

Education 20/20: A Learning Technology Evolution or Learning Technology Revolution?

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Talk Overview

1. Education 20/20
2. Technology Yesterday
3. Technology Today
30 ways learning is changing...
Megatrends of Learning:
 - a. Engagement
 - b. Access, and
 - c. Customization
4. Technology Tomorrow and Future Trends



April 30, 2017 'Those Jobs Are Gone'

Steve Kolowich, The Chronicle of Higher Education
<http://www.chronicle.com/article/What-s-Up-With-a-Down-in-230964>



November 28, 2017 Automation could kill 73 million U.S. jobs by 2030

Paul Davidson, USA Today

<https://www.usatoday.com/story/news/2017/11/28/automation-could-kill-73-million-u-s-jobs-2030/999878901/>
Video (1:20): <http://curtbonk.com/automation.html>
Video (1:20): <http://curtbonk.com/automation2.html>



March 29, 2017 Every industrial robot takes up to 6 jobs, study finds

Steve Goldstein, MarketWatch

<http://www.marketwatch.com/story/every-6-million-jobs-at-risk-from-robots-new-study-finds-2017-03-29>

Video: 1:46 <http://curtbonk.com/futureandroids.html>
Video: :49-1:12: <http://curtbonk.com/futureandroids2.html>
Video: :01 to :49: <http://curtbonk.com/futureandroids3.html>
Video: 01-:25: <http://curtbonk.com/futureandroids4.html>



August 21, 2016

ST Future Economy Roundtable: Is Asia ready for the Fourth Industrial Revolution? The Straits Times

<http://www.straitstimes.com/asia/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>



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.

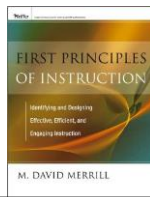
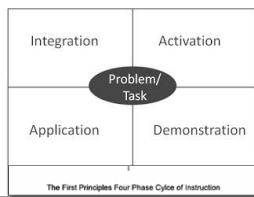
20 New Roles of the Instructor

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



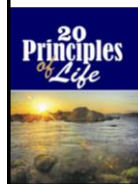
Merrill's First Principles of Teaching/Instruction

<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.apexed2016.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://travellinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html>



9. The Principle of Spontaneity

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



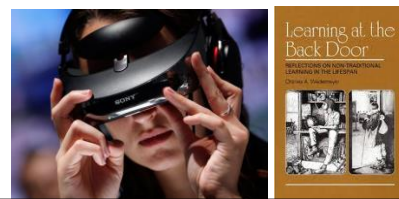
11. The Principle of Sharing

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



12. The Principle of Nontraditional Learning

<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>

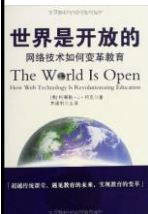


16. The Principle of Expanded Resources

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



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>



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 ??? |

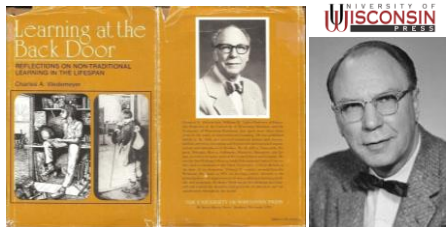
Clearly... Learning is Changing!



Part 1: Technology Yesterday



Correspondence, Mail, Satellite, Radio, and TV Courses Charles Wedemeyer, University of Wisconsin



Winky Dink and ... Bill Gates?, Bob Greene, March 31, 2013, CNN



A girls uses her "Winky Dink" drawing kit to draw on a TV screen as they watch the 1950s kids program.

Intelligence Augmentation and Amplification Douglas Engelbart's "The Mother of All Inventions" (1968) Augmentation Research Center (ARC)

(The live demonstration featured the introduction of the computer mouse, video conferencing, teleconferencing, hypertext, word processing, hypermedia, object addressing and dynamic file linking, bootstrapping, and a collaborative real-time editor.)
<http://www.amazon.com/Thinking-Things-About-Computer-Science/dp/0130235687>

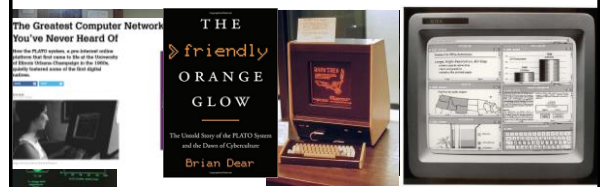


Engelbart's prototype of a computer mouse, as designed by Bill English from Engelbart's sketches.

