

CONTACT NORTH Online Learning
Apprentissage en ligne

How to Motivate and Retain Learners Online

Curtis J. Bonk, IST Professor
Indiana University
cjbonk@indiana.edu; <http://curtbonk.com/>

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CONTACT NORTH Online Learning
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March 26, 2020

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>




2

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Poll #1: What time is it there?

- Early morning and I'm hungry!
- Late morning
- Lunch time
- Afternoon
- Early evening
- Late night
- Late late late (I should be in bed sleeping but I wanted to see Dr. Bonk)




3

CONTACT NORTH Online Learning
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Poll #2: Have you ever been to Canada?

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




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CONTACT NORTH Online Learning
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Poll #3: Have you seen Dr. Bonk speak before?

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




5

CONTACT NORTH Online Learning
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Poll #4: Have you ever taught a fully online course?

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



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February 26, 2021

Ever have 'Zoom fatigue?' These are the causes and how to fix them, researchers say

Brett Molina, USA Today
<https://www.usatoday.com/story/tech/2021/02/26/zoom-fatigue-causes-and-how-to-fix/6831569002/>

8

October 5, 2020

Remote learning isn't new: Radio instruction in the 1937 polio epidemic

Katherine A. Foss, The Conversation
<https://theconversation.com/amp/remote-learning-isnt-new-radio-instruction-in-the-1937-polio-epidemic-143797>

THE CONVERSATION

Remote learning isn't new: Radio instruction in the 1937 polio epidemic

Katherine A. Foss, Middle Tennessee State University
October 5, 2020 12:04 PM CDT

9

February 2, 2016

1960's PLATO Computer System – Computer Aided Learning CAI CBT CDC Control Data Educational

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

PLATO

CBE - Computer Based Education

10

Needed: New Models of Motivation and Engagement

OH

Indian students wear boxes on their heads during exam to prevent cheating

By Anshu Prasad, CNN

Bihar cheating scandal: What parents in India will do for good grades

By Anshu Prasad, CNN

11

12

20 New Roles of the Instructor

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



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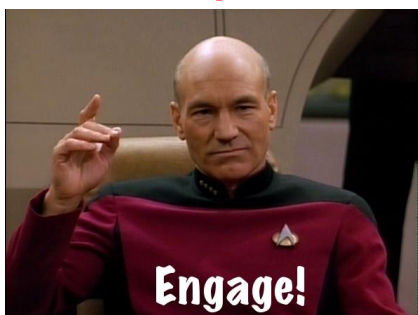
Bonk's 20 "Last" Principles of Instruction (LAST = Learning Activation System Template)

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

Flexibility **Support and Feedback** **Choice and Options**
Convenience **Spontaneity** **Nontraditional Learning**
Collegiality **Organization** **Passion and Inspiration**
Cheerfulness and Optimism **Sharing** **Relevance and Meaningfulness**
High Expectations **Purpose and Vision** **Trial and Error (i.e., it is ok to fail)**
Empowerment and Autonomy **Expanded Resources** **Human Connectedness** **#20 ???**
Cognitive Apprenticeship

14

Poll: What did Jean-Luc Picard say?



15

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.




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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.



17


Part 1: Introducing the TEC-VARIETY Model (Motto: It’s better than the “TEC-MONOTONY” Model)

