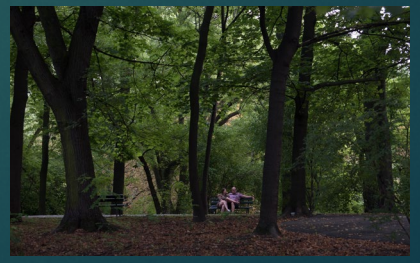
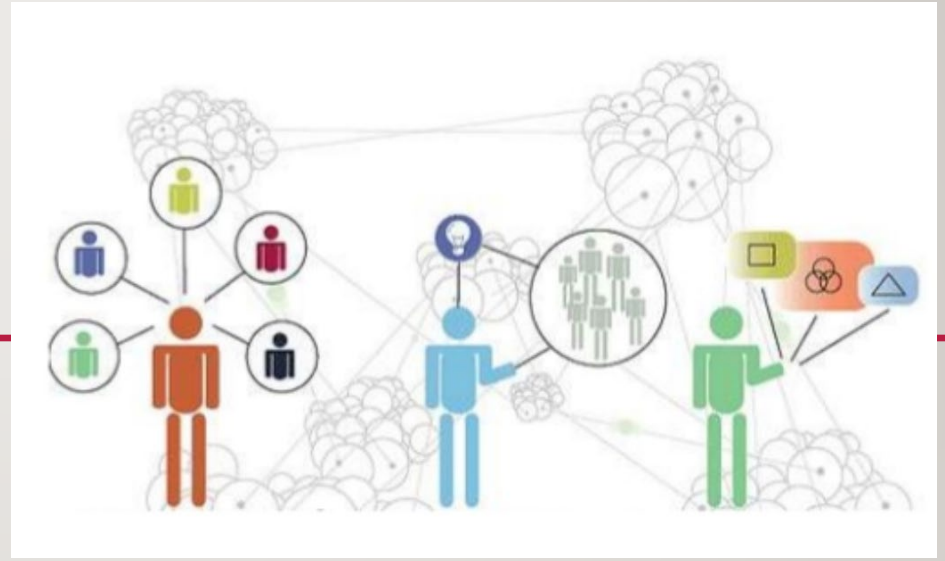
Topics in Connectivism

STEPHEN DOWNES
WARSAW, POLAND
AUGUST 28, 2017



Open Networks

CURRENT WORK



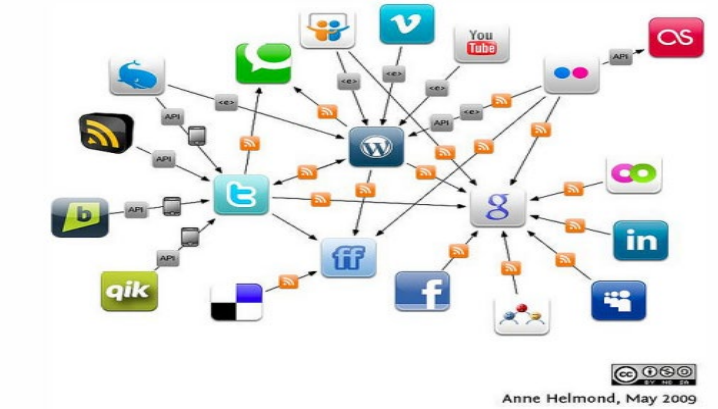
- Elearning Landscape – TBA
- Future of eLearning – TBA
- Canada School of Public Service - http://www.csps-efpc.gc.ca/index-eng.aspx
- CASS - https://www.adlnet.gov/introducing-the-next-big-thing-cass/
- MOOCs – yes, still – http://www.federica.eu/c/connectivism_and_learning http://candl.mooc.ca
- MOOC Aggregation Engine – http://www.mooc.ca
- Personal Learning Environments – gRSShopper in a Box – http://grasshopper.downes.ca
- Connectivism - https://www.slideshare.net/CatherineFarrant/connectivist-learning-theory

MOOCS

- True History of the MOOC - https://sites.google.com/site/themoocguide/home
- cMOOC and xMOOC - http://www.tonybates.ca/2014/10/13/comparing-xmoocs-and-cmoocs-philosophy-and-practice/
- FutureLearn - https://www.futurelearn.com/
- Personal Learning- http://www.downes.ca/presentation/380

