

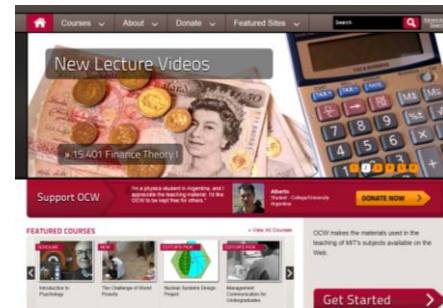
A Mixed Methods Look at Self-Directed Online Learning...and the Design of Online Activities for Successful Online Experiences

Curtis J. Bonk,
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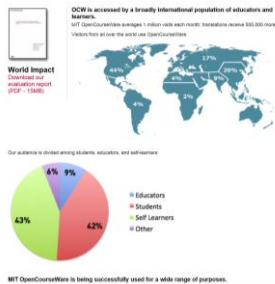
MIT OpenCourseWare (OCW)

<http://ocw.mit.edu/index.htm>



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<http://ocw.mit.edu/index.htm>



Fast Forward to 2015 MIT OCW and the OpenCourseWare Consortium



Fast Forward to 2015 Open Education Global 2015

<http://conference.oeconsortium.org/2015/>



October 1, 2012: MOOC Students 4 Massive Open Online Courses and How They Work, Ben Gose, Chronicle of HE

<http://chronicle.com/blogs/techtherapy/2012/10/03/episode-39-what-wearable-computers-could-mean-for-computers/>



Krissa Swain, of Knoxville, Tenn., is taking "Operations Management" online to help develop her management skills.



Rajeev Bajpai, an airline pilot based in Mumbai, took an online computer-science course to gain programming skills.

September 18, 2013

MIT Will Offer MOOC Curricula, Not Just Single Courses, on edX, Steve Kolowich, Chronicle of HE

<http://chronicle.com/blogs/wiredcampus/mit-will-offer-mooc-curricula-not-just-single-courses-en-ah446713>

MIT Will Offer MOOC Curricula, Not Just Single Courses, on edX

September 18, 2013, 4:59 am
By Steve Kolowich

Facebook Twitter Google+ LinkedIn Comments (40)

MOOC companies are hardly universities unto themselves, but now a provider wants to move beyond offering one-off courses.

MITx, a division of the Massachusetts Institute of Technology that offers courses on the nonprofit edX's platform, announced on Tuesday that it would soon offer special certificates to students who completed a prescribed sequence of massive open online courses from MIT. The sequences will be called XSeries.



October 6, 2014 edX turns attention to high school MOOCs, eSchool News

<http://www.eschoolnews.com/2014/10/06/high-school-moocs-839/print/>

edX turns attention to high school MOOCs

Posted By eSchool News Staff On October 6, 2014 @ 5:00 am In Curriculum/News/Top News | No Comments

Courses will help prepare students for postsecondary success, edX reps said



Anant Agarwal, CEO of edX, said that a high priority for us.

While the courses are not offered for



Search the entire edX course catalog.

High School Initiative

Sometimes you need to complete a course for the sheer joy of learning something new. And sometimes you take a course to prepare yourself for future education.

Colleges and universities find that many students could benefit from taking a few extra courses to help close the

October 6, 2014 High School Initiative

<https://www.edx.org/high-school-initiative>

<http://www.eschoolnews.com/2014/10/06/high-school-moocs-839/print/>

September 16, 2013 Rwandan Degree Program Aims for a 'University in a Box', Chronicle of Higher Education, Megan O'Neil

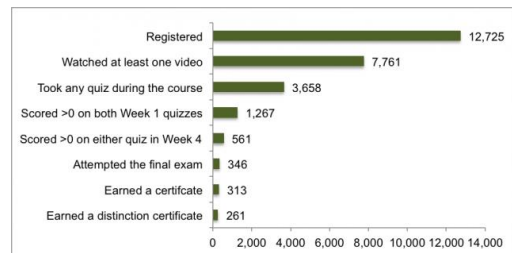
<http://chronicle.com/article/Rwandan-Degree-Program-Aims/141631/>



Students attend an orientation session at Kepler, a new hybrid program in Kigali, Rwanda, which will use MOOCs and classroom time to help students earn competency-based associate degrees.

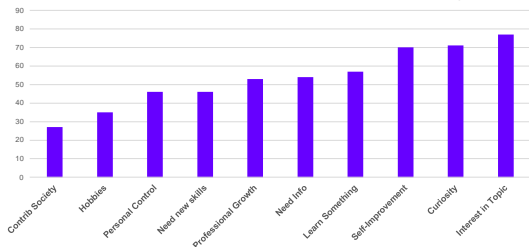
February 24, 2013 Big (MOOC) Data, Inside Higher Education, Dayna Catropa

<http://www.insidehighered.com/blogs/strategy/big-mooc-data>



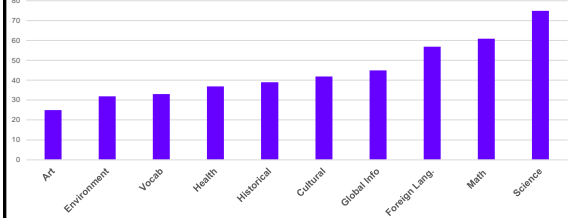
Reasons to explore?

Main Reason Explore the Web Informally to Learn
(MIT OCW Group; Note: Check all that apply)



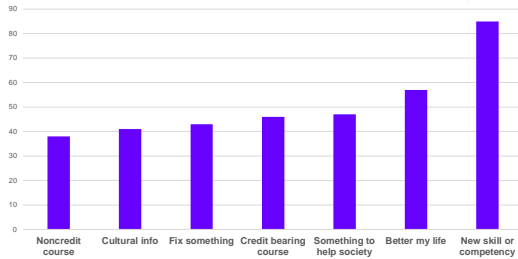
Skills hoping to acquire?

