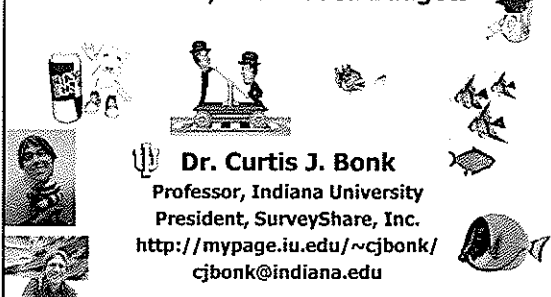
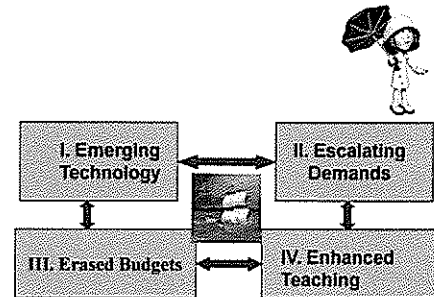


## The Perfect E-Storm: Emerging Technology, Enhanced Pedagogy, Enormous Learner Demands, and Erased Budgets

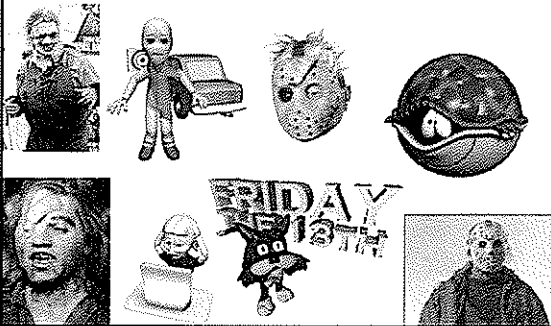


**Dr. Curtis J. Bonk**  
Professor, Indiana University  
President, SurveyShare, Inc.  
<http://mypage.iu.edu/~cjbbonk/>  
[cjbbonk@indiana.edu](mailto:cjbbonk@indiana.edu)

## Four Storms are Approaching!



## Some are scared of the storm!!!



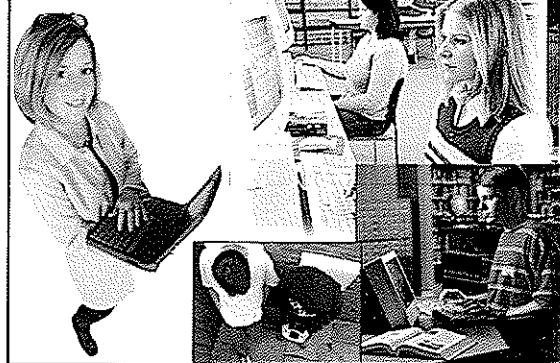
## Ok, Million Dollar Question: Which technology will impact us the most?



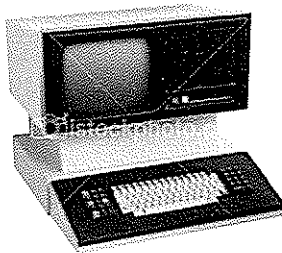
## Storm 1. Emerging Learning Technologies

1. Assistive Technologies
2. Blogs and Online Diaries
3. OpenCourseWare and Open Educational Resources
4. Electronic Books
5. Online Communities and Learning Portals
6. Intelligent Agents
7. Wikis and Wikibooks
8. Online Games and Simulations (Massive Multiplayer Gaming)
9. Shared Online Video (YouTube, TeacherTube)
10. Peer-to-Peer Collaboration
11. Reusable Content Objects
12. Videostreaming, IP Videoconferencing
13. Virtual Worlds/Reality
14. Wearable Computing
15. Wireless Tech: Tablet PCs, Handheld Devices
16. Digital Portfolios