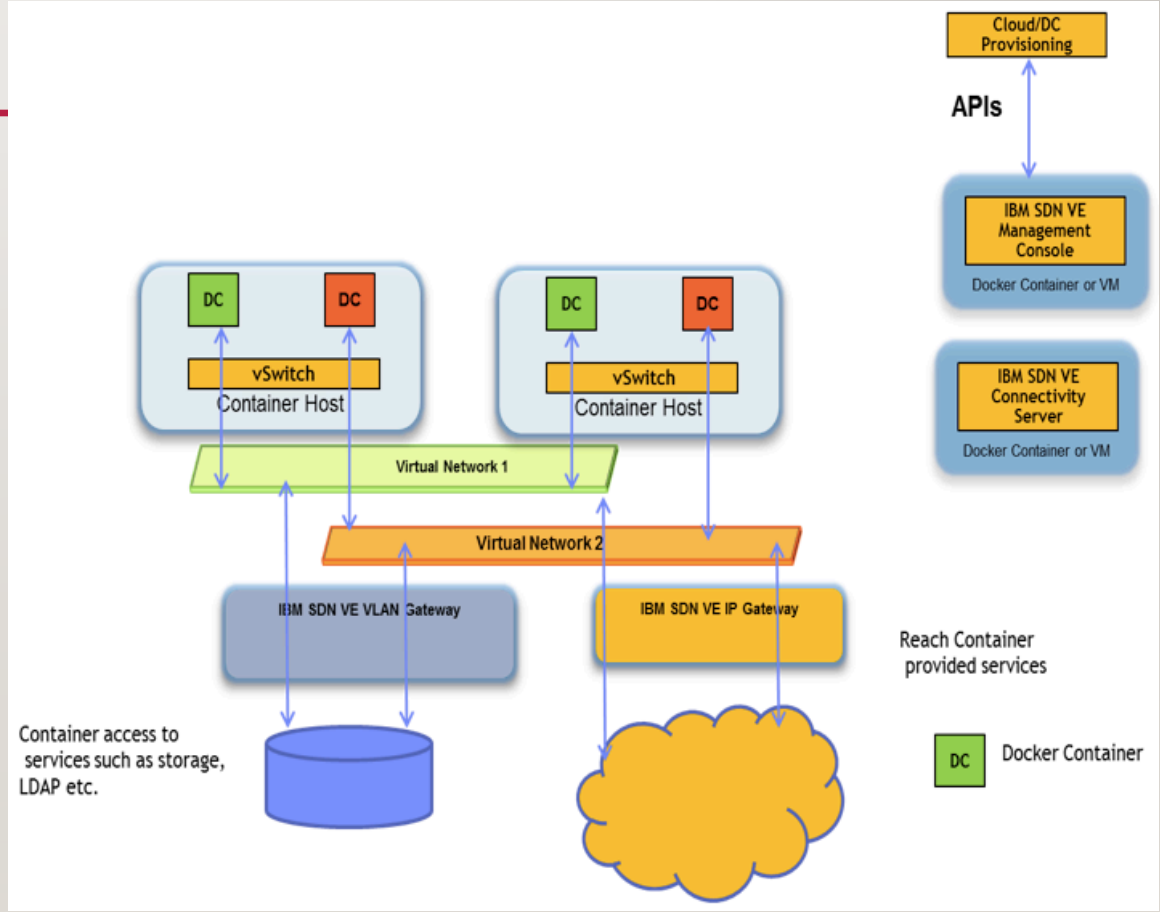
DISTRIBUTED SOCIAL NETWORKS

- Opera Unite - http://mashable.com/2009/06/15/opera-unite/
- Mozilla OS - https://www.npmjs.com/package/fxos-web-server
- Diaspora - https://www.joindiaspora.com/
- Solid - "social linked data“ - https://solid.mit.edu/
- Keybase - https://keybase.io/
- InterPlanetary File System (IPFS) - https://ipfs.io/



CLOUD INFRASTRUCTURES

- Environments: VMWare Fusion, VirtualBox
- Provisioners: Docker, Vagrant
- Configuration: Chef, Puppet
- Providers: AWS, MS Server
- Services: MS Cognitive, Wolfram Alpha, Segment
- Serverless CMS - http://www.downes.ca/post/66459



