Education 20/20: Visions of a New Learning World
Curtis J. Bonk, Professor, Indiana University
cjbonk@indiana.edu
http://mypage.iu.edu/~cjbonk/

Session Overview
1. Education 1.0, 2.0, and 3.0
2. Education 20/20 and the Role of the Instructor
3. First and Last Principles of Instruction
4. Learning is Changing
5. Megatrends of Learning: Engagement, Access, and Customization (30 ways that learning is changing...)

(Circa Confucius 551–479 BCE)

What happens to sleeping students?
Poll #1: Remember Education 1.0
1728: 1st correspondence course advertised Boston
(learn shorthand from Caleb Phillips thru weekly mailed lessons)
The First University Correspondence Course
(University of London, External Program, 1858)
1728-1990s – Generally postal system based

Fast Forward 200 Years...
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 (On Wisconsin, Fall 2014)

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

May 10, 2013
Poll #2: Who remembers these?
10 ed-tech tools of the 70s, 80s, and 90s
eSchool News, Meris Stansbury
http://www.eschoolnews.com/2013/05/10/10-ed-tech-tools-of-the-70s-80s-and-90s/print/

Poll #3: Fast Forward to the 1980s and 1990s...
Education 2.0...Teacher is a Guide on the side...

Poll #4:
Do you really remember those days Education 2.0?
Fast Forward 30+ More Years…
“Anyone can now learn anything from anyone at any time.”

Education 3.0…Education 20/20

“In Education 3.0, classrooms would move away from lectures, such as this one, to having class time be spent on discussions and projects, using digital technology.”
(Per Wikipedia: https://en.wikipedia.org/wiki/Education_3.0)

Education 3.0

Education 20/20

From Instructor as Credit Manager and Court Room Judge

1. Instructor as Counselor
2. Instructor as Consultant

3. Instructor as Conductor

4. Instructor as Course Ambassador

5. Instructor as Curator

6. Instructor as Concierge

7. Instructor as Camping Trip Guide
8. Instructor as Cultivator

20 New Roles of the Instructor

Merrill’s First Principles of Teaching/Instruction

February 29, 2016
Instructional Design: Demand grows for a new breed of academic
The Chronicle of Higher Education, Dan Berrett
http://chronicle.com/article/Instructional-Design/235425

April, 2016
Instructional Design in Higher Education, Gates Foundation and Intentional Futures
http://intentionalfutures.com/reports/instructional_design/
Instructional Designer Morphs into Learning Environment Engineer

Bonk's Last Principles of Teaching/Instruction

1. The Principle of Flexibility

2. The Principle of Convenience

3. The Principle of Collegiality

4. The Principle of Cheerfulness and Optimism
5. The Principle of High Expectations
   http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

6. The Principle of Choice and Options
   http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

7. The Principle of Empowerment and Autonomy
   http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

August 8, 2017
   Professor’s plan to let students grade themselves gets an F
   Paul LeBlanc, CNN

8. The Principle of Support and Feedback
   http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

9. The Principle of Spontaneity
   http://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html
10. The Principle of Organization
https://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

11. The Principle of Sharing
https://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

12. The Principle of Nontraditional Learning
https://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

13. The Principle of Passion and Inspiration
https://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

14. The Principle of Relevance and Meaningfulness
https://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html

15. The Principle of Trial and Error (i.e., it is ok to fail)
https://travelinedman.blogspot.com/2011/05/bonks-last-principles-of-instruction.html
16. The Principle of Expanded Resources

17. The Principle of Human Connectedness

18. The Principle of Cognitive Apprenticeship

19. The Principle of Purpose and Vision

20. ??? (what is missing)
Bonk's 20 "Last" Principles of Instruction
(LAST = Learning Activation System Template)

- Flexibility
- Convenience
- Collegiality
- Spontaneity
- Support and Feedback
- Organization
- Sharing
- Choice and Options
- Nontraditional Learning
- Relevance and Meaningfulness
- Trial and Error (i.e., it is ok to fail)
- Human Connectedness
- Empowerment and Autonomy

Poll: #5.
Read any good books lately detailing this shift?

1. Originals (2016):
   How Non-Conformists Move the World
   Adam Grant
   Podcast: Advice from Adam Grant: Look for "disagreeable givers"
   (March 2, 2016)

2. Thank You for Being Late: An Optimist's Guide to Thriving in the Age of Accelerations (2016)

3. Creating Innovators
   Tony Wagner (2012)
   Most Likely to Succeed (2015):
   Preparing Our Kids for the Innovation Era
   Tony Wagner and Ted Dintersmith
   http://www.tonywagner.com/2013

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

Clearly...
Learning is Changing!
The Creation of Effective Learning Environments


Café Classroom and Café Connectedness

Poll #6: Who wants one of these? Starbucks

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/

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.

