

Education 20/20 meets Education 3.0: Visions of Our Changing Learning World

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



Talk Overview

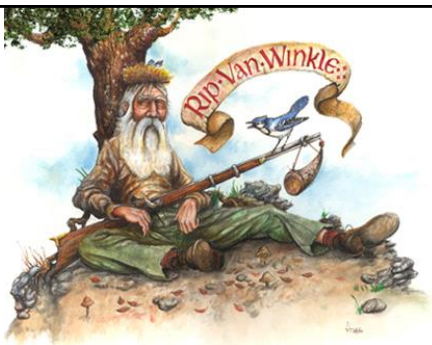
1. Education 3.0
2. Education 20/20 and the Role of the Instructor
3. First and Last Principles of Instruction
4. Megatrends of Learning: Engagement, Access, and Customization (30 ways that learning is changing...)
5. Final Comments and Recap



Academos Plato Circa 428–347 BCE



(Circa Confucius 551–479 BCE)



What happens to sleeping students?





Education 20/20



Poll: Remember Education 1.0

1728: 1st correspondence course advertised Boston

(learn shorthand from Caleb Phillips thru weekly mailed lessons)

The First University Correspondence Course
(University of London, External Program, 1858)

1728-1990s – Generally postal system based



May 10, 2013

10 ed-tech tools of the 70s, 80s, and 90s

eSchool News, Meris Stansbury

<http://www.eschoolnews.com/2013/05/10/10-ed-tech-tools-of-the-70s-80s-and-90s/print/>



Poll: Fast Forward to the 1980s and 1990s...

Education 2.0...Teacher is a Guide on the side...



Fast Forward 30+ More Years...

"Anyone can now learn anything from anyone at any time."

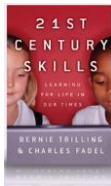


What skills do we need in the 21st Century?

Bernie Trilling, 21st Century Skills: Learning for Life in Our Times (2006, Toward Learning Societies)

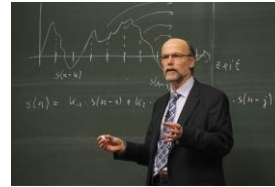
<http://21stcenturyskillsbook.com/>

<http://topol.aavefoundation.org/2011/08/05/the-digital-natives-are-coming/>



The Seven Cs – 21 st Century Lifelong Skills	
Seven Cs	Component Skills
Critical Thinking and Doing	Communication, Reasoning, Research, Problem Solving, etc.
Creativity	Self-Motivation, Creativity, Teamwork, etc.
Collaboration	Teamwork, Communication, Problem Solving, etc.
Cross-cultural Understanding	Active Service Ethics, Knowledge and Cross-cultural Understanding
Communication	Writing, Speaking and Doing
Computing / ICT Literacy	Effective Use of Business Information and Knowledge Tools
Career & Learning Self-reliance	Managing Change, Lifelong Learning and Career Development

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)

Education 3.0

The Genesis and Emergence of Education 3.0 in Higher Education and its Potential for Africa

First Monday, by Derek Keats and J. Philipp Schmidt, March 2007

<http://firstmonday.org/issue.nhn/itm/article/view/1625/1540>

EDUCATION 3.0

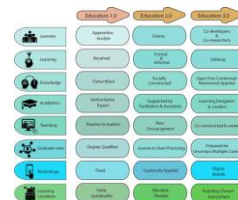
Table 1: Educational generations in higher education			
Characteristics	Education 1.0	Education 2.0	Education 3.0
Primary role of professor	Source of knowledge	Guide and source of knowledge	Orchestrator of collaborative knowledge creation
Content arrangements	Traditional copyright materials	Copyright and freer/open educational resources for students within discipline, sometimes across institutions	Freer/open educational resources created and reused by students across multiple institutions, disciplines, nations, supplemented by original materials created for them
Learning activities	Traditional, essays, assignments, tests, some groupwork within classroom	Traditional assignment approaches transferred to more open technologies; increasing collaboration in learning activities; still largely confined to institutional and classroom boundaries	Open, flexible learning activities that focus on creating room for student creativity, social networking outside traditional boundaries of discipline, institution, nation

September 18, 2017

Education 1.0 to 3.0

Gilly Salmon, University of Liverpool, UK

<http://www.gillysalmon.com/learningfutures.html>



Now What is Education 4.0?