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

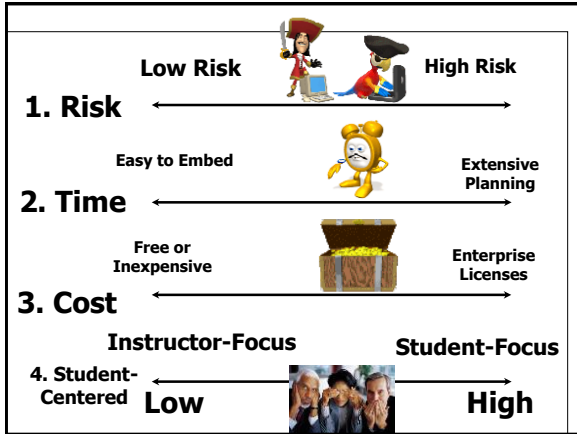
在线学习动机与激励：
TEC-VARIETY 模型



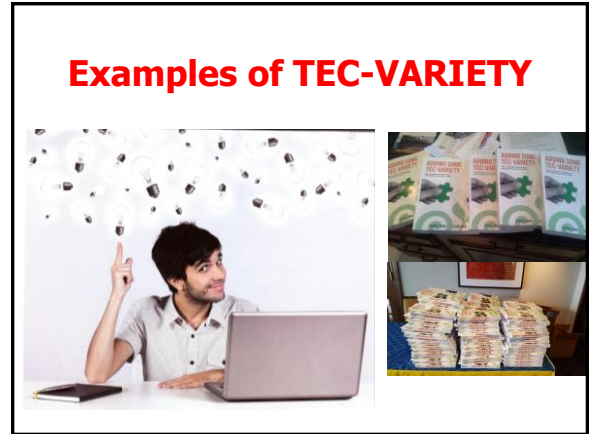


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CONTACT NORTH Online Learning Apprenticeship on-line

April 14, 2020

1. Tone/Climate: A. Virtual Choir Starters
 900-Strong Singapore Virtual Choir sings Home (Dick Lee)
<https://www.youtube.com/watch?v=-psk61cafiE&feature=youtu.be>
 4:33 (video): <http://currbank.com/strong.html>
 3:18 (video): <https://www.youtube.com/watch?v=ynxylm-hf3I>

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September 24, 2020

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

22

April 3, 2017

1. Tone/Climate: C. Anonymous Voting
Sli.do (students get a code; e.g., 9801)
<https://www.sli.do/>

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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/>

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1. Tone/Climate:
E. Instructor Course Introductions
 Lynne Innes (Scotland): <https://vimeo.com/356645285>

25

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>

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

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2. Encouragement, Feedback:
C. Online Practice Tests and Interactive Flash Cards (e.g., Pharmacy, OT, etc.)
<http://quizlet.com/>

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2. Encouragement, Feedback:
D. Video Tutorials, Demonstrations, and How-To's (videos, tutorials, etc.)
 (Jing, GoView, Screenr, Overstream, Screencast-o-Matic; http://tec-variety.com/TEC-Variety_links-examples-resources.pdf)

29

January 9, 2020
3. Curiosity, Intrigue, Unknowns:
A. Scientists put 3D glasses on cuttlefish and showed them film clips. The results were surprising (Cuttlefish eyes have well-developed depth perception)
 Ryan Prior, CNN
<https://www.cnn.com/2020/01/08/au/3d-glasses-cuttlefish-sci-tnm/index.html>

30

April 17, 2017

3. Curiosity, Intrigue, Unknowns:

B. 1st woman to officially run Boston Marathon does it again, 50 years later
Emanuella Grinberg, CNN, USA Today
<http://www.cnn.com/2017/04/17/us/boston-marathon-kathrine-switzer-trnd/index.html>

July 16, 2017
<http://www.hawkins.com/articles/2212195-julia-hawkins-sets-100-meter-death-record-for-women-100-years-old>
http://www.cnn.com/2017/07/16/us/oldest-photograph-human-daguerre/index.html?hpt=hp_34_kong

Julia Hawkins Sets 100-Meter Dash Record for Women 100 Years or Older

1 Boston 0 years later

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3. Curiosity, Intrigue, Unknowns:

C. Multimedia 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)

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February 6, 2021

3. Curiosity, Intrigue, Unknowns:

D. A Natural Work of Art May Be Hiding Among Indian Cave Masterpieces
Joshua Sokoi, The New York Times
<https://www.nytimes.com/2021/02/05/science/india-cave-art-fossil.html>

The New York Times

A Natural Work of Art May Be Hiding Among Indian Cave Masterpieces

What may be an overlooked fossil in a well-known cultural site could offer clues to the age of its underlying rocks.

