

Adding Some TEC-VARIETY for Authentic Learning Experiences

**Curtis J. Bonk, IST Professor
Indiana University**

cjbonk@indiana.edu; <http://curtbonk.com/>



1

Poll #1: Have you ever been to North America?

- a. Yes many times.
- b. Yes, once or twice.
- c. No, but I want to go.
- d. No, I don't understand the language.
- e. No. And I am not going to go.



2

Poll #2: Have you been to Bloomington, Indiana or an Indiana University campus?

- a. Yes many times and I loved it!
- b. Yes once and it is great...I want to go back.
- c. Yes and it is so-so. Probably not coming back.
- d. Not sure.
- e. No, but I have been to the USA.
- f. No, but I really want to visit.
- g. No, and I prefer it that way. Indiana us way too boring for me.



3

Poll #3: Have you seen Dr. Bonk speak before?

- a. Yes more than once.
- b. Yes once.
- c. Not sure.
- d. No, but I am here now.
- e. No, and I prefer it that way. He's rather boring.



4

(Circa Confucius 551–479 BCE)



5

Education 20/20...



6

Education 20/20... Learning is Changing!



How Online Learning is
Changing Classroom Design



7



8

20 New Roles of the Instructor

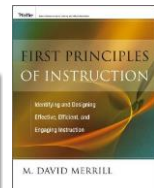
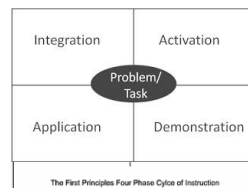
Captain Course Ambassador Consumer Advocate
 Counselor Curator Cook Change Catalyst
 Conductor Concierge Comedian
 Consultant Camping Trip Guide Coach
 Community Organizer Course Expedition Leader Collaborator
 Cultivator Chemist Care Giver
 Colleague



9

Merrill's First Principles of Teaching/Instruction

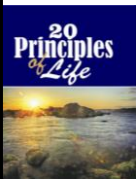
<http://travellinedman.blogspot.com/2011/05/books-first-principles-of-instruction.html>



10

Bonk's Last ("Learning Activation System Template") Principles of Teaching/Instruction (Education 20/20 or Education 4.0)

<http://travellinedman.blogspot.com/2011/05/books-last-principles-of-instruction.html>
<http://www.applcathai.com/articles/education-4-0/>



11

1. The Principle of Flexibility

<http://travellinedman.blogspot.com/2011/05/books-last-principles-of-instruction.html>
 (e.g., multiple due dates, grace period, flexible agenda, etc.)



12

6. The Principle of Choice and Options

<http://travellinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html>
(e.g., sign up for weeks to present, have 10 midterm or final options and pick any 4, choose if want to work as a group/team or individually submit, etc.)



13

Bonk's 20 "Last" Principles of Instruction (LAST = Learning Activation System Template)

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



14

Poll #4: Before COVID, did you ever teach a blended (face-to-face and online) course?

- a. Yes many.
- b. Yes, just a couple.
- c. No, but I taught one or more technology enhanced ones.
- d. No but I am willing to try.
- e. No and I like it that way.



15

Poll #5: Before COVID, did you ever teach a fully online course?

- a. Yes, many.
- b. Yes, just a couple.
- c. No, but I taught one or more blended ones.
- a. No but I am willing to try.
- b. No and I like it that way.



Teaching Remotely While Quarantined in China



16

Poll #6: Have you reflected on your teaching philosophy or approach during COVID-19?

- a. Yes many times and I am dramatically changing my philosophy statement.
- b. Yes many times and I am taking action (meeting people, reading more, attending webinars like this, etc.).
- c. Yes, I thought about it a couple of times and I am tweaking it.
- d. Not sure. I'm kinda brain dead right now.
- e. No, my teaching philosophy is basically the same.



17

Poll #7: Have you even been to an e-learning or online learning conference, institute, or summit?

- a. Yes many times.
- b. Yes, once or twice.
- c. No, but I want to go.
- d. No. And I am not going to go.