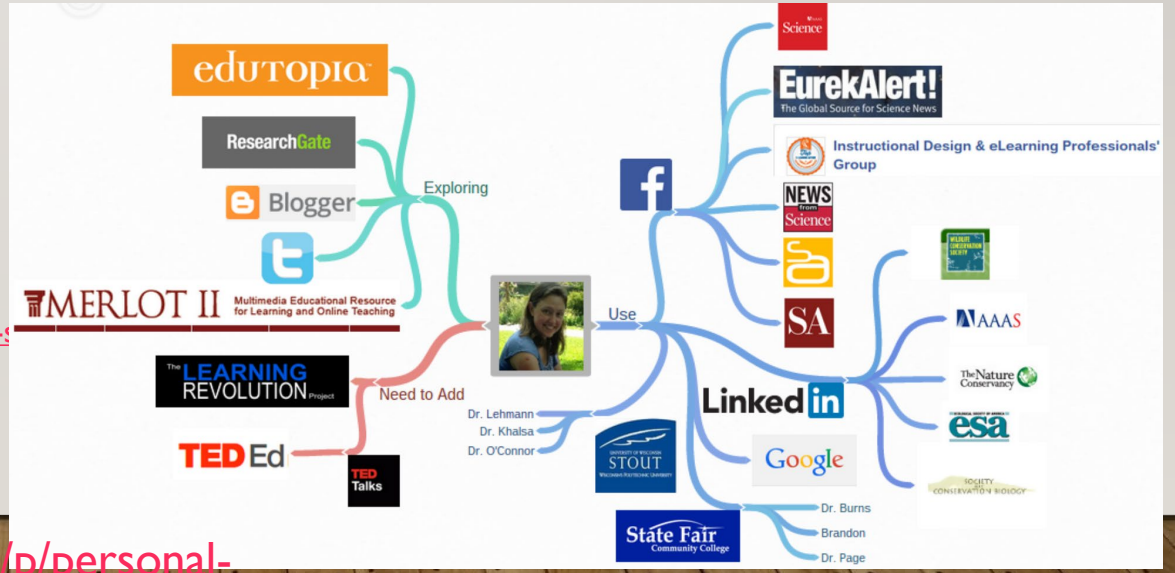
IMMERSIVE REALITY

- What is 'Immersive' – a VR helmet?
- Key element of immersion: belief
  - (authentic) applications that matter
  - social presence (cognitive presence, teaching presence) - https://www.mnsu.edu/its/academic/isalt_social_presence_theory.pdf
  - multi-modality – cognitive + kinesthetic, etc. - https://www.slideshare.net/jtholden/the-learning-styles-revelation-research-from-cognitive-science
- Games and Gamification?

PERSONAL LEARNING ENVIRONMENTS

- Resource Repository Network (Aggregation) - http://ec.europa.eu/ipg/standards/markup/web-content-syndication/index_en.htm
- Personal Cloud – Dropbox, OwnCloud, etc. https://owncloud.org/
- Personal Learning Record – Learning Record Store (xAPI) https://www.adlnet.gov/tla/
- Personal Learning Assistant
  - like Siri? Alexa?
- Distributed Intelligence – MLaaS

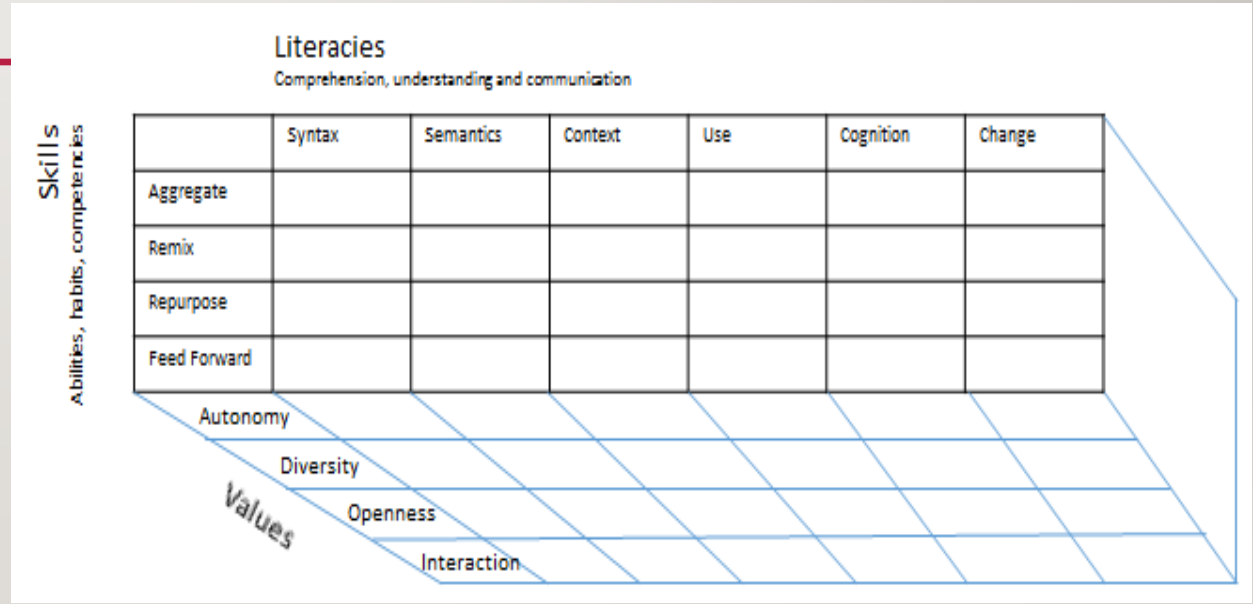
https://www.slideshare.net/KarlSeiler/mlaas-machine-learning-as-a-s



Heather Taft http://taftportfolio.blogspot.com/p/personal-learning-environment-ple.html

