

## Technology Today, Technology Tomorrow: Might Learning Evolutions lead to Learning Revolutions?

Curtis J. Bonk, Professor, Indiana University

[cjbonk@indiana.edu](mailto:cjbonk@indiana.edu)

<http://curtbonk.com/>

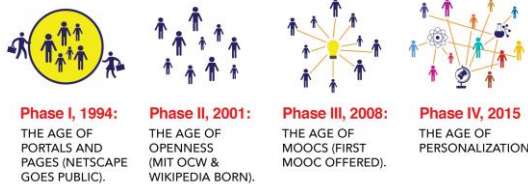


## Talk Overview

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



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



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

**April 23, 2015**

## Are We Living In An eLearning Revolution?

Beth Wisch eLearning Industry

<https://elearningindustry.com/living-elearning-revolution>



**April 30, 2017**

## 'Those Jobs Are Gone'

Steve Kolowich, The Chronicle of Higher Education

<http://www.chronicle.com/article/Whos-a-UpWhos-Down-in/239864>

### 'Those Jobs Are Gone'

By Steve Kolowich

April 27, 2017

PHOTOGRAPH BY STEVE GRANITZ

As the world of work changes, the

future of education is uncertain.

For now, the future is uncertain.

But the future is uncertain.

And the future is uncertain.

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**November 28, 2017**

## Automation could kill 73 million U.S. jobs by 2030

Paul Davidson, USA Today

<https://www.usatoday.com/story/news/technology/2017/11/28/automation-jobs-2030/9987901/>

Video (1:20): <http://curtbonk.com/automation.html>

Video (1:20): <http://curtbonk.com/automation2.html>

### Automation could kill 73 million U.S. jobs by 2030

Paul Davidson

USA TODAY

Published: 11/28/2017

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

Steve Goldstein, MarketWatch

<http://www.marketwatch.com/story/every-industrial-robot-takes-up-to-6-jobs-study-finds-2017-02-29>

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>



## 90+ ED TECH COMPANIES WRITING THE FUTURE OF EDUCATION



## Part 1: Technology Yesterday



## Poll: Remember Education 1.0

1728: 1<sup>st</sup> 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



## Fall 2014, On Wisconsin MOOC, Meet MORC (Massive Open Radio Course)

WHA, UW Madison, College of the Air, 1933,  
Vocational Training dedicated to Agriculture,  
and later Home Economics and Typing



MOOC, Meet MORC



Mimeograph machine.

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

[http://www.cnn.com/2013/03/31/opinion/greene-winky-dink-bill-gates/index.html?hpt=hp\\_13](http://www.cnn.com/2013/03/31/opinion/greene-winky-dink-bill-gates/index.html?hpt=hp_13)



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



## Poll: Anyone remember these technologies?



## May 10, 2013 10 ed-tech tools of the 70s, 80s, and 90s

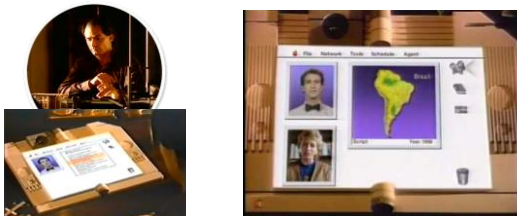
eSchool News, Meris Stansbury

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



## Knowledge Navigator (1987) Apple Computer

<http://www.youtube.com/watch?v=3b4A6F6w6oc>



## August 6, 2016 The Web is 25!

Happy (sort of) birthday, World Wide Web!,  
Erica Fink and Jonathan Tortora, CNN Money (Tech)

<http://info.cern.ch/hypertext/WWW/TheProject.html>

<http://money.cnn.com/2016/08/06/technology/world-wide-web-25-years-042/index.html?h=hp-stack-dom>



THE WORLD WIDE WEB  
BEGINS ON MARCH 12, 1989

## January 15, 2016 Wikipedia is 15!

Scott McLemee, Inside Higher Ed

<https://www.insidehighered.com/sites/2016/01/15/celebrating-wikipedia-15-years-into-the-mainstream-of-higher-ed/article?data=2016011501>



Wikipedia at 15

Celebrate or hate it as you will, writes Scott McLemee, Wikipedia has metamorphosed from its beginnings as a gangly cultural interloper into the de facto reference work of first resort.