33

December 4, 2020

3. Curiosity, Intrigue, Unknowns:

E. Mysterious monoliths are appearing across the world. Here's what we know.
Constance Grady, Vox
<https://www.vox.com/culture/22062796/monoliths-utah-california-romania>

From left: The California monolith, the Utah monolith, and the Romanian monolith. **Luke Phillips/Twitter; Utah Department of Public Safety; Andrei Carabelea/Facebook**

Mysterious monoliths are appearing across the world. Here's what we know.

We don't know where the mysterious monoliths come from. But we do know they're real.

34

January 26, 2021

3. Curiosity, Intrigue, Unknowns:

F. News Discoveries

Was This Dinosaur More Subaquatic; Killer or Giant Wading Bird?
Asher Elbein, The New York Times
<https://www.nytimes.com/2021/01/26/science/spinosaurus-underwater-dinosaur.html>

The New York Times

Was This Dinosaur More Subaquatic Killer or Giant Wading Bird?

It was once thought the Spinosaurus that swam in the waters of prehistoric rivers.

35

June 27, 2020

4. Variety, Novelty, Fun, Fantasy:

A. Create Animated Presentations

Animaker is a cloud-based do-it-yourself video maker. Free version provides a lot of characters, props, transitions, and background images.

Example in Turkish: <https://youtu.be/LS20lCbozBQ?t=737>

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February 27, 2020
4. Variety, Novelty, Fun, Fantasy:
B. Game Show Style Presentations
 Susie Gronseth, University of Houston
https://www.youtube.com/watch?v=ZFXIVA6z_no&feature=youtu.be

The screenshot shows a game show interface with a grid of topics: 'Asking Why Asking Who Asking How', 'Testing the Water', 'Making Promises', 'Network with Your Network', 'Which Way the Wind Blows', 'Mental Exhaustion and Hitting the Wall (i.e., Bonking)', 'Reflecting Back and Lightbulbs On', 'Marketing and Money Matters', 'Ask Your Own Question', and 'Ask Your Own Question'. A host is visible in a small video window on the right.

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

The screenshot shows a Jeopardy! game board with a grid of dollar amounts and a slide titled 'LEARNING THEORIES' with a quote from Bandura (1961): 'BANDURA (1961) CONDUCTED A STUDY TO INVESTIGATE IF SOCIAL BEHAVIORS (I.E. AGGRESSION) CAN BE ACQUIRED BY OBSERVATION AND IMITATION. THE NAME OF THE FAMOUS EXPERIMENT IS:'

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

The screenshot shows the Random.org website with sections for 'Coin Flipper', 'Dice Roller', and 'List Randomizer'. It displays random results for each tool, such as 'You flipped 2 coins of type Irish €1:' and 'You rolled 2 dice:'.

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February 21, 2017
4. Variety, Novelty, Fun, Fantasy:
E. My classroom is like a,"
<http://wheeldecide.com/>

The screenshot shows the Wheel Builder tool with a wheel divided into segments labeled 'Happily', 'Sadly', 'Surprised', and 'Angry'. A control panel on the right allows for customizing the wheel's segments and colors.

40

Fall 2018 R546
4. Variety, Novelty, Fun, Fantasy:
F. Kahoot!
<https://getkahoot.com/>

The screenshot shows a Kahoot! game in progress on a screen. The game is titled 'Kahoot! Fall 2018' and features a question about 'What is the name of the book that is based on the story of the blind men and an elephant?'.

41

October 10, 2018
4. Variety, Novelty, Fun, Fantasy:
G. FutureMe.org
 Write a letter to the future
<https://www.futureme.org/>

The screenshot shows the FutureMe.org website with a 'Write a letter to the future' interface. It includes a text area for writing the letter and a 'Send' button.

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

The image shows a screenshot of the Coursera website. On the left, there's a course titled 'Nutrition, Exercise and Sports' with a 'Free Trial' button. On the right, there's a course titled 'Coding Languages' with a 'Free Trial' button. The website header includes 'Learning English' and 'Coursera - Programs & Degrees - Schools & Partners - with for Business'.

