Living in Tech City: 50+ Technology Trends and Innovations Transforming Workplace Learning, Education, and Our Lives

Curtis J. Bonk, Professor, Indiana University
cjbonk@indiana.edu
http://mypage.iu.edu/~cjbonk/

"The log-on degree"
March 14, 2015
The Economist

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)
1728-1900s – Generally postal system based
1930s – phonograph and radio
1950s and 1960s – television
1970s and 1980s – VHS tapes
1980s and 1990s – DVD

May 20, 2015
Tech Woes at Small Colleges: If it’s broken, and it probably is, then adapt, Chronicle of Higher Education, Jon Nichols

Audience Poll #1:
Has learning technology has ever transformed your life?

The Problem with Learning Technology
Karen Wilcox, November 7, 2014, Chronicle of Higher Education

The Personal Computer Era...
May 10, 2013
10 ed-tech tools of the 70s, 80s, and 90s
eSchool News, Meris Stansbury
http://www.eschoolnews.com/2013/05/10/10-ed-tech-tools-of-the-70s-80s-and-90s/print/

Poll#2: Read any good books lately?
Creativity, Inc. (2014)
http://www.creativityincbook.com/

The Innovators:
Walter Isaacson (2014)
http://books.simonandschuster.com/The-Innovators/Walter-Isaacson/9781476708690

Fall 2014, On Wisconsin
MOOC, Meet MROC (Massive Open Radio Course)
WHA, UW Madison, College of the Air 1933, Vocational Training dedicated to Agriculture, and later Home Economics and Typing

Poll #3: Listen to the Radio Lately?
November 14, 2014
School lessons by radio in Sierra Leone, Liberia, IRIN
(Humanitarian News and Analysis), MONROVIA/FREETOWN/DAKAR
http://www.pce.uw.edu/about/Leadership/

Poll #4: Turn on the TV Lately?
November 14, 2014 (2:25)
Why online ed disrupts the traditional model, Fareed Zakaria GPS, CNN, On GPS, Stuart Butler & Anant Agarwal explain why students are drawn to online higher education: tuition debt & exciting new technologies
Life as an accountant/CPA in a high tech company in the 1980s...

Knowledge Navigator (1987)
Apple Computer
http://www.youtube.com/watch?v=hb4AzF6wEoc

Fast Forward 25+ Years...
“Anyone can now learn anything from anyone at any time.”

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

From Instructor as Credit Manager

To Instructor as Orchestra Conductor and Concierge
Learning is Technology Based
New Technologies = New Delivery Methods...

I. Learning is More Mobile
(e.g., mobile courses on smartphone)

April 2, 2015
Review: Samsung rises to challenge with Galaxy S6 and S6 Edge, Edward Baig, USA Today

April 9, 2015
I’ll Buy the Apple Watch, Ed Baig, USA Today

May 14, 2015
Smartphone separation anxiety: How bad is your nomophobia?, Today Health, Meghan Holohan
http://www.today.com/health/smartphone-separation-anxiety-how-bad-your-nomophobia-t20786

Readers: Are we headed for a smartphone zombie apocalypse?, CNN, Nicole Saidi, October 4, 2012
II. Learning is More Flipped
January 7, 2015
When a Flipped-Classroom Pioneer Hands Off His Video Lectures, This Is What Happens, Jeffrey R. Young, The Chronicle of Higher Education
http://chronicle.com/article/When-a-Flipped-Classroom/151031/

A student watches a video of Norman Nemrow’s accounting class. Mr. Nemrow started the video lectures nearly 15 years ago at Brigham Young U. He is now retired, but students still watch him on the screen.