<http://www.krakittin.info/?p=744>



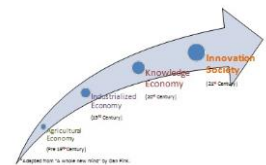
Thailand Education 4.0

Now What is Education 4.0?

"Innovation-producing education. Learn more in: Development of Individual Agency within a Collaborative, Creative Learning Community"

<http://www.igi-global.com/dictionary/education-40/41755>

<https://thinc.in.th/engadmission/education4.html> (Chula Engineering)



January 14, 2016
The Fourth Industrial Revolution:
What it means, how to respond
 Klaus Schwab, Founder and Executive Chairman, World Economic Forum
<https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>
 (Ubiquitous, mobile, supercomputing, artificially intelligent robots, self-driving cars, neuro-technological brain enhancements, genetic editing, etc.)
<http://www.trainingshare.com/fourth-industrial-revolution-video-clip-about-14p>

Navigating the next industrial revolution

Revolution	Year	Information
1	1784	Steam, water, mechanical production equipment
2	1870	Division of labour, electricity, mass production
3	1969	Electronics, IT, automated production
4	?	Cyber-physical systems



April 13, 2016
The Fourth Industrial Revolution:
What it means, how to respond
 Klaus Schwab, Founder and Executive Chairman, World Economic Forum
<https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>
<http://trainingshare.com/fourth-industrial-revolution-video-clip.php>
<http://www.tubechop.com/watch/8280981>



The world is really open to learning.

August 21, 2016
ST Future Economy Roundtable:
Is Asia ready for the Fourth Industrial Revolution?
 The Straits Times
<http://www.straitstimes.com/asia/is-asia-ready-for-the-fourth-industrial-revolution>



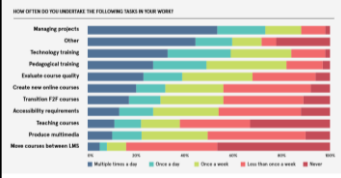
"It's quite clear that the established models of education have to change and adapt to the new environment."

The Creation of Effective Learning Environments
<http://study.com/academy/lesson/learning-environment-in-the-classroom-definition-impact-importance.html>




April, 2016
Instructional Design in Higher Education,
Gates Foundation and Intentional Futures
http://intentionalfutures.com/reports/instructional_design_files/IntentionalFutures%20Design%20to%20the%20Future%20Education%20Report.pdf
http://intentionalfutures.com/reports/instructional_design/

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



Instructional Design
 Designed games for a new breed of academic



July 29, 2016
Reimagine Your Learning Space:
Starbucks Your Classroom!
 Oskar Cymerman, Teaching Channel
<https://www.teachingchannel.org/blog/2016/07/29/starbucks-your-classroom/>



Sterile, industrial-era rows aren't very attractive or motivating. Even more, I've become convinced that traditional educational settings dull the senses...I believe the "Starbucks" environment will promote that freedom and movement. Freedom is the key ingredient to social-emotional well-being and deeper learning. Rows and columns constrict. They hold and stifle. That is the truth. That is the reality in many U.S. classrooms today. But no longer in mine. Never again.

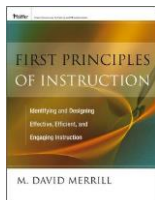
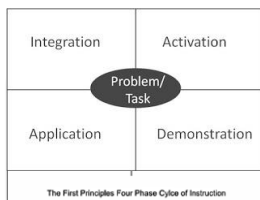
20 New Roles of the Instructor

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



Merrill's First Principles of Teaching/Instruction

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



Bonk's Last Principles of Teaching/Instruction (Education 4.0?)

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



1. The Principle of Flexibility

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



6. The Principle of Choice and Options

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



8. The Principle of Support and Feedback

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



9. The Principle of Spontaneity

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



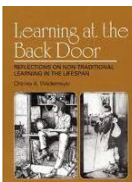
11. The Principle of Sharing

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



12. The Principle of Nontraditional Learning

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



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

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



16. The Principle of Expanded Resources

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



The World is Open: How Web Technology Is Revolutionizing Education



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



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>



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

<http://travellinedman.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 ??? |

Clearly... Learning is Changing!



