

Education 20/20: Visions of a New Learning World

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

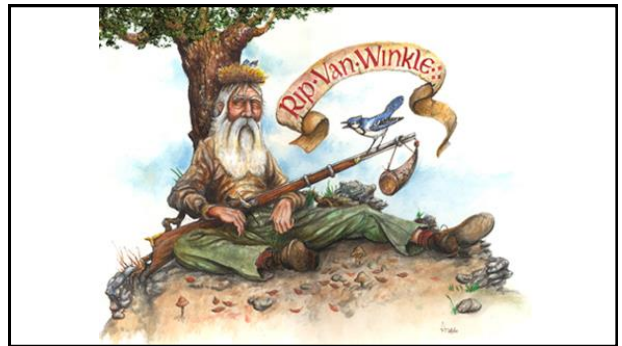


Talk Overview

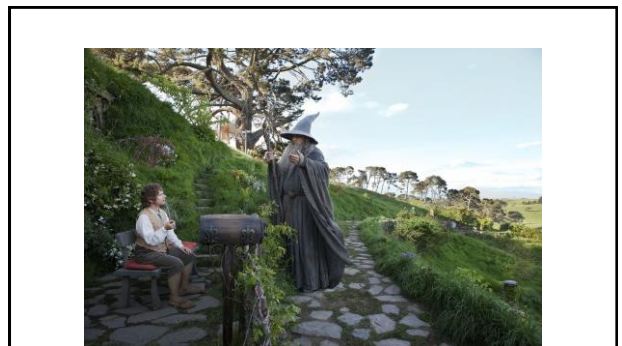
1. Education 20/20 and the Role of the Instructor
2. First and Last Principles of Instruction
3. Fifteen Education 20/20 Activities
4. Read Any Good Books Lately?
5. Megatrends of Learning: Engagement, Access, and Customization (30 ways that learning is changing...)
6. Overcoming Resistance



(Circa Confucius 551–479 BCE)



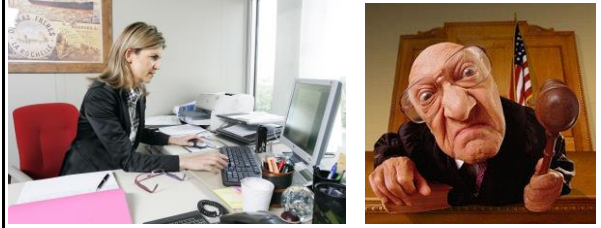
What happens to
sleeping students?



Education 20/20



From Instructor as Credit Manager and Court Room Judge



1. Instructor as Counselor



2. Instructor as Consultant



3. Instructor as Conductor



4. Instructor as Course Ambassador



5. Instructor as Curator



6. Instructor as Concierge



7. Instructor as Camping Trip Guide



8. Instructor as Cultivator



20 New Roles of the Instructor

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

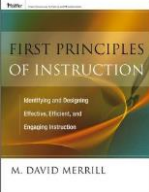



Merrill's First Principles of Teaching/Instruction

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

Integration	Activation
Problem/Task	
Application	Demonstration

The First Principles Four Phase Cycle of Instruction

February 29, 2016


Instructional Design:

Demand grows for a new breed of academic

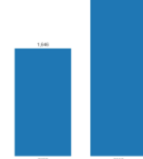
The Chronicle of Higher Education, Dan Berrett
<http://chronicle.com/article/Instructional-Design/235425>

Instructional Design

Demanded grown for a new breed of academic



Members of the Association for Educational Communications and Technology



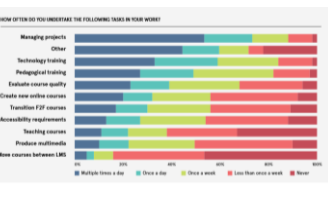
Year	Members
2008	1,000
2014	2,000


April, 2016

Instructional Design in Higher Education, Gates Foundation and Intentional Futures

<http://intentionalfutures.com/2016/04/instructional-design-in-higher-education/>
<http://intentionalfutures.com/reports/isd/>


HOW OFTEN DO YOU IMPLEMENT THE FOLLOWING TASKS IN YOUR WORK?






Instructional Designer Morphs into Learning Environment Engineer

The New and Improved Instructional Designer



Learning ENGINEER




Bonk's Last Principles of Teaching/Instruction

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




1. The Principle of Flexibility

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



2. The Principle of Convenience

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



3. The Principle of Collegiality

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



4. The Principle of Cheerfulness and Optimism

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



5. The Principle of High Expectations

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



6. The Principle of Choice and Options

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



7. The Principle of Empowerment and Autonomy

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



August 8, 2017

Professor's plan to let students grade themselves gets an F

Paul LeBlanc, CNN

<http://www.cnn.com/2017/08/08/health/students-choice-grades-stress-reduction-trnd/index.html>

Professor's plan to let students grade themselves gets an F



8. The Principle of Support and Feedback

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



9. The Principle of Spontaneity

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



10. The Principle of Organization

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



11. The Principle of Sharing

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



12. The Principle of Nontraditional Learning

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



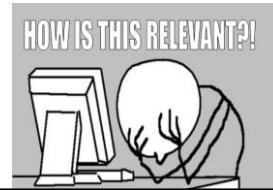
13. The Principle of Passion and Inspiration

