Education 3.0: My, Our Learning World is Changing!

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Poll #1:
Are you interested in Education 3.0?
A = Yes
B = No
C = Not sure

Poll #2:
Read any good books lately?
A = Yes
B = No

Nine Books About Education 3.0

1. Invent to Learn: Making, Tinkering, and Engineering in the Classroom
Sylvia Libow Martinez & Gary Stager (2013)
http://www.inventtolearn.com/

Invent to Learn: Making, Tinkering, and Engineering in the Classroom
Sylvia Libow Martinez & Gary Stager (2013)
http://www.inventtolearn.com/

Using technology to:
• Making,
• Tinkering
• Repairing,
• Inventing,
• Customizing
– the things we need brings engineering, design, and computer science to the masses.
2. Finding Your Element: 
How to Discover Your Talents and Passions and Transform Your Life
Sir Ken Robinson and Lou Aronica (2013)
http://www.inventtolearn.com/

• Find your zone (deep in the throes of exploration and personal passion)
• Think differently (make fresh connections and analogies; avoid groupthink)
• Do something, develop your creative ideas
• Use your imagination, play with ideas
• Free and open exchange of ideas
• Encourage expression of personal ideas/feelings

3. Out of Our Minds: 
Learning to be Creative
By Sir Ken Robinson (2011)
http://www.inventtolearn.com/

4. Makers: 
The New Industrial Revolution (DIY Culture)
Chris Anderson (2012)
http://www.inventtolearn.com/

• People make products (and from home)
• Technology (e.g., 3-D printing) makes us all manufacturers
• Instant connections to potential customers
• Hold up things you personally design
• Desktop fabrication
• Do-it-yourself (DIY) industry

5. Drive: The Surprising Truth About What Motivates Us
Daniel Pink (2009)
RSA Animate:
http://www.youtube.com/watch?v=u6XAPmuF1c
http://www.ted.com/talks/dan_pink_on_motivation
http://www.danpink.com/books/drive/
Drive: The Surprising Truth About What Motivates Us
Daniel Pink (2009)

Motivation 3.0
- Freedom, challenge, purpose
- Creative, interesting, and self-directed work
- Intrinsic motivation
- Life as play and possibility
- Engagement and mastery
- Autonomy

6. The Highest Goal:
The Secret That Sustains You in Every Moment
http://creatinginnovators.com/

- Find real meaning
- Become a generative leader
- What makes you feel connected, motivated, sustained
- Travel your own path
- Go beyond passion and success
- Relate from your heart
- Turn fears into breakthroughs

7. Creating Innovators:
The Making of Young People Who Will Change the World
Tony Wagner (2012)
http://creatinginnovators.com/

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

8. Mindset:
The New Psychology of Success
Carol Dweck (2006)
http://mindsetonline.com/index.html
http://mindsetonline.com/testyourmindset/step1.php
**Mindset:**
The New Psychology of Success
Carol Dweck (2006)

- Growth vs. fixed (i.e., entity) theories of intelligence
- Intelligence is not fixed
- Practice, practice, practice
- Do not blame others
- Learning goals over performance goals
- Asks: What can I learn from this?
- Asks: How can I improve?

**9. Creativity, Inc.**
Ed Catmull, President of Pixat Animation and Disney Animation
http://www.creativityincbook.com/

- Give a good idea to a mediocre team, and they will screw it up. But give a mediocre idea to a great team, and they will either fix it or come up with something better.
- If you don’t strive to uncover what is unseen and understand its nature, you will be ill prepared to lead.
- It’s not the manager’s job to prevent risks. It’s the manager’s job to make it safe for others to take them.

**What’s unique about these 2 people on the left?**

**What skills do we need in the 21st Century?**

- The Seven Cs – 21st Century Lifelong Skills

<table>
<thead>
<tr>
<th>Seven Cs</th>
<th>Component Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Thinking and Doing</td>
<td>Problem-solving, Research, Analysis, Project Management, etc.</td>
</tr>
<tr>
<td>Creativity</td>
<td>New ideas, original, “good enough”</td>
</tr>
<tr>
<td>Collaboration</td>
<td>Teamwork, Integration, Effective Communication, etc.</td>
</tr>
<tr>
<td>Cross-Cultural Understanding</td>
<td>Diversity, Shared Identity, Knowledge and Organizational Cultures</td>
</tr>
<tr>
<td>Communication</td>
<td>Listening, Writing, Speaking, Non-Verbal Language, etc.</td>
</tr>
<tr>
<td>Computing and ICT Literacy</td>
<td>Effective Use of Information and Communication Tools</td>
</tr>
<tr>
<td>Career &amp; Learning Readiness</td>
<td>Managing Change, Lifelong Learning, and Career Adaptability</td>
</tr>
</tbody>
</table>

If you had to give a word or phrase to describe “21st Century Skills,” what would that word be?

