




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



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Technology of the 1980s




Radio Shack TRS-80 Model III	
Introduced:	July 1980
Price:	US \$699 base model US \$2495 w/ 32K, dual drives.
CPU:	Z80g, 2-16, 2 03 MHz
RAM:	4K, 48K max
Ports:	Cassette tape, expansion, serial
Display:	13-inch B&W monitor: 64 X 16 text
Storage:	0, 1, or 2 Internal 1.7MB floppy drives External cassette @ 500 / 1500 baud
OS:	BASIC w/ ROM, TRS-CROS on disk




**New technologies hit us
everyday!**




**Part I. Some Online
Motivational Ideas**




**We are not motivating students with
the technologies that they love!**



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.




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


A Cycle of Knowledge Building and Sharing



MINDS ON FIRE



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




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.




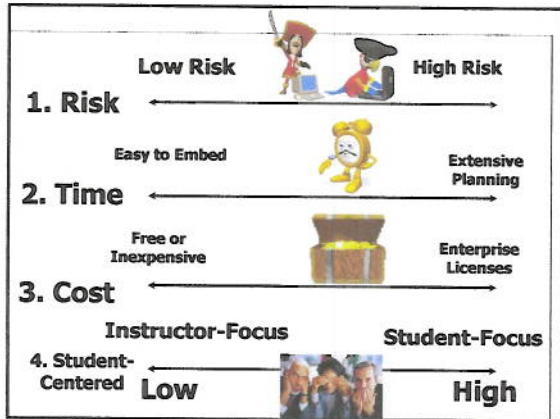
I even reflected on this for a moment...and then something magical happened...



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

- Everyone posts 1-2 of their favorite Websites and explain why.
- 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, Screencr)

2. Encouragement, Feedback, etc.:

C. Video Scenario Learning Forensic Accounting Interviews and Preparatory Course Review Modules
(Franklin University, MBA accounting course)

<https://video.franklin.edu/Franklin/acct/manager/168/accounting/cost-behavior-player.html>
<http://video.franklin.edu/Franklin/acct/242/common/FraudScenario102.html>

3. Curiosity, Fun: A. Online News

(Giant jellyfish, Tiny T. rex, and Ardi)

This slide features a collage of online news articles and images. On the left, there's a CNN article about a giant jellyfish. In the center, a headline reads "Human origin takes a new track" with a sub-headline "Fossil points to separate lineage from chimps". On the right, there are images of a tiny T. rex and Ardi, along with a larger image of a T. rex. The bottom left shows a group of people, and the bottom right shows a large animal, possibly a mammoth or bison.

3. Curiosity, Fun: B. WolframAlpha

(access knowledge)

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

This slide shows a screenshot of the WolframAlpha website. The main heading is "A Quick Introduction to Wolfram Alpha by Stephen Wolfram". The interface includes a search bar, navigation tabs, and various content sections. A small image of Stephen Wolfram is visible in the top right corner.

3. Curiosity, Fun: C. 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)

This slide is a collage of videoconference screenshots and photos of participants. The top left shows a group of people in a virtual meeting. The top right shows a woman speaking. The middle section shows several smaller screenshots of different videoconference sessions. The bottom left features a "Welcome to International Studies for Indiana Schools" logo. The bottom right shows a man and a woman in a video call.

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.

This slide includes a "PS40 Cool Resource Provider and Moderator Sign Up Sheet". It features a sun icon and a list of instructions for providers and moderators. The sheet is partially filled out with names and contact information. A photo of a group of people is visible on the right side.

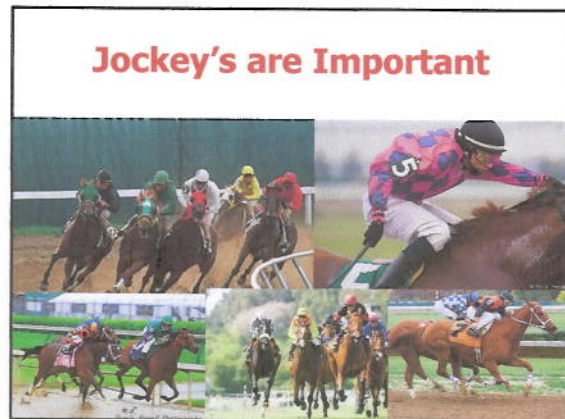
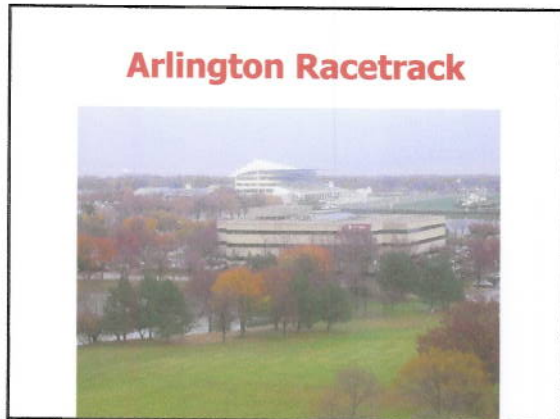
4. Variety, Novelty: B. Expert Chats

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.