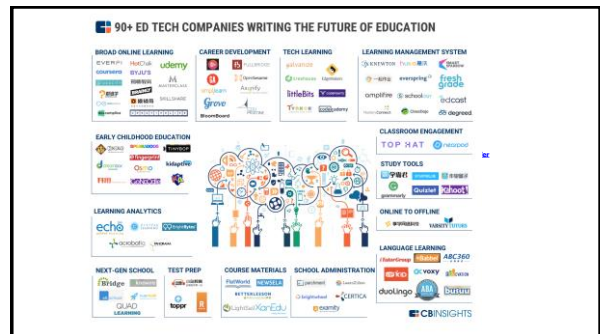


June 3, 2017 How PLATO changed the World...in 1960 Cait Etherington, ElearningInside News

PLATO—an acronym for Programmed Logic for Automatic Teaching Operations—
<https://news.elearninginside.com/how-plato-changed-the-world-in-1960/>
PLATO was the first generalised computer-assisted instruction system. Starting in 1960, even on the University of Illinois' ILLIAC computer. By the late 1970s, it supported several thousand projects: terminal, distributed workstations, testing on nearly a dozen different networked mainframe computers. Many modern concepts in multi-user computing were originally developed on PLATO, including forums, message boards, online testing, email, chat rooms, picture language, instant messaging, remote screen sharing, and multiplayer games.



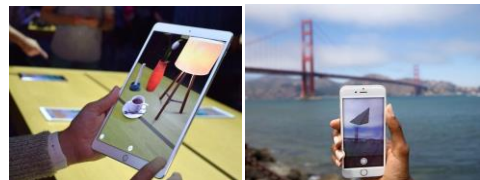
May 10, 2013
10 ed-tech tools of the 70s, 80s, and 90s
 eSchool News, Meris Stansbury
<http://www.eschoolnews.com/2013/05/10/10-ed-tech-tools-of-the-70s-80s-and-90s/part1/>



July 11, 2017
Going 'phigital'? 4 things schools need to know about Generation Z, Todd Kominak, 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/>

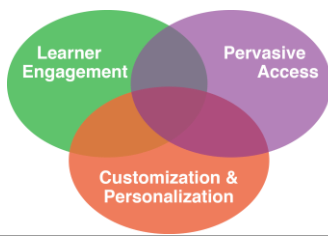


Part II. Technology Today



ARKit lets you create immersive augmented reality experiences on iOS devices. (Photo: Wearable)

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



April 23, 2015
Are We Living In An eLearning Revolution?
 Beth Wisch eLearning Industry
<https://elearningindustry.com/living-elearning-revolution>



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



August 31, 2016

Learning is More Mobile

Samsung ticks forward with new Gear S3 smartwatch

Edward C. Baig and Eli Blumenthal, USA TODAY

<http://www.usatoday.com/story/tech/2016/08/31/samsung-ticks-forward-new-gear-s3-smartwatch/89644261/>



Samsung Pay on the Gear S3. (Photo: Eli Blumenthal, USA TODAY)

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

January 3, 2018

Learning is More Mobile

CES 2018: Your guide to the biggest consumer electronics show USA Today

<https://www.usatoday.com/story/tech/news/2018/01/03/ces-2018-what-to-expect-consumer-electronics-show/38877861/>



The Octopus watch from Joy, an icon-based watch for kids to have good habits is on display during CES.