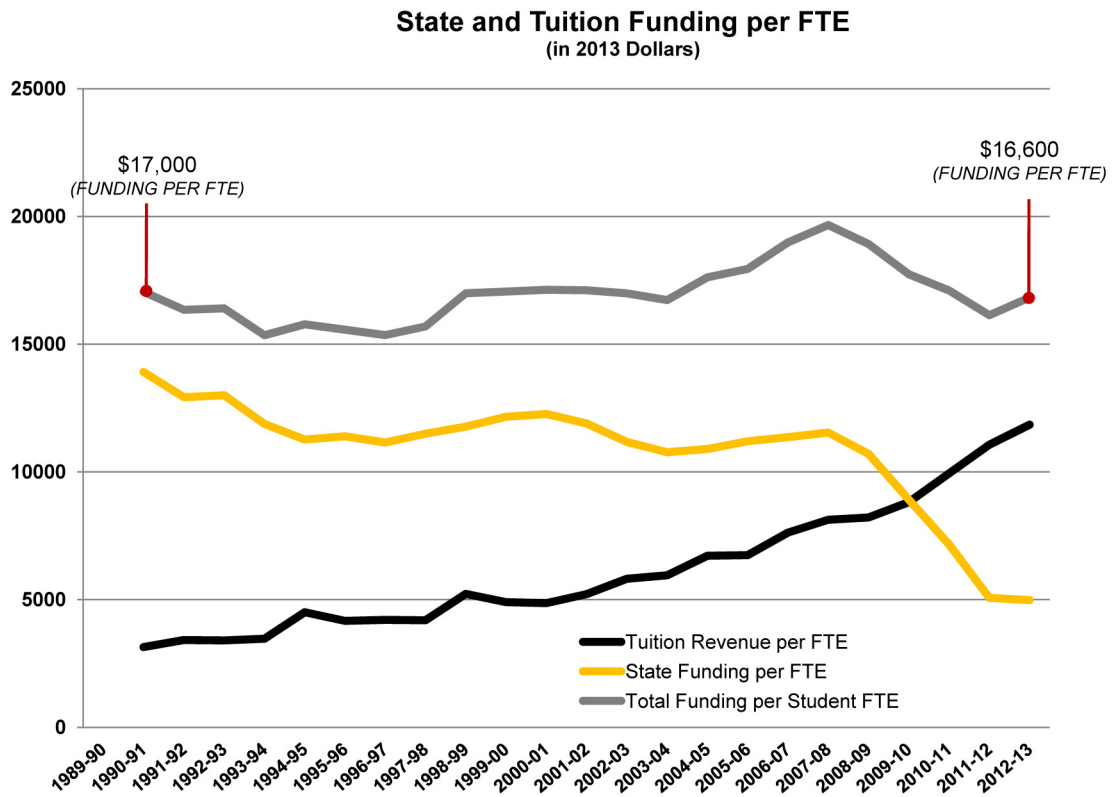
CHALLENGES TO LEARNING PROVIDERS

- Content Knowledge Vs. Literacies
  - Not just reading and writing…
  - http://www.downes.ca/presentation/369
- Employment skills Vs. Education
- Courses Vs. Performance Support
- Authority Vs. the Wisdom of Crowds
  - Autonomy, Diversity, Openness, Interactivity
  - Social Proof? https://en.wikipedia.org/wiki/Social_proof
