



Active Learning with Technology: Myths, Magic, and Mucho Motivation



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Where are we headed?



Technology 40 Years Ago



Technology of the 1980s



Radio Shack TRS-80 Model III
 Introduced July 1980
 Price: US \$499 base model
 US \$395 w/ 2DK, dual drives.
 CPU: Z80 2.00, 2.03 MHz
 RAM: 4K, 48K max.
 Ports: Cassette tape, expansion, serial
 Display: 13-inch SVGA monitor; 4x 1.8 inch
 Storage: 0, 1, or 2 internal 170K floppy drives
 External cassette @ 500 / 1500 baud
 OS: BASIC in ROM, TRS-DOS on disk




Today we have the Web 2.0

















So many technology choices...

















New interfaces are coming!



And better search technology... (timeline oriented)



But will more learning be virtual?

University of Kansas Medical Center's Use of Second Life



Will we become increasingly mobile learners?

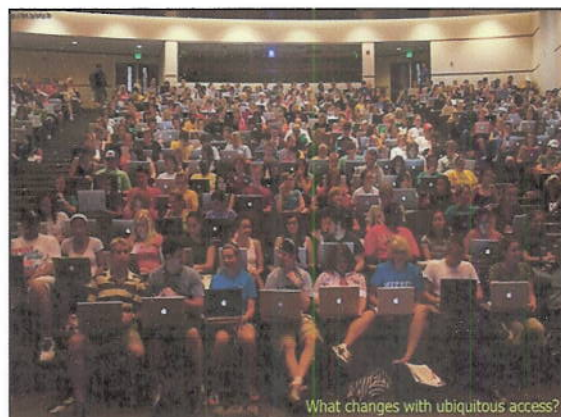


Of course, there will always be smaller and cheaper Devices...



Will expert advice (and happiness) be a button away? (e.g., Live Happy Practitioner Directory)

The image shows a desktop website interface for a 'Live Happy iPhone Practitioner Directory'. It features a search bar, a list of practitioners with their names and photos, and two mobile phones displaying the app's interface. The app shows a list of practitioners and their profiles, including names like 'Clayton Heath, PhD' and 'John Freeman, MA, LPAT'.



Mobile Learning and Blended Learning Exploding College tech 'catching up' with students Kathleen Gray & Robin Erb, USA TODAY, Oct 6, 2009

- At Abilene Christian (University)...about 2,800 students and 70% of the 250 professors use the Apple technology for instructional purposes.
 - Art students use app to draft sketch and send it to the teacher and other students for advice before starting the real art pieces.
 - A drama teacher takes video of the lead dancer in a production and sends that along to other students for rehearsal.

The image block contains a list of bullet points and a collage of photos. The photos show a woman holding a mobile device, a row of iPhones, and a student using a tablet. A text overlay on the photos reads 'the ONE IPHONE PER STUDENT PROJECT'.

Seton Hill University, 2,100 students. All fulltime students get an iPad and Incoming freshmen will also receive a 13-inch MacBook laptop, April 2010.

An iPad for Everyone

Seton Hill University will give a new Apple iPad to every full-time student in fall 2010.

March 10, 2010 - The Public Library of the University of North Carolina is proud to be the first to provide students with the best in technology and education technology, ensuring that Seton Hill students will have a unique and personalized learning experience. This is the first time that a university has provided every student with a new iPad.

For more information on the Seton Hill Technology Advantage, please visit the website www.setonhill.edu/technology.

Continue to our website

The image shows a laptop displaying a website with the headline 'THINK OUTSIDE THE CLASSROOM' and several iPads. The text describes Seton Hill University's initiative to provide iPads to all full-time students and MacBooks to incoming freshmen.

Will university life be a continual stream?

The image is a screenshot of a Livestream website. It features a live video feed of a man speaking, a navigation menu with options like 'Home', 'Sports', and 'All Live Content', and a Colgate logo. The text 'livestream' is visible at the top left.

Will the academic world be the clouds...?