This slide illustrates an expert chat session. It features a photo of Jane Penney, a resident of Mack Island, Antarctica. Below the photo is a small text box with her name and location. To the left, there's a small image of a person in a snowy environment.

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

This slide shows a screenshot of a synchronous session with a guest expert. The main window displays a presentation slide with the text "First and Third Grades and Their Author Read-alouds". Below the slide, there are several smaller windows showing participants in a video conference. A text box on the right contains a list of names and contact information.



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)

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. Tour an Oil Drilling Site (i.e., BP)**

**7. Interactive, Collaborative:
A. Online Language Learning
(Skype, MSN, ECPod, Mixer, Livemocha, Babbel, KanTalk etc.)**

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

Ning in Education
Using for Educational SocialNetworks

**7. Interactive, Collaborative:
C. Collaborative Documents (Google Docs)**

	Cheese	Sausage	Crackers
1	Muenster	Summer	Ritz
2	Cheddar	Breakfast	Tostitos
3	Swiss	Applebee's	Galaxy
4	Mozzarella	Mortadella	MeMa Toast
5	Edam	Galaxy	Mixed Tins
6	Gouda	Sweet Italian	Goodfuh

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

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

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

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

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

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

<http://www.youtube.com/watch?v=xiwS1ryPzSQ>
http://www.youtube.com/watch?v=x3FJy14Pn_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 (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.
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**

Carle J. Bork | Ke Zhang

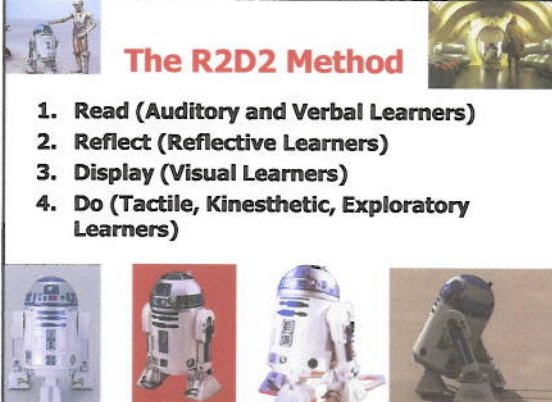
**Empowering
Online Learning**

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. Publishing in Open Access Journals (e.g., PLOS)

The International Review of Research in Open and Distance Learning
A refereed e-journal to advance research, theory and best practice in open and distance learning worldwide
Athabasca University

Read 1b. Course Announcements (e.g., Teaching with Twitter)

Poll: Podcast Questions



- Who has listened to a podcast?
- Who listens to a certain podcast on a regular basis?
- Who has created a podcast?
- Who has created a vodcast?
- Who thinks podcasting is simply more talking heads?

Read 1c. Podcast Paper Reflections

Read 1d. 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. Critical Friend Blog Postings...MM



Poll: Blogging Questions

- Who has a blog?
- Who regularly reads other people's blogs?
- Who assigns blogging tasks?
- Who has created a video blog?
- Who thinks it is an utter waste of time to blog?



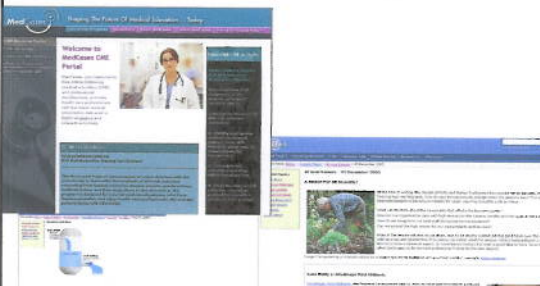
Reflect 2b. Cultural Blogs (e.g., Dr. Kim Foreman, San Fran State University, Come and See Africa Blog; <http://comeandseeafrica.blogspot.com/>)



Reflect 2c. Expert and Domain Specific Blog Reflections (English, Health, Business, etc. blogs)



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



Do 4e. Virtual World and Podcast Reenactments

A collage featuring a 'Twelfth Night' live play poster, a virtual world interface with avatars, and a podcast player showing a list of audio files.

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

A collage of images showing healthcare professionals in a hospital, a doctor with a patient, and various medical equipment and supplies.