## I'm a librarian



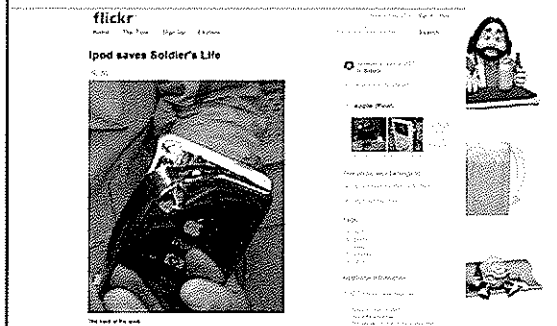
## Technology of the 1980s



## 21st Century Technology: Podcasts and Wikis and Blogs, Oh My!!!!



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

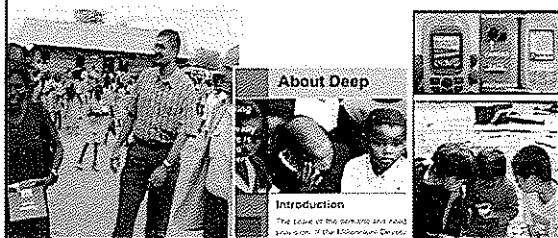


## Course Announcements (e.g., Teaching with Twitter)

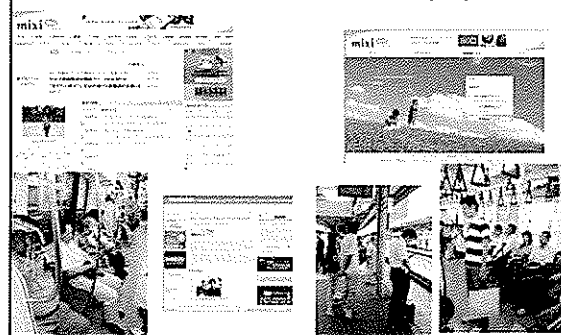


## Wireless in Africa and Pocket School in Latin America

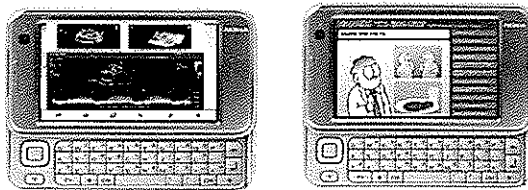
<http://www.receiver.vodafone.com/mobile-learning-in-developing-countries>  
Traxler, John (in press). Mobile learning in "developing" countries—not to different. *Vodafone Receiver*. See <http://www.receiver.vodafone.com/>



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

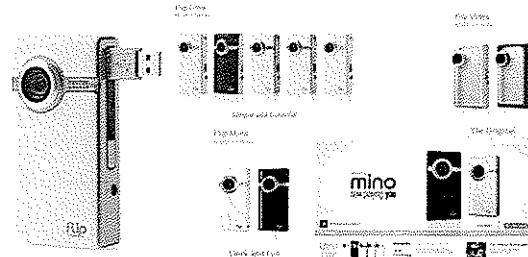


## Mobile Health and Medical Education (Courtesy of Paul Kim, Stanford University)

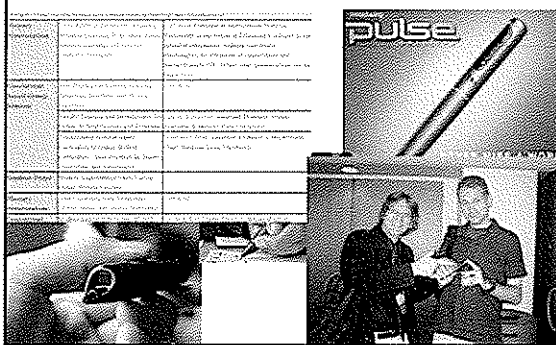


## Student Produced Video

In the year since its invention, the Flip has taken 13 percent of the camcorder market, according to its maker, Pure Digital. Its size and simplicity mean it can go where most camcorders can't.



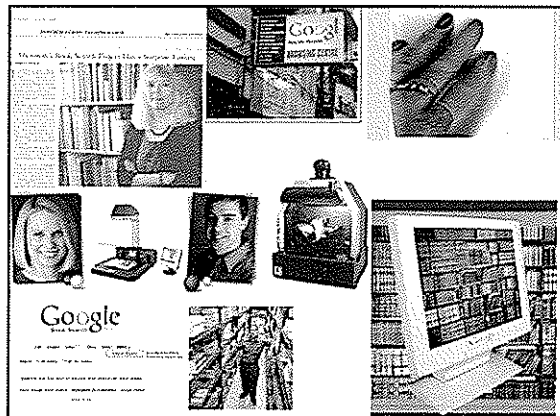
## Magic Pens! (The Pulse from Livescribe)