August 4, 2017

When our smartphones leave us out of touch Brett Molina, USA Today

<https://www.usatoday.com/story/tech/news/2017/08/04/when-smartphones-leave-us-out-of-touch/318403261/>



May 15, 2018

Learning is More Mobile

Sony Digital Paper

<https://www.sony.com/electronics/digital-paper-notebooks/dpt-rp1>



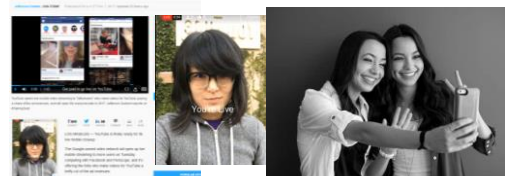
February 7, 2017 (Engagement)

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/37566582/>

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

Digital Dubliners—a guide to Joyce's stories written for students by students, will bring a new reading experience to today's classroom.
<https://www.chronicle.com/article/Enticing-Students-to-Read/144347>
<https://digitaldubliners.com/about/>

In South Korean classrooms, digital textbook revolution meets some resistance



Enticing Students to Read Again



Digital Dubliners

**September 27, 2016****Learning is More Visual****Snapchat's Spectacles expected to be big hit, Jefferson Graham, USA Today**

<http://www.usatoday.com/story/tech/2016/09/24/snapchat-introduces-video-glasses-new-name-report/9100493/>

Snapchat's Spectacles expected to be big hit

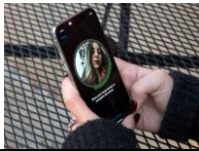


The company announced a rebrand along with new sunglasses that can record footage. Video provided by Newsy Newslook

January 2, 2018**Learning is More Visual****5G to AR: Here are 7 technologies to watch in 2018**

Edward C. Baig, USA Today

Face ID takes less than a minute to set-up. In practice, it works better than expected, but it's not perfect

**April 22, 2018****Learning is More Visual****Microsoft AI Commercial ft. Common**

Video 1:00: Microsoft AI Commercial ft. Common: <https://www.youtube.com/watch?v=9tucY2Jhhq4> (Feb 11, 2018)

Video 1:48: Microsoft AI: Amplifying Human Ingenuity: <https://www.youtube.com/watch?v=NMou723NP5g>

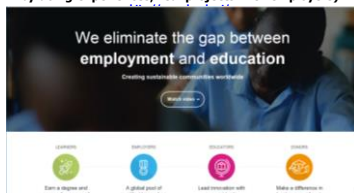
Video 1:00: Microsoft AI: Empowering Innovators ft. Common: <https://www.youtube.com/watch?v=Z5QWajAY1w> (April 22, 2018)

Video: 1:00 Microsoft AI + Ecoment: Preserving History ft. Common: <https://www.youtube.com/watch?v=ZDZj1tHtM5M> (April 22, 2018)

Video: 0:44: Microsoft AI + The Yield: Taking the guesswork out of farming ft. Common: <https://www.youtube.com/watch?v=7ruxfxGtH4c> (April 22, 2018)

**July 28, 2016****Learning is More Hands-on****Knod**

(Per Dr. Michael Mayrath: work with employers to diagnose skills gaps, then provide a platform to deliver content to build those skills in a learn by doing experiences, real projects with employers)

**September 5, 2017****Learning is More Immersive****Get ready for thousands of augmented reality****Apple apps**

Jefferson Graham, The USA Today

AI Pets (.34): <http://curtbonk.com/arkit.html>
 Meal (30 seconds): <http://curtbonk.com/arkit2.html>



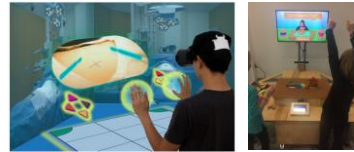
The Food Network's app will be updated for AR in the new version of iOS11. (Photo: Food Network)

May 1, 2018
Learning is More Immersive
3 ways districts can use AR and AI
Justin Anglio, eSchool News



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

May 1, 2018
Learning is More Immersive
3 ways districts can use AR and AI
Justin Anglio, eSchool News



EarthShake, the first educational game for the NoRILLA system, teaches early physics principles through hands-on learning.