18

Part 1:
Introducing the TEC-VARIETY Model
<http://tec-variety.com/>
<http://tec-variety.com/TEC-VARIETY-Chinese.pdf>

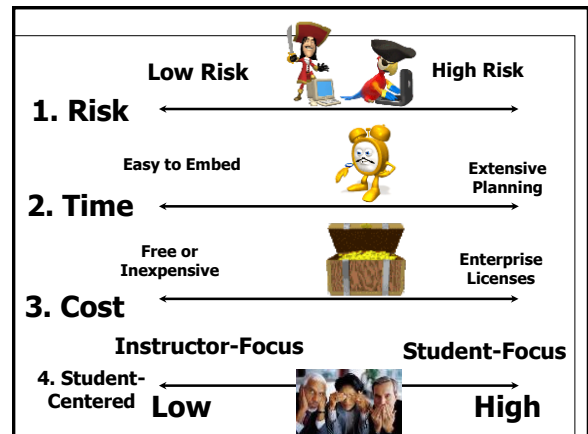
Tone/Climate
Encouragement, Feedback
Curiosity

Variety
Autonomy
Relevance
Interactive
Engagement
Tension
Yields Products

在线学习动机与激励:
TEC-VARIETY 模型




19



20

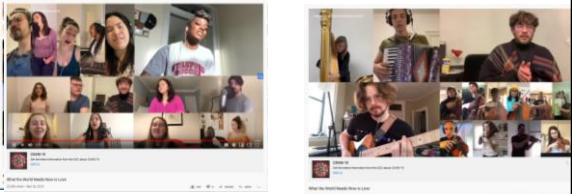
Examples of TEC-VARIETY



21

March 26, 2020

1. Tone/Climate: A. Musical Intros
What the World Needs Now is Love
Students at the Boston Conservatory at Berklee created a social distancing rendition of 'What the World Needs Now is Love'
<https://www.youtube.com/watch?v=qv7jI5ACHCw>
2:33 (video): <http://curtbonk.com/wtwnn.html>



22

October 11, 2020

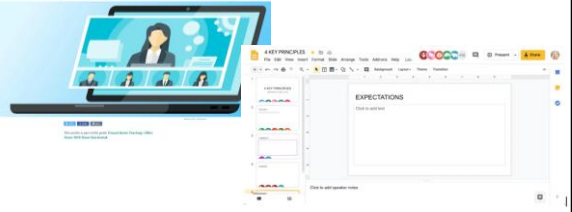
1. Tone/Climate: B. Musical Choirs
Heejung An, William Paterson University
(1) "Minuet in G" by Bach: <https://youtu.be/KphJOvDM9RI> (This is better)
(2) "Habanera" from Carmen: <https://youtu.be/1xTgU19HJtw>
(This was too long and all of the instruments were not synchronized well, but we tried....)



23

September 24, 2020

1. Tone/Climate: C. Breakout Rooms
How Do You Make Zoom Breakout Rooms Less Boring?, Expectations, Share a link, Introductions
Bonni Stachowiak (Columnist), Ed Surge
<https://www.edsurge.com/news/2020-09-24-how-do-you-make-zoom-breakout-rooms-less-boring>



24

September 21, 2020

Non-Boring Zoom Breakout Groups

Plymouth State University

Video 16:50:

https://www.youtube.com/watch?v=R1mhGmBBek&feature=emb_logo
<https://colab.plymouthcreate.net/resource/non-boring-zoom-breakout-groups/>

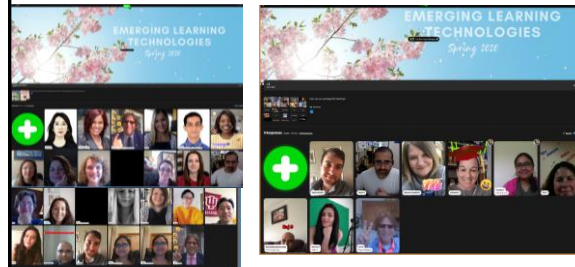


25

April 11, 2020

1. Tone/Climate: D. Threaded Video Discussions and Questions (e.g., Flipgrid)

<https://techcrunch.com/2018/06/18/microsoft-acquires-social-learning-platform-flipgrid/>



