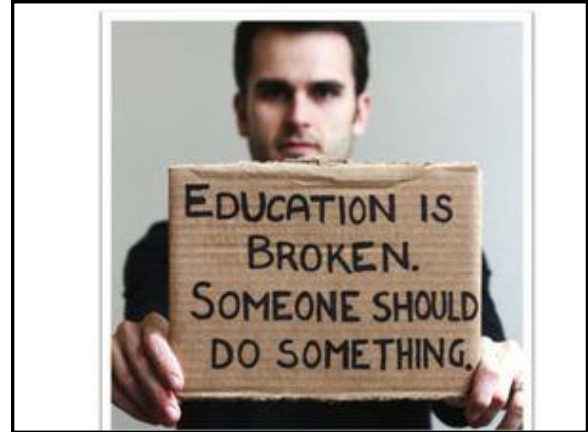


Learning is Changing Part 2: Disruptive Innovation, Faculty Preparedness, and the TEC-VARIETY Model

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



"A brilliant teacher, Christensen brings clarity to a muddled and chaotic world of education." — JIM COLLINS, bestselling author of *Good to Great*

Disrupting Class

*How Disruptive Innovation Will
Change the Way the World Learns*



Clayton M. Christensen
 BESTSELLING AUTHOR OF *THE INNOVATOR'S DILEMMA*

Michael B. Horn & Curtis W. Johnson

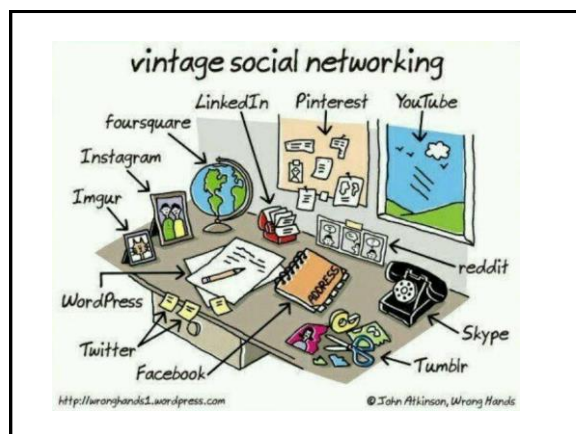
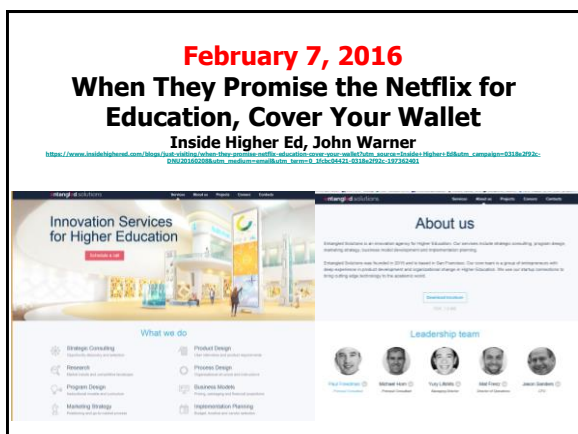
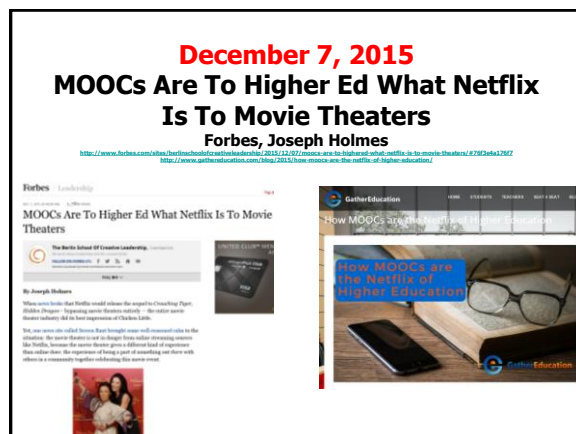
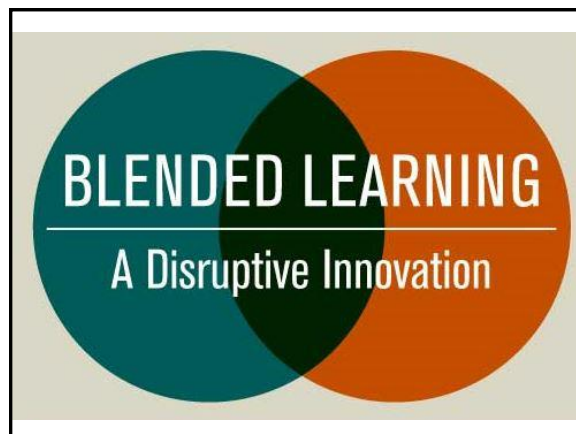