III. Learning is More Video-Based
February 15, 2015
Lynda.com Excel Training, IU

IV. Learning is More Visual
September 22, 2014
110 Foot Engagement, Elliott Masie’s Learning 2014

October 6, 2014
Stanford U Display Wall Takes Visualization to a Higher Level, Dian Schaffhauser, Campus Technology

V. Learning is More Touch Sensored
October 16, 2013
Corporate Classrooms: Adapting to Change
Chief Learning Officer, Frank Kalman
http://www.corporate-classrooms.com/adapting-to-change/

VI. Learning is More Game-Based
October 21, 2014
Sexy iPad Air 2 is fabulous but not a must upgrade, Edward Baig, USA Today
http://www.usatoday.com/story/tech/columnist/baig/2014/10/21/ipad-air2-fabulous-tablet-is-not-must-upgrade/17658295/
VII. Learning is More Immersive  
*April 2, 2015*  
*The Quest to Put More Reality in Virtual Reality, Review: Samsung rises to challenge with Galaxy S6 and S6 Edge, Edward Baig, USA Today*

A technician uses virtual reality to test out new military hardware before it’s ever put into production.

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VIII. Learning also is More Collaborative  
*March 26, 2014*  
*Flat Connections: Welcome to Flat Connections - Learning about the world, with the world*

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IX. Learning is More Social  
*October 24, 2014*  
*Facebook launches Rooms app for anonymous sharing of interests, USA Today, Jessica Guynn*

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X. Learning is More Adventurous  
*Aaron Doering, Chasing Seals, TEDx*

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XI. Learning is More Direct from Experts  
February 2, 2015  
Here Comes Professor Everybody: The ‘sharing economy’ meets higher education,  
Chronicle of Higher Education, Jeffrey R. Young  
http://chronicle.com/article/Here-Comes-Professor-Everybody/151445/?cid=at  

Kevin deLaplante, an associate professor at Iowa State U., makes an average of $2,500 per month teaching from his home studio (above) on sites like Udemy.

XII. Learning is More Synchronous  
Dubai to Puerto Rico (Edgar Leon)  
http://www.youtube.com/watch?v=Imxw0YwTh2Y&list=UUClhOjnvl1pEXd9SkvIw

XIII. Learning is More Digital  
October 23, 2014  
New Amazon Kindle is a Voyage into eReader luxury, USA Today, Edward C. Baig  

XIV. Learning is Resource Rich  
January 28, 2015  
Discovery Education Techbook  

XV. Learning is More Informal  
October 13, 2013  
A Dozen Ways To Promote Informal Learning  
Chief Learning Officer, Saul Carliner  
http://www.clomedia.com/articles/a-dozen-ways-to-promote-informal-learning  

January 22, 2015  
Noodle, Google Helpouts, Gooru  
When Can I Skip Taking the GRE or GMAT?  
https://www.noodle.com/articles/when-can-i-skip-taking-the-gre-or-gmat  
https://www.noodle.com/
XVI. Learning is More Competency-Based  
July 31, 2014  
Hire Education: Mastery, Modularization, and the Workforce Revolution, Michelle R. Weise and Clayton M. Christensen, The Christensen Institute  
http://www.christenseninstitute.org/publications/hire 

XVII. Learning is More On Demand  
May 5, 2014  
Mobile MOOCs: New platform challenges conventional MOOCs  
eCampus News (https://coursmos.com/) 

XVIII. Learning is More Hands-On  
February 2, 2015  
Makey Makey and the Kano  
http://makeymakey.com/  
https://vimeo.com/60307041 

XIX. Learning is More Personal  
January 10, 2013  
iPotty Aims To Entertain Toddlers During Toilet Training, Mashable, Kate Freeman  
http://mashable.com/2013/01/10/ipotty/ 

XX. Learning is More Communal  
April 30, 2014  
New Learning Hubs Locations Hosted by The New York Public Library and Seven Other Int’l Partners, Coursera Learning Hubs  
https://www.coursera.org/about/programs/learningHubs 
February 5, 2015
XXI. Learning is More Online
2014 Survey of Online Learning
Grade Level: Tracking Online Education in the United States, 2014, Online Learning Consortium (formerly Sloan-C), by I. Elaine Allen and Jeff Seaman
Gates Newsletter
January 23, 2015

Learning is More Online
June 15, 2014
Starbucks offers workers 2 years of free college, CNN Money, Gregory Wallace (from Arizona State online programs)

XII. Learning is More Modifiable
Inside Look: Learning Spaces, Meeting classroom teaching and collaboration expectations, University Business, Feb. 22, 2013

XIII. Learning is More Comfortable
Design for Students, with Students, “Hub Central”, the $42 million University of Adelaide learning hub opened in October 2011, May 8, 2012, Mike Roberts
http://designbuildsource.com.au/design-for-students-with-students

XIV. Learning is More Ubiquitous
September 23, 2014
Elliott Masie’s (i-Beacon, Bluetooth low energy proximity sensing)
XV. Learning is More Instantaneous
April 9, 2013
HER Computer fashions face social test: Can wearable computers fit in? Scott Martin, USA Today
(i.e., magnify moles or injuries, see vital signs, live stream surgeries, access previous PT sessions, access research and drug info, etc.)