26

1. Tone/Climate: E. Instructor Course Introductions

Lynne Innes (Scotland): <https://vimeo.com/356645285>

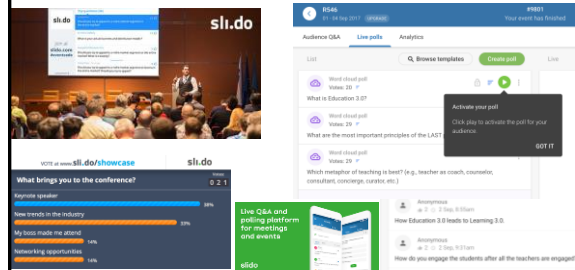


27

April 3, 2017

1. Tone/Climate: F. Sli.do (students get a code; e.g., 9801)

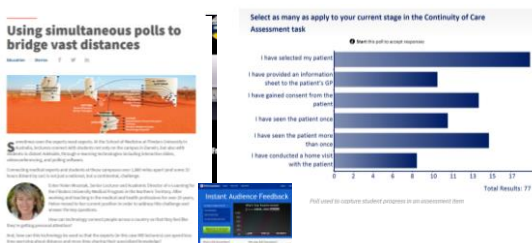
<https://www.sli.do/>



28

2. Encouragement, Feedback: A. Poll Everywhere, BlogPoll, MicroPoll Connect students across campuses (School of Medicine, Flinders University)

<https://www.pollerywhere.com/case-studies/distributed-learning>



29

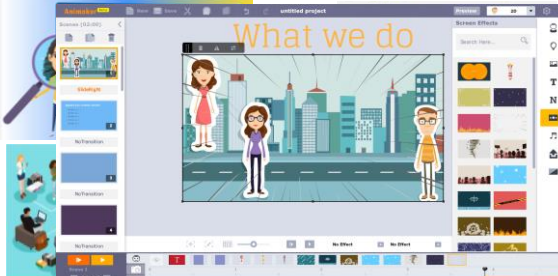
2. Encouragement, Feedback: B. Voice/Audio Feedback Vocaroo: <http://vocaroo.com/>



30

June 27, 2020

4. Variety, Novelty, Fun, Fantasy:
A. Create Animated Presentations
<https://www.animaker.com/pricing/20550102andU354/2naredview5/C34550102andU354/>
 Animaker is a cloud-based do-it-yourself video maker. Free version provides a lot of characters, props, transitions, and background images.



37

4. Variety, Novelty, Fun, Fantasy:
B. Online Test/Quiz Review Games
 (e.g., Jeopardy Rocks)
<https://www.jeopardy.rock/r511merve/>



38

4. Variety, Novelty, Fun, Fantasy:
C. Random Lists
 (Random.org—clocks, coins, playing cards, dice, integers, passwords, jazz scales, lists, sequences, etc.)



39

February 21, 2017

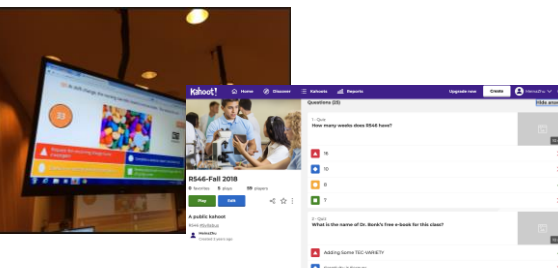
4. Variety, Novelty, Fun, Fantasy:
D. My classroom is like a,
<http://wheeldecide.com/>