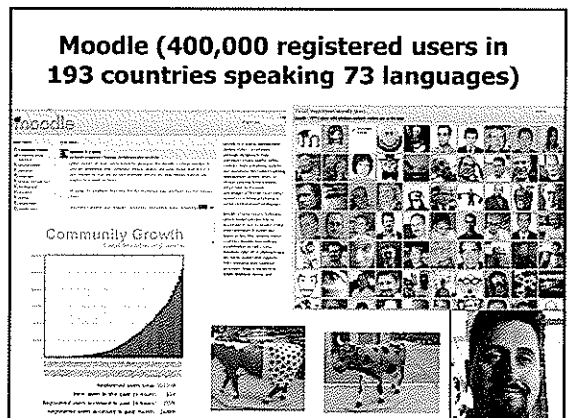
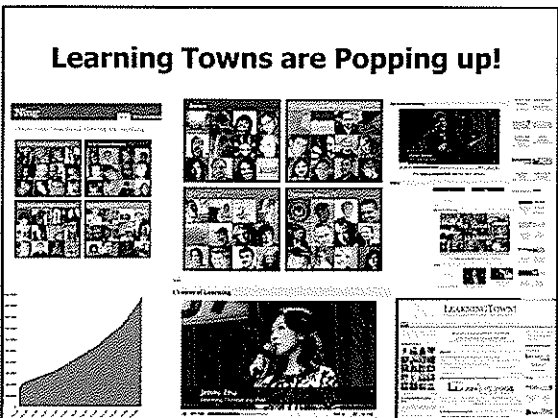
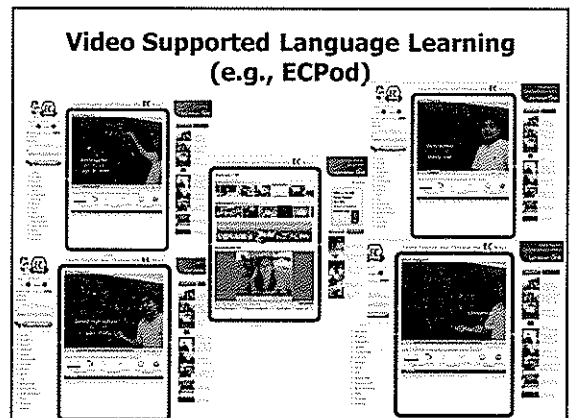


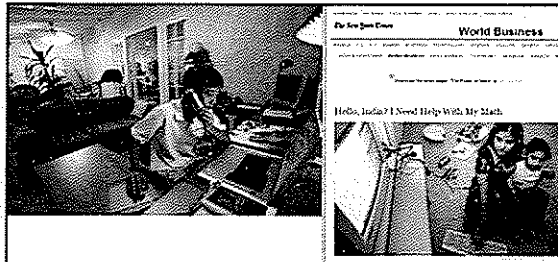
## Jerry Kronenberg Monday, August 4, 2008 Boston Herald Designers on quest to build \$12 computer



## OLPC in Nigeria: School Galadima One Laptop Per Child foundation (OLPC)

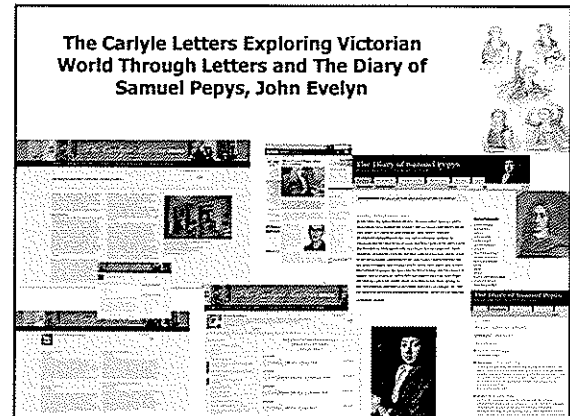




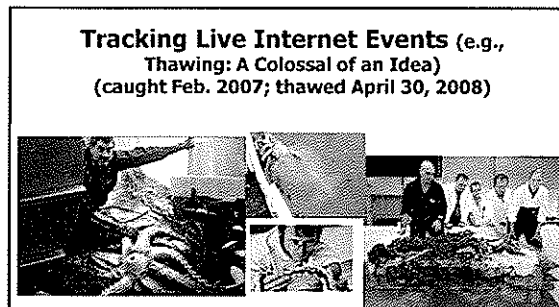


**TutorVista has 600 tutors in India and 10,000 subscribers in the United States, including Kenneth Tham in Arcadia, Calif.**