January 15, 2016  
by Scott McLemee

Wikipedia came into the world 15 years ago today — and, man, what an ugly baby. The first installment of it in the Internet Archive is from late March of 2001, when Wikipedia was already 10 weeks old. At that point, it claimed to have more than 3,000 pages, with an expected future of growth.

## April 4, 2016 MIT OpenCourseWare is 15!

<http://ocw.mit.edu/about/15-years/>



MIT OpenCourseWare celebrates 15 years of open sharing

MIT OpenCourseWare is a free and open publication of material from thousands of MIT courses, covering the entire MIT curriculum. And used by millions of learners and educators around the world.



## Fast Forward 30+ Years...

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



**July 11, 2017**

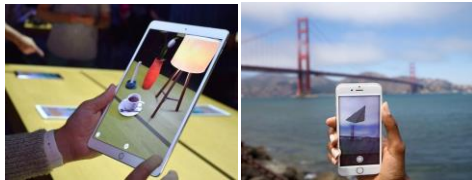
Going 'phigital?' 4 things schools need to know about Generation Z, Todd Kominak, TrustEd  
<http://trustedk12.com/phigital-digital-learning/>

**May 15, 2017**

3 must know's about the rising "phigital" student-and why their impact is enormous, Heris Stansbury, eCampus News  
<https://www.ecampusnews.com/campus-administration/education-gen-z-phigital-student/>

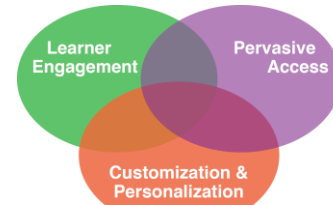


## Part II. Technology Today



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

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



## 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-gear-s3-smartwatch/89644266/>



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-watch-consumer-electronics-show/1088178802/>



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



**May 15, 2018**  
**Learning is More Mobile**  
**Sony Digital Paper**

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



**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-spectacles-video-glasses-new-name-report/91064936/>

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**

<https://www.washingtonpost.com/news/technology/wp/2018/01/02/5g-to-ar-here-are-7-technologies-to-watch-in-2018/>  
 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=9uac72hnb44> (Feb 11, 2018)  
 Video 1:46: Microsoft AI: Amplifying Human Ingenuity: <https://www.youtube.com/watch?v=360m0722NP6>  
 Video 1:00: Microsoft AI: Empowering Innovators ft. Common: <https://www.youtube.com/watch?v=250WagAYW> (April 22, 2018)  
 Video 1:50: Microsoft AI + Common: Preserving History ft. Common: <https://www.youtube.com/watch?v=20XjaTh4SM> (April 22, 2018)  
 Video 0:44: Microsoft AI + The Yield: Taking the guesswork out of farming ft. Common: <https://www.youtube.com/watch?v=7zafuJGHo> (April 22, 2018)



**March 24, 2012**  
**Learning is More Digital and Resource Rich**  
**In South Korean classrooms, digital textbook revolution meets some resistance, Washington Post**

[http://www.washingtonpost.com/wp/dyn/tech/2012/03/24/south-korean-classrooms-digital-textbook-revolution-meets-some-resistance/2012/03/24/gQ4n6G73\\_story.html?hpid=hp\\_hp-top-table-main-south-korea%3Aeducation%3Ahomepage%2Fstory&hpid=hp\\_hp-top-table-main-south-korea%3Aeducation%3Ahomepage%2Fstory](http://www.washingtonpost.com/wp/dyn/tech/2012/03/24/south-korean-classrooms-digital-textbook-revolution-meets-some-resistance/2012/03/24/gQ4n6G73_story.html?hpid=hp_hp-top-table-main-south-korea%3Aeducation%3Ahomepage%2Fstory&hpid=hp_hp-top-table-main-south-korea%3Aeducation%3Ahomepage%2Fstory)

In South Korean classrooms, digital textbook revolution meets some resistance



**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://www.knoxdaily.com/2018/04/16/sentient-art-at-luddy-hall.html>  
Video (2:17): <https://www.youtube.com/watch?v=6L8rC7P9hA8>  
Bosley is renowned for the use of cutting-edge technologies and materials – sensor arrays, 3-D printed materials and Internet-connected objects – to create [sentient works of art](https://www.knoxdaily.com/2018/04/16/sentient-art-at-luddy-hall.html) that gently move or react as people pass near or through them.