"I don't like the sound of 'disruptive' ... can we
get some mildly troubling technology?"

brianmooredraws.com

Products & Industries Rocked by Disruptive Technologies

Innovation	Disrupted Market
Automobiles	Rail roads
CDs, DVDs	Tapes
Downloadable Digital Media	CDs, DVDs
Digital Photography	Film Photography
Mini Computers	Mainframe Computers
Personal Computers	Mini Computers
Flat Panel TVs	CRT TVs
Robotic Factories	Assembly Line factories
Jet Planes	Propeller Planes

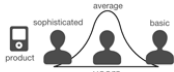


WHAT EVERYONE OUGHT TO KNOW ABOUT DISRUPTIVE INNOVATION

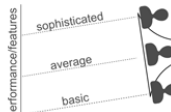
"A disruptive innovation is **not** a breakthrough innovation that makes good products a lot better."
- Clayton Christensen

HERE IS WHY...

Every product has users that range from basic to average to sophisticated

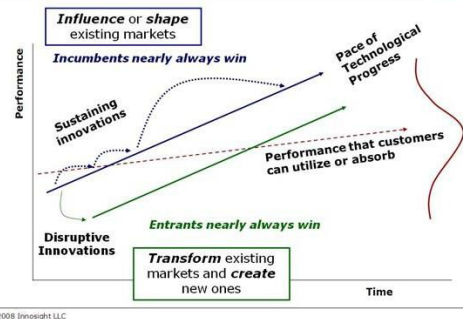


Over time, customers can utilize more features and performance



The Disruptive Innovation Model

INNOSIGHT



© 2008 Innosight LLC

We are entering a jumping off point...

(South University of Science and Technology of China, Wednesday June 10, 2015)



Is the role of the instructor being disrupted? (Instructor as Cat Herder?)



Learning is More Interactive and Collaborative



From Instructor as Credit Manager...to...



1. Instructor as Counselor



2. Instructor as Consultant



Instructor as Conductor



4. Instructor as Course Ambassador



5. Instructor as Curator



6. Instructor as Concierge



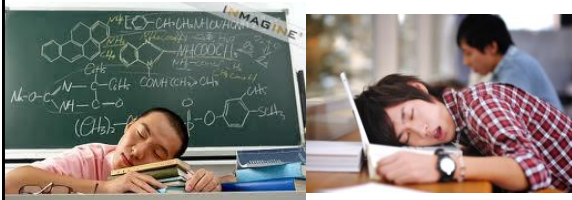
7. Instructor as Camping Trip Guide



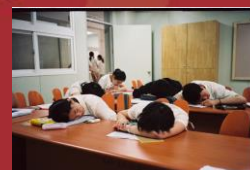
8. Instructor as Cultivator



Needed: New Models of Motivation and Engagement



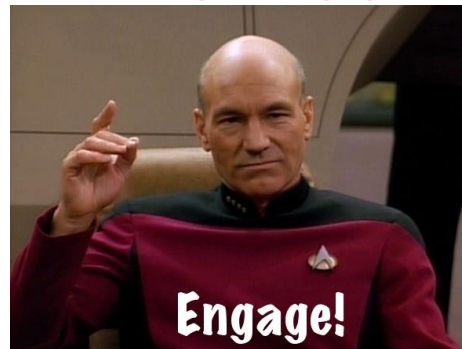
How do
we engage
online?



What did Jean-Luc Picard say?



That's right, Engage!



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.