1. Locate info, synthesize it,
2. Use and communicate effectively and ethically,
3. Evaluate products,
4. Producers and consumers of visual info,
5. Sensitive to bias and cultural differences,
6. Sets own goals,
7. Willing to make mistakes,
8. Comparison and contrast skills, inferencing skills,
9. Participate in a team, exercise leadership
10. Make decisions
Digital Literacy
(Bonk, June 2, 2007)

Digital literacy is the ability to browse, locate, filter, synthesize across, and eventually use information appearing in multiple formats and in a wide range of sources that can lead to communication of what one discovered as well as the production of still additional information. (Paul Gilster (1997), Digital Literacy.)

Poll #3:
Has Learning Technology Transformed your life?
A = Yes
B = No
C = Not sure

I. Learning is More Open
October 31, 2013
U.S. Teams Up With Operator of Online Courses to Plan a Global Network, Tamar Lewin, NY Times

From Seoul, South Korea, to La Paz, Mexico, Coursera is partnering with local institutions to create “Global Learning Hubs,” the company announced Oct. 31.

MIT OpenCourseWare (OCW)
http://ocw.mit.edu/index.htm

September 16, 2013
Rwandan Degree Program Aims for a ‘University in a Box’, Chronicle of Higher Education, Megan O’Neil
http://chronicle.com/article/Rwandan-Degree-Program-Aims/141631/

Students attend an orientation session at Kepler, a new hybrid program in Kigali, Rwanda, which will use MOOCs and classroom time to help students earn competency-based associate degrees.

October 31, 2013
The launch of OER: Towards free learning opportunities for all students worldwide, BC Campus (Canada)
April 20, 2014
Surging Seas, Climate Central
http://sealevel.climatecentral.org/
Climate changes visible by ZIP code with new online tools
Wendy Koch, USA Today

Global Forest Watch
http://www.globalforestwatch.org/map/3/-3.72/27.00/ALL/grayscale/loss/596

April 23, 2014
Shakespeare’s Dictionary? Skepticism Abounds
Chronicle of Higher Education, Jennifer Howard
http://shakespearesbeehive.com/barets-alvearie

January 2014
II. Learning is More Online
Grade Change: Tracking Online Education in the United States, 2013,
http://sloanconsortium.org/publications/survey/grade-change-2013
Direct connect: http://www.onlinelearningsurvey.com/reports/gradechange.pdf

February 2014
IU Online Enrollments (at least one class online)
http://public.tableausoftware.com/views/Students-AtLeastOneOnlineClass/Dashboard-AtLeastOne?:embed=y&:display_count=no

January 2014
III. Learning is More Massive
Designing for Experiences: Principles for Technology Transformation,
Aaron Doering, U of Minnesota
http://lt.umn.edu/nexted/
November 4, 2012
Udemy (professors create own courses) (e.g., “Planning Your Online Course”)
https://www.udemy.com/courses/

January 2014
Direct Connect: http://www.onlinelearningsurvey.com/reports/gradechange.pdf

August 18, 2013
Virtual U: Master’s Degree Is New Frontier of Study Online
Tamar Lewin, The New York Times
http://www.nytimes.com/2013/08/18/education/masters-degree-is-new-frontier-of-study-online.html?_r=0

September 18, 2013
MIT Will Offer MOOC Curricula, Not Just Single Courses, on edX, Steve Kolowich, Chronicle of HE

But who’s taking these MOOCs?
February 20, 2014
Harvard and MIT Release Visualization Tools for Trove of MOOC Data,
Lawrence Biemiller, Chronicle of Higher Education
Where are they located?
MIT Office of Digital Learning
(visualization tools)
http://odl.mit.edu/mitx/insights/world-map-enrollment/
All MITx Offerings (All Time)
Estimated Registration by Country as of February 10, 2014

At what age?
HarvardX
(visualization tools)
8. World map of age composition
https://harvardx.harvard.edu/harvardx-insights

May 18, 2014
Harvard goes all in for online courses
The Boston Globe, by Marcella Bombardieri

What about gender?
HarvardX
(visualization tools)
4. World map of gender composition
https://harvardx.harvard.edu/harvardx-insights