Skills Would Like to Learn Online Informally
(MIT OCW Group; Note: Check all that apply)



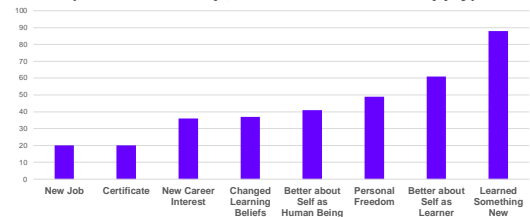
Hoping to achieve?

Like to Achieve from Learning Informally Online
(MIT OCW Group; Note: Check all that apply)



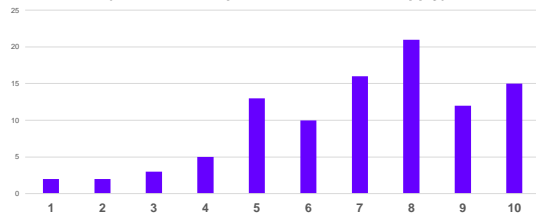
Actual achievements?

Achievements from Informal Online Learning Pursuits
(MIT OCW Group; Note: Check all that apply)



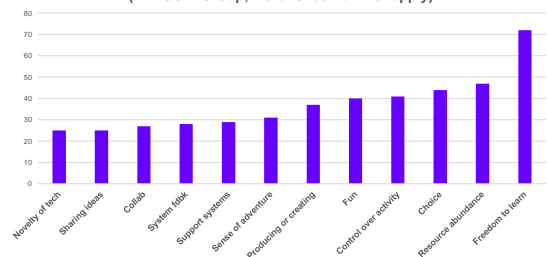
Experience life change?

Degree to Which Life Changed from Informal Online Learning
(Scale of 0 (Not at all) to 10 (Very Significantly); 5 = Moderately)
(MIT OCW Group; Note: Check all that apply)



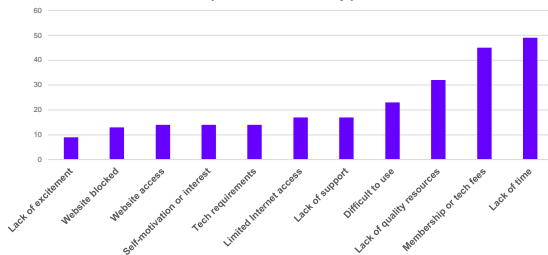
Factors leading to success or personal change?

Factors Leading to Success or Personal Change When Exploring Online
(MIT OCW Group; Note: Check all that apply)



What obstacles faced?

What Obstacles Faced When Learning Informally Online
(MIT OCW Group)



Open-Ended Questions

(28) Can you describe your most interesting or successful informal learning experience? What did you accomplish?

(30) Why did you want to do this learning activity or task? What was your **purpose or goals**? Please describe what captured your interest.

(31) Has your life changed in a small or big way as a result of this informal learning activity or experience? If so, how?

(32) What was the key moment when learning informally with technology where you felt a personal change? If so, please describe that moment, as best you can.

(34) Did you face any **obstacles or challenges** during this time when learning informally with technology? If so, how did you overcome them?



MIT Data: Inspires and Changes Ed Systems (18-20 year old male, Middle East)

When i was 14 years old i found MIT OCW during my search in..(physics) by Prof Walter Lewin looked really interesting and i became interested in physics. **To be honest OCW changed my way of living and i found how beautiful physics is...**informal learning is interesting because you can have access to some of the best courses provided by the best universities in the world...MIT OCW or Stanford open courses have also changed the **educational system in some poor countries** and have taught the teachers and professors in those countries how to teach a subject in a modern way.

open course

MIT Data: Self-Taught on Social Media

(21-30 year old unemployed female, North America)

At first my purpose was to fulfill boredom ...**After graduating with a MS, I was faced with unemployment.** I took the opportunity to read blogs, watch Youtube videos, and more to learn about blogging and social media. Since then I have become well versed in social media and other business topics and started a business... **I decided not to pursue a PHD because I am learning a more rapid pace.** Instead of spending 5 years in school, I can be flexible and work on what I am learning.



MIT Data: Enhances Current Job Prospects (31-40 year old male, Asia)

I learnt scheme from MIT OCW. Which helped in **learning elisp/lisp**. The programming techniques increased my software design knowledge. **Algebra - mit ocw course was very useful**, it helped me to refresh the basics of Digital signal processing. - I have learnt a lot of **"applying my knowledge"** than just learning the "theory" - Various online classes allow for multiple perspectives of the same topic thus showing us how the same thing can be applied in different fields.



MIT Data: Prepares to Reenter University (41-50 year old male, Middle East)

Most interesting experience of my own was my use of MIT OCW to refresh on Calculus. I purchased the textbook and followed one of several calculus options on the site. **This was quite successful in re-introducing Calculus, as a prep to re-entering college 28 years after graduation - this time to study for a Master's.**



MIT Data:

Builds Expertise and Expert Connections (51-60 year old female, North America)

I'm a virtual reference librarian...My friend and I have a blog about music cognition, which is a little crazy because we don't know anything about it. Nevertheless, we blog about current articles, and one experience was especially meaningful, where I tweeted a question to Daniel Levitin, who answered. He's the guy who wrote *The World in Six Songs*, among other things. The fact that you can communicate with an expert in the field who will take the time to give a thoughtful tweet (and yes, 140 characters can be thoughtful)--well, that's amazing...I think it was the single most exciting learning moment I've experienced.



MIT Data:

Retiree Develops New Hobby (65 year old male, North America)

I retired from education I became a lifestyle entrepreneur. I was trying to learn software to develop a business website for our sailing business. I discovered...Lynda.com. I was learning web development, video editing and photoshop. I realized that I could learn this software without going to a formal class and that was an "eureka" moment.. My wife and I travelled and started a yacht delivery and training business that has taken us all over the world. We learned technology and social media as we travelled and ended up with many fantastic experienced in some very exotic places. We taught ourselves web development and have been figuring out online learning as we went. Now at 65 years of age we are going back to university to take a Computer Science Degree and start a new tech business relating to interactive educational media and games. All very exciting :-)



MIT Data:

Retiree Develops New Hobby (70+ year old female, North America)

I'm an avid photographer and have developed skills for developing my own website for display of my photography and books I have written that include my photographs...I've had multiple careers, from science, to public administration, and information technology. The development of my art is a new and exciting experience.