### The Carlyle Letters Exploring Victorian World Through Letters and The Diary of Samuel Pepys, John Evelyn

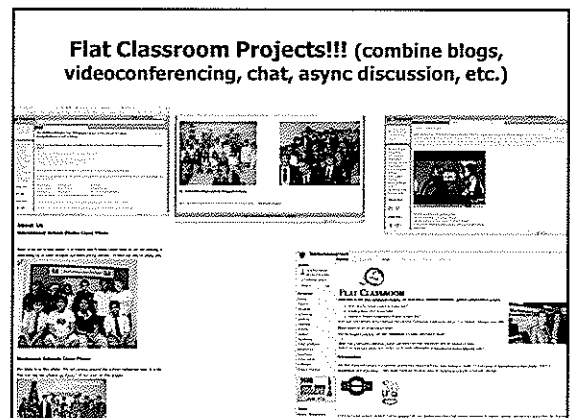


### Tracking Live Internet Events (e.g., Thawing: A Colossal of an Idea) (caught Feb. 2007; thawed April 30, 2008)

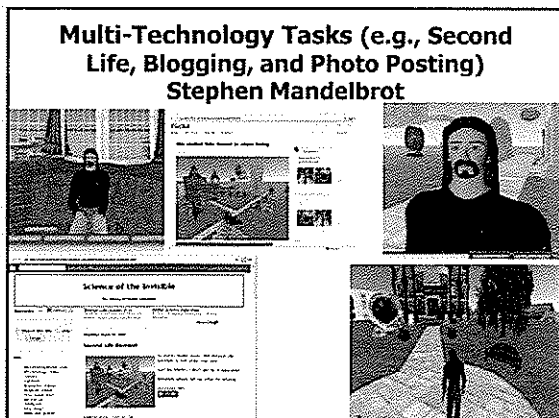


**Deep-Sea Behemoth**  
Captain John Bennett examines the world's first intact adult male colossal squid on board his New Zealand fishing boat in February, 2007, in the Ross Sea near Antarctica. The gigantic sea creature weighs a world record 1,089 pounds. After being frozen whole for over a year, scientists at New Zealand's national museum will

### Flat Classroom Projects!!! (combine blogs, videoconferencing, chat, async discussion, etc.)




### Multi-Technology Tasks (e.g., Second Life, Blogging, and Photo Posting) Stephen Mandelbrot



### 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. 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.



### Bonk's Addiction Q'er

1. Who has 2 or more cell phones with Internet access?
2. Who has 2 or more laptop computers with wireless connections?
3. Who is on email in the morning? At noon? Who does it at night?
4. Who suffers from nervous tension when you cannot get on email?
5. Who is on the Web right now?

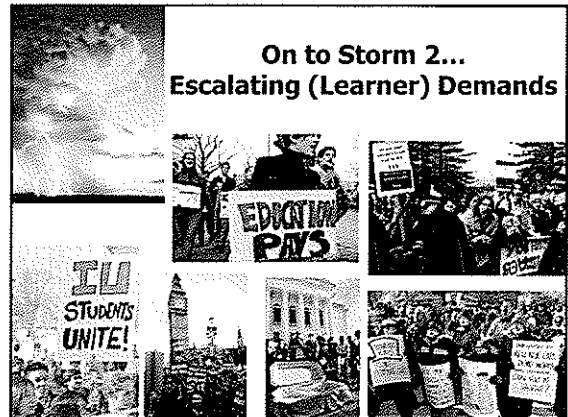
What can we say about emerging technology then???

•It is everywhere!!!!!!!

•Resistance is futile!!!!!!!



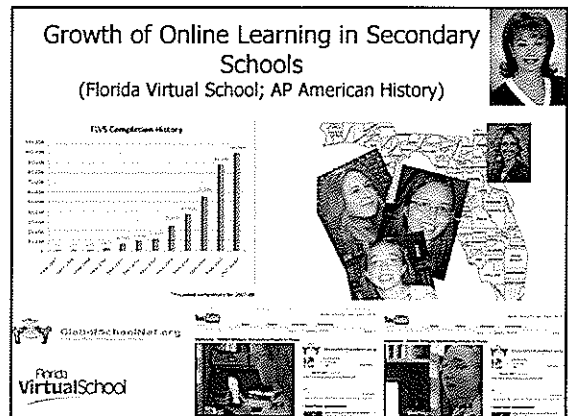
### On to Storm 2... Escalating (Learner) Demands

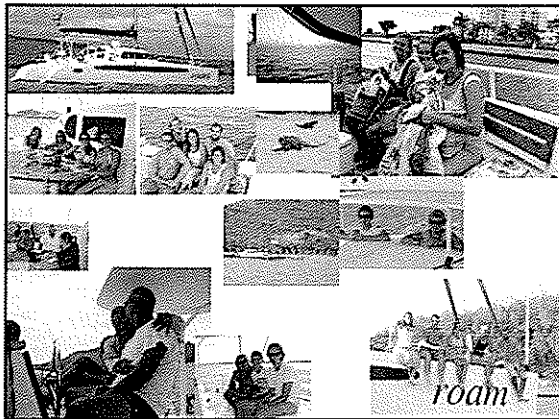


### Capella Tower 225 South Sixth Street, Minneapolis Formerly, the "Halo"



### Growth of Online Learning in Secondary Schools (Florida Virtual School; AP American History)





### Total and Online Enrollment in Postsecondary Institutions Fall 2002 through Fall 2006

(For Degree-Granting Institutions)

