Tone/Climate: A. Video Introductions, e.g., Flipgrid <http://flipgrid.com/#429f88c5>



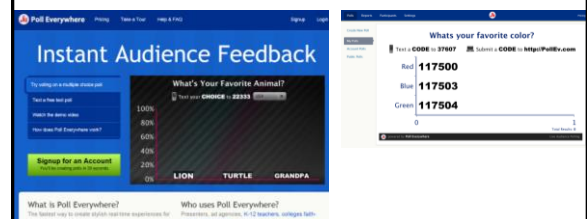
2. Encouragement, Feedback, etc.: A. Voice Feedback

Vocaroo; <http://vocaroo.com/>
<http://vocaroo.com/i/s00c4D6iUNmN> (Wed Nov 13)



2. Encouragement, Feedback, etc.: B. Blog and Website Polling (e.g., Poll Everywhere, BlogPolls, BlogPoll, MicroPoll)

<http://www.pollerywhere.com/>



3. Curiosity, Fun:

A. Something in the News

(e.g., Fauja Singh, 101, finishes last race, February 24, 2013)
http://espn.go.com/sports/endurance/story/_/id/8979487/fauja-singh-101-caps-career-10k-hong-kong

Fauja Singh, 101, finishes last race



3. Curiosity, Fun:

B. Online Quiz Games

Jeopardy Labs

<https://jeopardylabs.com/play/ganttpardy>

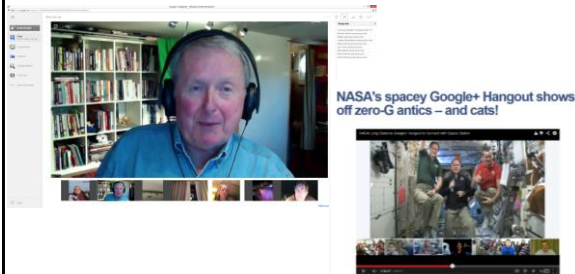
I've Got Your Back	The Seven C's	They Got Skills and They Know It	"We Are the World"	Justice League
100	100	100	100	100
200	200	200	200	200
300	300	300	300	300
400	400	400	400	400

Team 1
0

4. Variety, Novelty, Fun:

A. External Guests

(e.g., Jay Cross, Internet Time Group)



5. Autonomy, Choice:

A. Demonstrate, Explore, and Share Websites Commonwealth of Learning, March 2013

http://www.col.org/news/Connections/2013Mar/Documents/Connections_March2013.pdf



6. Relevance, Meaningfulness:

A. Design Multimedia Glossaries

Ozgur Ozdemir, December 2012

<http://r685glossary.shutterstock.com/>

Umida Khikmatillaeva, Dec. 2011, P540

<http://learningplanet.shutterstock.com/>

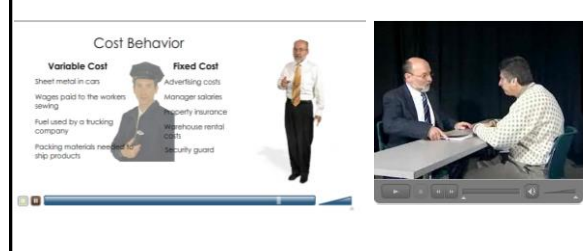


6. Relevance, Meaningfulness:

B. Video Scenario Learning Accounting Interviews and Preparatory Course Review Modules (Franklin University, cost and forensic accounting course)

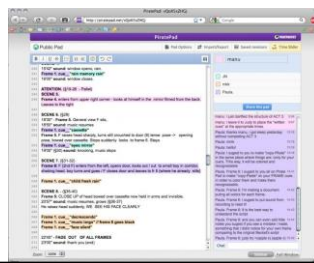
<http://video.franklin.edu/Franklin/acct/managerialAccounting/cost-behavior-player.html>

<http://video.franklin.edu/Franklin/acct/342/common/fraudScenario92.html>



7. Interactive, Collaborative: A. Negotiate Meanings Online (e.g., PiratePad: <http://meetingwords.com/>)

MeetingWords is a simple text editor for the web. Your text is saved on the web, and more than one person can edit the same document at the same time. Everybody's changes are instantly reflected on all screens. Work together on meeting notes, brainstorming sessions, homework, team programming and more!



8. Engagement, Effort: A. Arab spring: an interactive timeline of Middle East protests, The Guardian, Garry Blight, and Sheila Pulham, July 12, 2011 <http://www.guardian.co.uk/world/interactive/2011/mar/22/middle-east-protest-interactive-timeline>



9. Tension, Challenge, etc.: A. Vocabulary Competitions (e.g., Kids learning new words at warp speed, January 14, 2014, Greg Toppe (Georgia Scurletis, Dir of Curriculum Development, for Vocabulary.com (Thinkmap)) presents a banner to Marc Williams, Brooklyn Technical High School) <http://www.vocabulary.com/> Vocabulary.com: <https://www.vocabulary.com/>



10. Yields Products, Goals: A. Final Product Video Summaries

Piercarlo Abate: <http://www.youtube.com/watch?v=-TURzH00aU>
Qi Li, Gangnam: <http://www.youtube.com/watch?v=7Q429lqxZaU&feature=youtu.be>
Miguel Lara (Web 2.0 FREEDOM): <http://www.youtube.com/watch?v=8cmCFW9IW8>



Commitments:

Stop and Share:

Which principle(s) of TEC-VARIETY will you use?