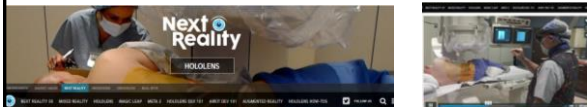
July 19, 2017
Learning is More Immersive
HoloLens Assists in Live Surgery
Tommy Palladino, Next Reality

<https://hololens.reality.news/news/2017/07/19/holo-lens-assists-in-live-surgery-5178887/>
 Video #1: 1:09: <http://curtbonk.com/hololens.html>
 Video #2: 1:37: <http://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/2017/07/19/holo-lens-assists-in-live-surgery-5178887/>



May 30, 2017
Learning is More Immersive
Fly above the water with Oracle Team USA in 360

<https://curtbonk.com/sailing-101.html>
 The first 17 seconds: <http://curtbonk.com/sailing-101.html>
 1:24 to 1:54: <http://curtbonk.com/sailing-40.html>
 Whole video: <http://curtbonk.com/sailing.html>
 1:01: <http://curtbonk.com/sailing-101.html>



July 19, 2017
Learning is More Immersive
Modern medicine breathes new life into virtual training

<https://www.usatoday.com/videos/tech/2017/07/28/modern-medicine-breathes-new-life-into-virtual-training/136072696/>

Videos

2:34 (entire video): <http://curtbonk.com/vr-medicine4b.html>
 .01-.21: <http://curtbonk.com/vr-medicine.html>
 .37-.56: <http://curtbonk.com/vr-medicine2.html>
 .57-1.29: <http://curtbonk.com/vr-medicine3.html>
 1:30-2:27: <http://curtbonk.com/vr-medicine4.html>



May 18, 2017
Learning is More Immersive

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=DYlaMWTvg>
 27 seconds <http://curtbonk.com/thejournal27.html>
 38 Seconds <http://curtbonk.com/thejournal38.html>
 1:10: <http://curtbonk.com/thejournal.html>



April 8, 2018**Pros and Cons of Virtual Reality in the Classroom**

Adam Evans, The Chronicle of Higher Education

<https://www.chronicle.com/article/ProsCons-of-Virtual/243016?cid=cp197>**Pros and Cons of Virtual Reality in the Classroom****Pro:**

An art professor might virtually guide students in his rural-Kentucky classroom through an exhibit happening in Paris, allowing them not only to explore works of art but also to virtually hold and examine them up close. A biology class might virtually travel down DNA strands previously visible only through a microscope.

Con:

We need to be having conversations about the ethics of using virtual reality in the classroom. Just because we have the ability to virtually transport a student to a war-torn country or a historical moment in time does not mean we should do so without thinking of possible consequences. What ethical obligations might faculty members owe our students during these experiences?

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

**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>**July 21, 2016****Learning is More Ubiquitous**

Facebook's Aquila drone completes
first test flight

Jessica Gwynn, USA Today



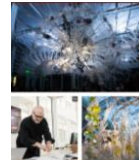
An aerial view of Aquila, a autonomous aircraft Facebook is designing to deliver mobile broadband networks to isolated people (mission to fly 60,000 above Earth for up to 3 months at a time; current record for solar-powered unmanned flight is 2 weeks). (Photo: Facebook)

April 17, 2018**Learning is More Ubiquitous**

Massive work of 'sentient art' unveiled at
Luddy Hall is also a learning tool for students
Indiana University

<https://news.iu.edu/stories/2018/04/sentient-art-unveiled-at-luddy-hall.html>

Bosley is renowned for the use of cutting-edge technologies and materials -- sensor arrays, 3-D printed materials and Internet-connected objects -- to create [interactive](#) [art](#) that gently move or react as people pass near or through them.