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

(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)

<http://www.knod.net/>

**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://curtbank.com/arkit.html>  
Meal (30 seconds): <http://curtbank.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

<https://www.eschoolnews.com/2018/05/01/3-ways-districts-can-use-ar-and-ai/>



When a teacher glances around her classroom, Lumilo 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

<https://www.eschoolnews.com/2018/05/01/3-ways-districts-can-use-ar-and-ai/>



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.nextreality.com/news/hololens-assists-in-live-surgery-0178887/>

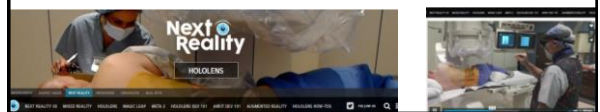
Video #1: 1:09: <http://curtbank.com/hololens.html>  
Video #2: 1:37: <http://curtbank.com/hololens2.html>

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.nextreality.com/news/hololens-assists-in-live-surgery-0178887/>

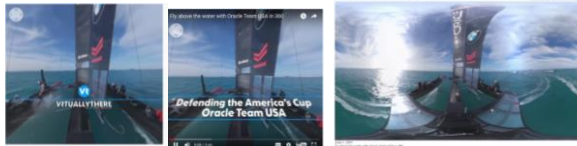


**May 30, 2017**

### Learning is More Immersive

#### Fly above the water with Oracle Team USA in 360

The first 17 seconds: <http://curtbonk.com/sailing-360.html>  
 1:14 to 1:54: <http://curtbonk.com/sailing-40.html>  
 Whole video: <http://curtbonk.com/sailing-360.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/health/2017/07/20/modern-medicine-breathes-new-life-into-virtual-training/40673886/>

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-medicine5.html>

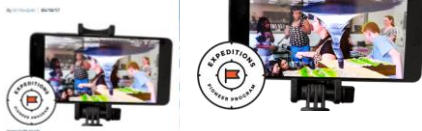
**May 18, 2017**

### Learning is More Immersive

Google Expeditions Adds Augmented Reality for Classrooms, Sri Ravi Patel, THE Journal  
<https://thejournal.com/articles/2017/05/18/google-expeditions-adds-augmented-reality-for-classrooms.aspx>

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



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

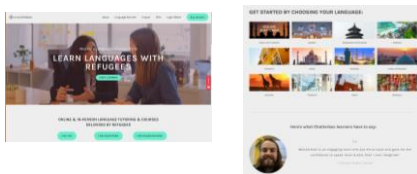
**March 21, 2018**

### Chatterbox

### Learning is More Global

The overall winner in the competition was [Chatterbox](https://www.chatterbox.org/), an online language school powered by refugees

<https://www.chatterbox.org/>

**July 21, 2016**

### Learning is More Pervasive

### Facebook's Aquila drone completes first test flight

Jessica Guynn, 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)



**May 10, 2017****Learning is More Online (Access)**

50-year-old Bible college in Colorado Springs to sell campus, switch to online-only instruction, Debbie Kelley, The Gazette

<https://www.gazette.com/50-year-old-bible-college-in-colorado-springs-to-sell-campus-switch-to-online-only-instruction/article1482823>

50-year-old Bible college in Colorado Springs to sell campus, switch to online-only instruction

By Debbie Kelley May 10, 2017 Updated May 10, 2017 at 1:07 am

**September 21 and November 12, 2017****Learning is More Immediate...**

Scientists just discovered the first brainless animal that sleeps

Sara Kaplan, Washington Post

This ancient shark with a snake head and 300 teeth is why we should just say nope to the ocean

Cleve R. Woodson, Jr., Washington Post

<https://www.washingtonpost.com/archive/local/2017/09/21/scientists-discover-first-brainless-animal-that-sleeps/2017-09-21/>

This ancient shark with a snake head and 300 teeth is why we should just say nope to the ocean



A *Cassiopea* jellyfish rests upside-down on black sand and pulses, rhythmically contracting and relaxing its bell. At night, *Cassiopea* jellies pulse less frequently — a clue that they're sleeping, researchers report. (Photo by JanEaster.com)

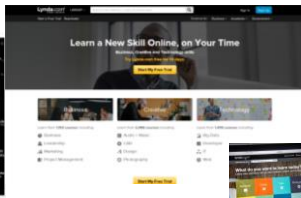
**June 14, 2016****Learning is More Video-based**