Drive: The Surprising Truth About What Motivates Us

Daniel Pink (2009)

Motivation 3.0



Mindset:

The New Psychology of Success Carol Dweck (2006)

<http://mindsetonline.com/index.html>
<http://mindsetonline.com/testyourmindset/step1.php>



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.



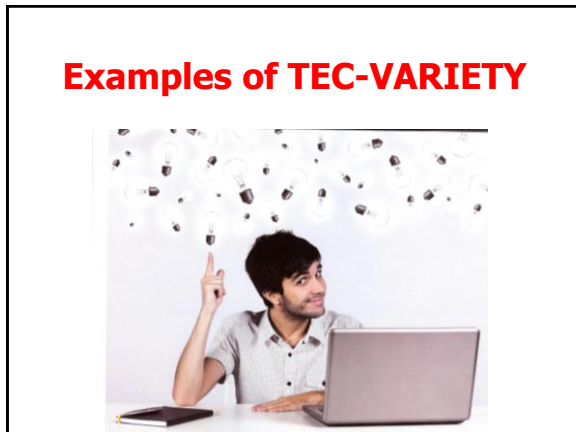
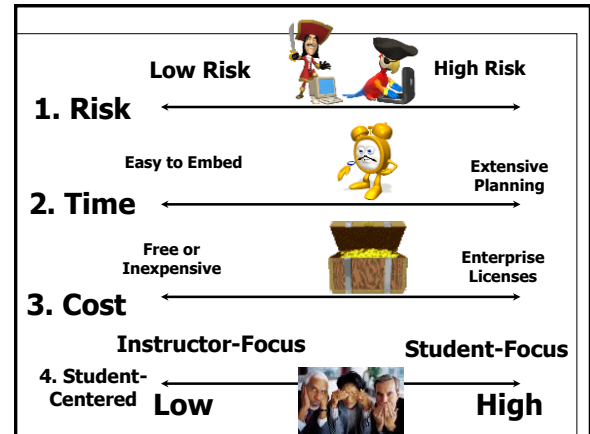
Framework: TEC-VARIETY for Online Motivation and Retention

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

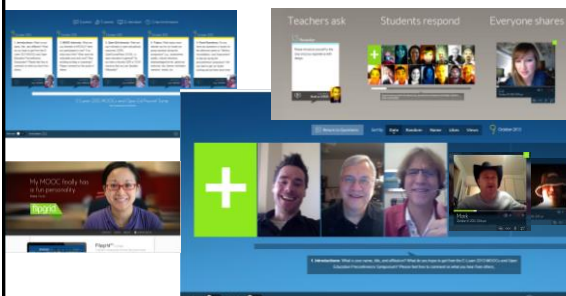
Introducing the free "TEC-VARIETY" Framework...
<http://tec-variety.com/>
<http://tec-variety.com/TEC-VARIETY-Chinese.pdf>




**在线学习动机与激励：
TEC-VARIETY 模型**
 ——激励和留住在线学习者的 100 个活动
 作者：Curtis J Bonk & Elaine Khoo IU




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



**1. Tone/Climate:
B. Share Visuals of Favorite Places
(e.g., Panoramio,
<http://www.panoramio.com/>)**



**1. Tone/Climate:
C. Instructor Course Introductions**
 (Theatre 10 Intro Video, October 7, 2014, Elizabeth Dale, West Valley College)
<https://www.youtube.com/watch?v=Wz6zc3QiiA>
 Chuck Severance, U Michigan/Coursera) in Barcelona
<http://www.youtube.com/watch?v=JzNHymSv8TI>
 Chuck Severance, University of Michigan
<https://www.coursera.org/course/pythonlearn>



2. Encouragement, Feedback, etc.: A. Demonstrations and Tutorials

Emerging technology specialist, IU UITS, Nitocris Perez,
May 29, 2014

<http://inside.iub.edu/features/videos/2014-05-29-inub-vid-cib.shtml>



May 29, 2014

May 29, 2014

2. Encouragement, Feedback, etc.: B. Voice/Audio Feedback

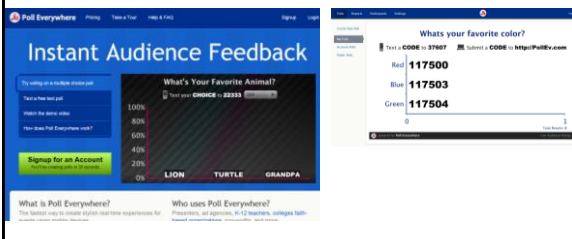
Vocaroo: <http://vocaroo.com/>
<http://vocaroo.com/delete/s0x8moQAYAiU/a37bbc9408bb8c95>
(Recorded by Curt Bonk for the Open University of China)