June 14, 2016

Learning is More Video-based

Microsoft to Acquire LinkedIn for \$26.2 Billion,

Jay Greene, CNN Money

<http://www.cnn.com/2016/06/14/tech/microsoft-linkedin-26.2-billion/index.html>

Microsoft to Acquire LinkedIn for \$26.2 Billion
That is for \$190 per LinkedIn share, a 10% premium to Friday's close

**June 20, 2016**

Learning is More Free and Open

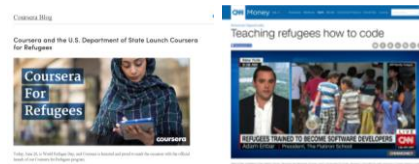
Coursera on a Mission to Help Refugees

Lauren Camera, US News and World Report

<http://www.usnews.com/stories/articles/2016-06-20/coursera-on-a-mission-to-help-refugees>

June 7, 2016

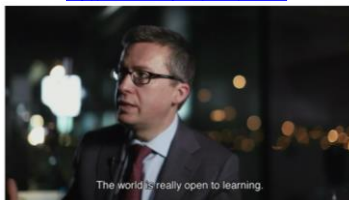
Teaching refugees how to code, CNN Money
<http://money.cnn.com/2016/06/07/technology/coursera-refugees/index.html>

**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/2016/04/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>
<http://trainingshare.com/fourth-industrial-evolution-video-clip.php>
<http://www.tubechop.com/watch/8280981>

**March 19, 2018**

Learning is More Free and Open

Open Textbook Network

Center for Open Education, University of Minnesota

<http://research.ohd.umn.edu/otn/>

OER Adoptions on the Rise

Open Textbook Network

WE ARE A COMMUNITY DEDICATED TO RESULTS

- 600+** Computer courses represented
- \$8.5 Million** Student savings by OTN members of faculty who attend an OTN workshop adopt an open textbook
- 45%**

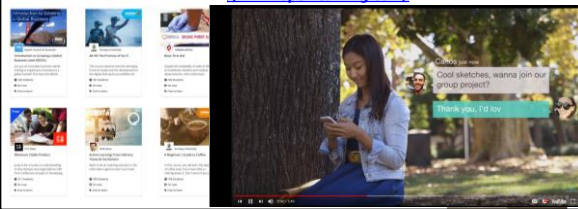
February 27, 2017

Learning is More Self-Directed

The LMS Market is Quickly Losing Ground

Carol Leaman, CLO

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

**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 About Events

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

By Jeffrey R. Young | May 4, 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 feature updates.



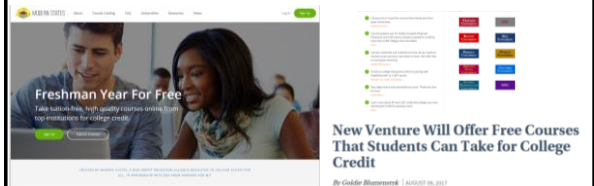
May 19, 2016 (Access)
Learning is More Free and Open
From MOOC to bootcamp to MIT
MIT News, Office of Digital Learning
 (Jin Wu—from MITx to MIT Global Entrepreneurship Bootcamp to master's student)

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



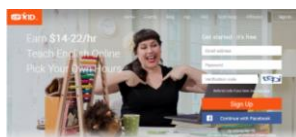
August 9, 2017
Learning is More Free and Open
Modern State Education Alliance

<https://modernstates.org/>



March 6, 2018
Learning is More Direct from Experts
 By connecting Chinese pupils with North American teachers, Beijing-based platform is building cultural bridges, one online English class at a time.

Most Innovative Companies, Fast Company
 Interview with VIPKid CEO Cindy Mi
<https://www.fastcompany.com/company/vipkid>



How Learning is Changing:
Mega Trend #3. Customization



February 16, 2017 (Customization)
Learning is More Communal

Building Global Community, Marc Zuckerberg, Facebook
<https://www.facebook.com/news/markzuckerberg/building-global-community/1610359821158471/>



Building Global Community
 Facebook
 To our community,
 We've chosen to invest in the world, not other tech products we're building and selling, as our business. Today, we're looking to the most important question of all: how can we build the world we all want?