Poll:
Read any good books lately?



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

Elizabeth Gilbert

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



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

Adam Grant

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



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

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



4. Most Likely to Succeed (2015) and
5. Creating Innovators

Tony Wagner (2012)

<http://creatinginnovators.com/>

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



6. Makers:

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

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



7. Zigzag: The Surprising Path To Greater Creativity (2013)

Keith Sawyer, Jossey-Bass

<https://www.amazon.com/Zig-Zag-Surprising-Greater-Creativity/dp/1118297789>



8. Creative Schools (2015): The Grassroots Revolution That's Transforming Education

Sir Ken Robinson

<http://sirkenrobinson.com/creative-schools-the-grassroots-revolution-thats-transforming-education/>



Poll:
What if you read these books?

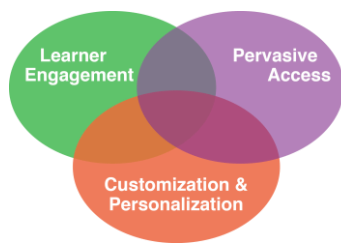


Thirty Ways Learning is Changing...

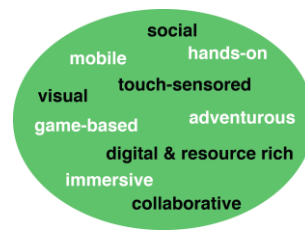
(i.e., it's more informal, video-based, ubiquitous, collaborative, self-directed, global, mobile, open, massive, etc.)



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
 By Joshua Bolkan | 08/17/16




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/>

YouTube takes on Facebook with mobile live



May 31, 2017
Learning is More Digital and Resource Rich
Enticing Students to Read Again
 Ellen McCracken, The Chronicle of Higher Education
<http://www.chronicle.com/article/Enticing-Students-to-Read/144342>

Digital Dubliners—a guide to Joyce's stories written for students by students, will bring a new reading experience to today's classroom.
<https://digitaldubliners.com/about/>




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>
<http://www.avrille.com/watch/7c-271a459779>

Worldwide, AR/VR spending is expected to accelerate over the next several years, achieving a compound annual growth rate (CAGR) of 196 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-9178887/>
 Video #1: 1:09: <http://curtbonk.com/hololens.html>
 Video #2: 1:37: <http://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-9178887/>



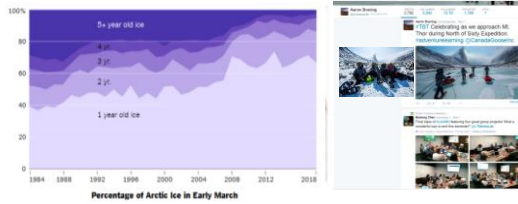
May 18, 2017
Learning is More Immersive
Google Cardboard
 Google Expeditions Adds Augmented Reality for Classrooms
 Sri Ravipati, THE Journal
<https://thejournal.com/articles/2017/05/18/google-expeditions-adds-augmented-reality-for-classrooms.aspx>
<http://www.avrille.com/watch/7c-271a459779>
 27 seconds <http://curtbonk.com/thejournal27.html>
 38 seconds <http://curtbonk.com/thejournal38.html>
 1:10: <http://curtbonk.com/thejournal.html>

Google Expeditions Adds Augmented Reality for Classrooms



May 14, 2018 (Engagement)
Learning is More Adventurous
Aaron Doering, Chasing Seals, TEDx

<http://chasingseals.com/>
<https://twitter.com/chasingseals>
<https://www.nytimes.com/interactive/2018/05/14/climate/arctic-sea-ice.html>



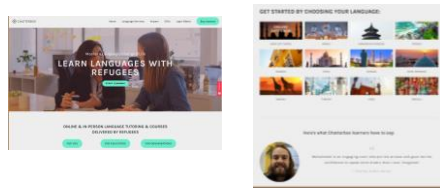
August 8, 2017
Learning is More Game-like
ShortSims