© 2007-2013 Vocaroo | [Help](#) | [Info](#) | [Privacy](#) | [About Us](#)

2. Encouragement, Feedback, etc.: C. Blog and Website Polling

(e.g., Poll Everywhere, BlogPolls, BlogPoll, MicroPoll)
<http://www.pollerywhere.com/>



May 25, 2015

3. Curiosity, Fun:

A. Something in the News

(e.g., Chinese universities move up in world rankings, China Daily)

http://www.cnn.com/2014/12/17/health/healthy-aging/index.html?hpt=hp_12
http://espn.go.com/sports/enrurance/story/_/id/8979487/fauja-singh-101-career-10k-hong-kong
http://www.chinadaily.com.cn/china/2015-05-25/content_20883634.htm



3. Curiosity, Fun:

B. Something in the News

New 'massive' dinosaur skeleton discovered, USA Today,
September 5, 2014 (Dreadnoughtus)

<http://www.usatoday.com/story/tech/2014/09/04/dinosaur-skeleton-discovered/15031803/>

October 23, 2014: Goofy dinosaur blends Barney and Jar Jar Binks, SF Gate
<http://www.sfgate.com/news/article/Goofy-dinosaur-blends-Barney-and-Jar-Jar-Binks-5680903.php>

January 20, 2015: Naomi Ng, for CNN
<http://www.cnn.com/2015/01/19/01/index.html#story=china/dinosaur/index.html>



Robert D'Amico

Source: CNN

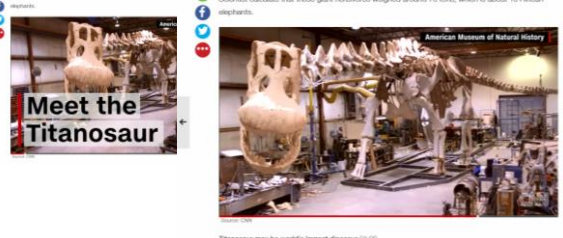
January 14, 2016

3. Curiosity, Fun:

C. Something in the News

Move over T. rex, new dinosaur unveiled, Amanda Jackson, CNN

<http://www.cnn.com/2016/01/14/living/titanosaur-new-dinosaur-on-display-new-york-14/index.html>



Titanosaur may be world's largest dinosaur (1/14)

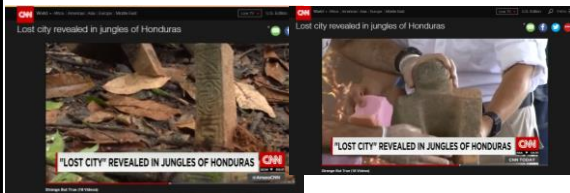
January 18, 2016

3. Curiosity, Fun:

D. Something in the News

Lost city revealed in jungles of Honduras, CNN

<http://www.cnn.com/videos/world/2016/01/18/lost-city-found-in-honduras-dnt-walker.cnn>



December 28, 2015

3. Curiosity, Fun:

E. Something in the News

Creature from the deep surfaces in Japanese harbor, giant squid, Euan McKirdy and Junko Ogura, CNN

<http://edition.cnn.com/2015/12/28/asia/toyama-japan-giant-squid/index.html>



September 3, 2015

3. Curiosity, Fun:

F. Something in the News

Deep sea creature stuns explorers, CNN, While mapping uncharted waters near Hawaii, NOAA explorers captured incredible footage of deep sea creatures.