Study #2.

Blackboard (CourseSites) MOOC

<http://events.blackboard.com/open>

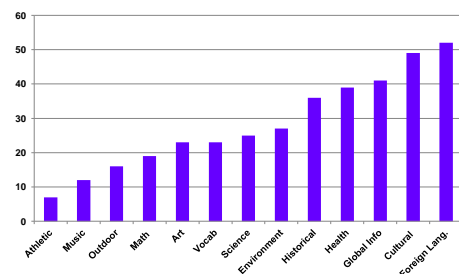


Blackboard MOOC Sample

- Survey notice sent to 3,800 MOOC participants
- 159 completed surveys
 - ◆ 49 completed open ended items
 - 72% over age 40
 - 73% females
 - North America (81 percent); Asia (2 percent); Europe (6 percent); South America (1 percent); Middle East (2 percent); Australia/NZ (7 percent); Africa (1 percent)

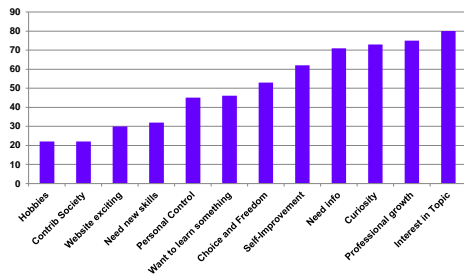
Blackboard Data

Figure 3. Specific skills wanting to learn informally online



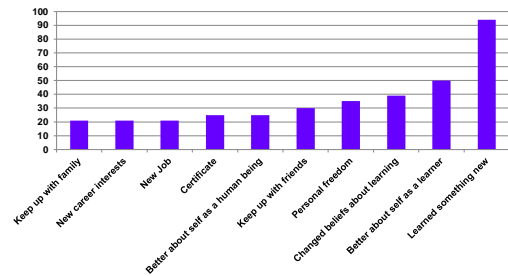
Blackboard Data

Figure 4. Main reasons to informally explore the Web to learn



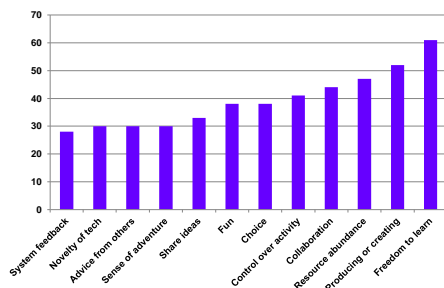
Blackboard Data

Figure 5. Achievements from learning informally online



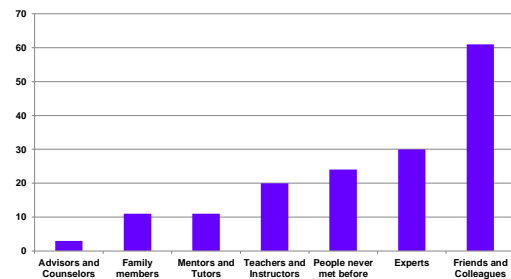
Blackboard Data

Figure 6. Factors leading to success or personal change when learning informally online



Blackboard Data

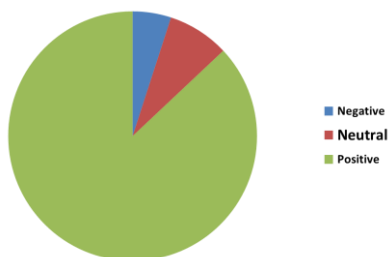
Who typically supports your informal learning experiences?



Experience life change?

(0 = not at all; 5 = moderately; 10 = significantly)

Has your life changed from informal learning on the Web?



Open-Ended Questions

(28) Can you describe your most interesting or successful informal learning experience? What did you accomplish?

(30) Why did you want to do this learning activity or task? What was your **purpose or goals**? Please describe what captured your interest.

(31) Has your life changed in a small or big way as a result of this informal learning activity or experience? If so, how?

(32) What was the key moment when learning informally with technology where you felt a personal change? If so, please describe that moment, as best you can.

(34) Did you face any **obstacles or challenges** during this time when learning informally with technology? If so, how did you overcome them?



Goals and Motivations (Blackboard MOOC)

- Improve their job prospects
- Pursue personal interests or hobbies
- Seeking certification of some type
- Information seeking
- Means to expand one's formal learning



Life Changing Example #1

"I grew in every possible way. Not only were my own ideas validated but I was encouraged to go beyond what I thought possible - maybe I would call it "**Extreme DOING**" the other half of extreme learning no? These bold steps have shaped my personal and professional life to a profound level."



Life Changing Example #2

"Yes, I view the way I make choices, the way I raise my children, the way I teach, the way I negotiate international agreements fundamentally different. There are no huge differences in the decisions because the same set of values inform the decisions, but the approach, the motivations, the incentives are modified in substantial ways as a result."



Life Changing Example #3

Yes. I plan to focus my Ph.D. research on alternative forms of learning (informal DIY) and credit (like open badges) and the changes higher ed and employers will have to make to accept these forms of credit.



Life Changing Example #4

It has made my job much easier and it's been easier for me to execute certain tasks, making me more willing to take on bigger challenges. It was also shown me how enjoyable it is to learn a computer language. It opened my mind to considering possibilities in this area. It also made my husband respect my ability around computers a bit more.



Life Changing Example #5

Some of my friends tell me that they love the nuggets of information that I share with them when talking about things I learned during short commutes, etc. They have started listening to podcasts and share similar nuggets about the fields that they care about.



Life Changing Example #6

My life has changed in a big way. **I used these new skills to create a small business** that supplements my income. I couldn't use this income solely to support myself, but it does pay some bills.



Life Changing Example #7

Without the opportunity to learn informally, my options within my doctoral program would be limited to the ideas and experience of the three instructors in my program track. I would be graduating with a firm grasp of 20-year old dated ideas!