	Total Enrollment	Annual Growth Rate Total Enrollment	Students Taking at Least One Online Course	Annual Growth Rate Students Taking at Least One Online Course	Online Enrollment as Percentage of Total Enrollment
Fall 2002	16,611,710	NA	1,602,970	NA	9.7%
Fall 2003	16,900,419	1.7%	1,941,391	23.0%	11.5%
Fall 2004	17,272,043	2.2%	2,329,783	18.2%	13.5%
Fall 2005	17,426,500	0.9%	3,160,050	36.5%	18.2%
Fall 2006	17,647,720	1.3%	3,463,281	9.7%	19.6%

SOURCE: Online Nation: Five Years of Growth in Online Learning (October 2007)

Sara Cordell, professor of English at the University of Illinois-Springfield, says she feels online students become better writers because they get so much practice. NPR Special, Nov 29, 2007, Larry Abramson.  
(67% of US Colleges and universities offer online courses; 35% offer fully online programs.)

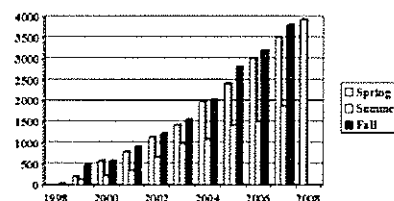


'Distance learning' gets its close-up  
By G. Jeffrey MacDonald, Special for USA TODAY  
November 2007

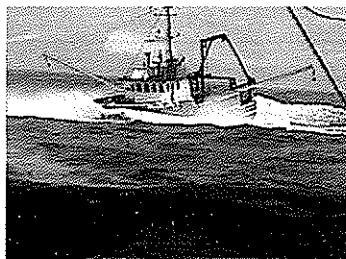
- More than two-thirds of all U.S. colleges and universities offer online courses, and 35% of schools offer programs that are entirely online, according to the Sloan survey, and 20% of the USA's 17 million college students say they have taken at least one course online.

### University of Illinois at Springfield Online course enrollments

#### UIS Online Enrollment



### We're in the Midst of Storm 3: Erased Budgets



#### Changes in state appropriations, 2002-03 to 2003-04, at Big Ten public universities

#### Right Budget Sequences Our College Issues for 2008

#### Legislator

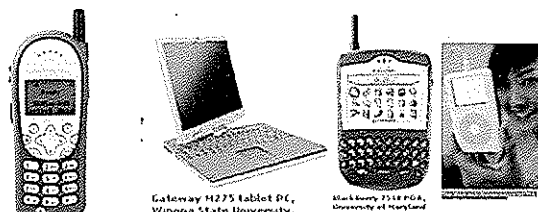
House Bill 1000

House Bill 1000 is a bill that would...

#### Senate to vote on fiscal year 2008 budget

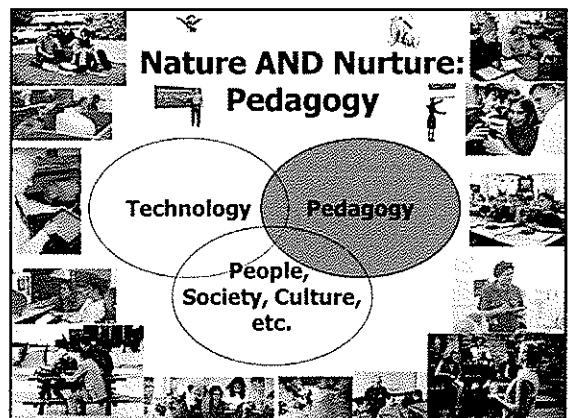
The Senate will vote on the fiscal year 2008 budget...

**In the Midst of Budget Cutbacks, there are Technology Giveaways**

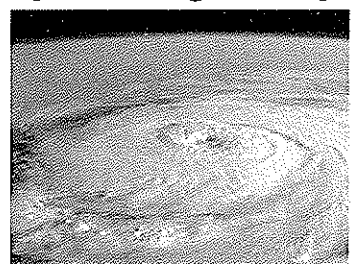


**Gateway M275 Tablet PC, Winona State University:** The school will provide the tablet computers to full-time students who do not have laptops from previous programs.