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

30+ Ways Learning is Changing: The Mega Trends

July 2016
Going ‘phigital?’ 4 things schools need to know about Generation Z, Todd Kominski, TrustEd
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/

July 17, 2017
Learning is More Collaborative
Buildings That Foster Collaboration
Lawrence Biemiller, The Chronicle of Higher Education
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.

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

August 17, 2016
Learning is More Hands-on
Research: 3D Printing Market to Double by 2020
Joshua Bolkan, Campus Technology
February 9, 2017
Learning is More Hands-on
More black and Latino students learn to code as Code.org classes swell
Jessica Guynn, USA Today

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

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

June 10, 2015 (Engagement)
Learning is More Immersive
Augmented reality promises 'superpowers', and people are listening
The USA Today, Marco della Cava
Microsoft HoloLens: https://www.youtube.com/watch?v=aThCr0PsyuA
Letsee is an AR app from a South Korean company that allows consumers to scan a product and see a series of product reviews instantly overlaid overtop.

July 19, 2017
HoloLens Assists in Live Surgery
Tommy Palladino, Next Reality
http://curtbonk.com/hololens.html
Video #1: 1:09: http://curtbonk.com/hololens.html
Video #2: 1:37: http://curtbonk.com/hololens2.html

July 19, 2017
Modern medicine breathes new life into virtual training
Videos
0:21: http://curtbonk.com/vr-medicine.html
0:37-0:56: http://curtbonk.com/vr-medicine2.html

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 remote audiences in real-time. It has not been used to augment the surgeon's view of the patient during a live surgery.

Original Video:

Lazer is an AR app from a South Korean company that allows consumers to scan a product and see a series of product reviews instantly overlaid overtop.

Modern medicine breathes new life into virtual training
May 30, 2017
Learning is More Immersive
Fly above the water with Oracle Team USA in 360
https://youtu.be/9nZhz30QIZQ
The first 17 seconds:
http://curtbonk.com/sailing-17.html
1:14 to 1:54:
http://curtbonk.com/sailing-40.html
Whole video:
http://curtbonk.com/sailing.html
1:01:

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

February 15, 2017 (Engagement)
Learning is More Synchronous
Shindig, Future Trends Forum, Bryan Alexander
https://bryanalexander.org/the-future-trends-forum/
http://www.shindig.com/
http://events.shindig.com/event/FTF-anniversary

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

How Learning is Changing:
Mega Trend #2. Pervasive Access
informal global open video-based synchronous ubiquitous online direct from experts immediate

Learning is More Online (Access)
http://tec-variety.com/
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)

Learning is More Online (Access)
November 22, 2016
Indiana University, Online Course Enrollments
https://cbi.bi.iu.edu/

Enrollment Report 2016, WCET
http://wcet.wiche.edu/sites/default/files/WCETDistanceEducationEnrollmentReport2016.pdf

Learning is More Ubiquitous
August 1, 2016 (Access)
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

Learning is More Global
May 7, 2014 (Access)
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.

Learning is More Free and Open
May 4, 2016 (Access)
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
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

May 14, 2016 (Access)
Learning is More Immediate...
Mastodon bones offer clues of earliest humans in North America, Faith Karimi, CNN
Abstract:
http://advances.sciencemag.org/content/2/5/e1600375
Full Article:
http://advances.sciencemag.org/content/2/5/e1600375.full
Supplemental materials (PDF):
http://advances.sciencemag.org/content/suppl/2016/05/10/2.5.e1600375.DC1/PDF:
http://advances.sciencemag.org/content/advances/suppl/2016/05/10/2.5.e1600375.DC1/1600375_SM.pdf

November 19, 2015 (Access)
Learning is More Immediate...
New daddy longlegs named after 'Lord of the Rings' character Smeagol, Mary Bowerman, USA Today

May 9, 2017 (Access)
Learning is More Immediate...
Meet Zuul, the new dinosaur species named after 'Ghostbusters' demon
Traci Watson, USA Today
http://curtbonk.com/ghostbusters15.html
http://curtbonk.com/ghostbusters27.html

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

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

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

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

December 25, 2016
Class Central

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

MOOCs and Open Education Around the World
http://routledge-rq.com/books/details/9781315807185/
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

August 23, 2017
George Siemens and David Wiley Join Forces for a MOOC About Open Education
Manuela Ekowo, EdSurge

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

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

Poll #6:
Are you interested in Education
END OF COURSE EXAMS?
I SHALL PASS!
Where and when will we find Education 20/20?

We are entering a jumping off point...
(South University of Science and Technology of China, Wednesday June 10, 2015)

Things are heating up...

Education 20/20 is coming within reach!

Remember for Education 20/20 to make an impact: “I cannot do this alone.”
“I cannot do this alone.”
“I cannot do this alone.”

Any Questions or Comments?

Slides at: TrainingShare.com
Papers: PublicationShare.com
Free book: http://tec-variety.com/
Email: curt@worldisopen.com