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



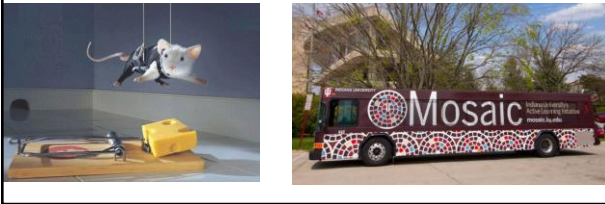
14. The Principle of Relevance and Meaningfulness

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



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

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



16. The Principle of Expanded Resources

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



17. The Principle of Human Connectedness

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



18. The Principle of Cognitive Apprenticeship

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



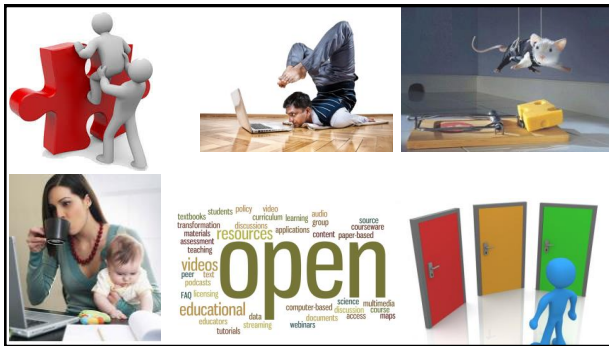
19. The Principle of Purpose and Vision

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



20. ??? (what is missing)

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



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

<http://travelledman.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
- Human Connectedness
- Expanded Resources
- Cognitive Apprenticeship
- #20 ???

Café Classroom and Café Connectedness



Fifteen Education 20/20 Activities...



1. Just in Time Teaching (online warm-up activities)

- Assign a problem before class.
- Evaluate solutions.
- Change class based on results.



2. Just-In-Time Syllabus

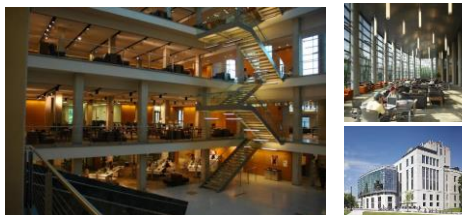
(Raman, Shackelford, & Sosin) <http://ecedweb.unomaha.edu/jits.htm>

Syllabus is created as a "shell" which is thematically organized and contains print, video, and web references as well as assignments. (Goals = critical thinking, collab, develop interests)
e.g., To teach or expand the discussion of supply or elasticity, an instructor might add new links in the Just-in-Time Syllabus to breaking news about rising gasoline prices.



3. Online Resource Library (ORL) or Library Day

(e.g., The Thompson Library at Ohio State Univ.)



4. Reflection Papers: Job Application and Trend Papers

- Have students write papers about emerging trends in the field.
- Have them select topics from a list or suggest topics. Give sample papers.
- Perhaps have them present their trend and job applications papers to class.



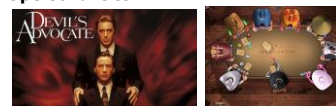
5. Online Scholar Debate Panel or Symposium

- Instead of role play, form online debate panels or symposia on particular topics.
- Set the time for each debate or open it up for an entire week.
- Or bring in expert guests for the debate or panel.



6. Online Role Play Personalities

- List possible roles or personalities (e.g., coach, questioner, optimist, devil's advocate, etc.)
- Sign up for different role every week (or for 5-6 key roles during semester)
- Perform within roles—try to refer to different personalities



7. Poster Sessions and Gallery Tours

- Have students create something--flowchart, timeline, taxonomy, concept map.
- Have half of the students present for 15-20 minutes and then reverse roles.
- Post these in the course management system.
- Discuss, rate, evaluate, etc.



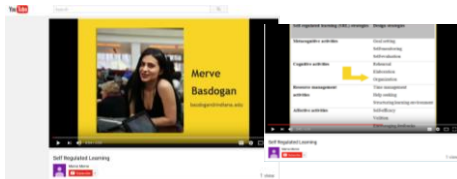
8. 99 Second Quotes and Set Time Presentations

- Everyone brings in a quote that they like from the readings
- You get 99 seconds to share it and explain why you choose it in a sync chat
- Options: Discussion wrapped around quote



October 26, 2016 8. Student Exploration Video

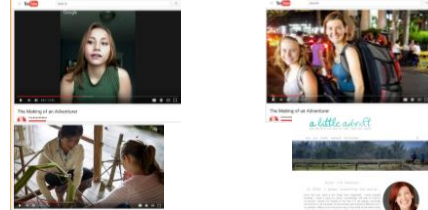
R511, Merve Basdogan, Self-Regulated Learning (6:08)
<https://www.youtube.com/watch?v=51Fp9pGm3t8&feature=youtu.be#t=3.346833>



