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

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Disruptive Innovation

Disrupting Class
How Disruptive Innovation Will Change the Way the World Learns
Clayton M. Christensen

Products & Industries Rocked by Disruptive Technologies

<table>
<thead>
<tr>
<th>Innovation</th>
<th>Disrupted Market</th>
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<tbody>
<tr>
<td>Automobiles</td>
<td>Rail roads</td>
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<td>CDs, DVDs</td>
<td>Tapes</td>
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<td>Downloadable Digital Media</td>
<td>CDs, DVDs</td>
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<td>Digital Photography</td>
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<td>Mini Computers</td>
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<td>Personal Computers</td>
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<td>Flat Panel TVs</td>
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<td>Robotic Factories</td>
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<td>Jet Planes</td>
<td>Propeller Planes</td>
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**MOOCs Are To Higher Ed What Netflix Is To Movie Theaters**

*Forbes, Joseph Holmes*

http://www.forbes.com/sites/berlinschoolofcreativeleadership/2015/12/07/moocs-are-to-highered-what-netflix-is-to-movie-theaters/?sh=76f3e4a176f7

**When They Promise the Netflix for Education, Cover Your Wallet**

*Inside Higher Ed, John Warner*


**Competency-Based Education is all about Personalization**

*Gather Education*

http://www.gathereducation.com/blog/2015/how-moocs-are-the-netflix-of-higher-education/

**February 7, 2016**

*Innovation Services for Higher Education*
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

3. 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

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.
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

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)

Mindset:
The New Psychology of Success
Carol Dweck (2006)
http://mindsetonline.com/index.html
http://mindsetonline.com/testyourmindset/step1.php

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/

Examples of TEC-VARIETY

1. Tone/Climate: A. Threaded Video Discussions, e.g., Flipgrid
http://flipgrid.com/#42f988c5

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=_Wzbzc3QiiA
Chuck Severance, U Michigan/Coursera) in Barcelona
http://www.youtube.com/watch?v=3JznNmFvR1I
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

2. Encouragement, Feedback, etc.: B. Voice/Audio Feedback
Vocaroo: http://vocaroo.com/
http://vocaroo.com/delete/sd8xmoQYAiu/s37bc9408bb8c95
(Recorded by Curt Bonk for the Open University of China)

2. Encouragement, Feedback, etc.: C. Blog and Website Polling
(e.g., Poll Everywhere, BlogPolls, BlogPoll, MicroPoll)
http://www.polleverywhere.com/

May 25, 2015
3. Curiosity, Fun:
A. Something in the News
(e.g., Chinese universities move up in world rankings, China Daily)

3. Curiosity, Fun:
B. Something in the News
New ‘massive’ dinosaur skeleton discovered, USA Today, September 5, 2014 (Dreadnoughtus)
October 23, 2014: Goofy dinosaur blends Barney and Jar Jar Binks, SF Gate
January 20, 2015: Naomi Ng, for CNN
http://www.cnn.com/2015/01/30/asia/china-dragon-dinosaur/index.html

3. Curiosity, Fun:
C. Something in the News
Move over T. rex, new dinosaur unveiled, Amanda Jackson, CNN

January 14, 2016
3. Curiosity, Fun:
D. Something in the News
Lost city revealed in jungles of Honduras, CNN
[Image]

3. Curiosity, Fun:
E. Something in the News
Creature from the deep surfaces in Japanese harbor, giant squid, Euan McKirdy and Junko Ogura, CNN

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.

3. Curiosity, Fun:
G. Something in the News
New daddy longlegs named after 'Lord of the Rings' character Smeagol, Mary Bowerman, USA Today

3. Curiosity, Fun:
H. Something in the News
New 'Superhenge'? Remains found near Stonehenge, Monica Sarkar, CNN

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)
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

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

3. Curiosity, Fun:
K. Virtual Expeditions
July 23, 2015
What Google's virtual field trips look like in the classroom, eSchool News, Stephen Noonoo
https://www.google.com/edu/expeditions/
https://www.youtube.com/watch?v=mlYJdZeA9w4
http://www.eschoolnews.com/?p=159458?ps=cjbonk@indiana.edu-0013000000j08pF-0033000000q5TNf

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.

4. Variety, Novelty, Fun, Fantasy:
B. Random Lists (Random.org—clocks, coins, playing cards, dice, integers, passwords, jazz scales, lists, sequences, etc.)
5. Autonomy, Choice:
A. Enroll in a MOOC and Reflect (e.g., see Class Central)

B. Design Multimedia Glossaries
P540 Final Assignment: Nate Wynne, Supersized Personal Course Glossary
http://natewynne1982.wix.com/p540courseglossary
Ozgur Ozdemir, December 2012
http://m685glossary.shutterfly.com/
Umida Khikmatillaeva, Dec. 2011, P540
http://learningandideas.shutterfly.com/

C. Explore OpenCourseWare and Open Educational Resources

D. Video Repositories and Portals
(e.g., Khan Academy, Computer Programming)
https://www.khanacademy.org/computing/computer-programming

