

---

Tools for Teaching Conference

2017

---

Aug 15th, 8:30 AM - 10:15 AM

## Education 20/20: Visions of a New Learning World

Curt Bonk Ph.D.

*Indiana University - Bloomington*

Follow this and additional works at: <https://mushare.marian.edu/ffdc>



Part of the Educational Psychology Commons, Instructional Media Design Commons, Online and Distance Education Commons, and the Scholarship of Teaching and Learning Commons

---

Bonk, Curt Ph.D., "Education 20/20: Visions of a New Learning World" (2017). *Tools for Teaching Conference*. 3.

<https://mushare.marian.edu/ffdc/2017/schedule/3>

This Presentation is brought to you for free and open access by the Center for Teaching and Learning at MUShare. It has been accepted for inclusion in Tools for Teaching Conference by an authorized administrator of MUShare. For more information, please contact [emandity@marian.edu](mailto:emandity@marian.edu).

## Education 20/20: Visions of a New Learning World

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

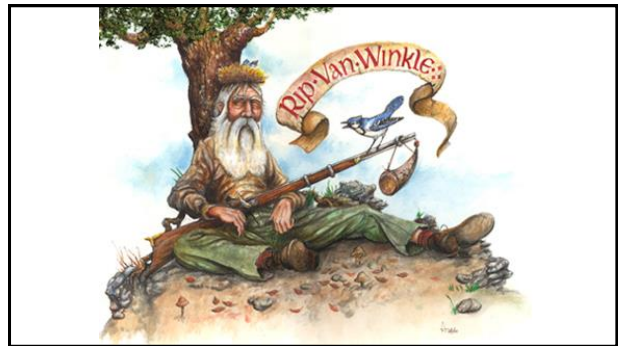


## Talk Overview

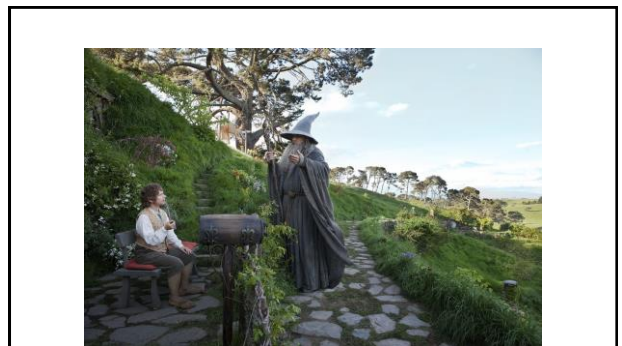
1. Education 20/20 and the Role of the Instructor
2. First and Last Principles of Instruction
3. Fifteen Education 20/20 Activities
4. Read Any Good Books Lately?
5. Megatrends of Learning: Engagement, Access, and Customization (30 ways that learning is changing...)
6. Overcoming Resistance



(Circa Confucius 551–479 BCE)



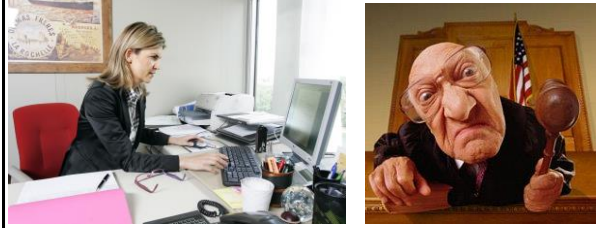
What happens to  
sleeping students?



## 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

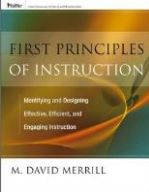



## Merrill's First Principles of Teaching/Instruction

<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

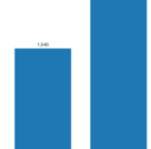
The Chronicle of Higher Education, Dan Berrett  
<http://chronicle.com/article/Instructional-Design/235425>

#### Instructional Design

Demanded grown for a new breed of academic



#### Members of the Association for Educational Communications and Technology



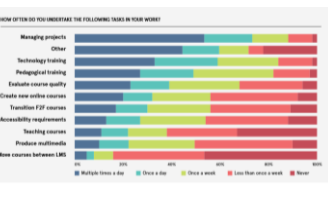
Year	Members
2008	1,000
2014	2,000


## 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 UNDERTAKE 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-choose-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>



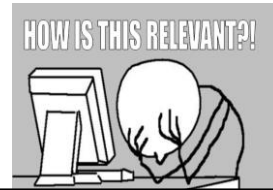
### 13. The Principle of Passion and Inspiration

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



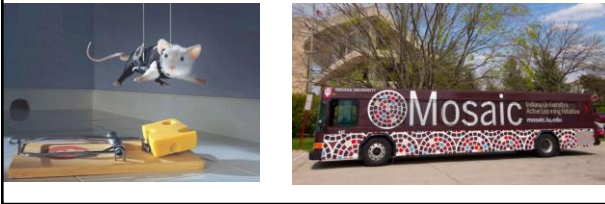
### 14. The Principle of Relevance and Meaningfulness

<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

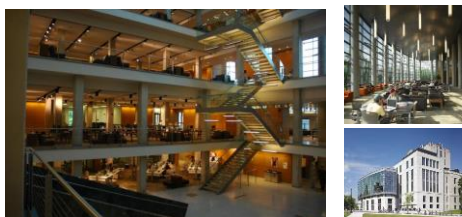
(Raman, Shackelford, & Sosin) <http://ecedweb.unomaha.edu/jits.htm>

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.