<http://www.shortsims.com/>
 Clark Aldrich clark@clarkaldrichdesigns.com



March 21, 2018 (Engagement)
Learning is More Collaborative
Chatterbox

The overall winner in the competition was **Chatterbox**, an online language school powered by refugees
<https://www.chatterbox.org/>



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

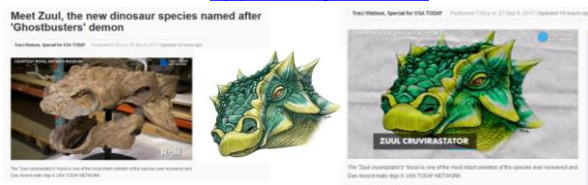
<https://m.facebook.com/hacking/launched?refid=525...>
https://m.facebook.com/story.php?story_fbid=1615396001211579&set=192827336797
<http://gadgets.ndtv.com/videos/freedom-251-launches-as-world-s-cheapest-smartphone-at-rs-251-40484>



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

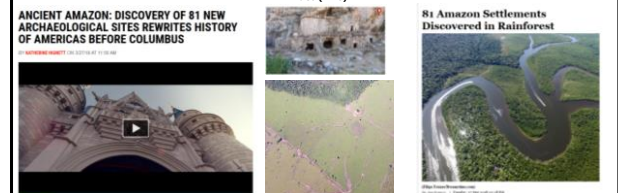
May 9, 2017 (Access)
Learning is More Immediate...
Meet Zuul, the new dinosaur species named after 'Ghostbusters' demon
Traci Watson, USA Today

<https://www.usatoday.com/story/news/2017/05/09/new-species-dinosaur-named-ghostbusters/102475468/>
 15 second: <http://curtbonk.com/ghostbusters15.html>
 27 second: <http://curtbonk.com/ghostbusters27.html>



March 27, 2018
Learning is More Immediate...
Ancient Amazon: Discovery of 81 New Archaeological Sites Rewrites History of Americas Before Columbus
Katherine Hignett, Newsweek

<http://www.newsweek.com/amazon-rainforest-calypha-research-columbus-861968>
 Video (1:20)

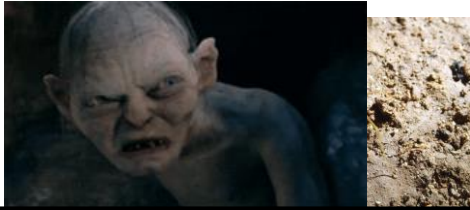


November 19, 2015 (Access)

Learning is More Immediate...

New daddy longlegs named after 'Lord of the Rings' character Smeagol, Mary Bowerman, USA Today

<http://www.usatoday.com/story/tech/2015/11/19/new-daddy-longlegs-named-after-lord-of-the-rings-character-smeagol/7527744/>



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

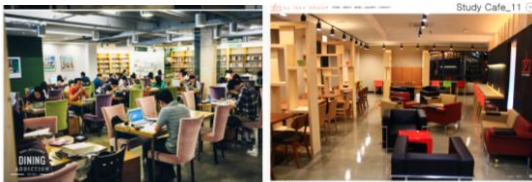


August 1, 2016 (Access)

Learning is More Ubiquitous

363 by Idea Group; Study Café Meeting Place; Idea Space (Seoul, Korea)

http://363.co.kr/wp/?page_id=244
http://363.co.kr/wp/?m=gallery&study-cafe_11

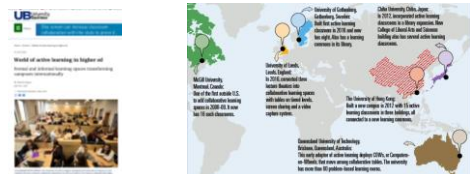


April 16, 2018

Learning is More Informal

World of active learning in higher ed
Formal and informal learning spaces transforming
campuses internationally
Sherrie Negrea, University Business, May 2018

<https://www.universitybusiness.com/article/world-active-learning-higher-ed>



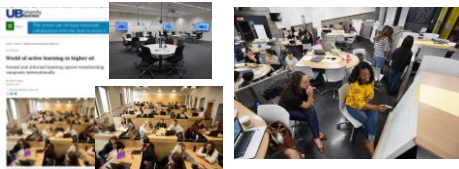
April 16, 2018

Learning is More Informal

World of active learning in higher ed
Formal and informal learning spaces transforming
campuses internationally