Life Changing Example #8

"Well, my life changed in that I thought I knew how important place and stories where to indigenous people...I learnt loads about indigenous culture and places and loads about augmented reality so now I know I have to change the project to allow students to have the same experience - them creating the content not me which I knew but didn't take it into consideration enough when planning the project....**I wanted to create a project that made students (university) aware of how pervasive indigenous culture is contemporary Australia** - how important place is to indigenous people and how their culture is so connected to place through stories...."



Life Changing Example #9

My life has changed in a big way - as the MOOC helped me to re-design one of the educational approaches in my workplace by providing a more interactive, innovative learning experience.



Life Changing Example #10

It has changed because I have learned new things and got more creative in my own field...The key moment was when I felt that **the world is now becoming open** as Dr. bonk describes it. I don't need to travel to different countries and spend my time and money trying to get a new idea or learn a new skill. I can have the access to quality materials, novel ideas and experts anywhere and any time.



Life Changing Bonus #1

Easy access to the Internet changed my life drastically. I quickly discovered Japanese manga (comics) and anime (animated TV shows). **I spent the next three years absorbing Japanese culture and language voraciously.** .. I got interested enough that I did 1 1/2 years of Japanese as an **online correspondence course.**

Life Changing Bonus #2

While taking a linear algebra course at Everett Community College, I supplemented my formal coursework with video lectures from <http://ocw.mit.edu/courses/mathematics/18-06-linear-algebra-spring-2010/>. I actually began watching the lecture videos in anticipation of taking the class. While learning about eigenvectors and eigenvalues, I found the OCW lecture to be of great help. **I watched it over and over until I understood the material thoroughly. As a result, I aced the formal test and completed it in under 10 minutes!**

Life Changing Bonus #3

While conducting a family history search for my doctoral research, **I allowed the 'links to lead me' and discovered an abundance of clues, data and ideas which shaped a significant part of my study** -- and had a great impact on the successful completion of my **doctoral dissertation**. The web resources were not the only resource utilized, however, allowed for expanded awareness of other sources, including books I was not aware of, etc.

Information Seekers (DIYers): Personal Identity

"Today, we were trying to install a pool filter--we got instructions off YouTube. I also just bought a recumbent exercise bike--I looked at online reviews before making a choice." She then added, **"Knowing that I did not need to ask an actual person for help was life changing.** I am an introvert by nature, and I prefer to figure things on my own. **Knowing that I can research informally on the Web is reassuring."**



Information Seekers (DIYers): Personal Identity

"My informal learning experience did influence my social life, as my travel buddy for the convention **thought that I was incredibly smart** and tremendously "with it," because I knew so much about the city, what to see, and how to get places. **It's nice (if not slightly narcissistic) to be appreciated for your knowledge."**



Joining a Learning Community

"My key moment came when I discovered a **community of like-minded scholars** from around the world. **I no longer felt isolated or disconnected.** This has become my most valuable support network and I am grateful."



Joining a Learning Community (social and intellectual capital)

"Influenced my professional life - I guess **I have more social capital.**"



Joining a Learning Community (social and intellectual capital)

"Socially the impact was great as well because **now I have friends I can talk technology with a lot.**"



Seeking Relevance

"I almost always listen to podcasts or .mp3 audio books, etc. when biking. **After one session of learning some Korean language on a bike I was on my way home and chose to stop into a store for some take-out food. The conversation was almost identical to the lesson I had just learned.** Although the questions and answers were simple and predictable small talk, it really was surreal at just how closely the real-world small talk conversation matched the mp3 that was produced a few years ago. It really gave me confidence that the audio recording method was not a joke."



Challenges and Issues

- Discern the quality of information
- Evaluate the quality
- Informal learning not taken seriously by their superiors
- Certificates and badges may reduce sense of fun and learning enjoyment



MOOC Challenges: Finding Appropriate Ones

"I think the hardest part is finding a MOOC that would work. It is not like there is a directory of MOOCs. You get out what you put in - the more you put in - in terms of writing and connecting the more you will get out of the experience. While the experience is informal - you need to give it more of a formal importance in your daily schedule."



Learning for Enjoyment Versus Credentials and Badges

"**Just play around** with ideas for alternatives to printed texts and don't be afraid to create your own, even if they're amateurish...I think we need to de-emphasise formal assessment and accreditation and encourage our playful side to see what is possible. **Too much informal learning wants to get itself 'badged' or validated too quickly and this means its losing its genuine amateur status.**"



Learning for Enjoyment Versus Credentials and Badges



Results: Accomplishments (Kou, 2013)

- **Research (7)**
 - Obtained information, references, clues, data and ideas on a topic (6)
 - Had the potential of real life application (1)
- **Formal Learning Context (23)**
- **Informal Learning, Self-Study (61)**
- **Social Context (30)**
- **Working Context (26)**
- **Across Context: Enhanced thinking (13)**
- **Across Context: Find solutions to solve a problem, find out how to do something (10)**

Results: Accomplishments Formal Learning Context (Kou, 2013)

- **(Before Program)** Online learning helped me get prepared for, get interested in, or become confident in pursuing formal schooling or a higher degree (6)

Results: Accomplishments Formal Learning Context (Kou, 2013)

- **fill intellectual hole**
 - I have been out of graduate school for many years and have had this intellectual hole for a while now which these courses are starting to fill for me
- **Feel better:** developed self-respect, gained confidence, developed inner strength, gained sense of self-control
 - it gave me confidence that my intelligence is valued by the best of universities.
 - Yes indeed on a personal level I developed self respect for my own self, I started realizing the potential I had and I found out that I can make an impact in the society with the knowledge I gained
- **Motivated to become a selfless human being**
 - It has also motivated me to become a selfless human being , if all of us spend some time and share our knowledge then one day everyone will be educated

Results– Accomplishment: Social Context

- **Become cool in social life, attract interests from people around, got recognition for my knowledge and skills, opened up conversations**
 - I got better grades in my studies, more appreciation, and more respect from people toward the activity I do.
 - Yes it has impact on my life in the way mostly me friend consult me when they got some problem which they can not solve.
 - I had new and interesting topic for discussions.