XVI. Learning is More Free
August 5, 2014
OpenStax Aims To Bring Free Digital Textbooks to High Schools, David Nagel, THE Journal

January 8, 2015
Obama Plan Would Help Many Go to Community College Free
JULIE HIRSCHFELD DAVIS and TAMAR LEWIN, The New York Times

Want something FREE?
Introducing the “TEC-VARIETY” book...
http://tec-variety.com/

1. Tone/Climate: A. Threaded Video Discussions, e.g., Flipgrid
http://flipgrid.com/#429b8c5

2. Encouragement, Feedback, etc.: A. Voice/Audio Feedback
Vocaroo: http://vocaroo.com/
http://vocaroo.com/i/s1vG1mGXzw9y
(Recorded April 23, 2015 by Curt Bonk for Penn State)
3. Curiosity, Fun:
A. Tracking the Life of a Computer Scientist (bio.com)
   http://www.biography.com/people/steve-jobs-9354805
   http://www.biography.com/people/ada-lovelace-20825323

4. Variety, Novelty, Fun:
A. Teach from Vietnam to the World
   BBC News Asia, August 14, 2013
   Even though he is now very elderly Vinh Bao (age 96) still teaches music,
   using his computer to coach pupils across the globe.

5. Autonomy, Choice:
A. Design Article Database in Pinterest, Jenny Webeck
   https://www.pinterest.com/jennifertwebeck/emerging-learning-technologies/

6. Relevance, Meaningfulness:
A. Guest Chats (e.g., Emily Hixon, January 20, 2015)
   https://connect.iu.edu/p259wpiabg9/

7. Interactive, Collaborative:
A. Backchannel Chat (TodaysMeet)
   https://todaysmeet.com/
   https://todaysmeet.com/R678_Emerging_Learning_Technologies

8. Engagement, Effort:
A. Guest Speaker Quotes
   (Rey Junco, February 25, 2013)
March 13, 2015

9. Tension, Challenge, etc.: A. Controversial Issue Debates
R511 Midterm Video How to Create an Authentic Environment in a Content-Driven School?, R511, Nick and Nik
https://www.youtube.com/watch?v=Bcr3_aYT_xQ&feature=youtu.be

10. Yields Products, Goals:
A. Student Created Mobile Apps

Framework #2: The R2D2 Model

Commitments:
Stop and Share:
Which principle(s) of TEC-VARIETY will you use?
Tone/Climate
Encouragement, Feedback
Curiosity
Variety
Autonomy
Relevance
Interactive
Engagement
Tension
Yields Products

January 28, 2015

Read 1a. Collect and Listen to Interactive Stories
(e.g., Meograph: http://www.meograph.com/)

Read 1b. Twitter Fed Class Discussions
Live-Tweeting Assignments: To Use or Not to Use?
The Chronicle of Higher Education, Adeline Koh
https://chronicle.com/blogs/profhacker/live-tweeting-assignments-to-use-or-not-to-use/58949

Videos: Watch selected videos from scholars and educators.