40

Fall 2018 R546

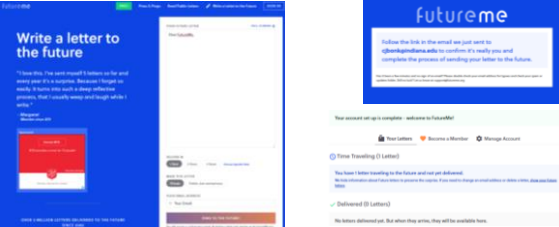
4. Variety, Novelty, Fun, Fantasy:
E. Kahoot!
<https://getkahoot.com/>



41

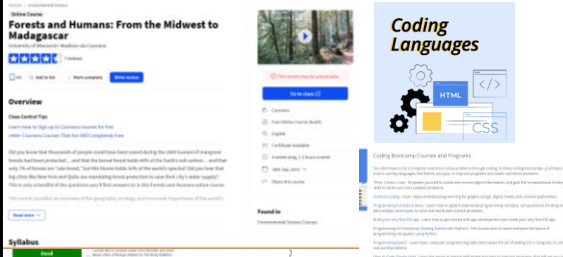
October 10, 2018

4. Variety, Novelty, Fun, Fantasy:
F. FutureMe.org
 Write a letter to the future
<https://www.futureme.org/>




42

July 18, 2020
5. Autonomy, Choice:
A. Enroll in a MOOC and Reflect
 (e.g., see Class Central)




43

5. Autonomy, Choice:
B. Tracking the Life of an Expert
 (e.g., biography.com)
<https://www.biography.com/scholar/john-muir>



44

5. Autonomy, Choice:
C. Design Multimedia Glossaries
 P540 Final Assignment: Nate Wynne, Supersized Personal Course Glossary
<http://natewynne1982.wix.com/p540courseglossary>
 Ozgur Ozdemir, December 2012
<http://r585glossary.shutterstock.com/>
 Umida Khikmatillaeva, Dec. 2011, P540
<http://learningplanet.shutterstock.com/>




45

5. Autonomy, Choice:
D. Flipping the Classroom
 (video lectures online)
<https://www.youtube.com/watch?v=J7y6TKD00E>



46

August 2, 2020
5. Autonomy, Choice:
E. Virtual Jigsaw (group choice)
 Catlin Tucker blog
 10 Strategies Designed to Engage Elementary Students Online
 8 Ideas Designed to Engage Students in Active Learning Online
<https://catlintonucker.com/>



47

April 6 and April 28, 2020
6. Relevance, Meaningfulness:
A. Weekly Guest Expert Chats
 SMILE, Paul Kim Stanford, <https://youtu.be/bf7Ds1hVLU>
 February 22, 2020, Jima Ngel in Nigeria (1 hour 15 minutes)
 Video: <https://youtu.be/sM6VMsfQJxc>



48

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

Stomach, endoscopic examination and biopsy:
Poorly differentiated tubular adenocarcinoma

I'd like to take the quiz now.

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

49

March 20, 2018 6. Relevance, Meaningfulness: C. Editing Wikipedia Pages Women's-Studies Students Across the Nation Are Editing Wikipedia

Emma Kerr, The Chronicle of Higher Education
<https://www.chronicle.com/article/Women-s-Studies-Students-2259>

College students take to Wikipedia to rewrite the wrongs of Internet science

Women's-Studies Students Across the Nation Are Editing Wikipedia

Samantha Erickson, left, of the Wiki Education Foundation; Tina Brock, a dean of the School of Pharmacy at UC San Francisco; and professor Amin Azzam discuss implementing the integration of Wikipedia pages on medical topics with students' work

50

6. Relevance, Meaningfulness: D. Analyzing Online Raw Data (e.g., computer code, health data, financial statements)

51

June 27, 2020 7. Interactive, Collaborative: A. Team Management and Project Coordination

Trello is a team management tool and list-making application to organize online group tasks easily. Trello is for teams to organize team work. However, teachers can use it to manage online group projects or homeschooling activities like in this Example: <https://youtu.be/L6FUOMXnKxU?t=132>