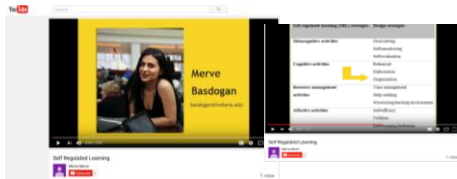
## 8. 99 Second Quotes and Set Time Presentations

- 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

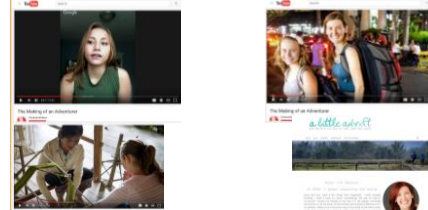
R511, Merve Basdogan, Self-Regulated Learning (6:08)  
<https://www.youtube.com/watch?v=51Fp9pGm3t8&feature=youtu.be#t=3.346833>



## 9. Student Created Documentaries

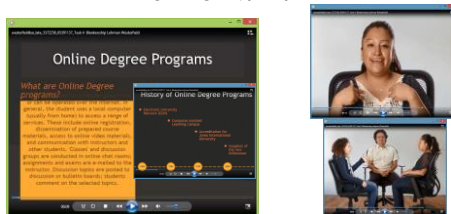
R678 Final Projects, April 2016  
The Making of an Adventurer (video), Troy Cockrum

<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](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/>

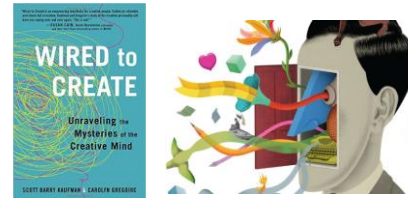


### 4. Wired to Create (2015): Unraveling the Mysteries of the Creative Mind

Scott Barry Kaufman & Carolyn Gregory

<http://www.amazon.co.uk/Wired-Create-Unraveling-Mysteries-Creative-Mind/dp/0399174189>

<http://www.scottbarrykaufman.com/articles/you-are-creative-your-creativity-book-is-out>



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

Adam Grant

<http://www.adamgrant.net/fineprint/cslah>

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/>

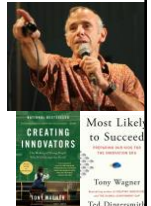
**Most Likely to Succeed (2015):**

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/>

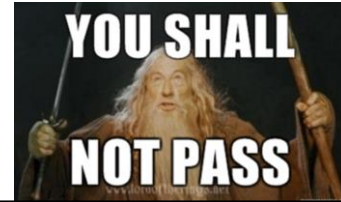
- Find your zone (deep in the throes of exploration and personal passion)
- Think differently (make fresh connections and analogies; avoid groupthink)
- Do something, develop your creative ideas
- Use your imagination, play with ideas
- Free and open exchange of ideas
- Encourage expression of personal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

**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

CURTIS J. BONK  
The World is Open  
How Web Technology Is Revolutionizing Education



**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

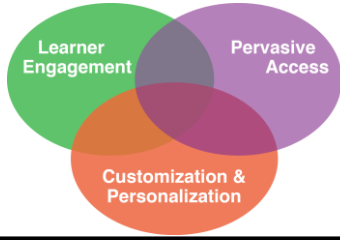
3 must know's about the rising "phigital" student-and why their impact is enormous

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

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



## 30+ Ways Learning is Changing: The Mega Trends



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



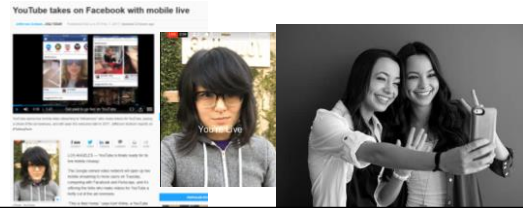
### August 17, 2016 Learning is More Hands-On Research: 3D Printing Market to Double by 2020 Joshua Bolkan, Campus Technology

<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

HoloLens Assists in Live Surgery  
 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