The image contains a diagram of cloud computing. It shows a central cloud labeled 'Cloud Computing' with various devices and services connected to it, including 'App Server', 'Mobile', 'PC', and 'Kitchen Sink'. Below the diagram, the text reads 'Cloud Computing everything and the kitchen sink'. There is also a small inset image of a Google search page with the text 'Thinking of creating a website?'.

**And what is expertise?
What is scholarship?**

PKP
PUBLIC
KNOWLEDGE
PROJECT

flatworld
KNOWLEDGE

Wikipedia
Think Your Teacher Again

+19 diggs

Technorati

KNOL™ A unit of knowledge.

684 diggs

PLOS one
Publishing science & accelerating research

Google Alerts

STUDENT LOAN STRUGGLES | SO SILE ME | CRISIS PLANNING

Today's Campus

EDU

**MASTERS
OF
CHANGE**

Meet the reshapers of higher education: Edupunks, Edupreneurs, Eduneers, and Edubadgers


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

Accelerate Learning

TechTrends



Teach the Modern Way!

Springer





Poll #2: Who is frustrated sometimes???

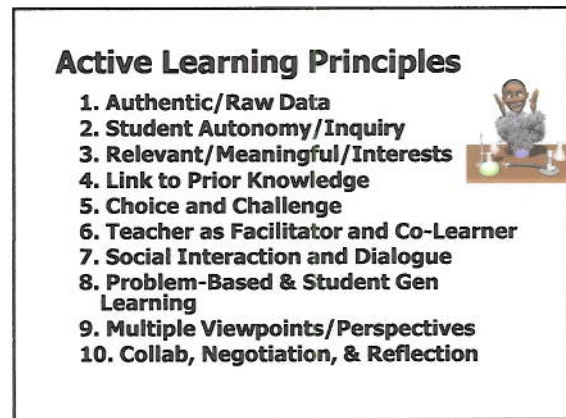
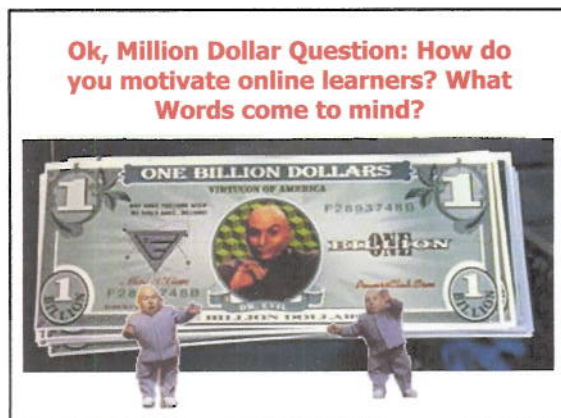
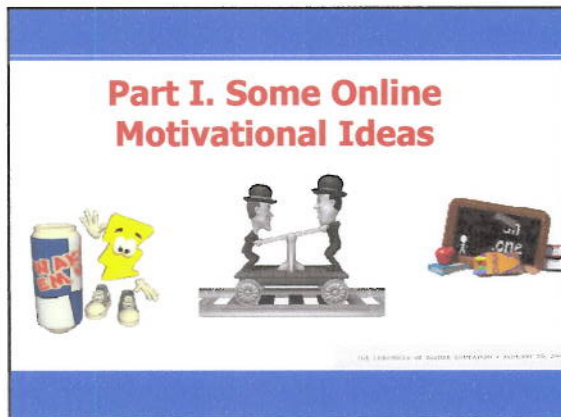
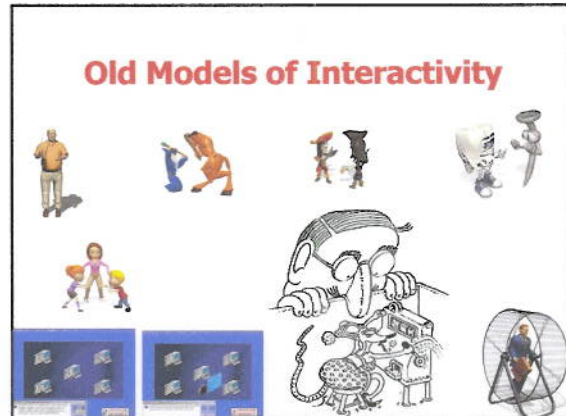


Poll #3: Bonk's Web Addiction Questionnaire

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?