9. Student Created Documentaries

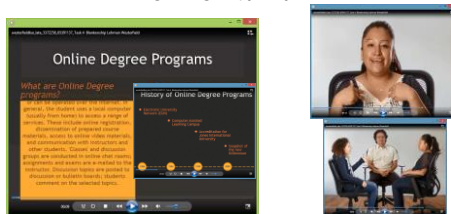
R678 Final Projects, April 2016
The Making of an Adventurer (video), Troy Cockrum

<https://www.youtube.com/watch?v=ew6e7Chd9I8>



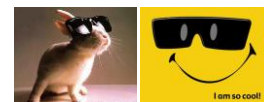
October 26, 2016 10. Student Created Marketing and Explanatory Videos

R511, Kai Westerfield, Jennifer Blankenship, And Colbi Lehman,
Online Degree Programs, (11:54) Go Animate



11. Cool Resource Provider (Bonk, 2004)

- Have students sign up to be a cool resource provider once during the semester.
- Have them find additional paper, people, electronic resources, etc.
- Share and explain what found with class.



12. Volunteer Technology Demos (Bonk, 1996)

- Take students to a computer lab.
- Have students conduct a technology demonstration that relates to something from the class (replaces an assignment).
- Include handout
- Debrief



13. Best 3 Activity (Thiagi, personal conversation, 2003)

- After a lecture, have students decide on the best 3 ideas that they heard (perhaps comparing to a handout).
- Work with another who has 3 as well and decide on best 3 (or 4).
- Those pairs work with another dyad and decide on best 3 (or 4).
- Report back to class.



14. One Visual Exercises

- Tell students to bring in one visual representing their outside readings.
- Have students become the instructors using that visual.



15. Goals and Expectations Charts (L = Cost, L = Risk, M = Time)

- What do you expect from this class, lesson, workshop, etc., what are your goals, what could you contribute?
- Write short and long terms goals down on goal cards and post to discussion forum.
- Write 4-5 expectations for this session.
- Expectations Flip Chart (or online forum):
- Debrief.



More in this free book...!

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

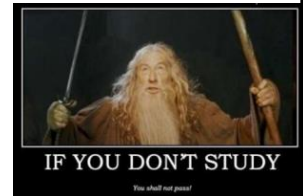


What motivates?

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



Clearly... Learning is Changing!



Poll #1: Do you remember the days before e-learning?



Fast Forward 30+ More Years...
"Anyone can now learn anything from anyone at any time."



Education 3.0...Education 20/20



"In Education 3.0, classrooms would move away from lectures, such as this one, to having class time be spent on discussions and projects, using digital technology."
 (Per Wikipedia: https://en.wikipedia.org/wiki/Education_3.0)

Poll: #1.

Read any good books lately detailing this shift?



1. Drive (2009):

The Surprising Truth About What Motivates Us
 Daniel Pink

Motivation 3.0

- Freedom, challenge, purpose
- Creative, interesting, etc.
- self-directed work
- Intrinsic motivation
- Life as play and possibility
- Engagement and mastery
- Autonomy



2. Grit (2016):

The Power of Passion and Perseverance
 Angela Duckworth



3. Big Magic (2015): Creative Living Beyond Fear

Elizabeth Gilbert

<http://www.elizabethgilbert.com/>

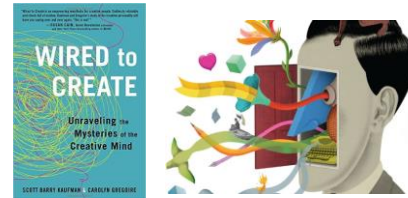


4. Wired to Create (2015): Unraveling the Mysteries of the Creative Mind

Scott Barry Kaufman & Carolyn Gregory

<http://www.amazon.co.uk/Wired-Create-Unraveling-Mysteries-Creative-Mind/dp/0399174109>

<http://www.scottbarrykaufman.com/articles/how-to-unravel-your-creativity-book-to-read/>



5. Originals (2016): How Non-Conformists Move the World

Adam Grant

<http://www.adamgrant.net/theoriginals.cfm>

Pinkcast 2. Advice from Adam Grant: Look for "disagreeable givers" (March 2, 2016)



6. Mindset (2006): The New Psychology of Success

Carol Dweck

<http://mindsetonline.com/index.html>

- Growth vs. fixed (i.e., entity) theories of intelligence
- Intelligence is not fixed
- Practice, practice, practice
- Do not blame others
- Learning goals over performance goals
- Asks: What can I learn from this?
- Asks: How can I improve?



7. Creativity, Inc. (2014) Ed Catmull, President of Pixar Animation and Disney Animation

<http://www.creativityincbook.com/>



8. Creativity, Inc.

Ed Catmull, President of Pixar Animation
and Disney Animation

<http://www.creativityincbook.com/>

- Give a good idea to a mediocre team, and they will screw it up. But give a mediocre idea to a great team, and they will either fix it or come up with something better.
- If you don't strive to uncover what is unseen and understand its nature, you will be ill prepared to lead.
- It's not the manager's job to prevent risks. It's the manager's job to make it safe for others to take them.