**BlackBerry 7100 PDA, University of Maryland:** The school has begun building out the wireless personal digital assistants for faculty and more than 100 full-time graduate students in the Smith School of Business.



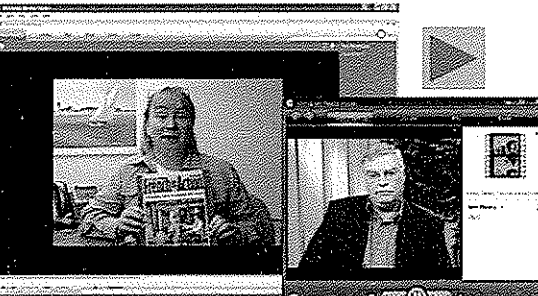
**On to Storm 4: Enhanced Teaching (and Excellent Retention) (a swirling storm)**



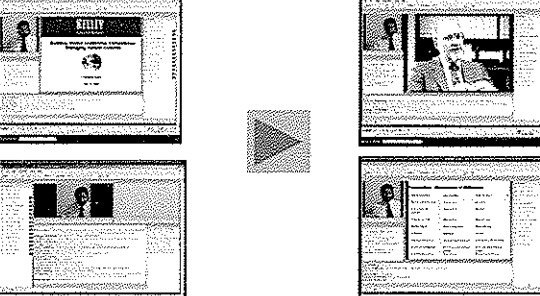
**TEC-VARIETY Model for Online Motivation and Retention**

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. 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: A. 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

Connected (Part 1/2) from Abilene Christian Univ:  
<http://www.youtube.com/watch?v=7p5D1ap9hU>

### 7. Interactive, Collaborative:

#### A. Google Docs, Ning, Google Groups, MSN Groups, Yahoo Groups, Diigo, etc.

#### Ning in Education

Using Ning for Educational Social Networks

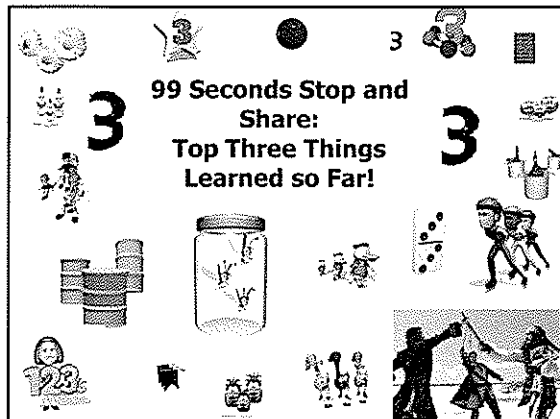
### 8. Engagement, Effort: A. Mobile Literacy (courtesy of Paul Kim, Stanford, Pocket School)

## 9. Tension, Challenge, etc.: A. Electronic Guests & Mentoring

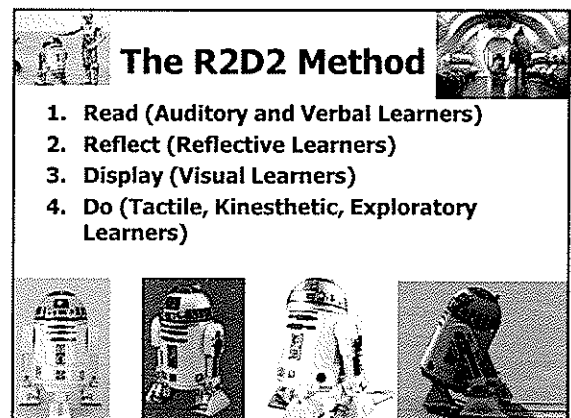
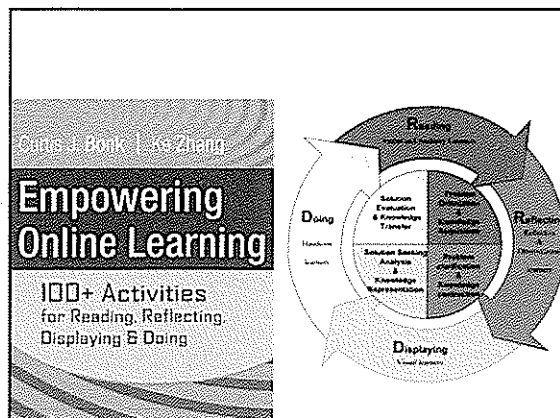
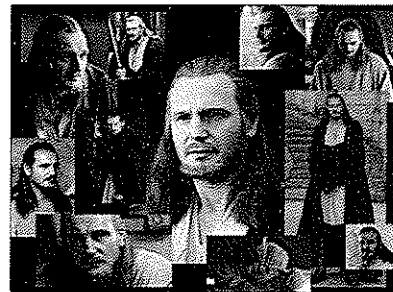
(Simon Fraser University News:  
<http://www.sfu.ca/mediapart/news/2001/Sept6/hightech.html>)