Results– Accomplishment: Social Context

- **parenting-Became better parents, less stressful, make home school easier**
 - Significant changes. We can say we are "homeschooling" and yet the curriculum and materials are available online and I can support my kids while they have the loose structure of the courses.... Knowledgeable teachers allow me to facilitate and not have to relearn everything.
 - Studying online at MIT has made me a better professor, a better dad

Results– Accomplishment: Work Context

- Got certificate for a profession, Got ready for job market, Did well on job interview, Got a job (7)
- Gained useful information, expertise, strategies and perspectives for my job
- Improved work performance, useful to work, retain my job, applied learning to job, impact on business (11) (Including teachers)
- Feel more confident or secure in my job (2)
- Career change or may lead to career change, Ability to switch jobs easily (3)

Results– Accomplishment: Across Context

- **introduced to cultural diversity; more open minded, see things in different light**
 - I have learned numerous approaches to viewing subject matter. The peer forum portion of the course and it's global reach is enriching.
 - I find myself more generally open to new ideas and want to engage in conversations and doing new things.
 - It introduced me to cultural diversity, which is almost non-existent where I live. I think that this exposure to other cultures is one of the main reasons that I find racism absurd. It also interested me in many new activities...

Results– Accomplishment: Other Impact

- **Changed learning pattern**--open my eyes for online learning, engage in more online learning, take advantage of technology (5)
- **Changed life pattern**: spend time on learning instead of entertainment (2)
- **Changed life pattern**: take a different (better) course in life (1)
- **Changed life pattern**: become busier than before (1)
- **Changed life pattern**: life enriched (for older or disabled people), Developed interest in new activities, Found something challenging (4)
- **Changed life plan**: could retire but will continue to study (2)
- **Do NOT have to change**: can continue work due to easy access and flexibility of online learning (1)
- **Impact on society**: help addicted people turn to learning (1)
- **Impact on the world**: influence on foreign educational system (1)

Informal Learner Characteristics

- Strong intrinsic motivation, pride themselves being a "self-directed learner" ---"my own pleasure" and values autonomy, considers it empowering
- Considers sharing as important part of educ/learning
- Takes pride in creating and contributing
- Enjoys the community of people with similar interests---but not necessarily the human f2f interaction



Informal Learner Characteristics: Values SDL

"I continue to research my interests for my own pleasure, especially on sites like Amazon for books and e-books, and have ongoing email alerts for journal content. I also use online sources for job hunting and professional networking."



Informal is now Formal: Limited Assistance

"This MOOC was simply a different way to "formally" learn informally. No one was really a mentor or helped me."



Informal Learner Characteristics: Self-Reliant

"Knowing that I did not need to ask an actual person for help was life changing. I am an introvert by nature, and I prefer to figure out things on my own. Knowing that I can research informally on the Web is reassuring."



Components of Successful MOOC Learner

- Self-motivated
- Enjoys sense of creating
- Shares their creation
- Delights in wide range of info resources
- Takes pride in learning on their own



Time for a short break...



Slides at: TrainingShare.com

Papers: PublicationShare.com

Books: <http://worldisopen.com/>

Email: curt@worldisopen.com

cjbonk@Indiana.edu



Engage Number One: TEC-VARIETY: A Model for Motivating and Retaining Online Learners

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



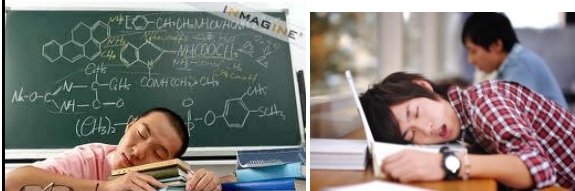
Learning is More Self-Directed Online Learning Polyglots

Adventures of a Teenage Polyglot



Timothy posts videos of himself speaking several languages on YouTube.

Motivation and Engagement



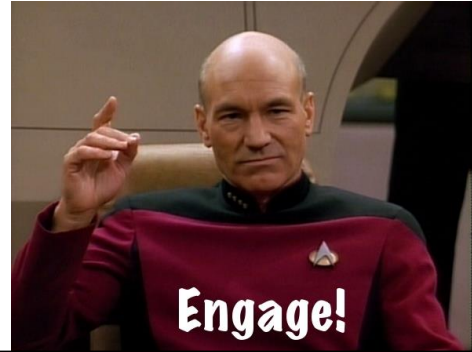
How do we engage online?



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.



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.



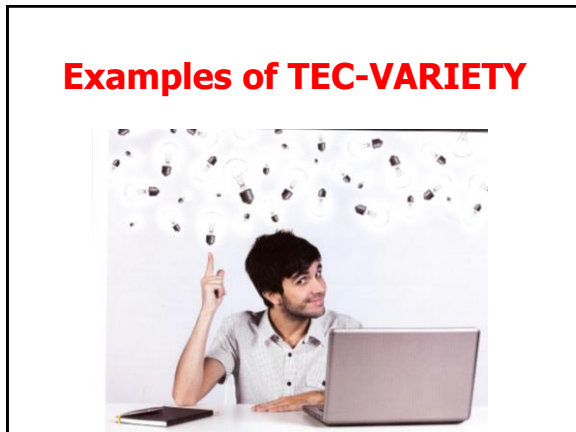
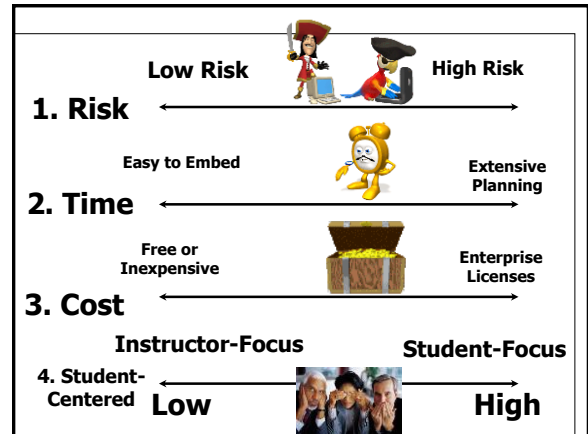
Framework: TEC-VARIETY for Online Motivation and Retention