Sherrie Negrea, University Business, May 2018

<https://www.universitybusiness.com/article/world-active-learning-higher-ed>



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/post/news/246510-shubham-jaglan-overwhelmed-by-double-world-championship-after-double-world-championship-121244>
<http://www.ndtv.com/sports/shubham-jaglan-overwhelmed-by-double-world-championship-121244>



March 18, 2018 (Access)

Learning is Video-Based

EdTech is having a renaissance, powered by the emerging world

Mick Butcher, TechCrunch

<https://techcrunch.com/2018/03/18/edtech-is-having-a-renaissance-powered-by-the-emerging-world/>

March 20, 2018

Rachel Gunderson, Human Sexuality Class, VoiceThread

<http://rachel-gunderson.strikingly.com/>



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 19, 2018

Learning is More Online (Access)

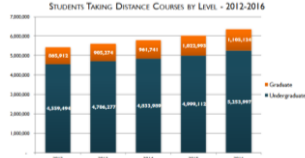
Grade Increase:

Tracking Distance Education in the United States

Joshua Kim, Inside Higher Ed

<http://online.inhired.com/online-report-grades.html>

https://online.qualtrics.com/jvform/DV_g8TR9G20YD9W/

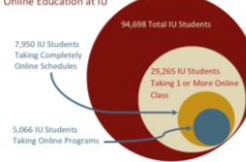


November 1, 2017

Learning is More Online (Access)

Indiana University, Office of Online Education

Fall 2017
Online Education at IU



Trends for Total Hours Taken in Online Classes



*Starting in Fall 2017, ACP students are excluded from counts.

May 7, 2014 (Access)

Learning is More Global

CNA - Speaking Exchange (video chats)

<https://www.youtube.com/watch?v=S-SEfwpF0k>

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.



March 27, 2017 (Access)

Learning is More Free and Open

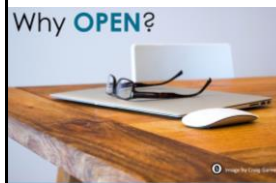
Beyond Free: Harnessing the resonant value in open and collaborative practices for the public good

David Porter, CEO, eCampus Ontario,

Open Education Ontario Summit

https://www.slideshare.net/David_Porter

<https://www.ocds.ca/events/open-education-ontario-summit>



There is a direct relationship between textbook costs and student success

Source: 2012 Student Success Study

2012 Student Success Study

2012 Student Success Study

2012 Student Success Study

2012 Student Success Study

2012 Student Success Study

2012 Student Success Study

2012 Student Success Study

2012 Student Success Study

2012 Student Success Study

2012 Student Success Study

2012 Student Success Study

2012 Student Success Study

2012 Student Success Study

2012 Student Success Study

2012 Student Success Study

2012 Student Success Study

2012 Student Success Study

2012 Student Success Study

2012 Student Success Study

2012 Student Success Study

2012 Student Success Study

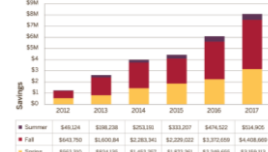
2012 Student Success Study

2012 Student Success Study

2012 Student Success Study

May 8, 2018**Free textbooks? Federal government is on track with a pilot program.****Danielle Douglas-Gabriel, The Washington Post**<https://sparcopen.org/our-work/open-textbooks-fy18/>

Free textbooks? Federal government is on track with a pilot program.

**December 19, 2017 and April 24, 2018**
Learning is More Free and Open**eTexts 101: A Practical Guide**<https://u.ab.edu.in/eTexts101/front-matter/introduction/><https://u.ab.edu.in/eTexts101/>**OER Adoptions on the Rise****Cost savings for students participating in IU's eTexts Program**

Real cost savings for students participating in IU's eTexts Program

September 19, 2017**Learning is More Free and Open****Reasons to Open Source Your Syllabus****Anastasia Salter, The Chronicle of Higher Education**<http://www.chronicle.com/blogs/profhacker/reasons-to-open-source-your-syllabus/64335>The Open Syllabus Project: <https://opensyllabusproject.org/>**May 4, 2016 (Access)****Learning is More Free and Open****This Mongolian Teenager Aced a MOOC**

