Personal Learning Versus Personalized Learning - Making Lifelong Learning Happen

Stephen Downes Online Learning 2019 October 10, 2019, Toronto, Canada



Abstract

• This presentation draws a contrast between the concept of 'personalized learning', as exemplified in new learning technologies such as adaptive learning, and the concept of 'personal learning', which draws from a tradition of adult learning theory and heutagogy. Contrasting starting points, objectives, learning processes and forms of evaluation are identified. The article then considers strategies to implement personal learning in the form of support for lifelong learning, and contrasts this approach with the prevalent model governing educational institutions, and casts it as a means to address ongoing issues of access and sustainability.

Background

- How do I learn?
- What is my evidence?
- Who am I talking to?
- What counts as success?



The concept of personalized learning





Recommender Systems



Extensional information

Image: Jie Lu, 2004. Framework for personalized learning recommender system. P. 376

Learning Path Recommendation



Image: Bitnine Global, Inc. (2019). Personalized learning path recommendation.

Adaptive learning

Source: Australian Curriculum, Assessment, and Reporting Authority (ACARA) (2014). Reproduced with permission³.

Image: via Wyatt-Smith, et.al., 2019.

Empirical Bases

Image: Simon Kassel . Predicting Building Code Compliance with Machine Learning Models. https://www.azavea.com/blog/2017/09/21/building-inspection-prediction/

Implementation in Technology and Learning Systems

Image: Getting Smart.

https://www.gettingsmart.com/2015/09/knewton-brings-adaptive-and-personalized-learning-to-the-masses/

Criticisms of Personalized Learning

- Personalized learning is ineffective
- Personalized learning depersonalizes learning
- Personalized learning systems depend on surveillance and violates personal privacy

Four principles of andragogy, Knowles 1984 https://knowlestheories.weebly.com/principles-of-andragogy.html

- Learning when the learner is ready
- Requires the learner to move beyond knowledge and
- Learner does not depend solely on the teacher
- Learning is focused on the student not on a syllabus

The principles of <u>heutagogy</u> as outlined in <u>Hase and Kenyon (2013)</u> Image: Eachempati , et.al. Heutagogy through Facebook for the Millennial learners <u>https://www.mededpublish.org/manuscripts/1268</u>

Informal Learning

Time of	Implicit	Reactive	Deliberative
focus	learning	learning	learning
Past	Implicit	reflection	Discussion
episode(s)	linkage		and review
Current	episodic	Asking;	Engagement
experience	memory	observing	
Future	Unconscious	Recognition	Planning;
behaviour	expectations		rehearsing

(Eraut, 2004, p. 250)

Personal vs Personalized Learning

Starting Points and Goals

Image: Via Donald Clark: http://www.nwlink.com/~donclark/hrd/bloom.html

An example matrix that has been filled in might look something like this:

The Knowledge Dimension	Remember	Under-stand	Apply	Analyze	Evaluate	Create
Facts	list	para-phrase	classify	outline	rank	categorize
Concepts	recall	explains	show	contrast	criticize	modify
Processes	outline	estimate	produce	diagram	defend	design
Procedures	reproduce	give an example	relate	identify	critique	plan
Principles	state	converts	solve	different-iates	conclude	revise
Meta-cognitive	proper use	interpret	discover	infer	predict	actualize

Image: Via Donald Clark: <u>http://www.nwlink.com/~donclark/hrd/bloom.html</u>

Assessment: Gap vs Iteration

Curtis, et.al. (2012). Development of evidence management and gap analysis tools for continuous improvement of engineering programs . American Society for Engineering Education. https://images.app.goo.gl/3XXtbRZ8KPxSHuRD8

Image: Jeff Patton. (2015). Common Agile Practice Isn't for Startups. https://www.jpattonassociates.com/common-agile-isnt-for-startups/ Requirements vs Affordances

Affordance as action possibility

Image: McGrenere & Ho. (2000). Affordances: Clarifying and Evolving a Concept. http://graphicsinterface.org/wp-content/uploads/gi2000-24.pdf

Assessments

Learning as a cognitive phenomenon

Image: Elsbeth Stern. (2017). Individual differences in the learning potential of human beings. npj Science of Learning volume 2, Article number: 2. https://www.nature.com/articles/s41539-016-0003-0

assessment as remembering vs capability

Nikola K.Kasabov. (2014). Evolving connectionist systems for adaptive learning and knowledge discovery: Trends and directions. Knowledge-Based Systems Volume 80, May 2015, Pages 24-33 https://doi.org/10.1016/j.knosys.2014.12.032

Assessing a physicist:

• Do they know a certain body of information

VS

- Do they see the world the way a physicists does?
- Do they ask the same sorts of questions? Use words the same way?
- Do they accept the same sort of evidence to change their beliefs?
- Can they do thing physicists can do?
- Have they actually done physics and shared the results?
- Would other physicists *recognize* them as a physicist?