Microsoft to Acquire LinkedIn for \$26.2 Billion, Jay Greene, CNN Money

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

Microsoft to Acquire LinkedIn for \$26.2 Billion

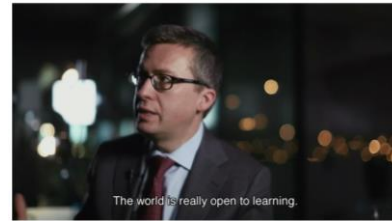
Deal is for \$190 per LinkedIn share, a 50% premium to Friday's close



**Remember: "The world is really open to learning"**

**Learning is More Open**

The Fourth Industrial Revolution

**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/news/articles/2016-06-20/coursera-on-a-mission-to-help-refugees>

Teaching refugees how to code, CNN Money

<http://money.cnn.com/2016/06/20/technology/refugees-how-to-code/index.html>

Coursera Blog

Coursera and the U.S. Department of State Launch Courses for Refugees



CNN Money

Teaching refugees how to code



**March 19, 2018**  
**Learning is More Free and Open**  
**Open Textbook Network**  
 Center for Open Education, University of Minnesota  
<http://research.cehd.umn.edu/otn/>

OER Adoptions on the Rise




WE ARE A COMMUNITY DEDICATED TO RESULTS

- 600+ Campuses represented
- \$8.5 Million Student savings by OTH members
- 45% of faculty who attend an OTH workshop adopt an open textbook

**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/>

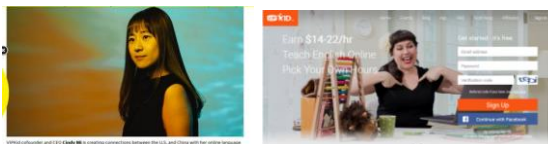


**January 9, 2017**  
**Learning is More On Demand**  
 Jill Watson, Round Three, Georgia Tech course prepares for third semester with virtual teaching assistants, Jason Maderer, Georgia Tech News Center  
 The Terribly Thin Conception of Ethics in Digital Technology, David Golumbia, Uncomputing  
<http://www.uncomputing.org/>  
 Bot teacher that impressed and fooled everyone, Donald Clark, Plan B  
<http://classroomlab.pbworks.com/f/20161212/Bot+teacher+that+impressed+and+fooled+me+1.pdf>




**ROBOT TEACHER FOOLED STUDENTS FOR MONTHS**

**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**



massive  
 self-directed  
 blended  
 flipped  
 communal  
 personal  
 competency-based  
 on-demand  
 modifiable  
 modular

**January 2, 2018**  
**Learning is More Personal**  
**5G to AR: Here are 7 technologies to watch in 2018, Edward C. Baig, USA Today**  
<https://www.usatoday.com/story/tech/news/2018/01/02/7-official-intelligence-and-tech-forecast-features/283813002/>  
 (e.g., Augmented hearing)



## July 11, 2016 (Engagement) Learning is More Personal

### Smart Sparrow, Learning Design Studio

**Virtual Patients:** This suite of applications was 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/>



## 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 550 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

### Can Artificial Intelligence Make Teaching More Personal?

Goldie Blumenstyk, The Chronicle of Higher Education

<https://www.chronicle.com/article/Can-Artificial-Intelligence/243023>



#### How U of Michigan Built Automated Essay-Scoring Software to Fill 'Feedback Gap' for Student Writing



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 [normally](#) all semester was actually a chatbot powered by artificial intelligence.

## 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/2017/05/09/amazon-echo-show-touchscreen-alexa/10148886/>

24 seconds: <http://curibonk.com/jetsons24.html>

44 Seconds: <http://curibonk.com/jetsons44.html>



## 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.**



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

Video (4:11): <https://www.youtube.com/watch?v=bd1mEm2Fy08>

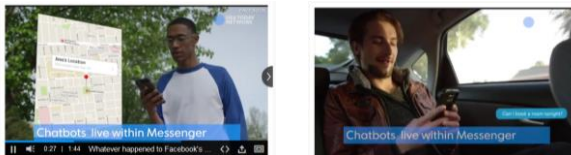
Video (2:05): <http://curtbonk.com/google40-245.html>