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**.




Intrinsic Motivation

“...innate propensity to engage one’s interests and exercise one’s capabilities, and, in doing so, to seek out and master optimal challenges
(i.e., it emerges from needs, inner strivings, and personal curiosity for growth)

See: Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. NY: Plenum Press.


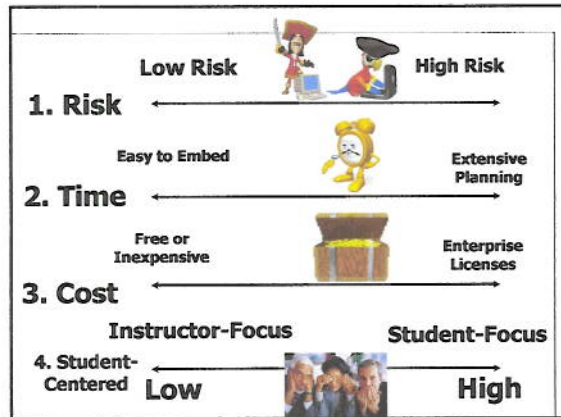


I even reflected on this for a moment...and then something magical happened...



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





1. Tone/Climate: Social Ice Breakers

A. Public Commitments:
Have students share how they will fit the coursework into their busy schedules

B. Favorite Websites

1. Everyone posts 1-2 of their favorite Websites and explain why.
2. Peers comment on or rate them.



1. Tone/Climate: C. Video Course Intros
 (examples from Northern Virginia Community College and Indiana University KD (online MBA) program)

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

2. Encouragement, Feedback, etc.:
B. Tutorials with Screen Capture
 (e.g., Jing, Screnr)

2. Encouragement, Feedback, etc.:
C. Instructor Presentation in Synchronous Sessions (Breeze/Adobe Connect Pro, Elluminate, WebEx, Dim Dim)...MM

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

3. Curiosity, Fun: B. Online Games
 (e.g., public health; the POD game Points-of-Dispensing (PODs))

3. Curiosity, Fun: C. WolframAlpha (access knowledge)

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

WolframAlpha

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

"Wolfram | Alpha's long-term goal is to make all systematic knowledge immediately computable and accessible to everyone. We aim to collect and curate all objective data; implement every known model, method, and algorithm; and make it possible to compute whatever can be computed about anything. Our goal is to build on the achievements of science and other systematizations of knowledge to provide a single source that can be relied on by everyone for definitive answers to factual queries."

4. Variety, Novelty: A. Cool Resource Provider or Tech Demos...MM

- 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.

PS40 Cool Resource Provider and Moderator Sign Up Sheet

Franklin people are working with the fine instructors it is possible that your that school will you are trying to see more. Make sure you have read the sign up sheet by returning one to your teacher by and also to the Update below.

Instructions:
Please put your name in the box for the DATE WHEN you will only complete one box (either for 8:12 or Adult Learning, NOT in both spaces, please click the green Update button below each Week.

8:12 Educational Learning Adult

1. Signatures for the Month of Learning

2. Signatures

4. Variety, Novelty: B. Expert Chats

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 discussion.

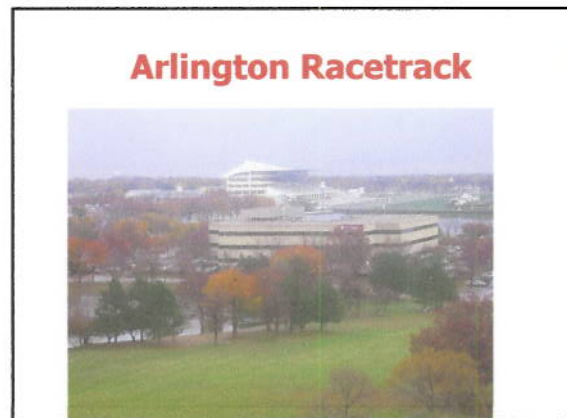
Jan Perrygoch
Hess Island, Antarctica

4. Variety, Novelty: C. Synchronous Session with Guest Expert..MM

Free and Open Source and Open Access Knowledgebase

Carl A. Rock, Professor, Indiana University

Finally, we have been learning to people and please that have been beyond its reach.