<http://www.cnn.com/video/world/2015/09/03/deep-sea-creature-stuns-explorers-orig-dlewis.cnn>



November 19, 2015

3. Curiosity, Fun: G. Something in the News

New daddy longlegs named after 'Lord of the Rings' character Smeagol, Mary Bowerman, USA Today

<http://www.usatoday.com/story/tech/science/2015/11/19/new-daddy-longlegs-named-after-lord-of-the-rings-character-smeagol/76637206/>



September 7, 2015

3. Curiosity, Fun:

H. Something in the News

New 'Superhenge'? Remains found near Stonehenge, Monica Sarkar, CNN

<http://www.cnn.com/2015/09/07/europe/new-superhenge-discovery/index.html>

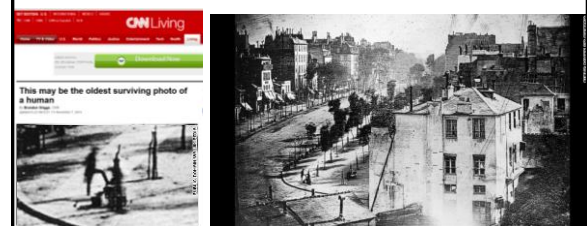


3. Curiosity, Fun:

I. Something in the News

(e.g., This may be the oldest surviving Photo of a human, November 7, 2014, CNN, Brandon Griggs; But this image, taken in Paris, France, in 1838)

http://www.cnn.com/2014/11/06/living/oldest-photograph-human-daguerre/index.html?hpt=hp_14_kong



November 20, 2015

3. Curiosity, Fun:

J. Something in the News

Treasure trove: Farmer discovers 4,000 Roman coins in Swiss orchard,
Will Heilpern, CNN

<http://www.cnn.com/2015/11/20/luxury/roman-coins-switzerland-farmer/index.html>

Treasure trove: Farmer discovers
4,000 Roman coins in Swiss orchard

By Will Heilpern, CNN

Updated 5:04 PM ET, Fri November 20, 2015



THE COINS ARE BELIEVED TO HAVE
BEEN BURIED 1,700 YEARS AGO



Farmer finds over 4,000 ancient coins in orchard



3. Curiosity, Fun: K. Virtual Expeditions July 23, 2015

What Google's virtual field trips look like in the classroom, eSchool News, Stephen Noonoo



Expeditions: Take your students to places a school bus can't

June 12, 2015

3. Curiosity, Fun: L. Something in the News and Infographic

Twitter CEO Dick Costolo replaced by co-founder Jack
Dorsey, Laura Onita

<http://eandt.theiet.org/news/2015/jun/twitter-costolo-dorsey.cfm>



Twitter CEO Dick Costolo replaced by co-founder Jack Dorsey

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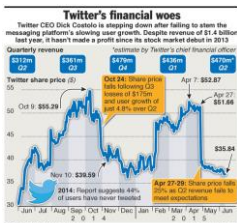
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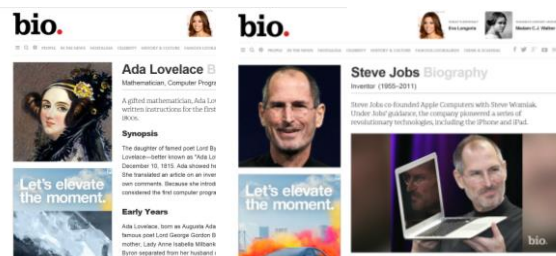
Twitter CEO Dick Costolo replaced by co-founder Jack Dorsey



3. Curiosity, Fun:

M. Tracking the Life of a Computer Scientist (bio.com)

<http://www.biography.com/people/steve-jobs-9354805>
<http://www.biography.com/people/ada-lovelace-20825323>



4. Variety, Novelty, Fun:

A. Teach from Vietnam to the World

BBC News Asia, August 14, 2013

Even though he is now very elderly Vinh Bao (age 96) still teaches music,
using his computer to coach pupils across the globe.

<http://www.bbc.com/news/world-asia-23497559>

14 August 2013 Last updated at 06:15 ET

Working Lives Vietnam

WATCH: Milk magazine | Textile worker | Software engineer



Working Lives Vietnam: Musician

Working Lives Vietnam

WATCH: Milk magazine | Textile worker | Software engineer



Working Lives Vietnam: Musician

There is no system for writing Vietnamese traditional music so the
survival depends on master musicians passing their skills on to the
next generation.