- Credentials Vs. Learning Vs. Connections - http://er.educause.edu/articles/2015/3/credentialing-in-higher-education-current-challenges-and-innovative-trends



CHALLENGES TO EDUCATIONAL INSTITUTIONS

BURDEN SHIFTED TO STUDENTS AND FAMILIES



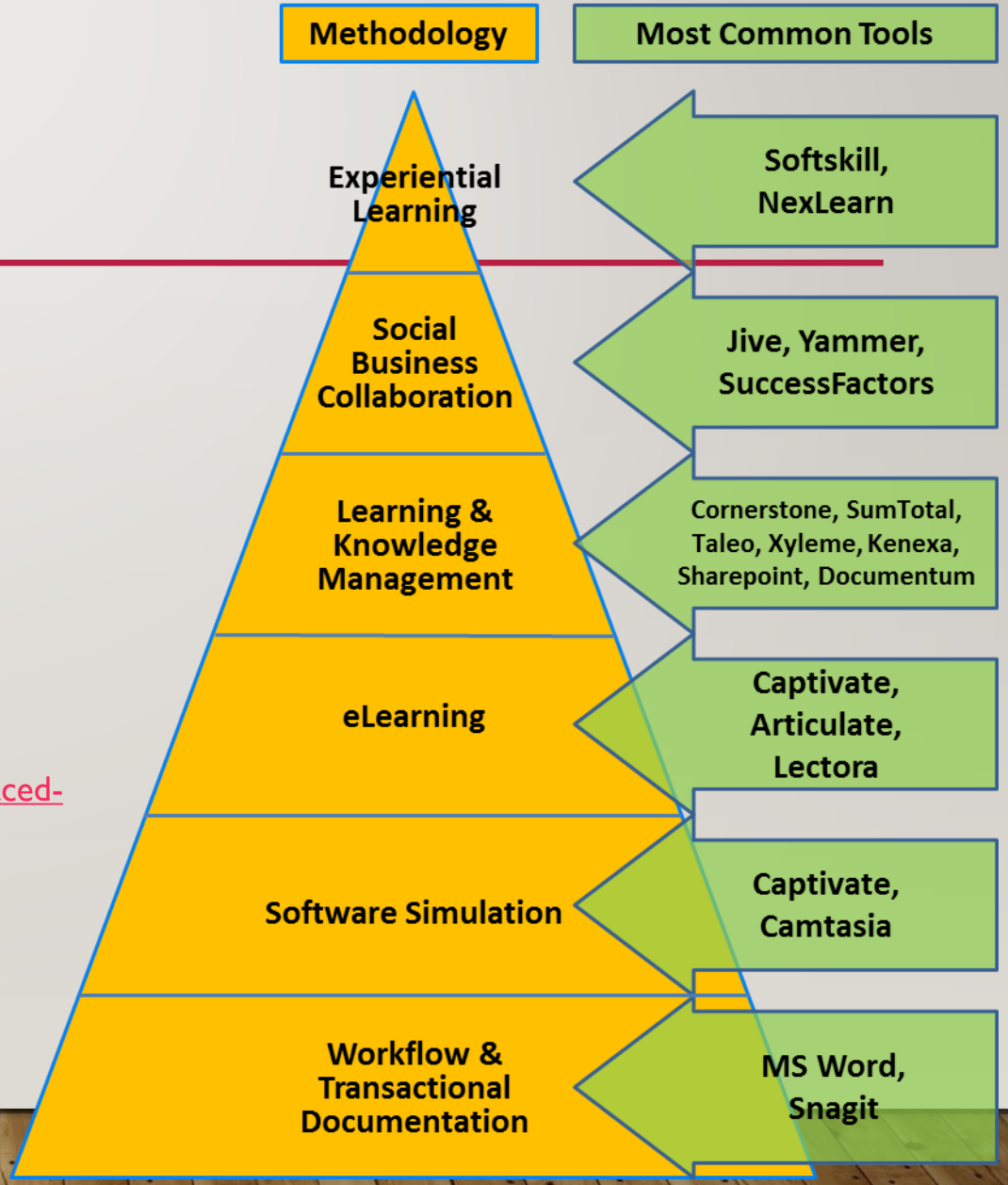
http://old.seattletimes.com/html/opinion/2018504888_guest25blakecole.html