Mark Zuckerberg publishes manifesto to save the world



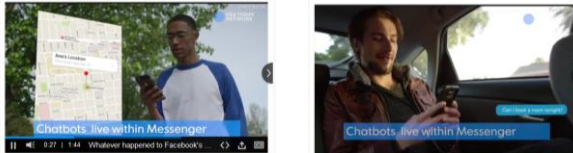
January 14, 2018
Facebook invites you to live in a bubble
where you're always right

Callum Borchers, The Washington Post

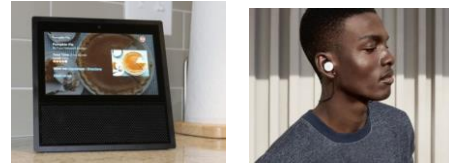
<https://www.theguardian.com/news/world/2018/jan/14/facebook-invites-you-to-live-in-a-bubble-where-youre-always-right.html>



April 17, 2017
Learning is More Blended
 Facebook's future will blend physical
 and digital worlds
 Jessica Guynn, USA Today



January 2, 2018
Learning is More Personal
 5G to AR: Here are 7 technologies to
 watch in 2018, Edward C. Baig, USA Today
 (e.g., Augmented hearing)



July 11, 2016 (Engagement)
Learning is More Personal
 Smart Sparrow, Learning Design Studio

Virtual Patients: This suite of applications were developed at UNSW in exercise physiology that simulate real life medical procedures and tests including the taking of blood pressure and the monitoring of a patient's heart rate. These applications have interactive and engaging graphics as well as adaptive feedback.
<https://www.smartsparrow.com/case-studies/virtual-patients/>

Discover how you can teach smarter



April 8, 2018
Learning is More Personal
 Can Artificial Intelligence Make Teaching More Personal?
 Goldie Blumenstyk, The Chronicle of Higher Education
<https://www.chronicle.com/article/Can-Artificial-Intelligence/243023>

Can Artificial Intelligence Make Teaching More Personal?



A new grading tool called **Gradescope** — powered by AI and now being used for more than 175,000 students at 350 colleges — offers one window on the possibilities. The tool helps automate the grading process without requiring instructors to rely on multiple-choice tests. Several professors who use it say the automation has actually made it easier for them to personalize their teaching.

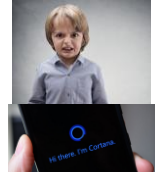
April 8, 2018
Learning is More Personal
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 Goldie Blumenstyk, The Chronicle of Higher Education
<https://www.chronicle.com/article/Can-Artificial-Intelligence/243023>



At the University of Michigan at Ann Arbor, students in a statistics class last fall had their writing assignments evaluated by an **automated text-analysis tool**. And in 2016, some of the students in a computer-science class at the Georgia Institute of Technology were surprised to learn that one of the TAs **answering their questions remotely** last semester was actually a chatbot powered by artificial intelligence.

June 7, 2017
Learning is On Demand
 Personal Digital Assistants (PDA)

Questions: How will PDA's work in education? Who builds them? And who decides the functions?



May 9, 2017 (Customization) Learning is More On Demand (PDAs) Amazon Echo Show brings chatty Alexa to a two-way, video touchscreen

Edward C. Baig and Elizabeth Weise, USA Today

<https://www.usatoday.com/story/tech/news/2017/05/05/amazon-echo-show-touchscreen-video-screen/430148884/>
24 seconds: <http://curtbnk.com/jetsons24.html>
44 seconds: <http://curtbnk.com/jetsons44.html>

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



April 8, 2018 Learning is More On Demand What I Learned When My Students Used Google Translate

Diane Loyet, The Chronicle of Higher Education

<https://www.chronicle.com/article/What-I-Learned-When-My/243017>

- I was very surprised by the results. They sent me examples of translations into English from Albanian, Chinese, Kazakh, Russian, and Spanish. **The translations from Albanian, Kazakh, Russian, and Spanish were good.** They were not perfect, but the mistakes were such that, had I encountered the sentences in a student paper, I would have attributed them to grammatical errors on the part of the non-native speaker of English. Here is one of the Spanish examples:
- Original Spanish: *Si yo fuera tú, le cobrara hasta por respirar.*
- Google Translate's English translation: *If I were you, I'll even charge you for breathing.*
- Accurate translation: *If I were you, I would even charge him for breathing*



April 8, 2018 Learning is More On Demand What I Learned When My Students Used Google Translate