Benefits:
• Can easily watch YouTube videos without having to open a separate application

Limitations:
• Only accepts YouTube urls
Reflect 2a. Big Issue Reflections
(Big Questions Online (BQO)), Feb 3, 2015
(e.g., Is curiosity essential for human flourishing?)
https://www.bigquestionsonline.com/content/do-we-have-souls

Reflect 2b. Interpreting Infographics
July 24, 2014
Woman in Computer Science
http://graduatedegrees.online.njit.edu/mscs-resources/mscs-infographics/women-in-computer-science

Display 3a. Virtualize Words Used
(e.g., Wordle, Taggedo, Tagul, WordSift, Word It Out)
http://shellyterrell.com/2010/02/14/word-cloud-resources-tips-tools/

Display 3b. (April 28, 2015)
Concept Mapping and Timeline Tools
(Bubbl.us, Cmap, Gliffy, Spicynodes, or Mindomo)
http://www.spicynodes.org/index.html

Do 4a. Student Class Documentaries
Umida’s R546 Documentary Project
http://www.youtube.com/watch?v=EMLTzaCV_5A
Troy Cockrum, R711, April 26, 2015
http://troy-cockrum.com/instructional-systems-technology/

Do 4b. Student Music Recording
April 26, 2015
IST Groove Song, Jeffrey Jenkins, R511
http://soundcloud.com/jeffjenkins/ist-groove
The World is Open , Jill Kaufman, R678
https://www.youtube.com/watch?v=ZRGV0Mg5Vmw&feature=youtu.be
Poll #5: Which do you prefer...
(A) TEC-VARIETY or (B) R2D2?

The V-PORTAL (Bonk, IU)
"Video Primers in an Online Repository for e-
Teaching and Learning" V-PORTAL,
TravelinEdMan (27 free/open YouTube videos)
http://www.youtube.com/user/TravelinEdMan

XXVII. Learning is More Self-Directed
February 2013
TED Talks
(Build a School in the Cloud; Self-Organized Learning
Environments (SOLEs), TED Talk from Sugata Mitra
http://www.ted.com/talks/sugata_mitra_build_a_school_in_the_cloud.html

XXVIII. Learning is More Global
August 1, 2014
Can You Really Teach a MOOC in a Refugee Camp?,
Chronicle of Higher Education, Steve Kolowich
http://chronicle.com/blogs/wiredcampus/can_you_really_teach_a_mooc_in_a_refugee_camp/54191?cid=at&utm_source=at&utm_medium=en

XIX. Learning is More Open
(December 2, 2014)
Nature, Openwords, etc.
http://www.openwords.com/
https://www.facebook.com/Openwords

XXX. Learning is More Massive
Sample Course: Open Knowledge:
Changing the Global Course of Learning
September 2, 2014 to December 12, 2014, Stanford
https://ocw.stanford.edu/courses/Engineering/OpenKnowledge/Fall2014/about#-
Softcover ($30): http://www.parlorpress.com/invasion_of_the_moocs
April 20, 2015

250 MOOCs and Counting: One Man’s Educational Journey,
Chronicle of Higher Education
http://chronicle.com/article/250-MOOCs-Counting-One/

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."

Global Health Initiatives
October 7, 2014

Online Mooc courses deliver Ebola health advice, BBC News, Sean Coughlan

Disinfecting a room in Monrovia, Liberia: Online courses are providing health advice to fight Ebola.

Building Talent Pipeline

Master’s Degree Is New Frontier of Study Online,
By Tamar Lewin
http://chronicle.com/article/MOOCs-May-Not-Be-So-Disruptive/140965/
http://extensionengine.com/putting-moocs-to-work-recap-infographic/

Nanodegrees (e.g., Web design, coding, etc.)
(Open Education Alliance)

Better Money Habits
(personal finance, money habits, financial literacy)
(Bank of America and the Khan Academy)

The MOOC Marketplace Takes Off, Forbes, November 30, 2013, Josh Bersin

Things are heating up!
http://routledge-ny.com/books/details/9781138807419/
MOOCs and Open Education
Around the World
http://routledge-ny.com/books/details/9781138807419/

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

Frank Basile, 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.”

Framework: WE-ALL-LEARN:
Ten Forces that Opened the Learning World
- Web Searching in the World of e-Books (i.e., Darwin)
- E-Learning and Blended Learning
- Availability of Open Source and Free Software (e.g.,
  Moodle)
- Leveraged Resources and OpenCourseWare (e.g.,
  MIT)
- Learning Object Repositories and Portals (i.e., shared
  content)
- Learner Participation in Open Info Communities (YouTube)
- Electronic Collaboration and Interaction (sync and async)
- Alternate Reality Learning (Online Massive Gaming,
  Simulations, and Virtual Worlds; e.g., Second Life)
- Real-Time Mobility and Portability (e.g., iPhone)
- Networks of Personalized Learning (Blogs, RSS)

The World is very open!
(in Ho Chi Minh City, Vietnam, Wednesday
March 12th)

Audience Participation!