- Public Education Vs. Private Sector
- Funding: Tuition, Grants, Reseach….?
- Enterprise Vs. Distributed?
- Federated Vs. Open? (Social signon Vs. Single Signon Vs. ??)
- Transcripts Vs. Blockchain Vs. ??

http://blockgeeks.com/guides/what-is-blockchain-technology/

MOVING FORWARD

- Competencies? Vs. Capabilities http://www.downes.ca/post/64879
- Badges? Vs. Evidence https://openbadges.org/
- Classes Vs. Performance Support http://www.nrc-cnrc.gc.ca/eng/solutions/collaborative/lpss.html
- Microlearning? Vs. Spaced Learning - https://www.td.org/Publications/Blogs/Science-of-Learning-Blog/2015/01/Spaced-Learning-an-Approach-to-Minimize-the-Forgetting-Curve
- Course Libraries? Vs. Subscription-based Learning - http://www.downes.ca/news/OLDaily.htm



http://epiloguesystems.com/about/

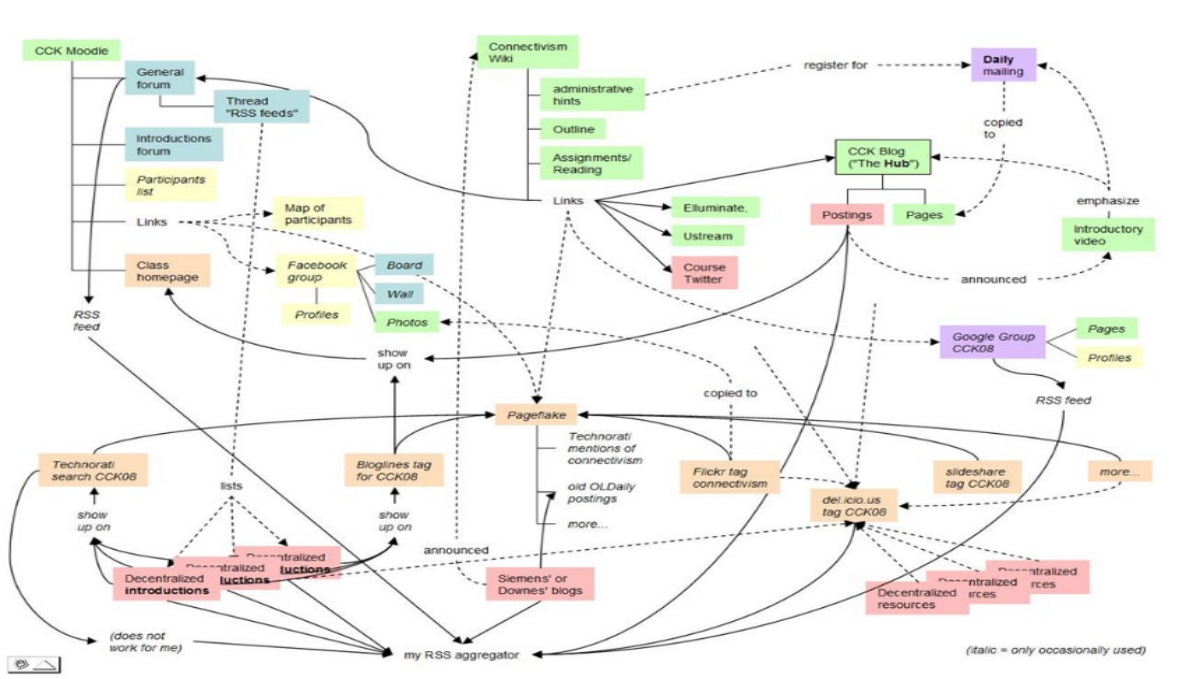
Personal Learning

NEW LEARNING PARADIGMS

Path	Field
Course	Curriculum (as in 'mapping')
Sequence / Prequisite	Core / periphery / foundation
Movement / covered	Inquiry / Discovery / Gaps
Threshold / Levels	Coverage / Construction
Positioning – first / last	Grouping / Clustering
Objective / target	Serendipity / emergence
Leading / Led	Centred

Carrie Paechter, Metaphors of Space in Educational Theory and Practice
http://www.tandfonline.com/doi/pdf/10.1080/1468136040020020 2

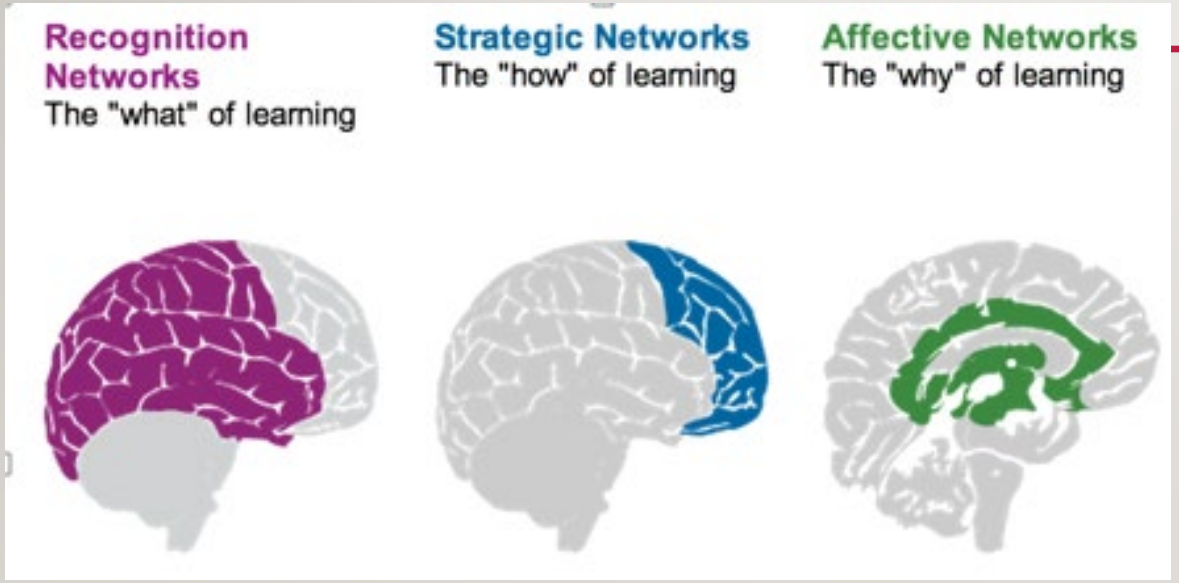
THE CONNECTIVIST MOOC (CMOOC) DESIGN



Instead of seeing a course as a series of contents to be presented, a course is a network of participants who find and exchange resources with each other

- An initial structure is developed and 'seeded' with existing OERs
- Participants encouraged to use their own sites to create or share resources
- A mechanism (gRSShopper) is employed to connect them