Diane Loyet, The Chronicle of Higher Education
<https://www.chronicle.com/article/What-I-Learned-When-My/243017>

- In contrast, Google Translate's English version of a Chinese passage was unintelligible:**
- But the second language acquisition is a steady process, if you take a cure to do, that is, chronic diseases and even health care, unlike acute disease, once the recipe to treatment, the consequences will soon be reflected.*



January 9, 2017 Learning is More On Demand

Jill Watson, Round Three, Georgia Tech course prepares for third semester with virtual teaching assistants, Jason Madere, Georgia Tech News Center
The Terribly Thin Conception of Ethics in Digital Technology, David Golumbia, Uncomputing
<http://www.uncomputing.org/>

Bot teacher that impressed and fooled everyone, Donald Clark, Plan B
<http://donaldclarkplanb.blogspot.ca/2016/02/bot-teacher-that-impressed-and-fooled.html>



ROBOT TEACHER FOOLED STUDENTS FOR MONTHS

April 8, 2018 How Ed Tech Is Exploiting Students

Chris Gilliard, The Chronicle of Higher Education
<https://www.chronicle.com/article/How-Ed-Tech-Is-Exploiting/2430207?cid=cp197>

How Ed Tech Is Exploiting Students



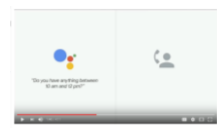
- Eric Tornøe, a professor at St. Thomas University, in Minnesota, and his team members saw a Microsoft demonstration of technology that could guess, with reasonable accuracy, ages and genders of people in the room. Thinking about other applications of the technology Tornøe quickly landed on the potential information hidden within students' emotions. He envisioned professors using that information to ensure that a greater percentage of their lecture material engaged students and stuck in their minds. Microsoft lent Tornøe's team the facial-recognition and emotion interfaces, free of charge, as well as the necessary software.
- Ashok K. Goel, a professor at the Georgia Institute of Technology, used IBM's "Watson" technology to test a chatbot teaching assistant on his students for a semester. He told them to email "Jill" with any questions but did not tell them that Jill was a bot.

May 9, 2018 Learning is More On Demand Google Duplex Demo from Google IO 2018

Video (4:11): <https://www.youtube.com/watch?v=belmEim2Fv98>

Video (2:05): <http://curtbnk.com/google40-245.html>

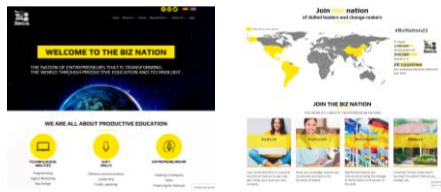
Entire video (4:11): <http://donaldclarkplanb.blogspot.ca/2018/05/google-just-announced-ai-bot-that-could.html?m=1>



March 21, 2018 Learning is More On Demand Biz Nation

EdTech startup focused on empowering youth with technology skills, soft skills, entrepreneurship and financial intelligence through a methodology that improves user's learning about creating a business.

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



June 15, 2017 Learning is More Massive MOOCs for Credit Class Central



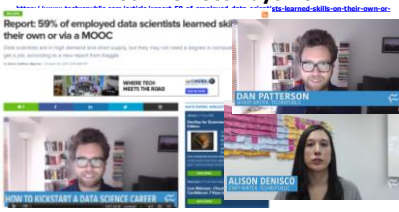
July 28, 2016 (Customization) Learning is More Massive Udemy: "Get cozy with a class"

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



October 30, 2017 Learning is More Massive

Report: 59% of employed data scientists learned skills on their own or via a MOOC
Alison DeNisco Rayome



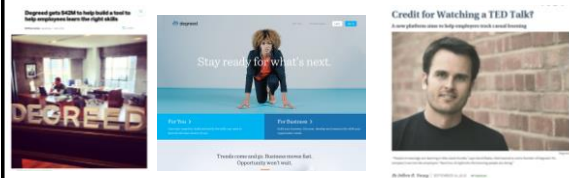
May 11, 2018 Learning is More Massive MOOCs Are Not the Social Mobility Tool We Hoped For Sara Hardman, New Learning Times