52

7. Interactive, Collaborative: B. Negotiate Meanings Online (e.g., MeetingWords: <http://meetingwords.com/>) Also: Google Docs, NowComment, etc. e.g., <https://nowcomment.com/documents/131228>

53

7. Interactive, Collaborative: C. Guest Speaker Quotes (Rey Junco, February 25, 2013)

54

Fall 2019, R511

7. Interactive, Collaborative:

D. Team Article Debates

Nuclino (like a wiki...may delete by mistake, trial version, limited)



Nuclino

INTERACTIVE
PARTICIPATORY
ENGAGING
INVOLVING

55

7. Interactive, Collaborative:

E. Virtual Mobile (at Virtually Inspired)

virtual laboratory brings the opportunity for remote collaboration enables students to conduct experiments, access, interpret, evaluate, and exchange relevant technical information.

Susan Aldridge, Drexel: <https://virtuallyinspired.org/portfolio/online-virtual-labs/>



Using Green Gamification & AR to Promote & Teach Environmental Sustainability

Salzburg University of Applied Sciences and Polytechnic create Eco Augmented Reality Game

Receive the latest innovations in online learning directly to your inbox!

Subscribe Now

The Classroom of the

56

July 8, 2020

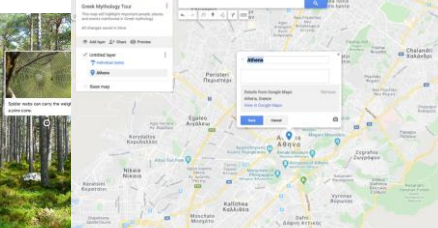
8. Engagement, Involvement: A. Interactive Maps

(Thinglink: interactive map creator; Google Map Adventures)

<https://www.thinglink.com/>

(Thinglink (Freemium): Direct students to the discussions, assignments, course files, and syllabus. She added hyperlinks to pictures or videos to facilitate navigation. Thinglink makes any still picture interactive. You can put links into a picture and students easily navigate to necessary website. For example, it is used commonly for online history and geography courses.

Students can chart the path of a story on a map, they can connect historical info they are learning to the geographic location where events took place, and students can design creative mathematical challenges.



Google Maps

Interactive Map

57

8. Engagement, Involvement:

B. Healthcare Scenarios and Simulations




Healthcare Simulation

58

8. Engagement, Involvement:

C. Interactive Labs and Simulations

<http://phet.colorado.edu/en/simulation/energy-skate-park>



PhET Interactive Simulations

Color Vision

Download

Run Now

59


May 28, 2019

8. Engagement, Involvement:

D. Virtual Reality Comes to the Classroom

Beth McMurtrie, The Chronicle of Higher Education

<https://www.chronicle.com/interactives/20190528-immersiveTech>



A Virtual Orchestra

Using a special recording system, Hamilton College created a virtual-reality experience for students in a conducting class. Heather Buchman, a music professor, first recorded a performance using 3-D audio and video.

(Andrew Groll)

Students later practiced conducting the virtual orchestra by wearing a special headset through which the sound of the orchestra changes as they turn their head.

(Ben Salzman)

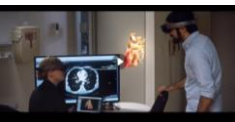
60

May 28, 2019

8. Engagement, Involvement:

E. Virtual Reality Comes to the Classroom

Beth McMurtrie, The Chronicle of Higher Education
<https://www.chronicle.com/interactives/20190528-immersiveTech>
 A virtual-reality experience for students is conducting class: <http://curtbank.com/vrheart.html>
 A group of students could gather around a virtual heart: <http://curtbank.com/vrheart.html>



Unlike VR headsets, augmented-reality glasses allow users to see the world around them, opening up possibilities for shared learning experiences. A group of students could gather around a virtual heart as their professor takes it apart to show them the components. (*Microsoft*)

61

October 20, 2020

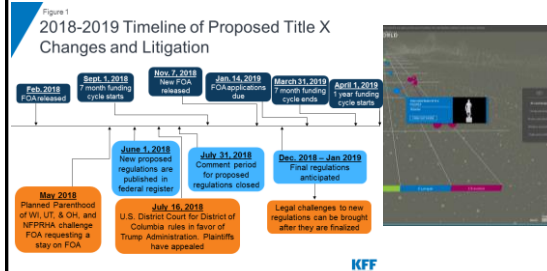
8. Engagement, Involvement:

F. Interactive Timelines

(Sutori, xtline, Preceden, TimeLineCurator, etc.)