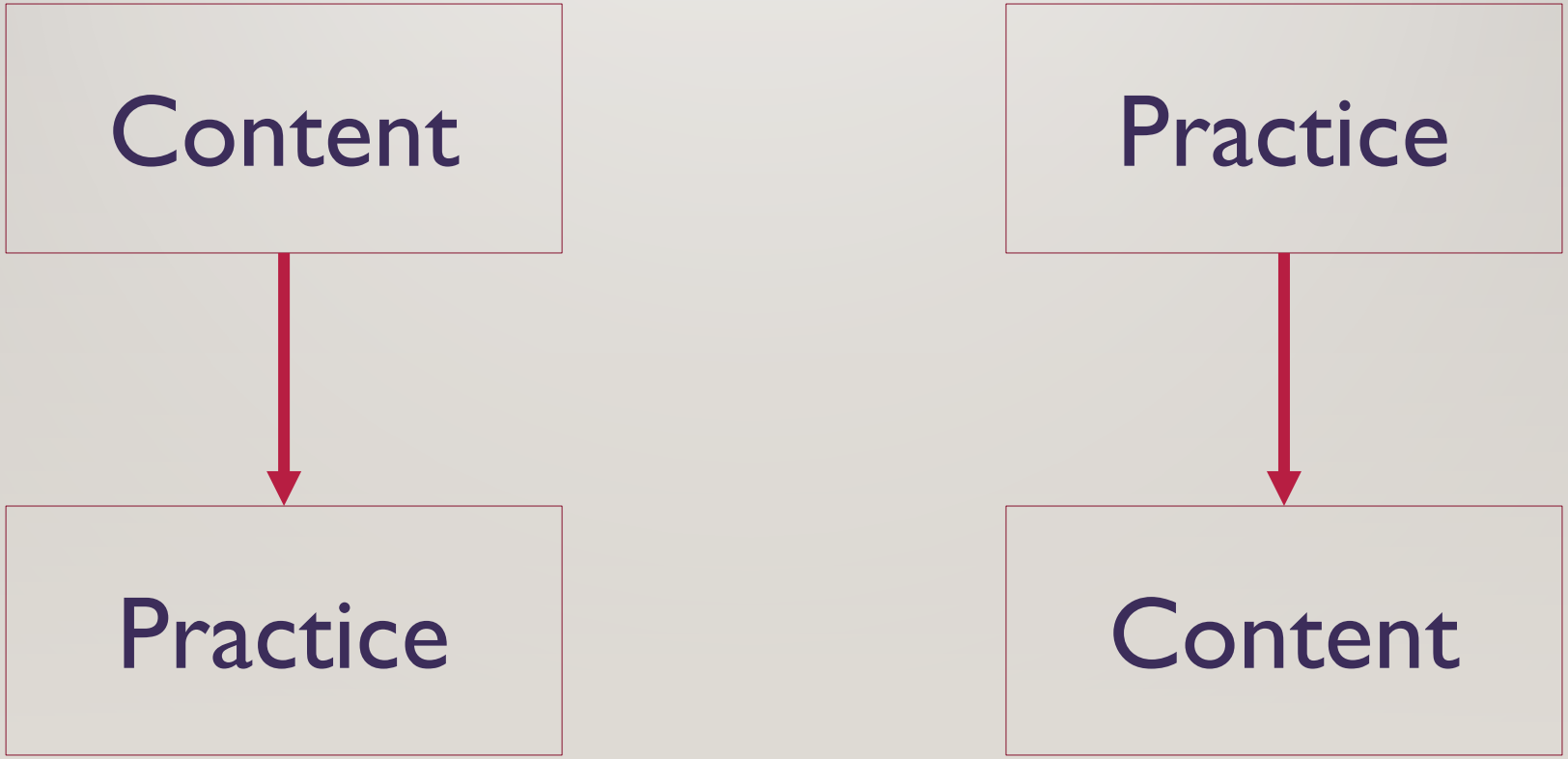
PERSONALIZATION



- What we learn
- How we Learn
- Why we learn

- Rules-Based Events (like notifications)
- User Models
- Adaptive Learning

TWO APPROACHES…



TWO APPROACHES…