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. Famous Person Web Explorations, Searches, Twitter Tracking, and Interviews (e.g., Thomas Friedman, NY Times reporter)

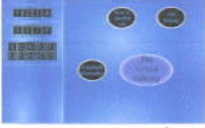


5. Autonomy, Choice: C. Online Cases (e.g., Mark Braun, IU)

5. Autonomy, Choice: D. Explore Online Museums, Zoos, Library Exhibits

6. Relevance, Meaningfulness: A. 60 Second Recap, Jenny Sawyer


<http://www.60secondrecap.com/>
 Actress to students: Lend me your earbuds!
 English major, 24, rambunctiously recaps the classics in 60-second Web videos; By Greg Toppo; USA TODAY, September 2009

6. Relevance, Meaningfulness:
B. Online Simulations and Demonstrations
 (e.g., self study in anatomy or chemistry, virtual autopsy, dissection, etc.)






7. Interactive, Collaborative:
A. Online Language Learning
 (ECpod, Mixxer, Livemocha, Babbel, KanTalk)










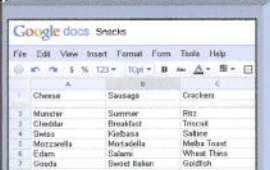

7. Interactive, Collaborative:
B. Collaborative Groups (Ning, Google Groups, MSN Groups, Yahoo Groups)



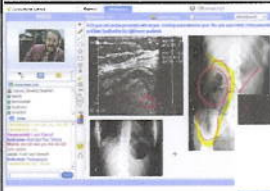
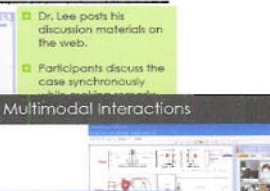
7. Interactive, Collaborative:
C. Collaborative Research and Bookmarking (Diigo, Delicious)

7. Interactive, Collaborative:
D. Collaborative Documents (Google Docs)


8. Engagement, Effort:
A. Synchronous Learning

Dr. Lee posts his discussion materials on the web.

Participants discuss the case synchronously.

Multimodal Interactions



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

8. Engagement, Effort:
C. Flash, 3-D Visualization, & Laboratory Software

8. Engagement, Effort:
D. Follow Online Adventure
 Australian adventurer Don McIntyre and teenage circumnavigator Mike Perham to re-enact Capt William Bligh's epic mutiny on the Bounty open boat voyage

9. Tension, Challenge, etc.:
A. Ethical Medical Debates

Students to protest human body exhibit

Maggie Ybarra
 Issue date: 3/5/08 Section: News

9. Tension, Challenge, etc.:
B. Electronic Guests & Mentoring...MM

10. Yields Products, Goals:
A. Student YouTube Products...MM

<http://www.youtube.com/watch?v=xixwSInyPzsQ>
http://www.youtube.com/watch?v=x3FJvi4Pn_E
<http://www.youtube.com/watch?v=eD1awpaSuP0>

**10. Yields Products, Goals:
B. Video Blogs...MM**

**10. Yields Products, Goals:
C. Photo Festivals and Competitions**

**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.
7. More than 10.

**99 seconds: What have you
learned so far?**

- Solid and Fuzzy in groups
of two to four

**II. Addressing Diverse
Learners**

Magic #2: The R2D2 Model

Empowering Online Learning
100+ Activities for Reading, Reflecting, Displaying & Doing

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

Read 1b. Podcast Paper Reflections

Read 1c. Podcasting Medical Lectures (School of Dentistry, Univ of Michigan)