## 10. Yields Products, Goals: A. Online Portfolios or Galleries (Flickr, Omnium)



## R2D2 Model. Addressing Learning Styles

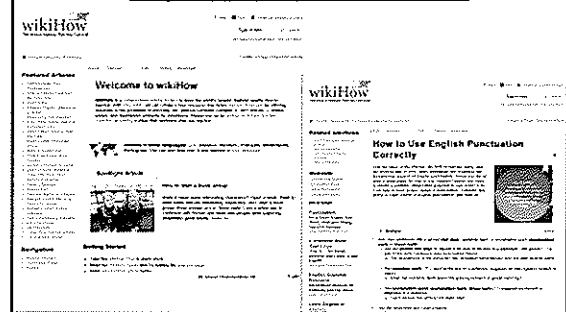


## 1. Auditory or Verbal Learners

- Auditory and verbal learners prefer words, spoken or written explanations.



## Read 1a. Wiki Steps on How to do Something: Wikihow <http://www.wikihow.com/>

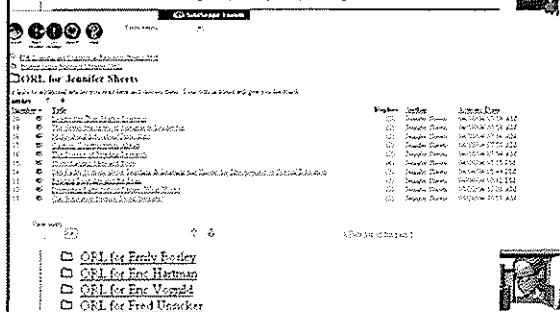


## 2. Reflective and Observational Learners

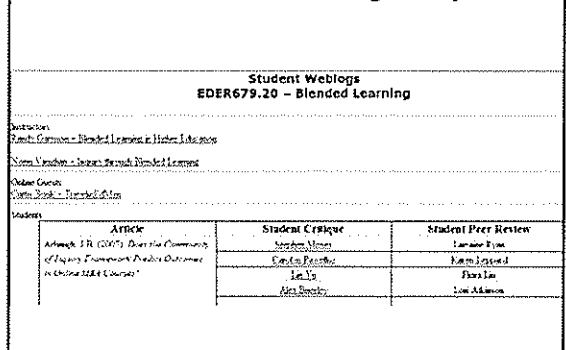
- Reflective and observational learners prefer to reflect, observe, view, and watch learning; they make careful judgments and view things from different perspectives



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



## Reflect 2b. Paired Weblog Critiques

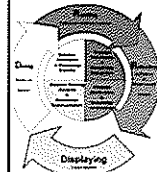


### Reflect 2c. Partner & Team Blogs (especially English writing class)

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 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

### 3. Visual Learners

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

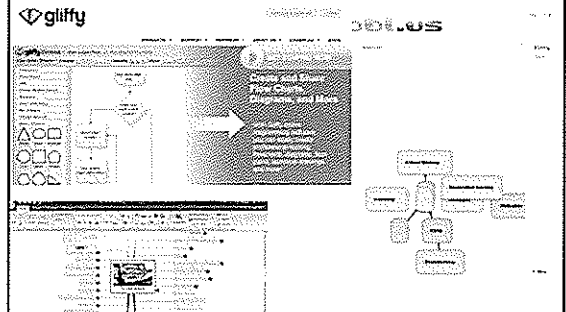


### Display 3a. Pubcasts! (videos of scientific papers and science)

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/>

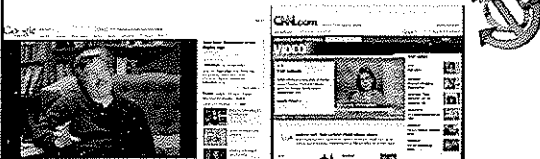


### Display 3b. Concept Mapping Tools (VUE, Bubbl.us, Cmap, Freemind, Gliffy, Mindmeister, or Mindomo)

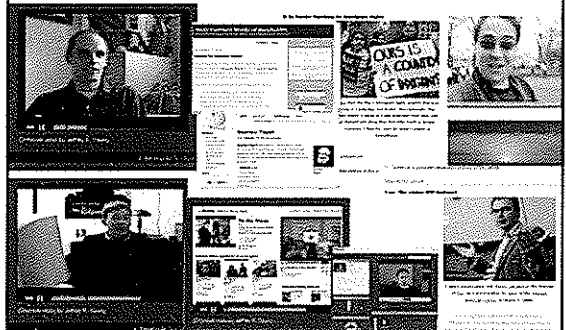


### Display 3c. Anchored Instruction (find anchoring event (YouTube, CNN, BBC, TeacherTube, CurrentTV))

- 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.