Sh 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

By Sh Ravipati

5/18/2017

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

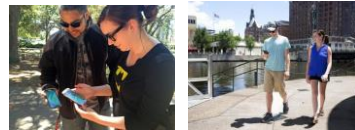
EXPEDITIONS  
 GOOGLE PROGRAM

EXPEDITIONS  
 GOOGLE PROGRAM

**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)

<https://www.xethc.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/freedom-151-launched-the-world-s-cheapest-smartphone-at-rs-251-46462>  
[https://m.facebook.com/story.php?story\\_fbid=1015339600123137988id=102527930797](https://m.facebook.com/story.php?story_fbid=1015339600123137988id=102527930797)  
<http://gadgetstv.com/videos/freedom-151-launched-the-world-s-cheapest-smartphone-at-rs-251-46462>

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

**How Learning is Changing:**  
**Mege 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://money.com/2014/06/15/news/economy/starbucks-scholarship-education/index.html?hp_tg_12)  
<http://www.rjtimes.com/2014/06/16/asu/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://cbi.bi.iu.edu/>

Year	Total Hours	% Change
Fall 2009	47,341	17.4%
Fall 2010	55,993	18.3%
Fall 2011	61,726	10.2%
Fall 2012	69,415	12.4%
Fall 2013	80,781	16.2%
Fall 2014	97,395	20.6%
Fall 2015	108,121	11.4%

**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	Public	Private non-profit
2012-13	4.3%	12%
2013-14	3.2%	11.4%
2014-15	1.4%	-4.1%

## 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 10 Enrollments of Distance Ed.


Taking at Least One Distance Course...

2002	1.4 Million Students
2009	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-study-cafe\\_11](http://363.co.kr/eng/70w_wallory-study-cafe_11)




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

<https://www.youtube.com/watch?v=5-5F4upfOk>  
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/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>



THE CHRONICLE OF HIGHER EDUCATION

This Mongolian Teenager Aced a MOOC. Now He Wants to Widen Their Impact



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

<http://www.campus-technology.com/insights/4-out-of-5-companies-have-hired-a-coding-bootcamp-graduate>



Resumes with "coding bootcamp" education experience

For 1,000,000 resumes on Indeed



**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.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](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/the-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.

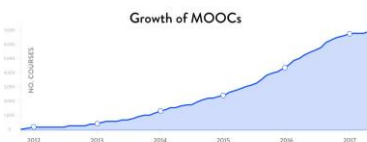


Jima Ngei: "I had this unrelenting fear that this miracle of free access might evaporate soon."

**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, developed the idea of happiness and fulfillment. The "happy course" class covers a variety of fields, including psychology, neuroscience, and behavioral decision theory to allow students and parents to begin for leading a life of happiness and fulfillment.

★★★★ (5/5) (10/16)

## 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 more. The new programs are designed to provide students with the skills and knowledge needed to succeed in the digital economy.

By Sri Ravipati | 03/03/17

## 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

MOOCs and Open Education Around the World

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) | 7/1/15  
Stanford Center, Emerging & New Learning Environment  
RECTOR: Paul Kim CTO and Asst Dean, School of Education  
@stanford

Education @MIT (@edmit) | 7/1/15  
"Temporary mini-ecosystems (temporec)" - mixed academic ecosystem where we can try things - "micro-ecosystem"  
@edmit


Austin Schwartz (@schwartz) | 7/1/15  
@edmit, these threads can be some GREAT (some of the best in going to try various org/education on top of everything else!) @edmit

edX (@edx) | 7/1/15  
Stanford Ed. @edmit

Paul Kim (@paulkim) | 7/1/15  
@edmit

## 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 announces the first graduation ceremony for MOOC students in the world.

Programming For Everybody - Spring Graduation - 2016

## 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.**

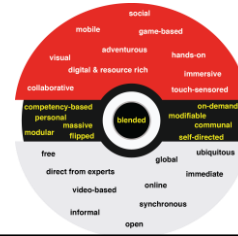
**Joe Alfonso, a financial adviser from Oregon, is taking the online finance course as a "refresher."**



**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**



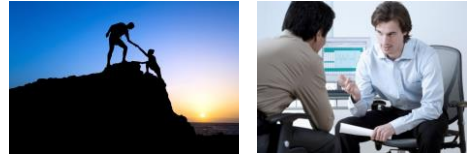
**2. Shared Success Stories  
and Best Practices**



### 3. Modeling



### 4. Mentoring and Coaching



**WHAT'S ? NEXT**

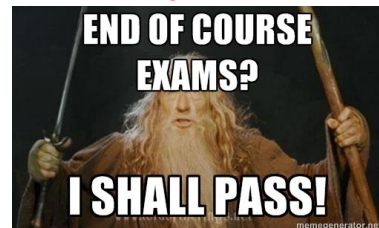
**Poll #3: Does all this give you a headache?**



**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!



333



## Any Questions or Comments?

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