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

The image shows a screenshot of the WikiHow website. The main article visible is 'How to Use English Punctuation Correctly'. The page layout includes a sidebar with 'Related wikiHows' and 'Steps' for the article. The article text is partially visible, starting with 'The most common rule is called the comma rule, which says that you should never put a comma after a subject unless it is necessary to clarify the meaning of the sentence. This rule is often referred to as the 'comma after subject' rule. The steps listed are: 1. Put a comma after a subject that adds information or clarification to the sentence. 2. Do not put a comma after a subject unless it is necessary to clarify the meaning of the sentence. 3. Do not put a comma after a subject unless it is necessary to clarify the meaning of the sentence. 4. Do not put a comma after a subject unless it is necessary to clarify the meaning of the sentence.

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

The image features a circular diagram with four quadrants, each representing a learning style: 'Reflecting' (top right, red), 'Observing' (top left, blue), 'Viewing' (bottom left, green), and 'Watching' (bottom right, yellow). The quadrants are connected by arrows in a clockwise cycle. Surrounding the diagram are several small photographs of people in various settings, including a person in a field, a person in a classroom, and a person in a laboratory.

Reflect 2a. Critical Friend Blog Postings...MM

The image shows a screenshot of a blog titled 'Deepali's Weblog'. The blog has a green header with the name 'DS Jane'. There are several posts visible, including one titled 'My 100th chapter is last chapter! Thank you to all my readers...' and another titled 'I have just finished my book...'. The posts contain text and small images, such as a group of people in a classroom.

Reflect 2b. Expert and Domain Specific Blogs (English, Health, Business, etc. blogs)

The image is a collage of several expert and domain-specific blogs. It includes 'The Engineering' blog with a red header, 'THIS IS IT' with a blue header and a person in a blue shirt, and 'ER Nurse' with a green header and a person in a white lab coat. There are also other smaller blog snippets visible, such as one with a '3.75' rating.

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

The image shows a screenshot of an online case analysis website. The page has a blue header and contains several sections of text and images. One section is titled 'Welcome to the Future of Medical Education' and another is titled 'Welcome to the Future of Medical Education'. The page layout includes a sidebar with 'Welcome to the Future of Medical Education' and 'Welcome to the Future of Medical Education'.

Reflect 2d. Workplace and Field Reflections...MM

The image is a collage of images showing people in various workplace and field settings. It includes a group of people in a hospital, a person in a classroom, and a person in a field. There are also several smaller images of people in various settings, including a person in a laboratory and a person in a classroom.

Reflect 2e. ORL or Library Day
(e.g., The Thompson Library at Ohio State University)
...MM

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.

Display 3b. Anchored Instruction Discussions (YouTube, CNN, BBC, TeacherTube, CurrentTV) ...MM

- 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 3c. Concept Mapping and Timeline Tools (VUE, Bubbl.us, Cmap, Freemind, Gliffy, Mindmeister, or Mindomo)

Display 3d. World Trends and Indices (e.g. Worldmapper)

The map shows the growth in scientific research of numerous nations, 1990 and 2010. If there was no increase in scientific publications that territory has no area on the map.

In 1990, 80 scientific papers were published per million people living in the world; this increased to 100 per million by 2010. The increase was exponential primarily in countries with strong existing scientific research. However, the United States, with the highest total number of publications in 2010, experienced a smaller increase than 1990 than that in Japan, China, Germany and the Republic of Korea. Singapore had the greatest per person increase in scientific publications.

WorldMapper is an ongoing initiative of the National Science Foundation, and we include it online for the global, knowledge-driven economy, and for our next phase of development as a society." Thomas Sherringer, 2005

Territory size shows the proportion of the number of entire scientific papers that were published in 2001 compared with 1990, where darker colors show.