The British Museum

<https://britishmuseum.withgoogle.com/>



62

May 1, 2018

8. Engagement, Involvement:

G. Augmented Reality

3 ways districts can use AR and AI

Justin Anglio, eSchool News

<https://www.eschoolnews.com/2018/05/01/3-ways-districts-can-use-ar-and-ai/>



When a teacher glances around her classroom, Lumilo allows her to see real-time analytics (in the form of icons) floating directly above each student's head. The teacher can glance directly at a student or "click" on a student's icon to see more detailed information about where and how that student might be struggling.

63

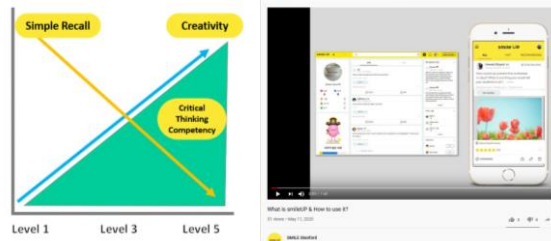
May 11, 2020

9. Tension, Challenge, Controversy, etc.:

A. What is smileUP & How to use it?

SMILE, Stanford

<https://www.youtube.com/watch?v=pblU8sSALWo>



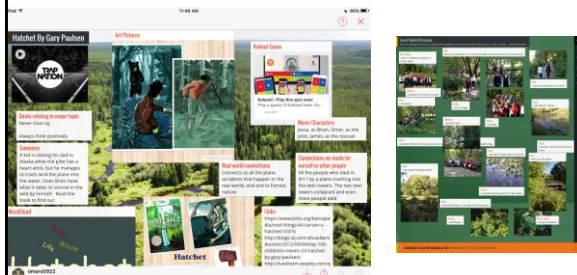
64

9. Tension, Challenge, Controversy, etc.:

B. Virtual Sharing Walls Competitions

e.g., Padlet (A collaboration and discussion board)

<https://padlet.com/samarast/urel07b3nwubivel>

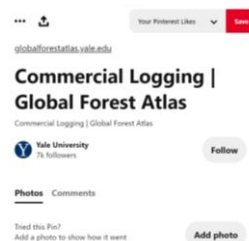


65

10. Yields Products, Goals:

A. Database Collection Tools

Article Databases in Pinterest



66

12

1. Auditory or Verbal Learners

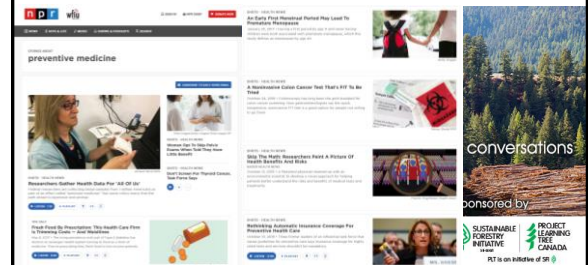
- Auditory and verbal learners prefer words, spoken or written explanations.