From video (4:11): <https://www.youtube.com/watch?v=bd1mEm2Fy08>

<http://donaldclarkplan.blogspot.co.uk/2018/05/people-just-announced-ai-bot-chat-could.html?m=1>

**April 17, 2017****Learning is More Blended****Facebook's future will blend physical and digital worlds**

Jessica Guynn, USA Today

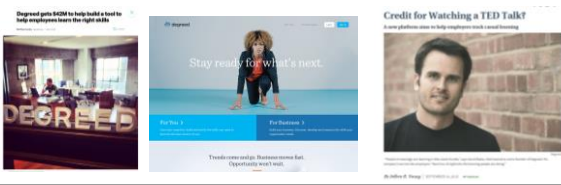
**February 16, 2017 (Customization)****Learning is More Communal****Building Global Community, Marc Zuckerberg, Facebook**

<https://www.facebook.com/notes/mark-zuckerberg/building-global-community/1519350821158471/>

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

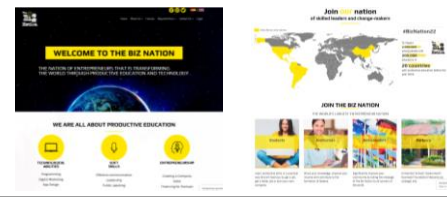
Matthew Lynley, TechCrunch

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

**March 21, 2018****Learning is More Massive****Biz Nation**

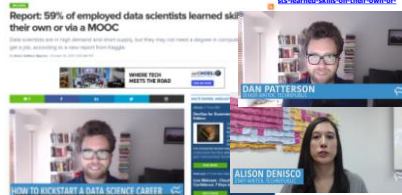
EdTech startup focused on empowering youth with technology skills, soft skills, entrepreneurship and financial intelligence through a methodology that improves user's learning about creating a business.

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

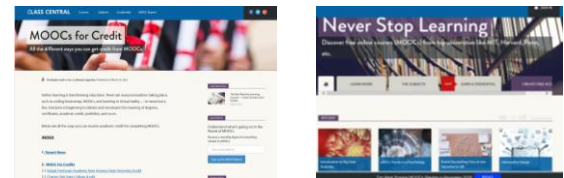


**October 30, 2017****Learning is More Massive**

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

**June 15, 2017****Learning is More Massive**

**MOOCs for Credit**  
**Class Central**

**May 11, 2018****Learning is More Massive**

**MOOCs Are Not the Social Mobility Tool We Hoped For**  
**Sara Hardman, New Learning Times**

**July 28, 2016 (Customization)****Learning is More Massive**

**Udemy: "Get cozy with a class"**

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

**December 17, 2017****Learning is More Massive**

**Woz U Has Made Some Big Promises. Can It Deliver?**  
**Henry Kronk, ElearningInside News**

<https://www.elearninginside.com/news-u-made-big-promises-can-it-deliver/>  
<https://www.elearninginside.com/news-u-made-big-promises-can-it-deliver/>

**September 21, 2016****Learning is More Modular**

**Udacity Unveils Nanodegree Program for Self-Driving Car Engineers**

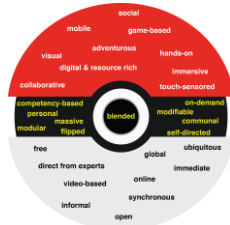
**Sri Ravipati, Campus Technology**

<https://campustechnology.com/articles/2016/09/21/udacity-unveils-nanodegree-program-for-self-driving-car-engineers.aspx>





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



## Question:

What are the consequences for education and e-learning?



## The Future of Learning Plague The new "Four Horsemen" of the Apocalypse: Quality, Copyright, Plagiarism, and Assessment...



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/2430167?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?

## 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.

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/smartphone-addiction-when-we-leave-our-phones-behind/101402061/>



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

Callum Borchers, The Washington Post

<https://www.washingtonpost.com/archive/local/2018/01/14/facebook-creates-bubble-where-youre-always-right/2018-01-14/>



**May 17, 2018**  
**Will Google Duplex Evolve Into a Virtual Teaching Assistant?**  
**Joshua Kim, Inside Higher Ed**

<https://www.insidehighered.com/blogs/technology-and-learning/will-google-duplex-evolve-virtual-teaching-assistant>



**WHAT'S NEXT**

**Part III. Technology Tomorrow**

[http://www.huffpost.com/c/d-marie-boutros/prepare-for-future-learning\\_14407256.html](http://www.huffpost.com/c/d-marie-boutros/prepare-for-future-learning_14407256.html)



**May 14, 2018**  
**"Superior Intelligence."**  
**How Frightened Should We Be of A.I.?**  
**Tad Friend, The New Yorker**

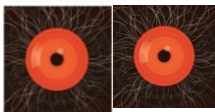
<https://www.newyorker.com/magazine/2018/05/14/how-frightened-should-we-be-of-ai>

HOW FRIGHTENED SHOULD WE BE OF A.I.?