- Open PDF viewer, designed for printing, you need Acrobat Reader
- New shaded territory: click on color-coded map for comparison
- Data files: Excel (large with map), Excel (small no map), OpenOffice (small no map)
- Fullscreen mode for this site
- All of the data we use is submitted, see data page

Display 3e. United Nations World Digital Library

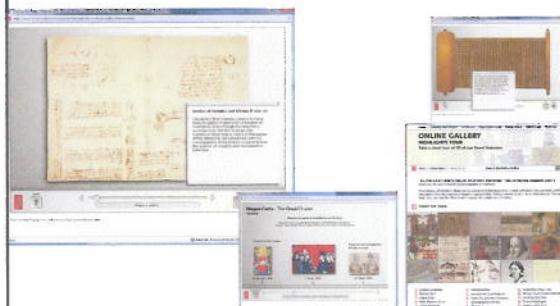
<http://www.wdl.org/en/>



Display 3f. Shared Online Video (e.g., Howcast, WonderHowTo, Clip Chef, Link TV, Fora TV, etc.)



Display 3g. Online Historical Docs (e.g., Turning The Pages, British Library)



Display 3h. Medical Animations and Videos (e.g., YouTube, CNN, BBC)



Display 3i. Online Timelines (e.g., US Presidents, Univ of North Texas)



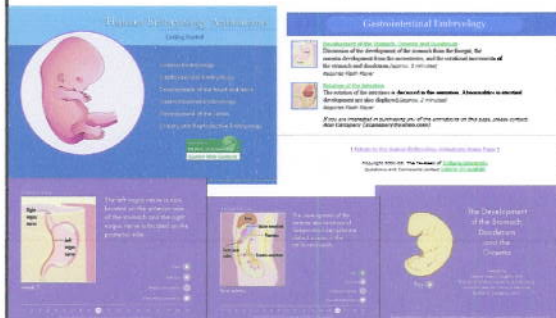
Display 3j. Videos of the Periodic Table



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



Display 3l. Human Embryology Animations (Valerie O'Loughlin, Indiana Univ.)



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



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)) ...MM



Today's Campus, May/June 2010

“Wikipedia, the open encyclopedia, attracts 68 million visitors monthly, and 91,000 active contributors are working on 15,000,000 articles in 270 languages. Three million plus articles are in English.”

Do 4b. Survey Research and Market Analysis (e.g., Mister Poll, MicroPoll, Zoomerang, SurveyShare)

The image displays three different online survey platforms. On the left is SurveyShare, in the middle is Mister Poll, and on the right is MicroPoll. Each screenshot shows the user interface for creating and managing online surveys.

Do 4c. Online Warm-ups Activities Just-In-Time-Teaching (JiTT)

The image features the cover of the book 'Just-In-Time Teaching' by Robert M. Gagne and Michael J. Angelo. To the right is a black and white photograph of a man, likely Robert M. Gagne, holding a map of the United States.

Do 4d. Syllabus, Glossary, etc. in wiki: Students sign up for tasks (Ron Owston, York University) ...MM

The image shows a screenshot of a wiki page titled '2008-09 Syllabus for Digital Technology in Education' with a table of contents. To the right is a photograph of Ron Owston, a man in a blue shirt.

Do 4e. Virtual World and Podcast Reenactments

The image is a collage related to virtual worlds and podcasts. It includes a poster for 'Twelfth Night' by the Shakespeare Company, a screenshot of a podcast player, and a screenshot of a video player showing a virtual world scene.


Do 4f. Medical Simulations in YouTube and Second Life

The image shows four screenshots of medical simulations. Two are from YouTube, showing anatomical diagrams and a virtual lab. Two are from Second Life, showing a virtual hospital environment with 'Exam Rooms' and a virtual simulation of a medical procedure.

Poll #2: How many ideas did you get from the second part of this talk?



- None—you are an idiot.
- 1 (and it is a lonely #).
- 2 (it can be as bad as one).
- 3-5
- 6-10
- Higher than I can count!

The poll question is displayed in red text. Below the options are small cartoon illustrations of three people and a podium.



Next up: The MATRIX!!!!!!!!!!!!!!!

- **M**obile
- **A**uditory
- **T**hought-stimulating
- **R**eflective/Real-World
- **v**isually Interactive
- **eX**tremely Hands-on


3 99 Seconds Stop and Share: 3
Top Three Things Learned today!



**Try the R2D2 Method!
Try TEC-VARIETY!
And hope for some magic!!!**

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