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5. Autonomy, Choice:
B. Tracking the Life of a Medical Professional
 (e.g., biography.com)
<https://www.biography.com/scientist/alexander-fleming>

The image shows a screenshot of the Biography.com website for Alexander Fleming. It includes a portrait of Fleming, a video player showing a scene with pills, and a 'Quick Facts' section. The 'Quick Facts' section lists his birth date (August 8, 1881) and death date (March 11, 1955). The 'Synopsis' section describes his discovery of penicillin.

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/>

The image shows two screenshots of multimedia glossaries. The left one is titled 'Personal Course Glossary' and features a network diagram of terms. The right one is titled 'Emerging Learning Technologies' and features a word cloud with terms like 'Digital Learning', 'Multimedia', and 'Online Learning'.

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Poll #5: Any light bulbs going off in your head so far?

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

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April 6 and 28, 2020
6. Relevance, Meaningfulness:
A. Weekly Guest Expert Chats
 SMILE, Paul Kim Stanford, <https://youtu.be/bfjDps1hVLU>
 February 22, 2020, Jima Ngei in Nigeria (1 hour 15 minutes)
 Video: <https://youtu.be/sM6VMsQJXc>

The image shows a screenshot of a YouTube video titled 'Week 6 Interview with Jima Ngei in Nigeria'. The video player shows a panel discussion with three participants. Below the video player, there are social media sharing icons and a 'WELCOME TO' banner for PCE.

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6. Relevance, Meaningfulness:
B. Professional Development Videos
 Edgar Leon, Puerto Rico, Marisol Hernández Hermina, Animator
<https://app.animator.com/animo/2h5b0Hz2qxURJ35x4/2h4areId=view%7C2h5b0Hz2qxURJ35x4>

The image is a collage of four video thumbnails. The top-left one is titled 'Estrategia de Enseñanza' and 'VITALCLASROOM'. The top-right one is titled 'EDUCATION ONLINE' and 'Digital Learning'. The bottom-left one is titled 'ONLINE LECTURE' and shows a person at a computer. The bottom-right one shows a person standing in front of a world map.

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

Stomach, endoscopic examination and biopsy.
Poorly differentiated tubular adenocarcinoma

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

49

March 20, 2018 6. Relevance, Meaningfulness: D. 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-2018>

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

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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>

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

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

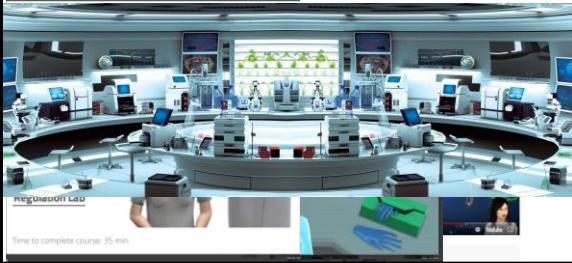
53

Fall 2019, R511 7. Interactive, Collaborative: D. Team Article Debates Nuclino (like a wiki...may delete by mistake, trial version, limited)

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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/>



55

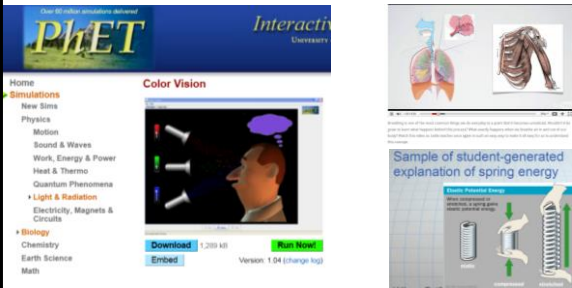
8. Engagement, Involvement:
A. Healthcare Scenarios and Simulations



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8. Engagement, Involvement:
B. Interactive Labs and Simulations

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



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May 28, 2019
8. Engagement, Involvement:
C. Virtual Reality Comes to the Classroom
 Beth McMurtrie, The Chronicle of Higher Education