Making Lifelong Learning Happen

The online host-provider framework

Learner

- Sets own objectives
- Selects learning resources

Education Provider

- Subject Matter Experts
- Assessment services

Host

- Local to learner
- Advocacy for learner
- Coaching and subbort
- Community

Aboriginal Financial Officers Association of Alberta and Athabasca University's BComm project

• "we assembled an instructional team including the professor and the indigenous mentor (Robert in this case). And we created a psychologically safe environment, away from the 'norm', an off-site locaton where the mentor and professor could come together with the students so they could create a learning community."

https://business.athabascau.ca/news/creating-opportunities-for-indigenous-learners/ https://halfanhour.blogspot.com/2019/10/teaching-and-learning-in-digital-age.html

Community Learning Centres

29 WTD Ottawa Shopify Meetup OCT.

Image: Google Events

https://www.google.com/search?client=firefox-b-d&q=shopify+ottawa+meetups&ibp=htl;events

Prevents individuals "falling through the net"

Overcomes the fragmentation of services

Helps individuals in need to build up trust with professionals Ensures accessibility (e.g. for minority groups)

Strengthens the role of families

and communities and

their contribution in education

Provides flexibility (to select support services needed)

Image: P. Downes, 2019

Multidisciplinary Teams

Found a *lot* of cases here from medical education - eg.

https://www.researchgate.net/publication/11857303 Interdisciplinary Health Professional Education A Historical Review (Lavin, et.al., 2001) Also Engineering (eg. CDIO seminar: Towards agile, interdisciplinary and individualised engineering education

http://cdio.org/meetings-events/cdio-seminar-towards-agile-interdisciplinary-and-individualised-engineering)

Outreach and Advocacy

Eg. Paul Hunter, IMD App -

- knowledge nudge where you receive fresh and relevant learning nuggets
- empathy nudge we reach proactively to people anticipating their pain points implementing changes back at work
- reminder nudge highlighting deadlines and commitment points
- network nudge staying in touch with the network in the course

Paul Hunter. (2019). Digital Learning 4.0: How to Guarantee Measurable Learner Impact Where Others Have Failed. Summary: https://halfanhour.blogspot.com/2019/10/digital-learning-40-how-to-guarantee.html

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Staples Canada opens the Working and Learning Store concept in Oakville

Staples, Cision, 2019/10/08

It was just an off-hand comment by a panelist at the conference, but it led me to this, a fascinating new initiative from Staples. "Start-ups, small businesses and students can access the innovative and collaborative workspace, featuring beautiful lounge spaces, community kitchens, private and shared offices, and meeting rooms fully equipped with modern office furniture and state-of-the-art technology to meet the needs of the ever-growing start-up community." <u>More coverage</u> from late last year. <u>Even more</u> (which calls it 'incredible').

Web: [Direct Link] [This Post]

Psychodata Ren Williamson, Code Acts in Education, 201

Ben Williamson, Code Acts in Education, 2019/10/08

Ben Williamson's min point here is that "Social-emotional learning sounds like a progressive, child-centred agenda, but behind the scenes it's primarily concerned with new forms of child measurement." Because there isn't sufficient knowledge of "what works" in these areas, the focus has been on collecting and analyzing data (this will probably be the case for any future discipline, I would say). Williamson offers 'six main points' in this article that focus on the size and value of the SEL market, policy moves, and "a wider political context where psychology and economics have become dominant forms of expertise in contemporary governance." Good article.

Web: [Direct Link] [This Post]

https://www.downes.ca/news/OLDaily.htm

• A company the size of NRC should have a daily newspaper

The role of the advocate in programs like Athabasca University's BComm program being offered in collaboration with the Aboriginal Financial Officers Association of Alberta.

- This program layers in-person community support over more traditional self-paced BComm courses.
- Along with the instructor there is a student mentor who can intervene on behalf of students, step them through the work involved in navigating the University's online offering and services, and help provide culturally-specific advice and support.

(Andrews, Hurst & Lightning, 2019).