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


Education 3.0?
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

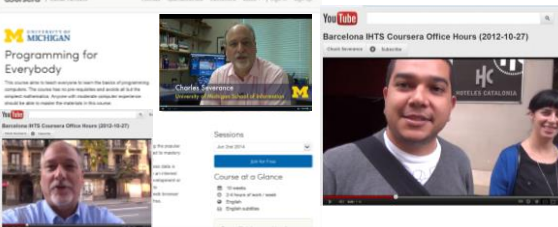
作者: Curtis J Bonk & Elaine Khoo IU

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



1. Tone/Climate: B. Video Introductions (Office Hours in Other Countries)
 Chuck Severance, U Michigan/Coursera in Barcelona
<http://www.youtube.com/watch?v=JzN4ymSv8T4>
 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>



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

Vocaroo: <http://vocaroo.com/>
<http://vocaroo.com/i/s1KQTNm1B3Na>
 (Recorded by Curt Bonk for the Open University of China)



October 4, 2014 2. Encouragement, Feedback, etc.:

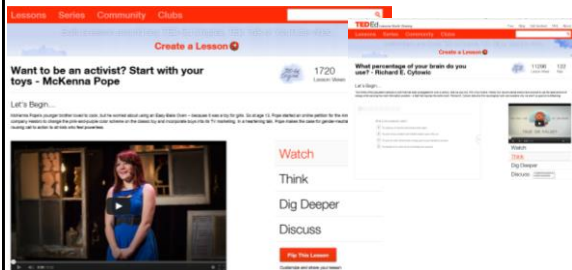
C. Class Facebook Group
 Dr. Bonk's creative fun time group (R546)
<https://www.facebook.com/groups/830496290323899/>



2. Encouragement, Feedback, etc.: D. Videos and Online Quizzes

(e.g., Want to be an activist? Start with your toys - McKenna Pope, TEDEd)

<http://ed.ted.com/lessons/want-to-be-an-activist-start-with-your-toys-mckenna-pope#watch>

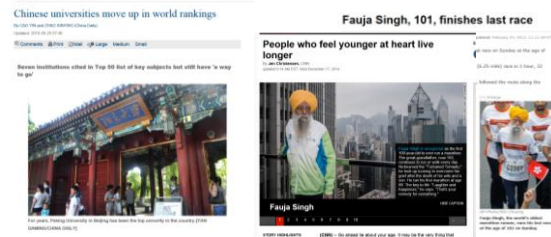


May 25, 2015

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/enurance/story/_/id/8979487/fauja-singh-101-career-10k-hong-kong
http://www.chinadaily.com.cn/china/2015-05/25/content_20885854.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-5486093.php>

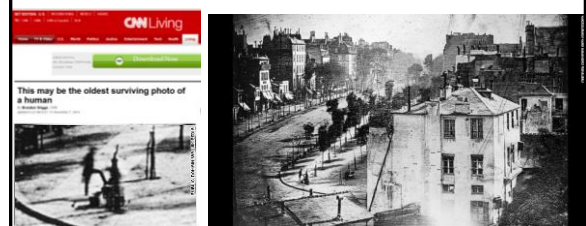
January 20, 2015: Naomi Ng, for CNN
<http://www.cnn.com/2015/01/20/indonesia/dragon-dinosaur/index.html>



3. Curiosity, Fun: C. 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)

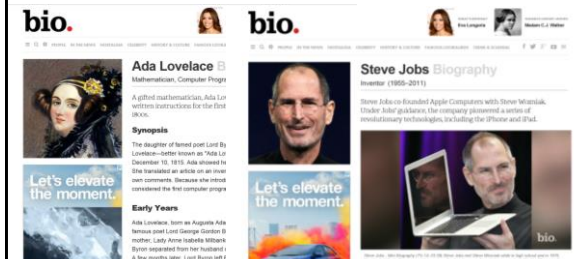
http://www.cnn.com/2014/11/06/living/oldest-photograph-human-daguerre/index.html?hpt=hp_14_kong



3. Curiosity, Fun:

D. 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>



3. Curiosity, Fun:

E. Tracking the Life of a Computer Scientist (Wikipedia)

http://en.wikipedia.org/wiki/Vannevar_Bush



Poll #2:

Which of these ideas might you use?

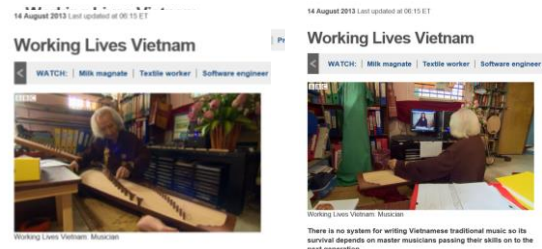
- A. Threaded video discussions (e.g., Flipgrid)
- B. Video introductions (instructor or student)
- C. Demonstrations and tutorials (Jing, Screen, etc.)
- D. Voice/Audio feedback (Vocaroo)
- E. Online practice tests
- F. Something in the news
- G. Tracking life of scientist



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>



4. Variety, Novelty, Fun, Fantasy:

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



March 13, 2015

5. Autonomy, Choice:

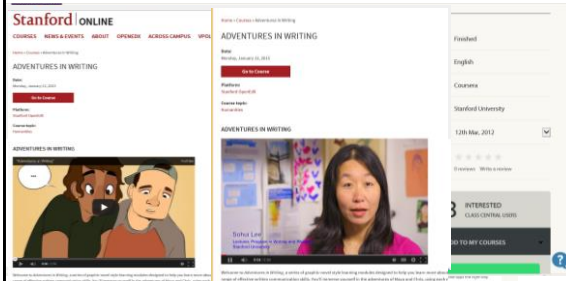
A. 20% Time in Education

Kendal Rasnake & Troy Cockrum, IU

https://www.dropbox.com/s/tcsSoa2lqgwuk/20_Time_in_Education-Cockrum_and_Rasnake.mov?n=57312573