<https://www.chronicle.com/interactives/20190522-immersiveTech>



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 orchestra changes as they turn their head. (*Ben Salzman*)

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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/20190522-immersiveTech>
 A virtual-reality experience for students in a conducting class: <http://dx.doi.org/10.1177/0009173919853881>
 A group of students could gather around a virtual heart: <http://www.bbc.com/news/technology-49853881>



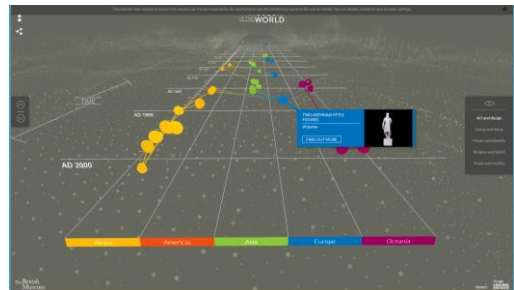
Unlike VR headsets, augmented-reality glasses allow users to see the world around them, opening up possibilities for shared learning experiences. A group of students could gather around a virtual heart as their professor takes it apart to show them the components. (*Microsoft*)



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October 20, 2020
8. Engagement, Involvement:
E. Interactive Timeline, The British Museum

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



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February 6, 2021

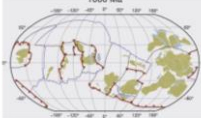
8. Engagement, Involvement:

F. Watch This Billion-Year Journey of Earth's Tectonic Plates
 Robin George Andrews, The New York Times

World Animation: https://vimeo.com/video/2021/02/05/31655_1_066h-tectonicplates-vid_wg_720p.mp4
<https://www.nytimes.com/2021/02/05/science/tectonic-plates-continental-drift.html>

View Online: <https://www.nytimes.com/2021/02/05/science/tectonic-plates-continental-drift.html>

The New York Times
Watch This Billion-Year Journey of Earth's Tectonic Plates
 A new simulation offers a different view of how the continents we live on drifted into their current configuration.
 1000 Ma



Animation by Marko D. J. van, Earth-Science Services
 World's Newsweek Publisher: <https://www.nytimes.com/>

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January/February 2021

8. Engagement, Involvement:

G. Engaging Students in Online Learning Using Teacher Demonstration
 By Denise Wright, The Online Teacher, NSTA

<https://www.nsta.org/science-scope/science-scope-january/february-2021/engaging-students-online-learning-using-teacher>

FIGURE 3: A ring light is placed on the desk, a cell phone tripod holds the phone in the downward position, then the camera app is used.



FIGURE 4: Students shared their rock and mineral samples from home on a tablet.



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March 2, 2021

9. Tension, Challenge, Controversy, etc.:

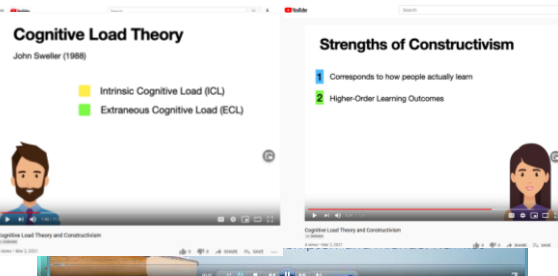
A. Controversial Issue Debates and Pro and Con Conversations
 Brian Harding: <https://www.youtube.com/watch?app=desktop&v=BwCz0KWu4c&feature=youtu.be>
 S. Whittaker: <https://youtu.be/jL6RZGzBWIs>

Cognitive Load Theory
 John Sweller (1988)

- Intrinsic Cognitive Load (ICL)
- Extraneous Cognitive Load (ECL)