73

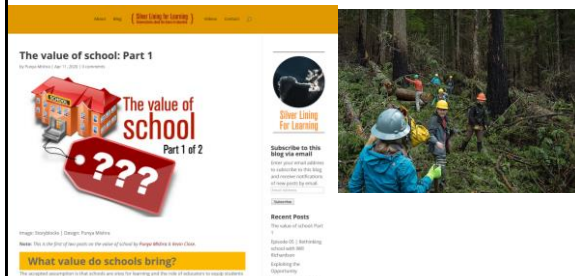
January 20, 2016 Read 1a. Listen to Podcasts

(e.g., preventive medicine podcast, NPR: <https://www.npr.org/tags/206695374/preventive-medicine>)



74

March 21, 2020 Read 1b. Read Blogs



75

Read 1c. Twitter Fed Class Discussions

(e.g., OT: <https://twitter.com/glenbourneteam>)



76

Read 1d. Reading from Open Access Journals

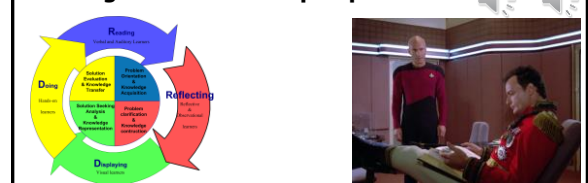
(e.g., DOAJ—Directory of Open Access Journals) <https://doaj.org/>



77

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



78

Reflect 2a. Big Issue Reflections

Forestry & Society Forests of the U.S.--Questions

- What are some major species of eastern forests? Describe them.
- What are some major species of western forests? Describe them. What are some major species of southwestern forests? Describe them. Compare the productivity of temperate forests with tropical and boreal forests.
- Describe the ownership pattern of forestland in the US. What were the major laws that determined US forest land policy? What did they do for US forest policy?

Probable Questions

- Discuss types of forests in Bangladesh. What are their issues of concerns?
- What are the main objectives of the National Forestry Policy 1994? Discuss
- For conservation of the forests and wildlife, the Government of Bangladesh has declared some areas as "Protected Areas". What are they?
- What are the challenges of conservation of forests? Discuss

79

Reflect 2b. Interpreting Interactive Graphs and Infographics



80

July 5, 2018 Reflect 2c. Vialogues

EdLab Seminar--Engaging Educators with Digital Collections
Vialogue, Sara Hartman, New Learning Times
<https://newlearningtimes.com/cms/article/5426/how-academic-publishing-is-changing-in-the>



81

Reflect 2d. Online Role Play or Debate (e.g., documentary production)



82

3. Visual Learners

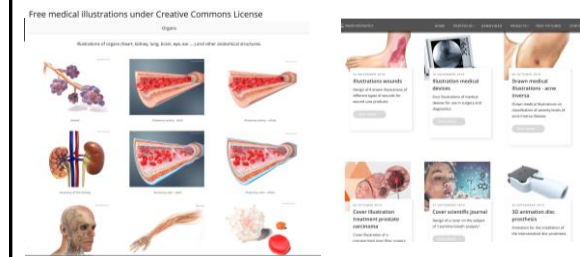
- Visual learners prefer diagrams, flowcharts, timelines, pictures, films, and demonstrations.



83

Display 3a. More Royalty Free Images Medical Graphics in Creative Commons

<http://www.medicalgraphics.de/en/free-pictures.html>



84

15

Do 4a. Sample Student Work e.g., Interactive Archive/Gallery of best work

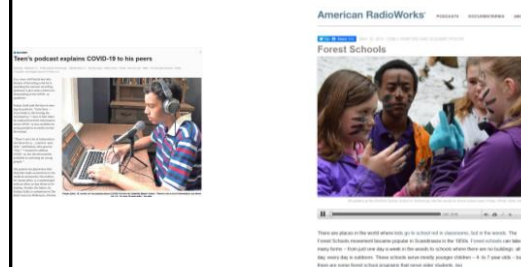


91

August 6, 2020 Do 4b. Podcast Shows

Teen's Podcast explains COVID-19 to his peers
Janey Begley, USA Today, TC Palm

<https://www.tcpalm.com/story/life/2020/08/06/forida-youth-starts-podcast-explaining-covid-19-teens/3312120001/>