9. Makers:

The New Industrial Revolution (DIY Culture)
Chris Anderson (2012)

<http://www.inventtolearn.com/>



Makers:

The New Industrial Revolution (DIY Culture)
Chris Anderson (2012)

- People make products (and from home)
- Technology (e.g., 3-D printing) makes us all manufacturers
- Instant connections to potential customers
- Hold up things you personally design
- Desktop fabrication
- Do-it-yourself (DIY) industry



10. Invent to Learn:

Making, Tinkering, and Engineering in the Classroom

Sylvia Libow Martinez & Gary Stager (2013)

<http://www.inventtolearn.com/>



11. Creating Innovators

Tony Wagner (2012)

<http://creatinginnovators.com/>

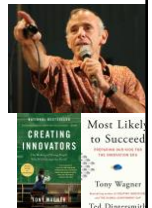
Most Likely to Succeed (2015):

Preparing Our Kids for the Innovation Era

Tony Wagner and Ted Dintersmith

<http://www.tonywagner.com/1933>

- Play
- Passion
- Purpose and life goals
- Open cultures of innovation and interdisciplinary problem solving
- Collaboration
- Intrinsic motivation



12. Finding Your Element:

How to Discover Your Talents and Passions and Transform Your Life

Sir Ken Robinson and Lou Aronica (2013)

<http://www.inventtolearn.com/>



Finding Your Element:

How to Discover Your Talents and Passions and Transform Your Life

By Lou Aronica and Ken Robinson (2013)

<http://www.inventtolearn.com/>

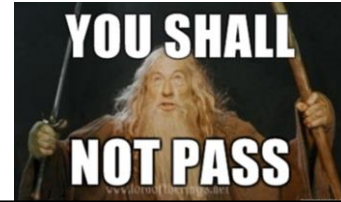
- Find your zone (deep in the throes of exploration and personal passion)
- Think differently (make fresh connections and analogies; avoid groupthink)
- Do something, develop your creative ideas
- Use your imagination, play with ideas
- Free and open exchange of ideas
- Encourage expression of personal ideas/feelings



This is a new age of learning and instruction...!



Poll #2:
Do you really remember those days of the lecture?



The World is Open:
How Web Technology Is Revolutionizing Education

世界是开放的
网络技术如何变革教育
The World Is Open
How Web Technology Is Revolutionizing Education
作者: 柯蒂斯·J·邦克
译者: 王立群

TEN OPENERS: (WE-ALL-LEARN)

1. Web Searching in the World of E-Books
2. E-Learning and Blended Learning
3. Availability of Open Source and Free Software
4. Leveraged Resources and OpenCourseWare
5. Learning Object Repositories and Portals
6. Learner Participation in Open Information Communities
7. Electronic Collaboration
8. Alternate Reality Learning
9. Real-Time Mobility and Portability
10. Networks of Personalized Learning



Thirty Ways Learning is Changing...

(i.e., it's more informal, video-based, ubiquitous, collaborative, self-directed, global, mobile, open, massive, etc.)



July 11, 2017
Going 'phigital'? 4 things schools need to know about Generation Z, Todd Komiak, TrustEd

<http://trustedk12.com/phigital-digital-learning/>
May 15, 2017

3 must know's about the rising "phigital" student-and why their impact is enormous, Meris Stansbury, eCampus News

<https://www.ecampusnews.com/campus-administration/education-gen-z-phigital-student/>

3 must know's about the rising "phigital" student-and why their impact is enormous

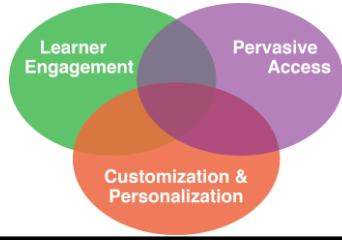
Meris Stansbury
May 15, 2017

Why education must adapt now in order to accommodate to the rising/quiet generation... Read More!

Going "phigital"? 4 things schools need to know about Generation Z

Read More!

30+ Ways Learning is Changing: The Mega Trends



How Learning is Changing: Mega Trend #1. Learner Engagement



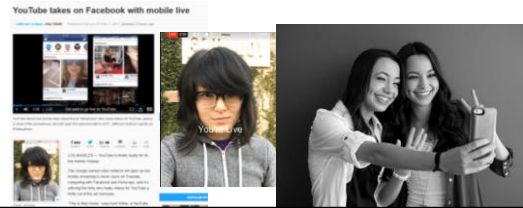
August 17, 2016 Learning is More Hands-On Research: 3D Printing Market to Double by 2020 Joshua Bolkan, Campus Technology

<https://campustechnology.com/articles/2016/08/17/report-3d-printing-market-to-double-by-2020.aspx>
Research: 3D Printing Market to Double by 2020



February 7, 2017 (Engagement) Learning is More Social YouTube takes on Facebook with mobile live Jefferson Graham, USA Today

<http://www.usatoday.com/story/tech/2017/02/07/youtube-takes-facebook-mobile-live/97566592/>



May 31, 2017 Learning is More Digital and Resource Rich Enticing Students to Read Again

Ellen McCracken, The Chronicle of Higher Education
Digital Dubliners—a guide to Joyce's stories written for students by students, will bring a new reading experience to today's classroom.