<https://newlearningtimes.com/article/2018/05/11/moocs-are-not-the-social-mobility-tool-we-hoped-for>



March 6, 2018 Learning is More Competency-Based Degreed gets \$42M to help build a tool to help employees learn the right skills Matthew Lynley, TechCrunch

<https://techcrunch.com/2018/03/06/degreed-gets-42m-to-help-build-a-tool-to-help-employees-learn-the-right-skills/>



September 21, 2016**Learning is More Modular****Udacity Unveils Nanodegree Program for Self-Driving Car Engineers**

Sri Ravipti, Campus Technology

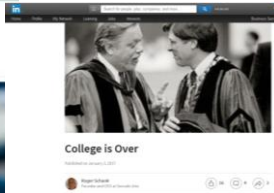
<https://campustechnology.com/articles/2016/09/21/udacity-unveils-nanodegree-program-for-self-driving-car-engineers.aspx>**Udacity Unveils Nanodegree Program for Self-Driving Car Engineers**

By Sri Ravipti 09/21/16

**January 9, 2018****Learning is More on Modular****MIT launches MITx MicroMasters in Principles of Manufacturing MIT Open Learning**micromasters-program.principles-manufacturing-0109**ELEARNING NEWS**

Woz U Has Made Some Big Promises. Can It Deliver?

By Henry Ford 01 December 11, 2017

**MIT News**MIT launches MITx MicroMasters in Principles of Manufacturing
The program offers alternative learning pathway to mastering fundamental skills needed for global manufacturing excellence and competitiveness.**30+ Ways Learning is Changing:
Recapping the Three Mega Trends:
Engagement, Access, and Customization****WHAT'S NEXT****Part III. Technology Tomorrow**http://www.huffingtonpost.ca/dr-marie-boutin/prepare-for-future-learning_b_16467756.html

College is Over

January 30, 2017**1. Professor Einstein PDA's**<http://www.usatoday.com/story/tech/2017/01/30/robotic-helicopter-serving-marty-fest/9588780/>

When the Teaching Assistant Is a Robot



Twenty-Four Seven Tutoring

Professor Einstein, an educational Wi-Fi connected robot is on display at the Hanson Robot display during the opening day of Consumer Electronics Show 2017. (Photo: Robert Hanashiro, USA TODAY)
<http://www.usatoday.com/story/tech/2017/01/30/robotic-helicopter-serving-marty-fest/9588780/>

June 3, 2016

4. Explosion of Virtual Reality VR Lets Med Students Experience What It's Like To Be 74

Elyse Wanshel, Huffington Post
<http://ht.ly/bSpe300XEPJ>

Virtual Reality Lets Med Students Experience What It's
Like To Be 74

This could be surgery 2.0 for the average med student, who is 24.

@wanshelreport

Facebook Twitter LinkedIn



I don't remember what I'm supposed to do

February 27, 2017

5. Web Conferencing

Global Learning Partner or PBL Team Selection Walls

http://www.thefixmag.com/42mcicnta/52fint/Libary_Alexandra.html

**September 22, 2017**

6. Binge Learning: What Online Education Can Learn from Netflix

Henry Kronk, E-learning Inside News

<https://theunitaut.com/binge-learning-is-online-education-s-killer-app-94da18f8ae26>

**June 11, 2017 (New Learning Times)**

7. Rise of Super E-Mentors



Twenty-Four Seven Tutoring
 by Henry Kronk



8. Café Classroom and Café Connectedness



9. Instructional Designer Morphs into Learning Environment Engineer

The New and Improved Instructional Designer



Poll:
Evolution or Revolution?



**We are entering a jumping
off point...**

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



Things are heating up!

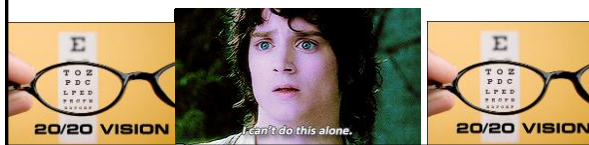


**The Learning Revolution is
coming within reach!**



Remember...
"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