4. Variety, Novelty, Fun, Fantasy:

B. Random Lists (Random.org—clocks, coins,
playing cards, dice, integers, passwords, jazz
scales, lists, sequences, etc.)

RANDOM.ORG

Coin Flipper

You Request 2 coins of type 100k 41:



Timestamp: 2011-08-13 01:14 UTC

Flip Again | Go Back

Dice Roller

You rolled 2 dice:



Timestamp: 2011-08-13 01:14 UTC

Roll Again | Go Back

RANDOM.ORG

List Randomizer

There were 10 items in your list. Here they are in random order:

Random Sequence Generator	
1. Bill	10
2. Arthur	10
3. Thomas	10
4. Shelley	10
5. Shirley	10
6. Sharon	10
7. Susan	10
8. Stephanie	10
9. Ned	10
10. Brian	10

Timestamp: 2011-08-13 01:14 UTC

Roll Again | Go Back

Random Sequence Generator

Timestamp: 2011-08-13 01:14 UTC

Roll Again | Go Back

Random Sequence Generator

Timestamp: 2011-08-13 01:14 UTC

Roll Again | Go Back

Random Sequence Generator

Timestamp: 2011-08-13 01:14 UTC

Roll Again | Go Back

Random Sequence Generator

Timestamp: 2011-08-13 01:14 UTC

Roll Again | Go Back

Random Sequence Generator

Timestamp: 2011-08-13 01:14 UTC

Roll Again | Go Back

6. Relevance, Meaningfulness:

A. Guest Chats (e.g., Emily Hixon, January 20, 2015)

<https://connect.iu.edu/p259wpiabq9/>



7. Interactive, Collaborative:

A. Negotiate Meanings Online

(e.g., PiratePad: <http://meetingwords.com/>)

<http://blogs.ehon.edu/technology/6-collaborative-writing-applications-for-group-projects-or-pages/>
MeetingWords, Google Docs, NowComment, MixedInk



7. Interactive, Collaborative:

B. Virtual Sharing Walls, April 6, 2015 e.g., Padlet (What is your secret recipe to engage?)

http://padlet.com/zaid_alsagoff/engage



7. Interactive, Collaborative:

C. Collaboration and Discussion in Google Hangouts, Jabber, Skype, etc (January 29 and February 25, 2013)



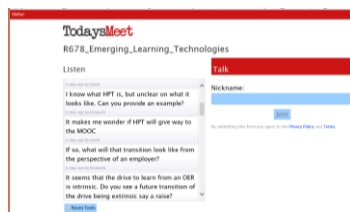
7. Interactive, Collaborative:

D. Backchannel Chat (TodaysMeet)

<https://todaysmeet.com/>

R678_Emerging_Learning_Technologies

https://todaysmeet.com/R678_Emerging_Learning_Technologies



July 27, 2015

8. Engagement, Effort:



10. Yields Products, Goals: A. Uploading Mobile Books and Wikibooks (e.g., BookRix, <http://www.bookrix.com/>)



10. Yields Products, Goals: B. Student Created Mobile Apps

The App Builder: <http://www.theappbuilder.com/>
Mintian Guo: <http://myapp.is/r685final>



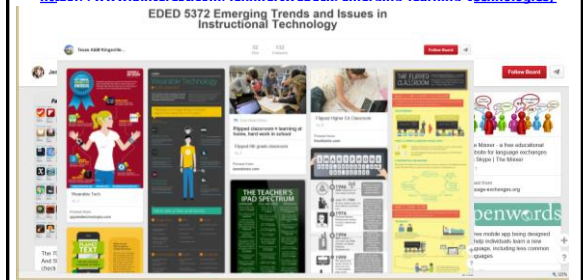
10. Yields Products, Goals: C. Student Created Videos

Piercarlo Abate: <http://www.youtube.com/watch?v=-TUrCh09aU>
Qi Li, Gangnam: <http://www.youtube.com/watch?v=7Q429lqZaU&feature=youtu.be>
Miguel Lara (Web 2.0 FREEDOM): <http://www.youtube.com/watch?v=8cmCFW9IWS>
Kendal Rasnake (Is IT Right For You?): <https://www.youtube.com/watch?v=MJ3GUD1CIGw>



10. Yields Products, Goals: D. Collection Tools

Design Article Database in Pinterest, Jenny Webeck
<https://www.pinterest.com/iennifertwebeck/emerauna-learning-technologies/>



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

What motivates?