February 27, 2017 (Engagement) Learning is More Immersive Augmented and Virtual Reality Spending to Double in 2017, Sri Ravipati, THE Journal

<https://thejournal.com/articles/2017/02/27/augmented-and-virtual-reality-spending-to-double-in-2017.aspx>
Worldwide: "forecasts the AR/VR market to reach \$13.9 billion in 2017 — up 130.5 percent from the \$6.1 billion spent in 2016. Furthermore, AR/VR spending is expected to accelerate over the next several years, achieving a compound annual growth rate (CAGR) of 198 percent over the 2015-2020 forecast period and reaching \$143.3 billion in 2020."



July 19, 2017
HoloLens Assists in Live Surgery
 Tommy Palladino, Next Reality

<https://hololens.reality.news/news/hololens-assists-live-surgery-0178887/>
 Video #1: 1:09: <http://curtbonk.com/hololens.html>
 Video #2: 1:37: <https://curtbonk.com/hololens2.html>
 07/19/2017

Numerous examples exist of doctors and surgeons using HoloLens to plan surgeries. The device has even been used to view reference images during a procedure and stream it to a remote audience. Until recently, it has not been used to augment the surgeon's view of the patient during a live surgery.
 Original Video: <https://hololens.reality.news/news/hololens-assists-live-surgery-0178887/>



May 18, 2017
Learning is More Immersive
Google Cardboard
 Google Expeditions Adds Augmented Reality for Classrooms

Sri Ravipati, THE Journal
<https://thejournal.com/articles/2017/05/18/google-expeditions-adds-augmented-reality-for-classrooms.aspx>
<https://www.youtube.com/watch?v=5Yal45WTVg>
 27 seconds <https://curtbonk.com/thejournal27.html>
 38 Seconds <https://curtbonk.com/thejournal38.html>
 1:10: <http://curtbonk.com/thejournal.html>

Google Expeditions Adds Augmented Reality for Classrooms



May 7, 2015 (Engagement)
Learning is More Adventurous
 Aaron Doering, Chasing Seals, TEDx

<http://chasingseals.com/>
<https://twitter.com/chasingseals>



July 22, 2016 (Engagement)
Learning is More Game-like
When Pokémon Goes to Campus:
The Good, the Bad, and the Ugly
 Gabriel Sandoval, Chronicle of Higher Education



Pokémon Go players converged last week on the U. of Nebraska at Lincoln's Memorial Stadium, which officials had opened to the animated-monster hunters. The hit augmented-reality game has prompted many colleges to jump on the bandwagon.

August 23, 2016 (Engagement)
Learning is More Collaborative
 e.g., reef videoconferencing
 (Great Barrier Reef, Australia)

<http://www.xofthe.com.au/education-ict/ict-the-aquarium/reef-videoconferencing>



February 15, 2017 (Engagement)
Learning is More Synchronous
 Shindig, Future Trends Forum, Bryan Alexander

<https://bryanalexander.org/the-future-trends-forum/>
<http://www.shindig.com/>
<http://events.shindig.com/event/ftf-anniversary>



February 17, 2016 (Engagement)
Learning is More Mobile
World's Cheapest Smartphone at \$3.67

https://m.facebook.com/hackpad/friendof?fbid=1518..._in...=9526
https://m.facebook.com/story.php?story_fbid=1015339600123137988id=102527930797
<http://gadgetsnby.com/videos/freedom-151-launched-the-world-s-cheapest-smartphone-at-rs-36462>

Samsung is hoping to have 10,000 apps by the time the Gear S3 launches this fall.

How Learning is Changing:
Blue Trend #2. Pervasive Access

- informal
- free
- open
- synchronous
- online
- immediate
- global
- video-based
- ubiquitous
- direct from experts

Knowledge Navigator (1987)
Apple Computer

<http://www.youtube.com/watch?v=hb4AxF6wEoc>

Learning is More Online (Access)
June 15, 2014
Starbucks offers workers 2 years of free college, CNN Money, Gregory Wallace
(from Arizona State online programs)

http://money.com/2014/06/15/news/economy/starbucks-scholarship-education/index.html?hp_tg=12
<http://www.nytimes.com/2014/06/16/us/starbucks-to-provide-free-college-education-to-thousands-of-workers.html>

November 22, 2016
Learning is More Online (Access)
Indiana University, Online Course Enrollments

<https://cbl.bi.iu.edu/>

Trends for Total Hours Taken in Online Classes

Year	Total Hours	Indianapolis	IUPUI	East	Academic	Southeast	South Bend
Fall 2009	47,341	16.7%	17.4%	17.4%	17.4%	17.4%	17.4%
Fall 2010	55,983	15.2%	15.4%	15.4%	15.4%	15.4%	15.4%
Fall 2011	61,724	15.4%	15.4%	15.4%	15.4%	15.4%	15.4%
Fall 2012	80,415	15.2%	15.2%	15.2%	15.2%	15.2%	15.2%
Fall 2013	80,781	15.4%	15.4%	15.4%	15.4%	15.4%	15.4%
Fall 2014	97,395	15.4%	15.4%	15.4%	15.4%	15.4%	15.4%
Fall 2015	108,121	14.9%	14.9%	14.9%	14.9%	14.9%	14.9%
Fall 2016	123,161	14.9%	14.9%	14.9%	14.9%	14.9%	14.9%