Strengths of Constructivism

- 1 Corresponds to how people actually learn
- 2 Higher-Order Learning Outcomes

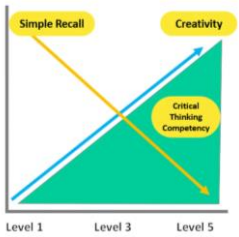


63

May 11, 2020

9. Tension, Challenge, Controversy, etc.:

B. What is smileUP & How to use it?
 SMILE, Stanford
<https://www.youtube.com/watch?v=pblU8sSALWo>




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November 1, 2019

9. Tension, Challenge, Controversy, etc.:

C. Implementing the ViewPoint Role-Playing Simulation Tool in a "Leadership Crisis Challenge"
 Center for Academic Innovation, University of Michigan
<https://news.umich.edu/students-thrown-into-real-world-scenarios-with-viewpoint-an-educational-simulation-tool/>



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10. Yields Products, Goals:

A. Database Collection Tools
 Article Databases in Pinterest



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September 3, 2017
Yields Products, Goals:
B. Mindmap Recaps of Online Discussions
Mindmap of Week 2 of R511
<https://www.mindmeister.com/121435318430fa1741b50d7552c>

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April 23, 2020
10. Yields Products, Goals:
C. Student Timelines
(Sutori, xtimeline, Preceden, TimelineCurator, etc.)
Where are They Now? Emerging Learning Technology
 Timeline of the top technologies from Dr. Bonk's Emerging Learning Technology course from the 1990, 2000, 2010, and 2020 class syllabus.
 Shannon, Rachael, and Christian
<https://time.graphics/line/356a121435318430fa1741b50d7552c>

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June 27, 2020
10. Yields Products, Goals:
D. Design Products (students created infographics, brochures, timelines)
Canva is an online design program that does not require

69

April 29, 2020
10. Yields Products, Goals:
E. Wikibook Chapters
Part IV: Environments and Tools: Online Learning Communities R678- Emerging Learning Technologies
 Amanda Zwirecki and Ashia Williams
https://en.wikibooks.org/w/index.php?title=Web_2.0_and_Emerging_Learning_Technologies/Online_Learning_Communities

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March 2, 2021
10. Yields Products, Goals:
F. Student Prezi Presentations

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Make Commitments:
Stop and Share in Chat Window:
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

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Poll #7: 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

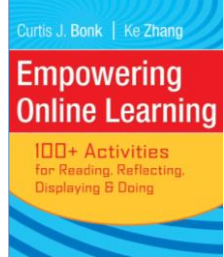



What motivates?

1. Tone/Climate: Psychological Safety, Comfort, Sense of Belonging
2. Encouragement: Feedback, Responsiveness, Praise, 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

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Part II: The R2D2 Model: Read, Reflect, Display, Do...

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Question: How can technology address diverse learner needs?



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The R2D2 Model


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



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1. Auditory or Verbal Learners

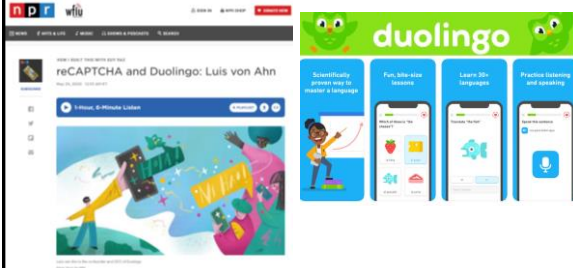
- Auditory and verbal learners prefer words, spoken or written explanations.



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May 25, 2020

Read 1a. Listen to News Podcasts (news tidbits)
reCAPTCHA and Duolingo: Luis von Ahn
Podcast Interview, Guy Raz, NPR
<https://www.npr.org/2020/05/22/860884062/recaptcha-and-duolingo-luis-von-ahn>



78

April 1, 2020
Read 1b. Read Blogs
 Punya Mishra, Silver Lining for Learning
<https://silverliningforlearning.org/the-value-of-school-part-1/>

79

Read 1c. Twitter Fed Class Discussions
 (e.g., OT: <https://twitter.com/glenbourneteam>)

80

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

81

April 13, 2016
Reflect 2a. Interpreting Interactive Graphs and Infographics
 How much rainforest in that chocolate bar?
 Tech billionaire announces \$250 million in cancer immunotherapy funding, Jayne O'Donnell, USA Today
<http://www.usatoday.com/story/news/2015/04/13/billionaire-announces-250-million-cancer-immunotherapy-funding/82821158/>