By Tad Friend

PHOTOGRAPH BY MICHAEL KANE

PHOTOGRAPH BY MICHAEL KANE



Some argue that the relationship between human and machine intelligence should be understood as synergistic rather than competitive. In "Turn of Mind: Rethinking Work in the Age of A.I.," Paul R. Daugherty and D.J. Patil, I.T. executives at Accenture, proclaim that working alongside A.I. "cobots" will augment human potential. Discounting all the "Robocalypse" studies that predict robots will take away as many as eight hundred million jobs by 2030, they cheerily title one chapter "Say Hello to Your New Front-Office Bots." Cutting-edge skills like "holistic melding" and "responsible normalizing" will qualify humans for exciting new jobs such as "explainability strategist" or "data hygienist." Even ardent types will have a role to play, as customer-service bots "will need to be designed, updated, and managed. Experts in unexpected disciplines such as human conversation, dialogue, humor, poetry, and empathy will need to lead the charge." The George Saunders story writes itself (with some assistance from his robot).

**June 2018**  
**How the Enlightenment Ends**  
**Henry A. Kissinger, The Atlantic**

<https://www.theatlantic.com/archive/2018/06/henry-kissinger-ai-could-mean-the-end-of-human-history/559124/>

**TECHNOLOGY**  
**How the Enlightenment Ends**

Progress, paradox, and peril: In every step, human society is engaged in the race of artificial intelligence.

BY HENRY A. KISSINGER AND ANDREW



**May 11, 2018****Humanoid robot runs through the park by itself**

Lisa Fischer, CNN Tech

<http://money.com/video/technology/2018/05/11/boston-dynamics-atlas-spotmini-run-navigate>  
<http://www.foxnews.com/tech/2018/05/11/boston-dynamics-atlas-spotmini-run-navigate>  
 Video (1:22): <http://cnn.com/2018/05/11/boston-dynamics-atlas-spotmini-run-navigate>

**January 30, 2017****1. Professor Einstein PDA's**

<http://www.usatoday.com/story/tech/2017/01/30/robotic-barista-now-serving-milly-fant/95888780/>  
<http://www.foxnews.com/tech/2017/01/30/robotic-barista-now-serving-milly-fant/95888780/>



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-barista-now-serving-milly-fant/95888780/>

**February 27, 2017****2. World Knowledge Refreshment Stations**

[http://www.thelibrarymoon.com/43ancients/527the\\_library\\_Alexandria.html](http://www.thelibrarymoon.com/43ancients/527the_library_Alexandria.html)

**February 27, 2017****3. Robot Collaborators/Partners**

<http://www.foxnews.com/tech/2017/02/27/robotic-barista-now-serving-milly-fant/95888780/>

**December 21, 2017****A Robot Goes to College**

Lindsay McKenzie, Inside Higher Ed

<https://www.insidehighered.com/news/2017/12/21/robot-goes-college>

**January 3, 2018****CES 2018: Your guide to the biggest consumer electronics show USA Today**

<https://www.usatoday.com/story/tech/2018/01/03/ces-2018-your-guide-biggest-consumer-electronics-show/100077800/>



A robot developed by Taiwan engineers moves chess pieces on a board against an opponent at the 2017 Consumer Electronic Show (CES) in Las Vegas, Nevada. (Photo: Rob Lever, AFP/Getty Images)



**June 15, 2017**

### A New Class Of Robots Could Actually Help Identify Training And Employment Opportunities

Gordon Freedman, Forbes

<https://www.forbes.com/sites/gordonfreedman/2017/06/15/a-new-class-of-robots-could-actually-help-identify-training-and-employment-opportunities/#dabce855488>  
 Usual Internet link: <http://courtsbank.com/usa2.html>  
 New download link: <https://www.dropbox.com/s/hacwagva20dv/proper-the-robot2.mp4?dl=0>

**January 2, 2018**

### 5G to AR: Here are 7 technologies to watch in 2018

Edward C. Baig, USA Today

### Rise of robotic companions

The robotic home companion Kuri.