92

April 23, 2020 Do 4c. Demonstration Videos Crane Makerspace, Tina Closser

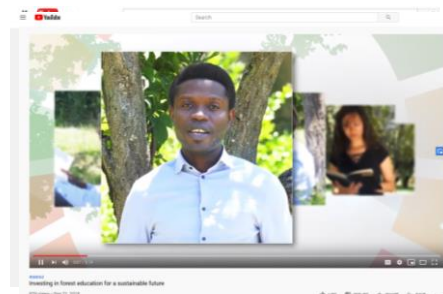
https://www.youtube.com/channel/UCBeWfD9e7oZJMB19T85w7view_as=subscriber



93

Do 4d. Student Created Recap Videos

Piercarlo Abate: <http://www.youtube.com/watch?v=-TURzH00aU>
Qi Li, Gangnam: <http://www.youtube.com/watch?v=7Q429lqZaU8&feature=youtu.be>
Niguel Lara (Web 2.0 FREEDOM): <http://www.youtube.com/watch?v=8mCpWf9W9W8>
Kendall Rasmussen (Is It Right For You?): <https://www.youtube.com/watch?v=M3JGUDUICGw>
Kimberly Vincent-Layton: https://www.youtube.com/watch?v=41c39_v112&feature=youtu.be



94

Poll #8: Any light bulbs going off in you head so far?

- Yes definitely...many of them...pop...pop...pop!
- Yes, several times.
- Yes maybe!
- Not yet (but hopefully soon...)
- Nope. Darn it my brain is not working today.
- There's no hope with this idiot presenting.



95

Poll #9: Which motivational principle do you see as the most crucial online?

1. Tone/Climate
2. Encouragement, Feedback
3. Curiosity
4. Variety
5. Autonomy
6. Relevance
7. Interactive
8. Engagement
9. Tension
10. Yields Products



What motivates?

1. Tone/Climate: Psychological Safety, Comfort, Sense of Belonging
2. Encouragement: Feedback, Responsiveness, Praise, Support
3. Curiosity: Surprise, Intrigue, Unpredictability
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

96

Poll #10: 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.



97

Poll #11: Which pedagogical model or framework do you prefer?

- a. TEC-VARIETY
- b. R2D2
- c. Neither
- d. Both
- e. I will try to create some unique combo of the two.



98

Poll #12: Are you excited to try anything out that you heard today?

- a. Yes definitely...many of them...
- b. Yes, several of them.
- c. Yes maybe one!
- d. Not yet (but hopefully soon...)
- e. Nope. My brain is simply not working today.
- f. No...I am having Internet connection issues.



99

Poll #13: What are you most concerned about then teaching online?

- a. Access issues
- b. Personalization issues
- c. Engagement issues
- d. Nothing...everything is running smooth



100

Poll #14: Does all this stuff that you heard give you a headache?

- a. Yes, but I am still excited to try things out.
- b. Yes, and I need some medicine and a break.
- c. Not sure.
- d. No, let's go all day.
- e. No, let's go another hour.
- f. No, it was just right.



101

Poll #15: As a result of this session, are you going to be a more effective and more confident online instructor?

- a. Definitely, Definitely, Definitely...
- b. Probably, Probably, Probably,
- c. Maybe, Maybe, Maybe
- d. You got to be kidding...NO!



102

The World is Open for you now...!



103

We are entering a jumping off point...



104

Things are heating up!



105

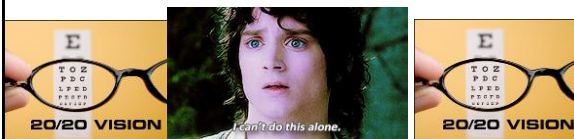
Education 20/20 and a Learning Revolution is coming within reach!



106

**Remember...
"I cannot do this alone."**

"I cannot do this alone."
"I cannot do this alone."
"I cannot do this alone."



107

Any Questions or Comments?

Slides at: TrainingShare.com

Papers: PublicationShare.com

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



Curtis J. Bonk, IST Professor

Indiana University

cjbonk@indiana.edu; <http://curtbonk.com/>



108