Tone/Climate
Encouragement, Feedback
Curiosity

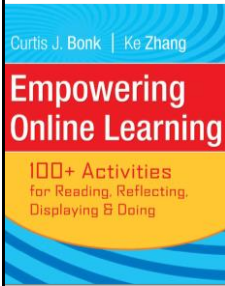
Variety
Autonomy
Relevance
Interactive
Engagement
Tension
Yields Products



Part III. How can technology address diverse learner needs?



Framework #3: The R2D2 Model



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. Listen to Open Access Audio Files and Podcast Shows

(e.g., Meograph: <http://www.meograph.com/>)
 Timelines with Oral Histories, Slavery and the Making of America Time and Place, PBS
<http://www.pbs.org/wnet/slavery/timeline/1857.html>



Read 1b. Grammer Checkers (e.g., Grammarly, Ginger, GrammarCheck, PaperRater, and SpellCheckPlus)

<http://www.grammarly.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



Reflect 2a.

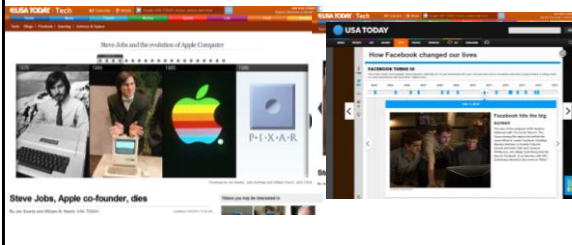
Reflect on Virtual Timelines

(Dipity, xtimeline, Simile, etc.)

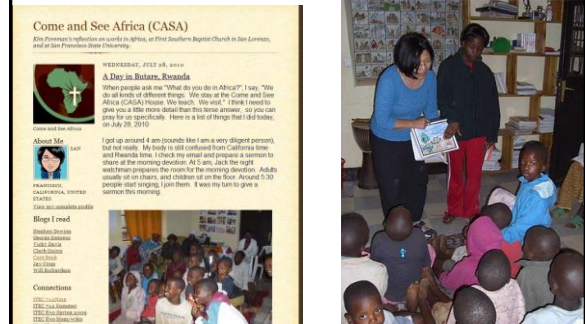
<http://www.usatoday.com/story/tech/2014/02/02/facebook-timeline-10-cultural-impact/5063979/>

<http://www.usatoday.com/tech/news/story/2011-09-22/steve-jobs-dies/50672498/1>

<http://www.usatoday.com/news/destinations/story/2011-08-23/Martin-Luther-King-Jr-Memorial-in-Washington-A-closer-look/38116470/1?cp=34news>



Reflect 2b. Cultural Blogs (e.g., Dr. Kim Foreman, San Fran State University, Come and See Africa Blog; <http://comeandseeafrica.blogspot.com/>)



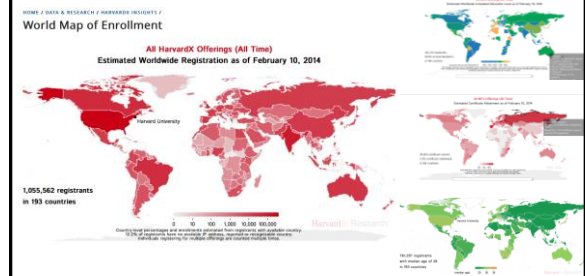
3. Visual Learners

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



Display 3a. Data Visualization Tools (Harvard and MIT MOOCs) Lawrence Biemiller, February 20, 2014, Chronicle of Higher Education

http://chronicle.com/blogs/websites/harvard-and-mit-release-visualization-tools-for-trove-of-mooc-data/2013/10/production_source-production_production



Display 3b. Virtualize Words Used (e.g., Wordle, Taggedo, Tagul, WordSift, Word It Out)

<http://shellyterrell.com/2010/02/14/12-word-cloud-resources-tips-tools/>



Display 3c. Videos for clinical education (Sungkyunkwan University School of Medicine, www.mededu.or.kr)



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. Student Class Documentaries

Umida's R546 Documentary Project

http://www.youtube.com/watch?v=EMLTzqCV_5A



Do 4b. Uploading Mobile Books (e.g., BookRix, <http://www.bookrix.com/>)



Mobile Devices & Learning
How mobile devices are re-shaping the field of education

Poll #2: What phase of the R2D2 Method did you get the most ideas from ?

- Read (Auditory and Verbal Learners)
- Reflect (Reflective Learners)
- Display (Visual Learners)
- Do (Tactile, Kinesthetic, Exploratory Learners)



Poll #3: Do you feel "MOTIVATED" to try any of this out?

- Yes, R2D2
- Yes, TEC-VARIETY
- Yes, both
- Neither



Any Questions?

Try the R2D2 Model!
Try TEC-VARIETY too...

Slides at: TrainingShare.com

Papers: PublicationShare.com

Books: <http://worldisopen.com/>

Dr. Curt Bonk – CJBonk@Indiana.edu