WE
ALL
LEARN!!!
The Web of Learning

We are entering a jumping off point...

Audience Poll #6: Are we going crazy yet?

20 More Technologies of Today...

Tech #31. Free Content Portals
MERLOT II: Multimedia Educational Resource for Learning and Online Teaching
http://www.merlot.org/merlot/index.htm?action=find

Tech #32. Online Study Groups
(e.g., Open Study: http://openstudy.com/)
Tech #33. Online Language Learning
May 5, 2014
Technology Provides Foreign-Language Immersion at a Distance,
Danya Perez-Hernandez, Chronicle of Higher Education,
http://chronicle.com/article/Technology-Provides/146369/?cid=at&utm_source=at&utm_medium=en

Portuguese-language students at Virginia Commonwealth U. hold a "teletandem" session with students in Brazil who are learning English. The approach "basically forces you to learn," says one student. "It pushes you to practice the language to make sure you are ready for the next meeting."

Tech #34. Mobile Apps for the other training and resources

Tech #35. Social Books
(e.g., Subtext; http://subtext.com/)

Tech #36. Web Conferencing
(Adobe Connect, Jabber, iMeet, GoToMeeting, etc.)
https://connect.iu.edu/p259wpiaibq/

Tech #37. Videoconferencing and Telepresence Technology
(e.g., Revolve, Kubi)
https://revolverobotics.com/
Tech #38. Goals Setting Tools (e.g., I Done This, Milestone Planner, and 43 Things)

Tech #39. Shared Online Video Tests and Quizzes (e.g., TED-Ed)
http://education.ted.com/

Tech #40. Video Editing and Commenting Tools (e.g., TubeChop)

Tech #41. Screencasts and Tutorials (Jing, GoView, Screenr)

Tech #42. Online Testing (Quizlet; http://quizlet.com/)

Tech #43. Big Data Visualization Tools (Harvardx and MITx)
http://harvardx.harvard.edu/harvardx-insights
4. World map of gender composition
Tech #44. Wikis and Collaborative Technology (negotiate meanings)  
(PiratePad, MeetingWords, PBWorks, Wikispaces)

Tech #45. Crowdsourced Website Donations  
(e.g., Scholar Match, Zero Bound, Pave, GoFundMe; http://www.gofundme.com/)

Tech #46. Collection Tools  
Design Article Database in Pinterest, Jenny Webeck  
https://www.pinterest.com/jennifertwebeck/emerging-learning-technologies/

Tech #47. Backchannel Chat  
(TodaysMeet)  
https://todaysmeet.com/  
R678_Emerging_Learning_Technologies  
https://todaysmeet.com/R678_Emerging_Learning_Technologies

Tech #48. Virtual or Augmented Reality Training  
(Web-based Land Navigation Trainer Tutorial)  
http://www.youtube.com/watch?v=S-WY9haoGU  
See article: http://www.defensenews.com/article/20130619/TSJ/306190025/Land-Nav-Masses

Tech #50.
Mobile Health (bio sensors)
7 new smartphone features that will help define your future
February 23, 2014, Stewart Wolpin, CNN
hpt=hp_t3

Bonus: September 16, 2014
Panipat Teen Develops Device to Convert Breath Into Words, NDTV

How do you now view the instructor in this more Open World?

Poll #7:
Instructor as Course Ambassador?

Poll #8:
Instructor as Curator?

October 21, 2014
Teaching and the University of Tomorrow.
Chronicle of Higher Education, Kelly J. Baker

Poll #9: How many ideas did you get from this talk?

1. 0 if I am lucky.
2. Just 1.
3. 2, yes, 2...just 2!
4. Do I hear 3? 3!!!!
5. 4-5.
6. 5-10.

Poll #10: Any Questions?

😊 Slides at: TrainingShare.com
Papers: PublicationShare.com
Book: http://worldisopen.com/
Email: curt@worldisopen.com