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

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Talk Overview
1. Disruption!
2. Education 20/20
3. New Roles of the Instructor
4. First and Last Principles of Instruction
5. Megatrends of Learning: Engagement, Access, and Customization (30 ways that learning is changing...)
6. Future Trends and Ideas

August 23, 2017
‘Disrupt This!’
Doug Lederman, Inside Higher Ed

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

April 30, 2017
‘Those Jobs Are Gone’
Steve Kolowich, The Chronicle of Higher Education

October 30, 2017
Report: 59% of employed data scientists learned skills on their own or via a MOOC
Alison DeNisco Rayome
March 24, 2017
Artificial Intelligence Market in the US Education Sector 2017-2021
http://www.researchandmarkets.com/research/5lshzz/artificial
AI Market to Grow 47.5% Over Next Four Years
Richard Chang, Campus Technology

March 28, 2017
Elon Musk’s Neuralink wants to plug into your brain
Marco della Cava, USA Today

November 10, 2017
IBM Raises the Bar with a 50-Qubit Quantum Computer
Will Knight, MIT Technology Review

July 11, 2017
Going ‘phigital’? 4 things schools need to know about Generation Z
Meris Stansbury, eCampus News

(Circa Confucius 551–479 BCE)
What happens to sleeping students?

Education 20/20

20 New Roles of the Instructor

Merrill’s First Principles of Teaching/Instruction

http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html
February 29, 2016
Instructional Design: Demand grows for a new breed of academic
The Chronicle of Higher Education, Dan Berrett
http://chronicle.com/article/InstructionalDesign/235425

Bonk’s Last Principles of Teaching/Instruction
http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

1. The Principle of Flexibility
http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

2. The Principle of Convenience
http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

3. The Principle of Collegiality
http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

Bonk’s 20 “Last” Principles of Instruction (LAST = Learning Activation System Template)
http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

- Choice and Options
- Flexibility
- Nontraditional Learning
- Support and Feedback
- Passion and Inspiration
- Spontaneity
- Relevance and Meaningfulness
- Collegiality
- Trial and Error (i.e., it is ok to fail)
- Organization
- Expanded Resources
- Sharing
- Empowerment and Autonomy
- Human Connectedness
- Cognitive Apprenticeship
- Cheerfulness and Optimism
- High Expectations
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)
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.”

June 7, 2016
Teaching refugees how to code CNN Money

May 3, 2017
4 out of 5 Companies Have Hired a Coding Bootcamp Graduate Sri Ravipati, Campus Technology
https://campustechnology.com/articles/2017/05/03/4-out-of-5-companies-have-hired-a-coding-bootcamp-graduate.aspx

July 28, 2016
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)
http://www.knod.net/

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/
August 17, 2016
Research: 3D Printing Market to Double by 2020
Joshua Bolkan, Campus Technology

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

Clearly... Learning is Changing!

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

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 15, 2017 (Engagement)
Learning is More Synchronous
Zoom Weekly Guests, Maria Solomou, Sept. 20, 2017
Personal Zoom link: https://IU.zoom.us/j/8123222878

July 19, 2017
HoloLens Assists in Live Surgery
Tommy Palladino, Next Reality
https://www.nextreality.net/2017/07/18/hololens-assists-in-live-surgery/
Video #1: 1:09: http://curtbonk.com/hololens.html
Video #2: 1:17: 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 share it with surgical teams in real-time remotely.

July 19, 2017
Modern medicine breathes new life into virtual training
Videos
.01-.21: http://curtbonk.com/vr-medicine.html
.37-.56: http://curtbonk.com/vr-medicine2.html
.57-.7: http://curtbonk.com/vr-medicine3.html
May 7, 2015 (Engagement)
Learning is More Adventurous
Aaron Doering, Chasing Seals, TEDx
http://chasingseals.com/
https://twitter.com/chasingseals

August 8, 2017
Learning is More Game-Based
ShortSims
http://www.shortsims.com/
Clark Aldrich clark@clarkaldrichdesigns.com

February 17, 2016 (Engagement)
Learning is More Mobile
World’s Cheapest Smartphone at $3.67
Samsung is hoping to have 10,000 apps by the time the Gear S3 launches this fall.

August 4, 2017
When our smartphones leave us out of touch
Brett Molina, USA Today

Learning is More Free
Want “FREE” engagement?
How about “Adding Some TEC-VARIETY”?
http://tec-variety.com/

How Learning is Changing:
Mega Trend #2. Pervasive Access
May 4, 2016 (Access)
Learning is More Video-Based
What I Learned at the ASU GSV Summit
Kenneth Green, Inside Higher Ed

July 18, 2016 (Access)
Survey: Video Usage in Ed Continues Ramp-up,
Don Kroll/House, The Journal

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

September 21, 2017
Learning is More Immediate...
Scientists just discovered the first brainless animal that sleeps
Sara Kaplan, Washington Post

August 9, 2017
Learning is More Immediate...
The biggest dinosaur in history: Archaeologists reveal 122ft long PATAGOTITAN
Titanosaurs: the largest animals ever to walk the Earth

June 7, 2017
Learning is More Immediate...
Oldest Fossils of Homo Sapiens Found in Morocco, Altering History of Our Species,
Learning is More Online (Access)

June 15, 2014

Starbucks offers workers 2 years of free college, CNN Money, Gregory Wallace (from Arizona State online programs)


November 1, 2017

Indiana University, Office of Online Education

2016 Enrollment Report 2016, WCET


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/?bw_gallery=study-cafe_11

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


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, U. OF TORONTO 1987: HYPERCARD FIRST SHIPPED.