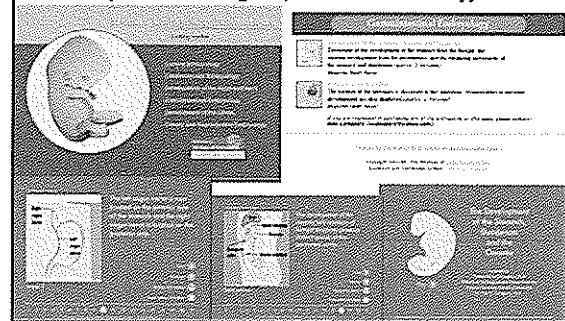
### Display 3d. Vlogging (Video Blogging) e.g., Andy Calvin's Waste of Bandwidth Michael L. Wesch, Kansas State, The Machine is Using Us



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



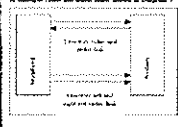
### Display 3f. Human Embryology Animations (Valerie O'Loughlin, Indiana University)



### Display 3g. Broadcast Surgeries

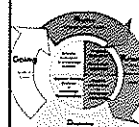
Evaluating an In-Vivo Surgical Training Demonstration  
over Broadband Internet

Thomas H. Breen  
CN2010 CT Center  
Department of Computer Science, Arizona State University  
ASU 2010 Medical Education, Anaheim, 2010  
Gordon H. Breen, 2010



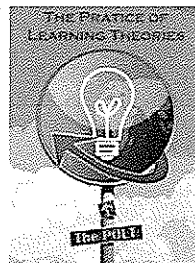
### 4. Tactile/Kinesthetic Learners

- 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.

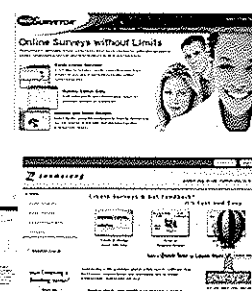
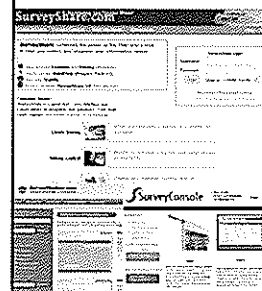


### Do 4a. Wikibooks: International Collaboration (Web 2.0 and Emerging Learning Technologies (The WELT))

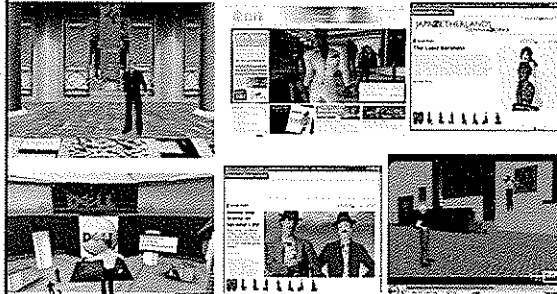
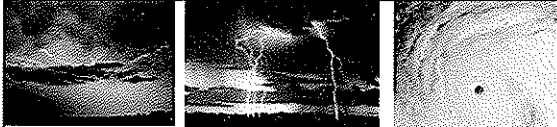
Web 2.0 and Emerging Learning Technologies  
From Wikibooks, the open content textbooks collection



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







**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>

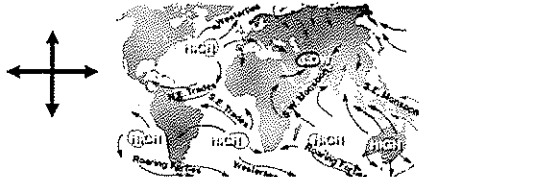








**Recap of the Perfect E-Storm....**

1. Emerging Technology
2. Escalating (Learner) Demands
3. Erased Budgets
4. Enhanced Teaching

**Any questions, comments, or concerns?**

**Try the R2D2 Method!!!**  
**Try TEC-VARIETY!!!**

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