1. Tone/Climate: Psychological Safety, Comfort, Sense of Belonging
2. Encouragement: Feedback, Responsiveness, Praise, Supports
3. Curiosity: Surprise, Intrigue, Unknowns
4. Variety: Novelty, Fun, Fantasy
5. Autonomy: Choice, Control, Flexibility, Opportunities
6. Relevance: Meaningful, Authentic, Interesting
7. Interactivity: Collaborative, Team-Based, Community
8. Engagement: Effort, Involvement, Investment
9. Tension: Challenge, Dissonance, Controversy
10. Yielding Products: Goal Driven, Purposeful Vision, Ownership

Overcoming the Resistance Movement



1. Incremental Change



2. Shared Success Stories and Best Practices



3. Training and Development



4. Just-in-Time Support



5. An Atmosphere of Sharing



6. Awards and Incentives



7. Modeling



8. Mentoring and Coaching



9. External Supports



10. Frameworks and Models



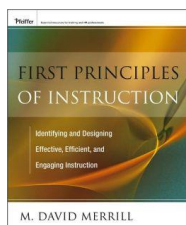
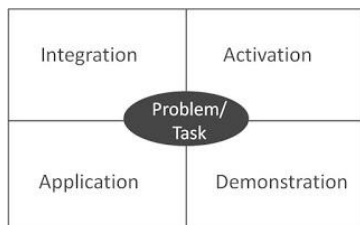
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10. Yielding Products: Goal Driven, Purposeful Vision, Ownership



Merrill's First Principles of Instruction

<http://mdavidmerrill.com/Papers/FirstPrinciplesReigeluthCarr.pdf>



Bonk's Last Principles of Teaching/Instruction

<http://traveledman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html>



1. The Principle of Flexibility

<http://traveledman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html>



2. The Principle of Convenience

<http://traveledman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html>



3. The Principle of Collegiality

<http://traveledman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html>



3. The Principle of Collegiality???

<http://traveledman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html>



4. The Principle of Cheerfulness and Optimism

<http://traveledman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html>



5. The Principle of High Expectations

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6. The Principle of Choice and Options

<http://traveledman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html>



7. The Principle of Empowerment and Autonomy

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8. The Principle of Support and Feedback

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9. The Principle of Spontaneity

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10. The Principle of Organization

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11. The Principle of Sharing

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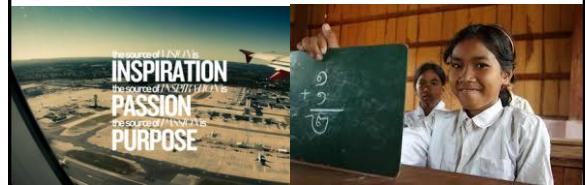
12. The Principle of Nontraditional Learning

<http://traveledman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html>



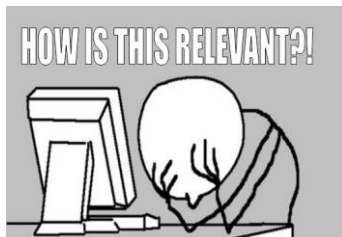
13. The Principle of Passion and Inspiration

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14. The Principle of Relevance and Meaningfulness

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15. The Principle of Trial and Error (i.e., it is ok to fail)

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16. The Principle of Expanded Resources

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17. The Principle of Human Connectedness

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18. The Principle of Cognitive Apprenticeship

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19. The Principle of Purpose and Vision

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20. ??? (what is missing)

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Debriefing of Bonk's Last Principles of Instruction and New Instructor Roles

<http://traveledman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html>



Poll #3: How many ideas did you get from this talk?

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.



Any Questions?

Slides at: TrainingShare.com

Papers: PublicationShare.com

Book: <http://tec-variety.com/>

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