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

May 7, 2014 (Access)

Learning is More Global

CNA - Speaking Exchange (video chats)

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.

February 22, 2017 (Access)

Learning is More Informal

Digital citizenship lessons from a 9-year-old with 18,000 Twitter followers, Alan November, eSchool News

May 5, 2015 (Access)

Learning is More Informal

Shubham Jaglan (10 years old) Overwhelmed by “Dream” Return Home After Double World Championship

June 13, 2016 (Access)

Learning is More Free and Open

Nine-Year-Old Anvitha Vijay is the Youngest Developer at WWDC (age 9)

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)

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

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

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,
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https://www.slideshare.net/David_Porter
https://www.ocls.ca/events/open-education-ontario-summit

I. Elaine Allen and Jeff Seaman, Babson Survey Research Group

September 19, 2017 Learning is More Free and Open
Reasons to Open Source Your Syllabus
Anatasia 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/

January 15, 2016 Wikipedia is 15!
Scott McLemee, Inside Higher Ed
April 4, 2016
MIT OpenCourseWare is 15!
http://ocw.mit.edu/about/15-years/

The World is Open:
How Web Technology Is Revolutionizing Education

Learning is More Direct from Experts

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

Learning is More Direct from Experts (e.g., The Expert Café)
http://expertscafe.com/
September 25, 2017
Learning is More Direct from Experts
Professors Have Taken Over the MOOCs:
How open online learning is changing
Joshua Kim, Inside Higher Ed
https://www.insidehighered.com/blogs/technology-and-learning/professors-have-taken-over-moocs

How Learning is Changing:
Mega Trend #3. Customization

May 12, 2017 (Customization)
Learning is More Modifiable
The Future of Collaboration Spaces Encompasses Video Interactive, Mobile, Julie Johnston, IU, Campus Technology

July 17, 2017
https://www.usatoday.com/story/money/2017/07/20/stocks-new-highs/496905001/

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

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

June 7, 2017
Learning is On Demand
"Alexa, are you turning my kid into a jerk?"
Josh Hafner, USA Today
May 9, 2017 (Customization)
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/reviews/2017/05/09/amazon-echo-show-touchscreen-video-alexa/101448844/
44 Seconds: http://curtbonk.com/jetsons44.html

January 20, 2016 (Customization)
Learning is More Blended
Universities tap growth of craft beer, offer classes, Chicago Tribune

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

August 12, 2016 (Customization)
A Life of Happiness and Fulfillment
Indian School of Business, Rajagopal Raghanathan

May 20, 2016 (Customization)
Learning is More Massive
agMOOCs (India)
http://www.agmoocs.in/

April 20, 2015 (Customization)
Learning is More Massive
250 MOOCs and Counting: One Man’s Educational Journey, Chronicle of Higher Education
http://chronicle.com/article/250-MOOCsCounting-One/229397/?cid=at
If the MOOC movement has faded, nobody told Jima Ngei. Mr. Ngei, who lives in Port Harcourt, Nigeria, has completed and passed 250.

Jima Ngei: “I had this unrelenting fear that this miracle of free access might evaporate soon.”
October 13, 2017
Udacity Official Declares MOOCs ‘Dead’ (Though the Company Still Offers Them)
Clarissa Shen, Vice President & International Executive, Udacity
Jeffrey R. Young, Ed Surge
https://tinyurl.com/yaw4kbvr

August 17, 2017
By the Numbers: MOOCs in 2016
Class Central, Dhawal Shah

August 7, 2017
MOOCs for Credit
FutureLearn and Coventry University to Roll Out 50 Online Degrees
Class Central, Dhawal Shah

December 25, 2016
Class Central
March 3, 2017 (Customization)
edX Expands MicroMasters Programs
With Data Science (“nanodegrees”)
Digital Leadership and More, Sri Ravipati, Campus Technology

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

June 15, 2017
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
https://www.class-central.com/report/mooc-providers-korea

June 15, 2017
Massive List of MOOC Providers Around The World
ThaiMOOC / Thailand
(Where to Find MOOCs: The Definitive Guide to MOOC Providers )
Class Central, Dhawal Shah
https://www.class-central.com/report/mooc-providers-thailand
October 1, 2017
Introduction to Open Education
edX
https://www.edx.org/course/introduction-open-education-utarlingtonx

August 9, 2017
Modern State Education Alliance
https://modernstates.org/

Let’s Review:
Learning is Changing…
(i.e., it’s more informal, video-based, ubiquitous, collaborative, self-directed, global, mobile, open, massive, etc.)

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

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

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

January 30, 2017
1. Professor Einstein PDA’s
http://www.wired.com/2017/01/robotic-barista-now-serving-really-fast/

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)
https://www.wired.com/2017/01/robotic-barista-now-serving-really-fast/
February 27, 2017
2. World Knowledge Refreshment Stations

February 27, 2017
3. Robot Collaborators/Partners

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://www.thelivingmoon.com/43ancients/02files/Library_Alexandria.html

February 27, 2017
5. Web Conferencing
Global Learning Partner or PBL Team Selection Walls

September 22, 2017
Henry Kronk, E-learning Inside News
http://www.thelivingmoon.com/43ancients/02files/Library_Alexandria.html

7. Rise of Super E-Mentors
8. Instructional Designer Morphs into Learning Environment Engineer

Poll #2: Does all this give you a headache?

Poll #3: Who is now interested in Educational Technology...?

9. Café Classroom and Café Connectedness

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!

Educational Technology is coming within reach!

Remember for Ed Tech and Instructional Tech to make an impact:

“I cannot do this alone.”
“1 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: curt@worldisopen.com