May 2, 2017
Learning is More Online (Access)
'Volatile' but Growing Online Ed Market, Carl Straumsheim, Inside Higher Ed

<https://www.insidehighered.com/news/2017/05/02/online-degree-granting-institutions>

YEAR-TO-YEAR PERCENTAGE CHANGE IN DISTANCE ENROLLMENTS - DEGREE-GRANTING INSTITUTIONS - 2012-2015

Year	Public	Private non-profit
2013-14	4.3%	12%
2014-15	3.2%	11.4%
2015-16	-4.9%	-4.4%

2016 Enrollment Report 2016, WCET


Poulin, R. and Straut, T. (2016). WCET Distance Education Enrollment Report 2016.
Retrieved from WICHE Cooperative for Educational Technologies website
<http://wvet.wiche.edu/sites/default/files/WCETDistanceEducationEnrollmentReport2016.pdf>

Enrollment Report 2016
Showing 20 Institutions of Distance Education


Taking at Least One Distance Course...

2002	1.4 Million Students
2008	4.4 Million Students
2014	5.8 Million Students

Distance Education is No Longer an Institutional Accessory



One in Four
Students Are
Taking at Least One
Distance Course




August 1, 2016 (Access) Learning is More Ubiquitous 363 by Idea Group; Study Café Meeting Place; Idea Space (Seoul, Korea)

http://363.co.kr/eng/70w_wallory_studycafe_11




May 7, 2014 (Access) Learning is More Global CNA - Speaking Exchange (video chats)

<https://www.youtube.com/watch?v=5-5E4upfOk>
FCB Brazil and the CNA language school network are launching the Speaking Exchange project, which connects CNA students in Brazil with Americans living in retirement homes.



August 5, 2015 (Access) Learning is More Informal Shubham Jaglan (10 years old) Overwhelmed by "Dream" Return Home After Double World Championship Disha Chopra, NDTV Sports

<http://sports.ndtv.com/golf/news/246551-shubham-jaglan-overwhelmed-by-dream-return-home-after-double-world-championship>
<http://www.ndtv.com/india-prodigy-shubham-jaglan-returns-home-to-hero-welcome-122154>




May 19, 2016 (Access) Learning is More Free and Open From MOOC to bootcamp to MIT MIT News, Office of Digital Learning (Jin Wu—from MITx to MIT Global Entrepreneurship Bootcamp to master's student)

<http://news.mit.edu/2016/mooc-bootcamp-mit-0519>





May 3, 2017 4 out of 5 Companies Have Hired a Coding Bootcamp Graduate Sri Ravipati, Campus Technology

<http://www.campusmvp.us/story/4-out-of-5-companies-have-hired-a-coding-bootcamp-graduate>





Resumes with "coding bootcamp" education experience
Per 1,000,000 resumes on Indeed

Year	Resumes per 1,000,000
2012	~10
2013	~20
2014	~50
2015	~100
2016	~200
2017	~400

April 6, 2017 (Access)
Learning is More Free and Open
 Indiana University's eText program saves students over \$3.5 million (Program makes digital textbooks cost less and do more, grows 56 percent),
 Indiana University Newsroom
<https://itnews.iu.edu/articles/2017/indiana-university-estext-program-saves-students-over-3-5-million.php>

March 27, 2017 (Access)
Learning is More Free and Open
Beyond Free: Harnessing the resonant value in open and collaborative practices for the public good
 David Porter, CEO, eCampus Ontario,
 Open Education Ontario Summit
https://www.slideshare.net/David_Porter
<https://www.oecs.ca/events/open-education-ontario-summit>

There is a direct relationship between textbook costs and student success

Textbook Cost	Student Success Rate
\$50 or less	85%
\$50 - \$100	75%
\$100 - \$150	65%
\$150 - \$200	55%
\$200 - \$250	45%
\$250 - \$300	35%
\$300 - \$350	25%
\$350 - \$400	15%
\$400 - \$450	5%
\$450 or more	0%

July 2016
The Awareness Problem: Opening the Textbook: Educational Resources in U.S. Higher Education, 2015-2016
 I. Elaine Allen and Jeff Seaman, Babson Survey Research Group
<http://www.onlinejournalofresearch.com/reports/openingthetextbook2016.pdf>

AWARENESS OF OPEN TEXTBOOKS: 2015-16

Awareness Level	Percentage
Very aware	6.9%
Aware	12.2%
Somewhat aware	15.2%
Not aware	65.7%

OER Use to Triple Over Next 5 Years

Open educational resources (OER) are widely expected to increase in higher education, with the potential to triple use over the next five years. Based on a survey of 12 groups of higher education leaders, the use of OER for supplemental learning resources is expected to quadruple in size as well, jumping from 1 percent to 4 percent.