E. Video Editing and Commenting Tools
(e.g., TubeChop)

Poll #2:
Any light bulbs going off in your head so far…?
A. Yes definitely***
B. Yes maybe!
C. Not yet (but hopefully soon...)
6. Relevance, Meaningfulness:
A. Guest Chats (e.g., Emily Hixon, January 20, 2015)
https://connect.iu.edu/p259wpabg9/

7. Interactive, Collaborative:
A. Negotiate Meanings Online
(e.g., PiratePad: http://meetingwords.com/)
MeetingWords, Google Docs, NowComment, MixedInk

B. Virtual Sharing Walls, April 6, 2015
e.g., Padlet (What is your secret recipe to engage?)
http://padlet.com/zaid_alsagoff/engage

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

D. Backchannel Chat (TodaysMeet)
https://todaysmeet.com/
https://todaysmeet.com/R678_Emerging_Learning_Technologies

7. Interactive, Collaborative:
8. Engagement, Effort:
A. iPhone Virtual Tour and Games
Amazing 360-degree panoramic images show new sides of North Korea, DMZ, CNN, Aram Pan
http://www.dprk360.com/360/air_koryo_Il-18
http://www.dprk360.com/360/pyongyang_aerial_view
8. Engagement, Effort:
B. Intercultural learning
Virtual and on-site exchanges between York University students, refugee students on the Thai Burma border and displaced migrant students in Ranong, Thailand, and York University, Toronto, Canada
http://aifprojects.yorku.ca/projects/intercultural-learning-thailand-2012-13/

8. Engagement, Effort:
C. Simulations

8. Engagement, Effort:
D. Interactive Timeline Maps, October 22, 2014, Second immigration wave lifts diversity to record high, Edward Greg Toppo and Paul Overberg, USA Today

8. Engagement, Effort:
E. Interactive Map Timelines (adults with college degrees by county, May 7, 2012)
http://todayscampus.com/article/Keith_Hampson_Interviews_Josh_Keller_on__Interactive_Graphics_for_Higher_Education

8. Engagement, Effort:
F. Simulations

March 13, 2015
9. Tension, Challenge, etc.:
A. Controversial Issue Debates
R511 Midterm Video How to Create an Authentic Environment in a Content-Driven School?, R511, Nick and Nik
https://www.youtube.com/watch?v=B6t3_aST_xQ&feature=youtu.be
Overcoming the Resistance

10. Yields Products, Goals:

A. Uploading Mobile Books and Wikibooks (e.g., Bookix, http://www.bookix.com)

B. Student Created Mobile Apps

The App Builder: http://www.theappbuilder.com/

Mintian Guo: http://myapp.is/r685final

Videos: Watch selected videos from scholars and educators.

Benefits:
• Can easily watch YouTube videos without having to open a separate application

Limitations:
• Only accepts YouTube urls

10. Yields Products, Goals:

C. Student Created Videos

Piercarlo Abate: http://www.youtube.com/watch?v=_-TURzHO0aU
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=8cmCFWi9lW8
Kendal Rasnake (Is IT Right For You?): https://www.youtube.com/watch?v=MJ3GUDICIGw

10. Yields Products, Goals:

D. Collection Tools

Design Article Database in Pinterest, Jenny Webeck: https://www.pinterest.com/jennifertwebeck/emerging-learning-technologies/

Commitments:

Stop and Share:
Which principle(s) of TEC-VARIETY will you use?

Tone/Climate
Curiosity
Encouragement, Feedback

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

Stop and Share:
Which principle(s) of TEC-VARIETY will you use?
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

Merrill’s First Principles of Instruction
http://merrill.com/Papers/FirstPrinciplesReigeluthCarr.pdf

Bonk’s Last Principles of Teaching/Instruction
http://travelinedman.blogspot.com/2011/05/bonk-last-principles-of-instruction.html
1. The Principle of Flexibility
   http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

2. The Principle of Convenience
   http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

3. The Principle of Collegiality
   http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

3. The Principle of Collegiality???
   http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

4. The Principle of Cheerfulness and Optimism
   http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

5. The Principle of High Expectations
   http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html
6. The Principle of Choice and Options
http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

7. The Principle of Empowerment and Autonomy
http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

8. The Principle of Support and Feedback
http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

9. The Principle of Spontaneity
http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

10. The Principle of Organization
http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

11. The Principle of Sharing
http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html
12. The Principle of Nontraditional Learning
http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

13. The Principle of Passion and Inspiration
http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

14. The Principle of Relevance and Meaningfulness
http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

15. The Principle of Trial and Error (i.e., it is ok to fail)
http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

16. The Principle of Expanded Resources
http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

17. The Principle of Human Connectedness
http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html
18. The Principle of Cognitive Apprenticeship

http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

19. The Principle of Purpose and Vision

http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

“One Purpose”

20. ??? (what is missing)

http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

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

http://travelinedman.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.

Any Questions?

Slides at: TrainingShare.com
Papers: PublicationShare.com
Book: http://tec-variety.com/
Dr. Curt Bonk – CJBonk@Indiana.edu