5. Autonomy, Choice: B. Enroll in a MOOC and Reflect (e.g., see Class Central)



5. Autonomy, Choice: C. Attend Webinar (pick weeks and reflect) Cathy Davidson, The End of Higher Education <http://connectedcourses.net/thecourse/why-we-need-a-why/>



5. Autonomy, Choice: D. Design Multimedia Glossaries

Ozgur Ozdemir, December 2012
<http://r685glossary.shutterstock.com/>
Umida Khikmatillaeva, Dec. 2011, P540
<http://learningplanet.shutterstock.com/>



5. Autonomy, Choice: E. Design Article Database in Pinterest, Jenny Webeck

<https://www.pinterest.com/jennifertwebeck/emerging-learning-technologies/>
EDED 5372 Emerging Trends and Issues in Instructional Technology



5. Autonomy, Choice: F. Design Article Database in Facebook, Jenny Webeck

<https://www.facebook.com/JennyBELTT/timeline>



6. Relevance, Meaningfulness: A. Guest Chats (e.g., Emily Hixon, January 20, 2015) <https://connect.iu.edu/p259wpiabg9/>



6. Relevance, Meaningfulness: B. Case-Based Learning: Instructor Cases (e.g., Mark Braun, IU)

Slide 126, gastric adenocarcinoma

Slide 127, colon with pseudo-membranous colitis

Slide 128, colon with pseudo-membranous colitis

Slide 129, gastric adenocarcinoma with lymphovascular invasion

Slide 130, gastric adenocarcinoma with lymphovascular invasion

I'd like to take the quiz now.

Stomach, endoscopic examination and biopsy:
Poorly differentiated tubular adenocarcinoma

Final conclusion:
Advanced gastric carcinoma with multiple lung metastasis with lymphatic growth

7. Interactive, Collaborative: A. Negotiate Meanings Online (e.g., PiratePad: <http://meetingwords.com/>) <http://blogs.iu.edu/technology/6-collaborative-writing-applications-for-group-projects-or-pages/> MeetingWords, Google Docs, NowComment, MixedInk

January 27, 2015 7. Interactive, Collaborative: B. Backchannel Chat (TodaysMeet) <https://todaysmeet.com/> R678_Emerging_Learning_Technologies https://todaysmeet.com/R678_Emerging_Learning_Technologies

7. Interactive, Collaborative: C. Q&A Web Conferencing (Adobe Connect, Jabber, iMeet, GoToMeeting, etc.) <https://connect.iu.edu/p259wpiabg9/>

7. Interactive, Collaborative: D. Multiple Guest Experts Sara de Freitas and Jim Hensman, U of Coventry, UK (<https://connect.iu.edu/p21e1yx666x/>) Jay Cross, Berkeley (<https://connect.iu.edu/p48ytssoronz/>)

7. Interactive, Collaborative: E. Collaboration and Discussion in Google Hangouts, Jabber, Skype, etc (January 29 and February 25, 2013)

Poll #3: Which of these ideas might you use?

- A. Student designed multimedia glossaries
- B. Article database in Pinterest
- C. Guest chats with former students
- D. Negotiate meanings online (e.g., PiratePad)
- E. Backchannel chat (Todaysmeet)
- F. Class Facebook group
- G. Discussion in Google Hangouts



8. Engagement, Effort:

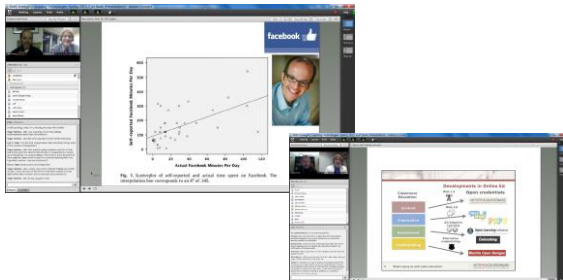
A. Interactive Multimedia E-Books

June 10, 2014, Chronicle of HE, 300 images, more than 700 notes and explanations, multimedia annotations, video commentary, and two dozen videos.

Digital Dubliners: <http://digitaldubliners.com/>
James Joyce: <http://joyceways.com/>



8. Engagement, Effort: B. Guest Speaker Quotes (Rey Junco, February 25, 2013)



8. Engagement, Effort:

C. Interactive Map Timelines

(adults with college degrees by county, May 7, 2012)

Rising diversity, state by state

The USA TODAY Diversity Index shows on a scale from 0-100 the chance that two random people are different by race and ethnicity.



Source USA TODAY analysis by Paul Overberg of data from Census Bureau, NHGIS at University of Minnesota and ProximityOne
Frank Pompea, USA TODAY



8. Engagement, Effort: D. Google Map Gallery September 16, 2014 <http://maps.google.com/gallery/>

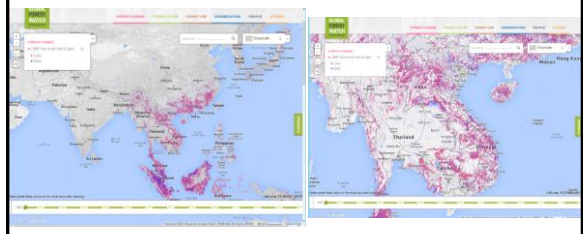


8. Engagement, Effort:

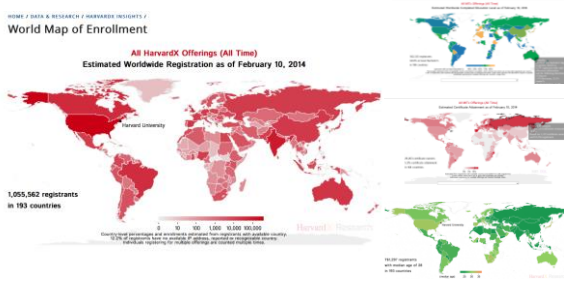
E. Map Trend Interpretations

e.g., Global Forest Watch (April 2014)