**June 13, 2017**

### How Human is Too Human for Robots?

Sara Hardman, New Learning Times

<https://newlearningtimes.com/cms/article/14429/how-human-is-too-human-for-robots>

**March 14, 2016**

### Artificial Intelligence and Robots

Paul Basken, The Chronicle of Higher Education

<https://www.chronicle.com/article/Artificial-Intelligence-and-Robots/23484>  
<http://www.artsandculture.gov/feature/stories/artificial-intelligence-and-robots>

### Behind a Computer's Surprise Victory, Hints of Global Economic Upheaval

By Paul Basken

**January 16, 2018**

### Robots are better at reading than humans

Brett Molina, The USA Today

<https://www.usatoday.com/story/tech/news/2018/01/16/robots-better-reading-than-humans/1036420001/>  
 Video (57 seconds): <http://courtsbank.com/robots1.html>

**March 24, 2017**

### Artificial Intelligence Market in the US Education Sector 2017-2021

<http://www.researchandmarkets.com/research/51ehzt/artificial>

AI Market to Grow 47.5% Over Next Four Years

Richard Chang, Campus Technology



**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

**September 4, 2017**

#### Is virtual reality the next 3D TV? Like VR, it was hyped, pricey and consumers didn't care Edward C. Baig, The USA Today

<https://www.usatoday.com/story/tech/columnist/2017/09/04/vr-is-the-next-3d-tv-but-consumers-dont-care/5444444002/>



Facebook Spaces is a new social VR hang out area that allows owners of Oculus Rift and Touch to interact in virtual reality. (Photo: Facebook)

**February 27, 2017**

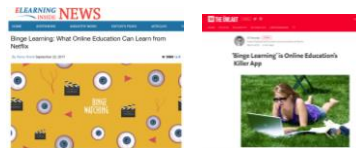
#### 5. Web Conferencing Global Learning Partner or PBL Team Selection Walls

[http://www.thefutureoflearning.com/43ancients/920na/Library\\_Alexandria.html](http://www.thefutureoflearning.com/43ancients/920na/Library_Alexandria.html)

**September 22, 2017**

#### 6. Binge Learning: What Online Education Can Learn from Netflix Henry Kronk, E-learning Inside News

<https://theulaut.com/binge-learning-is-online-education-a-killer-app-846a18f8ac76>



#### June 11, 2017 (New Learning Times) 7. Rise of Super E-Mentors



Twenty-Four Seven Tutoring  
 by Gaila Harty



#### 8. Café Classroom and Café Connectedness





## 9. Instructional Designer Morphs into Learning Environment Engineer



## 10. The Age of Personalization



## March 28, 2017 11. Elon Musk's Neuralink wants to plug into your brain, Marco della Cava, USA Today (includes 34 second video)



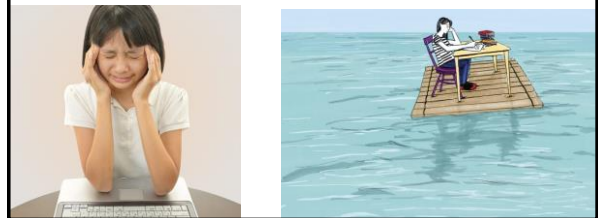
## April 25, 2018 12. Deliberate Innovation, Lifetime Education Commission on Creative the Next in Education Georgia Tech University, Office of the Provost



## Poll: Evolution or Revolution?



## Poll: Or does all this give you a headache?



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



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

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



**Things are heating up!**

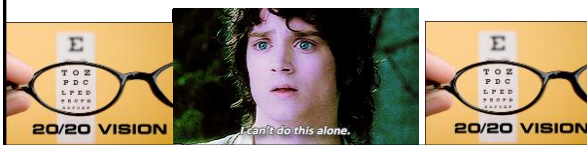


**The Learning Revolution is  
coming within reach!**



**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](http://TrainingShare.com)**

**Papers: [PublicationShare.com](http://PublicationShare.com)**

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**Email: [cjbonk@indiana.edu](mailto:cjbonk@indiana.edu)**