May 4, 2016 (Access)
Learning is More Video-Based
What I Learned at the ASU GSV Summit
 Kenneth Green, Inside Higher Ed
<https://www.insidehighered.com/digital-learning/article/2016/05/04/what-i-learned-at-the-asu-gsv-summit>
July 18, 2016 (Access)
Survey: Video Usage in Ed Continues Ramp-up,
 Dian Schaffhauser, THE Journal

ASU GSV Summit

12 Interactive Thought Leader Interviews from the ASU GSV Innovation Summit

Learn Anything Using the World's Best Resources

May 14, 2016 (Access)
Learning is More Immediate...
Mastodon bones offer clues of earliest humans in North America, Faith Karimi, CNN
 Abstract: <http://advances.sciencemag.org/content/2/5/e1600375>
 Full Article: <http://advances.sciencemag.org/content/2/5/e1600375.html>
 Supplemental materials (PDF): <http://advances.sciencemag.org/content/suppl/2016/05/10/2.5.e1600375.DC1>
 PDF: http://advances.sciencemag.org/content/suppl/2016/05/10/2.5.e1600375.DC1/1600375_S4.pdf

Mastodon bones offer clues of earliest humans in North America

Science Advances

The Clovis occupation 14,500 years ago at the High Ledges site, Florida, and the peopling of the Americas

May 9, 2017 (Access)
Learning is More Immediate...
Meet Zuul, the new dinosaur species named after 'Ghostbusters' demon
 Traci Watson, USA Today
<http://www.usatoday.com/story/news/2017/05/09/new-species-dinosaur-called-ghostbusters/101475468/>
 15 second: <http://curtbonk.com/ghostbusters15.html>
 27 second: <http://curtbonk.com/ghostbusters27.html>

Meet Zuul, the new dinosaur species named after 'Ghostbusters' demon

ZUUL CRUVIRASTATOR

June 20, 2016 (Access)
Learning is More Direct from Experts
 (e.g., The Expert Café)
<http://expertscafe.com/>

How Learning is Changing:
Mega Trend #3. Customization

May 12, 2017 (Customization)
Learning is More Modifiable
 The Future of Collaboration Spaces Encompasses Video Interactive, Mobile, Julie Johnston, IU, Campus Technology
<https://www.campus-technology.com/news/2017/05/12/future-of-collaboration-spaces-encompasses-video-interactive-mobile/>

July 17, 2017
Buildings That Foster Collaboration, Lawrence Biemiller, The Chronicle of Higher Education
<https://www.usatoday.com/story/money/2017/07/20/stocks-new-highs/49695061/>

Buildings That Foster Collaboration

Social spaces, like this one in an interdisciplinary-science building at Arizona State U., don't qualify for federal reimbursement of research-overhead costs. So now "we don't build any single-purpose space," says the university architect.

October 14, 2011
Learning is On Demand
Siri (co-founder Tom Gruber)
<http://www.imore.com/siri>

May 9, 2017 (Customization)
Amazon Echo Show brings chatty Alexa to a two-way, video touchscreen
Edward C. Baig and Elizabeth Weise, USA Today
<http://www.usatoday.com/story/tech/columns/2017/05/09/amazon-echo-show-touchscreen-101448841/>
 24 seconds: <http://curtbonk.com/jetsons24.html>
 44 Seconds: <http://curtbonk.com/jetsons44.html>

January 20, 2016 (Customization)
Learning is More Blended

Universities tap growth of craft beer, offer classes, Chicago Tribune

<http://www.chicagotribune.com/business/ct-college-craft-beer-offer-classes-20160120-story.html>



Universities tap growth of craft beer, offer classes



March 23, 2017 (Customization)
Learning is More Personal

Arizona State U Launches Open, Adaptive Lessons on Space Exploration
 Rhea Kelly, Campus Technology

<https://www.campus-technology.com/articles/2017/03/23/arizona-state-u-launches-open-adaptive-lessons-on-space-exploration.aspx>



May 20, 2016 (Customization)
Learning is More Massive

agMOOCs (India)

<http://www.agmoocs.in/>



April 20, 2015 (Customization)
Learning is More Massive

250 MOOCs and Counting: One Man's Educational Journey, Chronicle of Higher Education
<http://chronicle.com/article/250-MOOCsCounting-One/229397?cid=at>
 If the MOOC movement has faded, nobody told Jima Ngei. Mr. Ngei, who lives in Port Harcourt, Nigeria, has completed and passed 250.

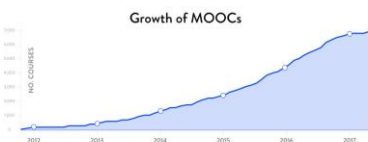


Jima Ngei: "I had this unrelenting fear that this miracle of free access might evaporate soon."