82

July 9, 2020
Reflect 2b. Collaborative Annotations and Discussions/Group Reading
 Teachers can insert a two-column chart into a Google Document then copy and paste text in the left-hand column. Students can highlight keywords and phrases in the text and capture their annotations in the right-hand column
 VideoAnt (Free): <https://ant.unn.edu/> (Univ. How to do Collaborative Annotation in Perusall)

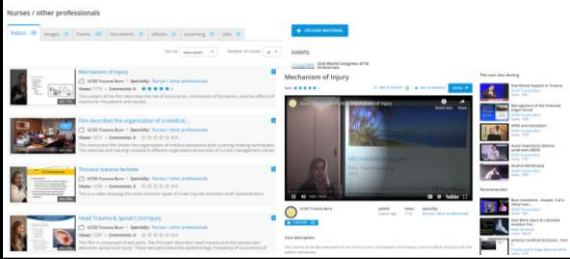
83

3. Visual Learners

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

84

Display 3e. Medical Training Videos: Anchored Instruction/Macrocontext MEDtube (200,000 users, 20,000 records)



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Display 3f. Concept Mapping and Timeline Tools (Bubbl.us, Cmap, Gliffy, Spicynodes, or Mindomo) <http://www.spicynodes.org/index.html>



92

March 16, 2020 Display 3g. Video Teasers G3 of Writing and Publishing Tips <https://youtu.be/4BGJRd5Aaoo>



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4. Tactile/Kinesthetic Learners

- Tactile/kinesthetic senses can be engaged in the learning process are role play, dramatization, cooperative games, simulations, creative movement and dance, multi-sensory activities, manipulatives and hands-on projects.



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Do 4a. Case Decision Making (e.g., snake bite)



95

Do 4b. Sample Student Work e.g., Interactive Archive/Gallery of best work (e.g., physical therapy, SDSU)



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April 23, 2020
Do 4c. Demonstration Videos
Crane Makerspace, Tina Closser
https://www.youtube.com/channel/UCbeWfF49g7pZ0JMB19T8t5w?view_as=subscriber
<https://sites.google.com/view/cranetech/home>
<https://projects.raspberrypi.org/en/projects>

97

March 1, 2021
Do 4d. Student Designed Videos
M-Learning for K-12 Education
 Terri and Terri https://www.youtube.com/watch?v=6e8k0p8kv=4gv_mcZD6v0
 Amy Papp: <https://www.youtube.com/watch?v=431-eoG5Gp5&feature=youtu.be>
 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=8cmCFW9IWS>
 Kimberly Vincent-Layton: https://www.youtube.com/watch?v=41c39_Y11I&feature=youtu.be

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April 29, 2020
Do 4e. Design a MOOC
Qualtrics, Tanner Phillips, Udemy
<https://drive.google.com/file/d/1fkiTPubDYiK91V-8R3d0kxFyHigQnc0/view>

99

Poll 7: 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.

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June 10, 2020
Learning in 2050
Edward J. Mahoney and Joshua Kim, Inside Higher Ed
<https://www.insidehighered.com/digital-learning/blogs/learning-innovation/learning-2050>

Per Kim and Mahoney: "Where might we be in 2050? As we said, a lot can happen. We might see changes in how we use technology, and how students use technology engage in both curricular and co-curricular activities."

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Poll 8: 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.

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Poll #9: Are you excited to try anything out that you heard today?

WOO HOO!




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

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Poll #10: Does all this stuff that you heard give you a headache?

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




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Poll 11: Would you attend a Part 2 follow-up session?


- Definitely, Definitely, Definitely...
- Probably, Probably, Probably,
- Maybe, Maybe, Maybe
- You got to be kidding...NO!



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The World is Open for you now...!



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We are entering a jumping off point...



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Any Questions or Comments?

Slides at: TrainingShare.com

Papers: PublicationShare.com

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

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MAKE IT SO

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