(140,000 people take the MIT MOOC on Circuits and Electronics, 1 of 300 to get a perfect score)

The Chronicle of Higher Education, Jeffrey R. Young<http://chronicle.com/article/This-Mongolian-Teenager-Aced-a-MOOC/236362>**THE CHRONICLE OF HIGHER EDUCATION**

Home News Global Opinion & Ideas Facts & Figures Blogs Advice Forum

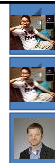
TECHNOLOGY

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

By Jeffrey R. Young | MAY 14, 2016



This is the latest episode of our new podcast series on the future of higher education. You can subscribe to iTunes to get price and format options.

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>**August 9, 2017****Learning is More Free and Open****Modern State Education Alliance**<https://modernstates.org/>

May 12, 2017 (Customization) Learning is More Modifiable

The Future of Collaboration Spaces Encompasses Video
Interactive, Mobile, Julie Johnston, IU, Campus Technology

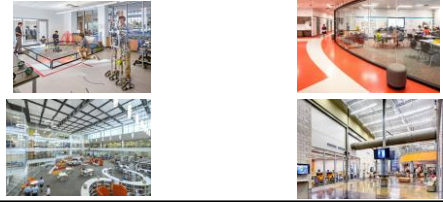
Indiana's Active Learning Model Expands



March 2, 2018 The Architecture of Ideal Learning Environments

Emelina Minero, Edutopia

<https://www.edutopia.org/article/architecture-ideal-learning-environments>



January 9, 2017 Learning is More On Demand Jill Watson, Round Three Georgia Tech course prepares for third semester with virtual teaching assistants

Jason Maderer, Georgia Tech News Center
<http://www.news.gatech.edu/2017/01/09/jill-watson-round-three>



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/talktech/2017/05/09/amazon-echo-show-touchscreen-video-alexa/101448844/>
24 seconds: <http://curtbonk.com/jetsons24.html>
44 Seconds: <http://curtbonk.com/jetsons44.html>

Amazon Echo Show brings chatty Alexa to a two-way, video touchscreen



May 9, 2018 Learning is More on Demand Battle of the Brains:

We asked Google, Alexa and Siri 150 questions to see who's smartest
Jefferson Graham, USA Today

<http://www.usatoday.com/story/tech/talktech/2018/05/09/we-asked-google-alexa-and-siri-150-questions-to-see-whos-smartest/389234052/>
<http://en.usatoday.com/CDN/USAT3amph/default.aspx>

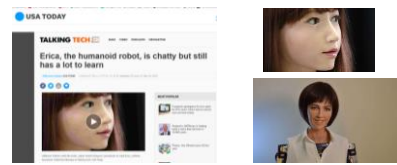


February 19, 2018 Learning is More on Demand Erica, the humanoid robot, is chatty but still has a lot to learn

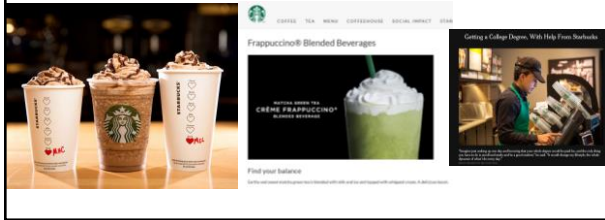
Jefferson Graham, USA Today

<http://www.usatoday.com/story/tech/talktech/2018/02/19/eric-the-humanoid-robot-chatty-but-still-has-a-lot-to-learn/35228982/>

Video: <http://curtbonk.com/erica.html>
Audio: <http://curtbonk.com/erica-audio.html>



Poll: Who gets blended drinks at Starbucks?



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>



March 23, 2017 (Customization) Learning is More Personal

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

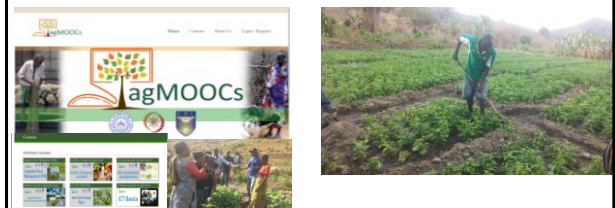
<https://campustechnology.com/article/2017/03/23/ASU-launches-open-adaptive-space-exploration-lessons>



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-MOOCs-Counting-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.