Intergenerational Learning

Example: NRC IRAP YEP - Youth Employment Strategy Programs

Approximately 2,400 graduates received a YEP internship worth \$15K - \$30K on average, between 2006-07 and 2010-11.

https://nrc.canada.ca/en/supporttechnology-innovation/nrc-irap-fundinghire-young-graduates

Via: https://guides.co/g/your-ultimateguide-to-innovation-funding-westerncanadian-edition/25744

Image:

Imagined by a GAN (<u>generative adversarial network</u>) <u>StyleGAN</u> (Dec 2018) - <u>Karras</u> et al. and Nvidia <u>Original GAN</u> (2014) - <u>Goodfellow</u> et al.

https://thispersondoesnotexist.com/

Working Out Loud

Image: <u>https://workingoutloud.com/about-2</u>

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Outline <	competency is the capability to apply or use a set of related knowledge, skills, and abilities required to successfully perform 'critical work functions' or tasks in a defined work setting." (Ennis, 2008, pp. 4-5)	^		
Note to readers and commenters:	Whether defined as a learning objective or as a competency, the starting point in these cases defines a body of content that the learner is expected to acquire, whether some piece of			
Personal Learning Versus Person	knowledge, an attitude, a skill or competency. It is defined by the learning institution or authority in question, which also sets the standards for the measurement of a performance that signifies mastery of this content			
Background	These may be contrasted with the description of a task or goal as set by the learner in question.			
What is Personalized Learning	example, Katie Martin (2018) writes, "Just think how you might begin to make the changes and the impact you desire in school if instead of statements like, "If they would have," you started	Monica Suleci Resolve		
The concept of personalized	asking, "How might I…?" This is what is referred to by psychologists as the locus of control or the extent to which people believe they have power to influence events in their lives."	Thank you for sharing your prep doc, Stephen. The title of your presentation		
Recommender Systems	Not that any of this is new "Conventional training departments are set up to "cascade" training	is a verv needed topic for discussion. To Show more		
Empirical Bases	modules throughout the company but are, by and large, not prepared to assist large numbers of employees with the highly individualized career preparation many forward-looking employees	Stephen Downes 10:47 AM Oct 6 Agreed		
Implementation in Technolog	now desire. Whatever learning needs to happen for getting work done at the front line — on production floors, in sales, or in customer service — often is not generated, or even recognized			
Knewton	Via <u>https://jarche.com/2019/10/from-training-to-learning-2/</u>			
Alt School				
ASU				

https://obspraiget.com/walcoma

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		Stream key Select stream key Auto-generated key Stream name/key (paste in encoder) Stream URL rtmp://x.rtmp.youtube.com/live2 Backup server URL rtmp://y.rtmp.youtube.com/live2?backup=1	Additional settings Enable DVR 360° video Added delay COPY None COPY Closed captions		Stephen Downes Say something O/200
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← Personal Learning Versus Perso...

Networks in learning (vs the elite institute)

- The major value proposition offered by top tier universities isn't knowledge. This is available anywhere.
- Nor is it even top-flight professors. Great teachers and researchers can be found in institutions large and small around the world.
- No, the value proposition is access to the network of contacts, influencers, and collaborators. Access to networks matters, and it's this gap that isn't addressed in education reform programs ignore, to the detriment of participants.

Complementarity between formal and non-formal education systems

Yongrong Xin, Xiuping Zuo, Qingping Huang. (2018). Research on the construction of seamless learning platform based on open education. Asian Association of Open Universities Journal. https://www.emerald.com/insight/content/doi/10.1108/AAOUJ-01-2018-0005/full/html

Example: Supporting learning and cooperation between innovative schools: Finland

The 'Lighthouse' project is a national, developmental network that aims to: a) support and increase common learning and cooperation between schools in regional and national level; b) encourage goal-oriented development and experimentation, andc) help to share the new pedagogical approaches and innovation as a result of developmental actions

The formal education system as a resource network feeding into the informal system

ET2020 Working Group Schools. (2018). Networksfor learning and development across school education. European Commission. https://www.schooleducationgateway.eu/downloads/Governance/2018-wgs5-networks-learning_en.pdf

Martin Weller: "Open universities across the world have been operating large scale, open, equitable learning for decades."

My response. I write, "the cost of educational labour is what makes it so expensive... (but) The connectivist approach is to do whatever can be done to help students perform this labour themselves."

https://www.downes.ca/cgi-bin/page.cgi?post=69410

Agency

Cases

Concluding Remarks