<http://www.globalforestwatch.org/map/3/-3.72/27.00/ALL/grayscale/loss/596>



8. Engagement, Effort:
F. Data Visualization Tools (Harvard and MIT MOOCs) Lawrence Biemiller, February 20, 2014, Chronicle of Higher Education
<http://chronicle.com/blogs/technology/harvard-and-mit-reveal-simulation-tools-for-courses-of-course-also-2014-02-20/>



9. Tension, Challenge, etc.:
A. Online Vocabulary and Math Competitions
 Vocabulary.com: <https://www.vocabulary.com/>



March 15, 2015
9. Tension, Challenge, etc.:
B. Controversial Issue Debates
 SXSW: Tackling the growing gender gap in technology
 Mike Snider, USA Today
<http://www.usatoday.com/story/tech/2015/03/15/sxsw-gender-gap-technology-gender-gap/24808699/>



July 10, 2014
9. Tension, Challenge, etc.:
C. Controversial Issue Debates
 Scholarly journal retracts 60 articles, smashes 'peer review ring', Fred Barbash, Washington Post
<http://www.washingtonpost.com/news/morning-mix/wp/2014/07/10/scholarly-journal-retracts-60-articles-smashes-peer-review-ring/>



10. Yields Products, Goals:
A. Goal Setting Tools
 (e.g., I Done This, Milestone Planner, and 43 Things)



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=-TURzH00aU>
 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=8cmCFW91W8>
 Kendal Rasnake (Is IT Right For You?): <https://www.youtube.com/watch?v=MJ36UD1CIGw>



Poll #4:

Which of these ideas might you use?

- A. Guest speaker quotes
- B. Data visualization tools
- C. Challenge debates (cage matches?)
- D. Student designed video productions
- E. Student designed e-books
- F. Goal setting tools
- G. Gallery of exemplary work



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



Poll #5:

Any light bulbs going off in your head...?

- A. Yes definitely***
- B. Yes maybe!
- C. Not yet (but hopefully soon...)



Where Are You R2D2?:

Addressing Diverse Learner Needs with the Read, Reflect, Display, and Do Model

Curtis J. Bonk, Professor, Indiana University

cjbonk@indiana.edu

<http://mypage.iu.edu/~cjbonk/>



This Generation of Students



Learning is Resource Rich

March 22, 2015

Madagascar marvel:

Divers find fossils of extinct giant lemurs

Daisy Carrington, for CNN, March 22, 2015

<http://www.cnn.com/2015/03/19/africa/underwater-fossil-lemur-graveyard-madagascar/index.html>



What about the Instructor in the Open World?



From Instructor as Credit Manager



To Instructor as Curator and Concierge



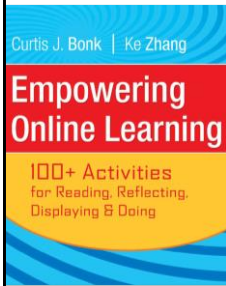
Question: How can technology address diverse learner needs?



Addressing Learning Styles



Framework #1: The R2D2 Model



The R2D2 Method

1. Read (Auditory and Verbal Learners)
2. Reflect (Reflective Learners)
3. Display (Visual Learners)
4. Do (Tactile, Kinesthetic, Exploratory Learners)



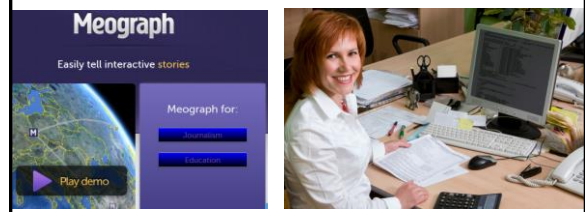
1. Auditory or Verbal Learners

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



Read 1a. Collect and Listen to Interactive Stories

(e.g., Meograph: <http://www.meograph.com/>)



January 28, 2015

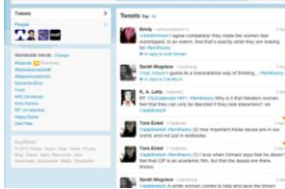
Read 1b. Twitter Fed Class Discussions

Live-Tweeting Assignments: To Use or Not to Use?
he Chronicle of Higher Education, Adeline Koh
<http://chronicle.com/blogs/profhackers/live-tweeting-assignments-to-use-or-not-to-use/58949>

Live-Tweeting Assignments: To Use or Not to Use?



We're writing a piece about using Twitter in the classroom. We have written the existing Wikipedia article for classroom use. We're here to share findings, focus on how to handle privacy, design the best writing strategy, and get your own suggested guidelines for implementing it.



Read 1c. Grammer Checkers

(e.g., Grammarly, Ginger, GrammarCheck, PaperRater, and SpellCheckPlus)
<http://www.grammarly.com/>



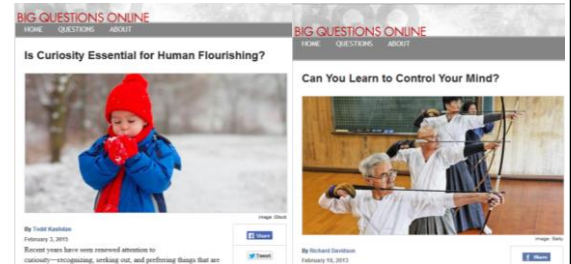
2. Reflective and Observational Learners

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



Reflect 2a. Big Issue Reflections

(Big Questions Online (BQO)), Feb 3, 2015
(e.g., Is curiosity essential for human flourishing?)
<https://www.bigquestionsonline.com/content/do-we-have-souls>



Reflect 2b. Interpreting Infographics

July 24, 2014

Woman in Computer Science

<http://graduatedegreesonline.njit.edu/msci-resources/msci-infographics/women-in-computer-science/>



Reflect 2c. Workplace Internship, Practicum, and Field Experiences



Poll #6: Which do you prefer... (A) TEC-VARIETY or (B) R2D2?



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, Proprietary Vision, Ownership

Any Questions or Comments?

Try TEC-VARIETY...Try R2D2

Slides at: TrainingShare.com

Papers: PublicationShare.com



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

<http://tec-variety.com/TEC-VARIETY-Chinese.pdf>

Dr. Curt Bonk – CJBonk@Indiana.edu