December 25, 2016

By The Numbers: MOOCs in 2016
 Dhawa Shah, Class Central

<https://www.class-central.com/report/mooc-stats-2016/>



Source: CLASS CENTRAL

December 25, 2016
Class Central

<https://www.class-central.com/report/mooc-stats-2016/>



58M Students
700+ Universities
6850 Courses

MOOCs in 2016: Analysis by Class Central

August 12, 2016 (Customization) A Life of Happiness and Fulfillment

Indian School of Business, Rajagopal Raghathan
<https://www.class-central.com/mooc/2860/courses-a-life-of-happiness-and-fulfillment>




A Life of Happiness and Fulfillment
Indian School of Business, Rajagopal Raghathan

This course, based on the award-winning book offered both at the Indian School of Business and at the MIT Center for Business at The University of Texas at Austin, delves into the field of happiness and the "happy scientist" class, which has a variety of fields, including psychology, neuroscience, and behavioral decision theory to name a few, and provides an in-depth look at the science of happiness and fulfillment.

★★★★☆ (5.0/5.0)

March 3, 2017 (Customization) edX Expands MicroMasters Programs With Data Science ("nanodegrees")

Digital Leadership and More, Sri Ravipati, Campus Technology
<https://www.class-central.com/mooc/2860/courses-a-life-of-happiness-and-fulfillment>




edX Expands MicroMasters Programs With Data Science, Digital Leadership and More

edX has announced the expansion of its MicroMasters program to include new "nanodegree" programs in Data Science, Digital Leadership, and Project Management. These programs are designed to provide students with the skills and knowledge needed to succeed in the digital economy.

MOOCs and Open Education Around the World

<http://routledge-ny.com/books/details/9781138807419/>



MOOCs and Open Education Around the World
Edited by Curtis J. Bonk, Mark Warington, Thomas C. Reeves, Thomas A. Reynolds

Edited by CURTIS J. BONK, MARK W. LEE, THOMAS C. REEVES & THOMAS A. REYNOLDS

July 1, 2015 (Customization) Chapter 14: Creating a Temporary Spontaneous Mini-Ecosystem through a MOOC

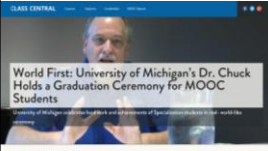

Paul Kim and Charlie Chung, Stanford University
Figure 2. Twitter thread announcing the MOOC




Mark Denton (@markdenton) created a new Learning Environment (LE) for the MOOC. The MOOC is a temporary ecosystem that is self-organizing and self-sustaining. It is a mini-ecosystem that is created through a MOOC.

June 14, 2016 (Customization) Chapter 15: Learning About MOOCs by Talking to Students

Charles Severance, Univ. of Michigan
Anuar Lequerica, Class Central
<https://www.class-central.com/report/dt-chuck-graduate-ceremony-python-specialization/>

World First: University of Michigan's Dr. Chuck Holds a Graduation Ceremony for MOOC Students

University of Michigan professor and MOOC pioneer Charles Severance held a graduation ceremony for MOOC students at the University of Michigan.

Let's Review: Learning is Changing...

(i.e., it's more informal, video-based, ubiquitous, collaborative, self-directed, global, mobile, open, massive, etc.)



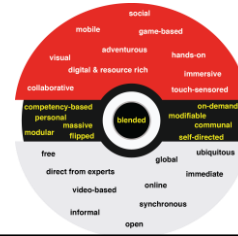

Frank Basile, an aircraft technician, took an MITX course on circuits and electronics to increase his knowledge.

Joe Alfonso, a financial adviser from Oregon, is taking the online finance course as a "refresher."

**The new "Four Horsemen" of the
Apocalypse:
Quality, Copyright, Plagiarism, and
Assessment...**



**30+ Ways Learning is Changing:
Recapping the Three Mega Trends:
Engagement, Access, and Customization**



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

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



**Overcoming the Resistance
Movement**



1. Incremental Change



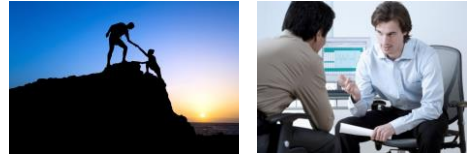
**2. Shared Success Stories
and Best Practices**



3. Modeling



4. Mentoring and Coaching



WHAT'S ? NEXT

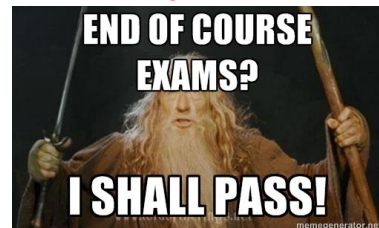
Poll #3: Does all this give you a headache?



**Not Me...I am happy!
and...
My minions are happy!**



**Poll #4:
Who is now interested in Education
20/20...?**



We are entering a jumping off point...

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



Things are heating up...



Education 20/20 is coming within reach!



Remember for Education 20/20 to make an impact:

"I cannot do this alone."

"I cannot do this alone."

"I cannot do this alone."

"I cannot do this alone."



Activity #1: Share Three Words from this Session!



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Any Questions or Comments?

Slides at: TrainingShare.com
Papers: PublicationShare.com
Free book: <http://tec-variety.com/>
Email: curt@worldisopen.com