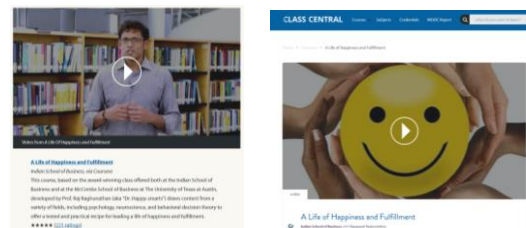


Jima Ngei: "I had this unrelenting fear that this miracle of free access might evaporate soon."

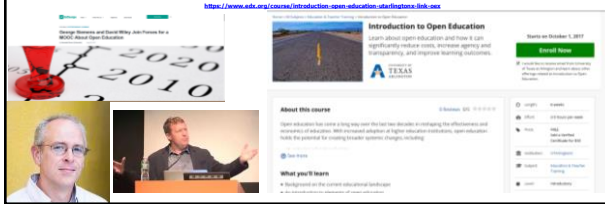
August 12, 2016 (Customization)

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

<https://www.class-central.com/course/a-life-of-happiness-and-fulfillment>



October 1, 2017
Learning is More Massive
Introduction to Open Education
edX



June 15, 2017
Learning is More Massive
Massive List of MOOC Providers Around The World
K-MOOC / Korea
(Where to Find MOOCs: The Definitive Guide to MOOC Providers)
Class Central, Dhawal Shah



January 11 and August 23, 2017
Learning is More Massive
Topnotch online English teacher earns
nearly \$3 million a year
Wu Yan, China Daily

http://www.chinadaily.com.cn/china/2017-01/11/content_27920747.htm



March 3, 2017 (Customization)
Learning is More on Modular
edX Expands MicroMasters Programs
With Data Science ("nanodegrees")
Digital Leadership and More, Sri Ravipati, Campus Technology

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

By Sri Ravipati | 03/03/17



January 9, 2018
Learning is More on Modular
MIT launches MITx MicroMasters in
Principles of Manufacturing
MIT Open Learning

<http://news.mit.edu/2018/mit-launches-mitx-micromasters-program-principles-manufacturing-0109>



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



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/06-chuck-graduation-ceremony-python-specialization/>

MOOCs and Open Education Around the World
<http://routledge-ny.com/books/details/9781138807419/>

MOOCs are Like Library Books...

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

The Evolution of E-Learning (All 7 year cycles)

Phase I, 1994:
THE AGE OF PORTALS AND PAGES (NETSCAPE GOES PUBLIC).

Phase II, 2001:
THE AGE OF OPENNESS (MIT OCW & WIKIPEDIA BORN).

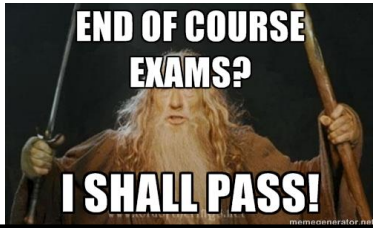
Phase III, 2008:
THE AGE OF MOOCs (FIRST MOOC OFFERED).

Phase IV, 2015:
THE AGE OF PERSONALIZATION.

Other prior significant e-learning dates: 1985: FIRST ONLINE COURSE, LINDA HARASIM, UNIV. OF TORONTO
 1987: HYPERCARD FIRST SHIPPED.

WHAT'S NEXT

Final Poll:
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...

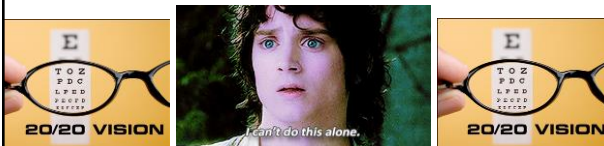


Education 20/20 is coming within reach!



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."



Any Questions or Comments?

Slides at: TrainingShare.com
 Papers: PublicationShare.com
 Free book: <http://tec-variety.com/>
 Email: cjbonk@indiana.edu