What about their level of education?
MIT Office of Digital Learning
(visualization tools)
http://odl.mit.edu/mitx/insights/world-map-education/composition/
All MITx Offerings (All Time)
Estimated Worldwide Completed Education Level as of February 10, 2014

April 21, 2014
The Revolution Is Not Being MOOC-ized, Students are educated, employed, and male.
Gayle Christensen and Brandon Alcorn, UPenn, New Scientist
https://www.slate.com/articles/health_and_science/new_scientist/2014/03/mooc_survey_students_of_free_online_courses_are_educated_employed_and_male.html

Filipino youths go online at an Internet café in Manila on Feb. 18, 2014. Two-thirds of Coursera participants come from the developed world, according to a new report.
Do they finish?
MIT Office of Digital Learning (visualization tools)

MITx will offer MOOC curricula, not just single courses, on edX.

February 5, 2013
Bioelectricity: A Quantitative Approach, Duke University’s First MOOC

May 2013
MOOCs @ Edinburgh 2013 – Report #1

January 21, 2014
MITx Working Papers (research on MOOCs)

September 18, 2013
MIT Will Offer MOOC Curricula, Not Just Single Courses, on edX

Poll #4:
Why would you take a MOOC?
A = For fun
B = To get credit
C = To learn something new
D = Curious about it
E = See if you like a topic
Learning is Becoming More Global

March 26, 2014
Global Collaboration Projects that Go Way Beyond Skype (e.g., Flat Connections project)
By Stephen Noonoo, THE Journal

Flat Connections
Welcome to Flat Connections - Learning about the world, with the world
http://www.flatconnections.com/

TakingITGlobal
https://www.tigweb.org/about/

Round Square
http://www.roundsquare.org/who.php

May/June 2014

Bringing the World to the Classroom through Videoconferencing and Project-based Learning
By Susan B. Hopper, University of North Texas
Center for Global Education
Terry Godwaldt, founder and director of the Centre for Global Education, located at the Queen Elizabeth High School in Edmonton, Alberta, Canada
http://tcge.tiged.org/

World Savvy
(global competency matrices)
http://worldsavvy.org/

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

Poll #5:
Learning is more?
A = Mobile
B = Video based
C = Massive
D = Collaborative
E = Open
F = Global
G = Online

April 15, 2013
World will soon be “Webified”
Google boss: Entire world will be online by 2020,
Doug Gross, CNN

September 2013
Google Wi-Fi from the Sky,
Steven Levy, pp. 126-131, Wired
http://www.wired.com/gadgetlab/2013/08/google-x-project-loon/
March 30, 2014
All Things Drones, CNN
Facebook unveils technology to bring the internet to everyone. CNN's Ralitsa Vassileva reports.)


July 16, 2013
"Golden Era of Learning”
Bill Gates Discusses MOOCs at Microsoft Research’s Faculty Summit

My dog is content....

I am not Content!!!
Global Ed Issue of the Past Decade: Free and Open Access to Education (e.g., OER, OCW, MOOCs)

For example, January 2014 MOOC on Climate Change, from the World Bank
https://www.coursera.org/course/warmerworld

April 27, 2014
Coursera, Global Translator Community, Chronicle of Higher Education
https://www.coursera.org/about/translate

Coursera seeks to create a ‘Global Translator Community’

April 30, 2014
New Learning Hubs Locations Hosted by The New York Public Library and Seven Other International Partners, Coursera Blog
http://blog.coursera.org/post/84322385012/new-learning-hubs-locations-hosted-by-the-new-york-

Coursera Learning Hubs
https://www.coursera.org/about/programs/learningHubs

May 31, 2014
Revolutionizing online education
Professor creates courses tailored to cultural differences, Korea JoongAng Daily, KIM BONG-MOON (bongmoon@joongang.co.kr)
http://www.joongang.co.kr/List.aspx?command=view&page=497&sec=0&category=0&title=Revolutionizing-Online-Education

Professor Auh Yoon-il of Kyung Hee Cyber University explains the upcoming Kyung Hee MOOC 2.0 in an interview with the Korea JoongAng Daily at Kyung Hee University on Wednesday. (‘one culture’ or ocMOOCs and hMOOCs)

July 8, 2013
"It is never too late to start again" - A Syrian Doctor’s 25 Courses, Mahmud Angrini is a Syrian Medical Doctor, Coursera Blog
https://www.coursera.org/post/45893006665/it-is-never-too-late-to-start-again-a-syrian-doctors-25-

"It is never too late to start again" - A Syrian Doctor’s 25 Courses,
Mahmud Angrini is a Syrian Medical Doctor, Coursera Blog
http://www.coursera.org/post/45893006665/it-is-never-too-late-to-start-again-a-syrian-doctors-25-

This is a picture of my devastated neighborhood in Syria.
January 27, 2014: Maybe it is not so open!
Coursera Support Center,
Why is my country blocked?
Online education platform Coursera blocks students in Syria and Iran, Wamba, by Nina Curley

What about the Instructor in the Open World?