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

A collage of images showing the interior of a modern library with multiple levels and bookshelves, and an exterior view of a large, modern building.

Reflect 2h. Videos on Book Websites (e.g., Brain Rules, John Medina)

A screenshot of the 'Brain Rules' website by John Medina, featuring a video player showing the author and a sidebar with book and DVD information.

Reflect 2i. Big Think (short topical videos from famous people)


A screenshot of the Big Think website displaying several video thumbnails, including one by Tal Ben-Shahar and another by Leonard Guarente.

3. Visual Learners

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


A collage illustrating visual learning aids, including a circular flowchart, a globe, and a person wearing a space helmet.

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



Display 3d. Videos of the Periodic Table



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



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



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

WORLDMAPPER The world at a glance

Science Growth

The map shows the growth in scientific research of countries between 2000 and 2005. It shows a clear increase in scientific publications that were published in 2005 compared with 2000. The increase was 35% per million in 2005. The increase was exponential in some countries with strong existing scientific research. However, the United States, with the highest total publications in 2005, experienced a smaller increase since 2000. Other high performers in 2005 included the Republic of Korea, Singapore and the United Kingdom, whose authors work alone.

Territories also show the proportion of the population of each scientific discipline that were published in 2005 compared with 2000, whose authors work alone.

- Open PDF poster, designed for printing. The next Annual Reader.
- Open HTML version, map or projection into the hemisphere.
- Data files: Excel (large with map), Excel (small no map), OpenOffice format (Excel only).
- Download maps for this data.
- 25% of the data we use is estimated: see data page.

Display 3h. United Nations World Digital Library

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

Display 3i. Weather-Related Visuals and Animations

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

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

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

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

This screenshot shows a website with a blue header and purple background. It features several anatomical diagrams of a human embryo at different stages. Text on the page includes 'Human Embryology Animations', 'Gastrointestinal Embryology', and 'The Development of the Embryo'. There are also links to 'Download Animations' and 'View Animations'.

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

This screenshot shows the Google 3D Warehouse interface. At the top, it says 'Google 3D Warehouse' and 'Roosevelt Island Bridge & Motorgate Parking'. Below this, there is a 3D model of a bridge. To the right, there is a search bar and a 'Download Model' button. The page also includes a 'Made with Google SketchUp' badge and a 'Collections containing this model' section.

Display 3o. Indexing Sounds in Cities with Google Maps

This screenshot shows a Google Maps interface with several red sound icons overlaid on a city map. A sidebar on the left lists 'Sound tags in this area'. In the top right corner, there is a video player showing a man speaking, with the title 'THE CHRONICLE'.

Display 3p. Virtual Archaeology (e.g., ARCHAVE from Brown University)

This collage includes several images related to virtual archaeology. On the left is a classical building with columns. In the center is a person in a virtual environment. On the right is a 3D model of a structure. Below these are smaller images of a person using a handheld device, a 3D model of a house, and a 3D model of a large structure.

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.

The diagram is a circular flow with four quadrants: 'Doing' (top), 'Thinking' (right), 'Feeling' (bottom), and 'Acting' (left). The center contains the text 'Learning is a process of...'. Surrounding the diagram are several images of people engaged in various activities, including a person in a white suit, a person in a virtual environment, and a person in a dark vest.

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

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

This screenshot shows a Wikibooks page with a colorful header featuring icons for a play button, RSS, and an @ symbol. The page title is 'Web 2.0 and Emerging Learning Technologies'. Below the title, there is a 'Table of Contents' and a 'Part I: Foundations' section. The page also includes a 'Contents' link at the bottom.

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

The image shows a collage of screenshots from a wiki page. The main screenshot displays a table with columns for 'Task', 'Status', and 'Assigned To'. Below the table, there are sections for 'About This Wiki' and 'Recent Activity'. A photo of Ron Owston is included on the right side of the collage.

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

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

Do 4d. Online Warm-ups Activities Just-In-Time-Teaching (JITT)

The image features the 'JUST-IN-TIME TEACHING' logo on the left, which includes a list of activities like 'JITT quiz', 'JITT discussion', etc. On the right is a photo of a man holding a map of the United States.

Do 4e. Podcasts for students of pronunciation class (e.g., Tzu-Su Chen, Taiwan)

The image shows a collage of audio-related content. It includes a screenshot of a podcast player with the text 'Hey Jude, don't make it bad / Take a sad song and make it better', a 'podomatic' logo, and a social media-style post with a photo of a woman.

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!

Illustrations of three cartoon figures and a hurdle are positioned to the right of the poll options.

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

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

Three photos at the bottom show people using lightsabers in a playful setting.