A Dozen “C” Metaphors of Instructors (e.g., “Cat Herders”)

1. Instructor as Credit Manager

2. Instructor as Court Room Judge
3. Instructor as Counselor

4. Instructor as Consultant

5. Instructor as Conductor

6. Instructor as Course Ambassador

7. Instructor as Curator

8. Instructor as Concierge
9. Instructor as Camping Trip Guide

10. Instructor as Cultivator

How About Instruction as a Cognitive Apprenticeship?

Why Education 3.0?
(Global Education Leaders Program (GELP))
http://gelponline.org/

- Globalization
- Demographic Shifts
- Technological Revolution
  - Transfer of ownership to students
  - Collaborative learning technologies
  - Holistic change in complex and interdependent system
  - Higher-order thinking focus

Why Education 3.0?
(Global Education Leaders Program (GELP))
http://gelponline.org/
http://gelponline.org/resources/gelp-film
Education 3.0: 'Learning Psychology’—Embracing Better Ways to Teach
Jeff Borden, Pearson, October 28, 2013

- Calculations (active)
- Compelling questions
- Communication of results
- Critical Thinking
- No single theory, report, or strategy (Vygotsky + McGonigal + Mezirow + Knowles + Pink + Gardner + Wiggins + Etc.)

Education 3.0: Embracing Technology to Jump the Curve
Jeff Borden, Pearson, September 24, 2013

- Opportunities for creativity
- Outcomes
- Big data visualization
- Personalization
- On-demand reports
- Machine learning (technology used to empower)

From Tinkering to Tottering to Totally Extreme Learning...

Tinkering

“TINKERING

“I'm a thinker, therefore I tinker!”

Tinker #1. Supplemental Lectures (e.g., Academic Earth)
You Want Totally Extreme?
Apple's new 'spaceship' campus: What will the neighbors say?, Doug Gross, CNN, May 22, 2012

Totally Extreme #1.
iPod Learning from MIT OCW
(e.g., Wendy Ermold, University of Washington)

Totally Extreme #2.
Blogging Field Archeology Research
(e.g., Lily Henry Roberts, UCLA digging in Hope, BC, Stó:lō First Nation people from 12,000 years ago)

Totally Extreme #5.
Online Learning Polyglots
Timothy posts videos of himself speaking several languages on YouTube.
Where are we headed?

1. Mobile Video Connections to Experts and Friends

2. Expert Access from Our Watches

3. Interactive Globes (e.g., NY Times Interactive Photo Globe)

4. Google Glass: Freaky, geeky toy aims to save lives

6. Mobile MOOCs
   May 5, 2014
   New platform challenges conventional MOOCs
January 27, 2014
What’s next for MOOCs?
TED talk, posted by Thu-Huong Ha
http://blog.ted.com/2014/01/27/whats-next-for-moocs/

First Some Summer PD... a MOOC?
Starts May 27, 2014 (in Coursera)
MOOC: ICT in Primary Education:
Transforming children’s learning across the curriculum
https://www.coursera.org/course/ictprimary
Instructors: Professor Diana Laurillard and others at the University of London Knowledge Lab in joint collaboration with the UNESCO Institute of IT in Education.

Some more Summer PD... another MOOC?
Starts June 2, 2014 (in Coursera)
Programming for Everyone
Chuck Severance, University of Michigan
https://www.coursera.org/course/pythonlearn

Still some more Summer PD?
June 2, 2014
Understanding Research Methods,
Coursera, University of London
https://www.coursera.org/course/researchmethods

December 13, 2013
Former MIT president Charles M. Vest dies at 72
As the Institute’s leader from 1990 to 2004, he sparked a period of dynamism.
Steve Bradt, MIT News Office

Who is Content Now?
Website: www.Extreme-Learning.com
Slides at: TrainingShare.com
Book: http://worldisopen.com/
Dr. Curt Bonk – CJBonk@Indiana.edu