Defines an ideal state

Content

Practice

TEST

Person tests you

Defines a desired state

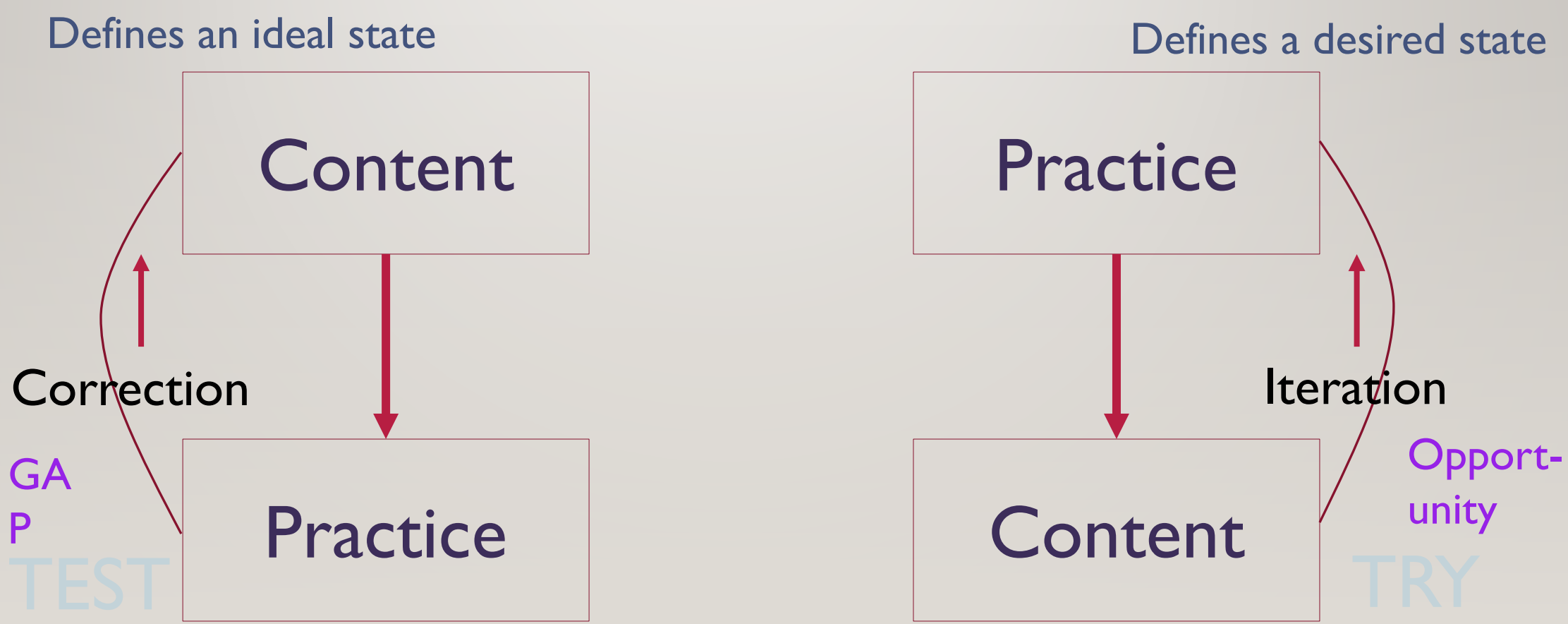
Practice

Content

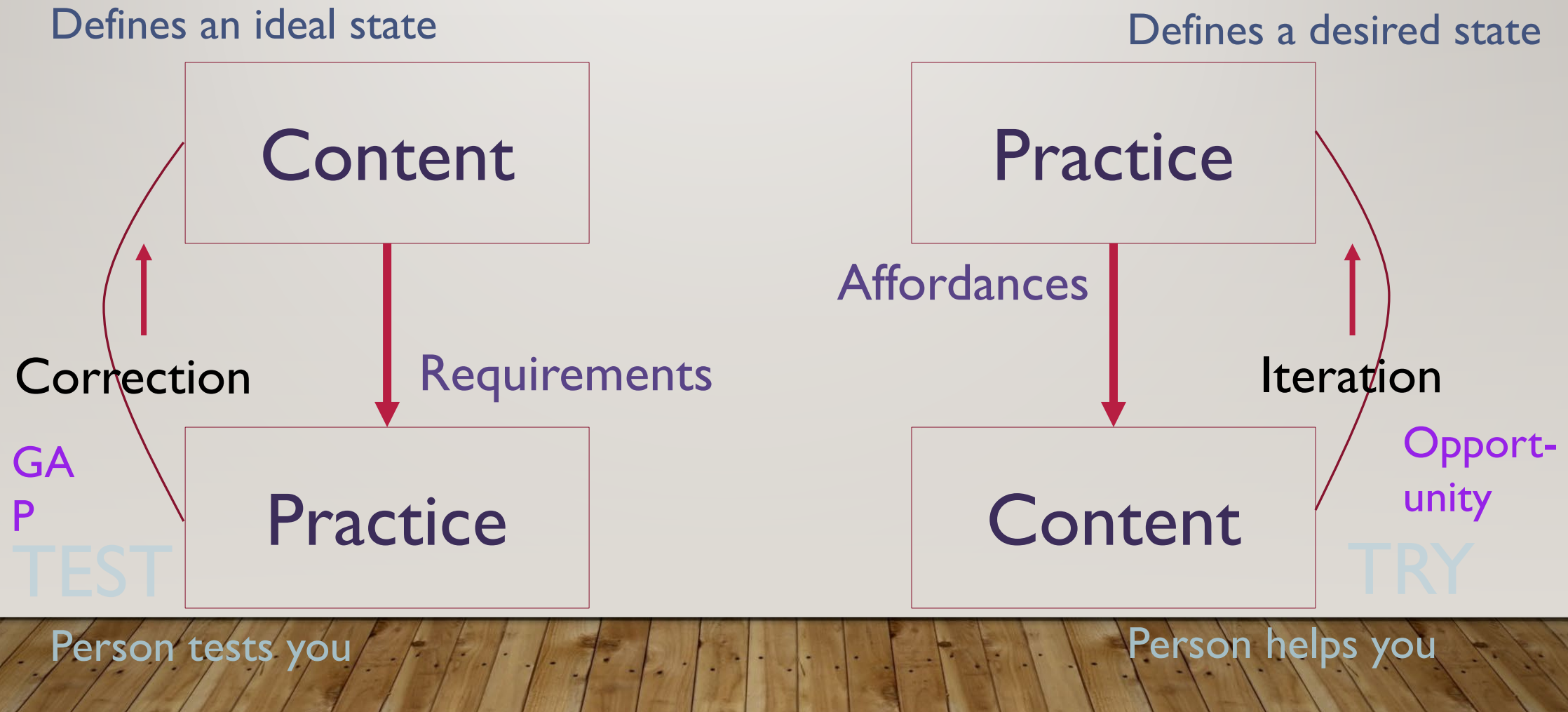
TRY

Person helps you

TWO APPROACHES…

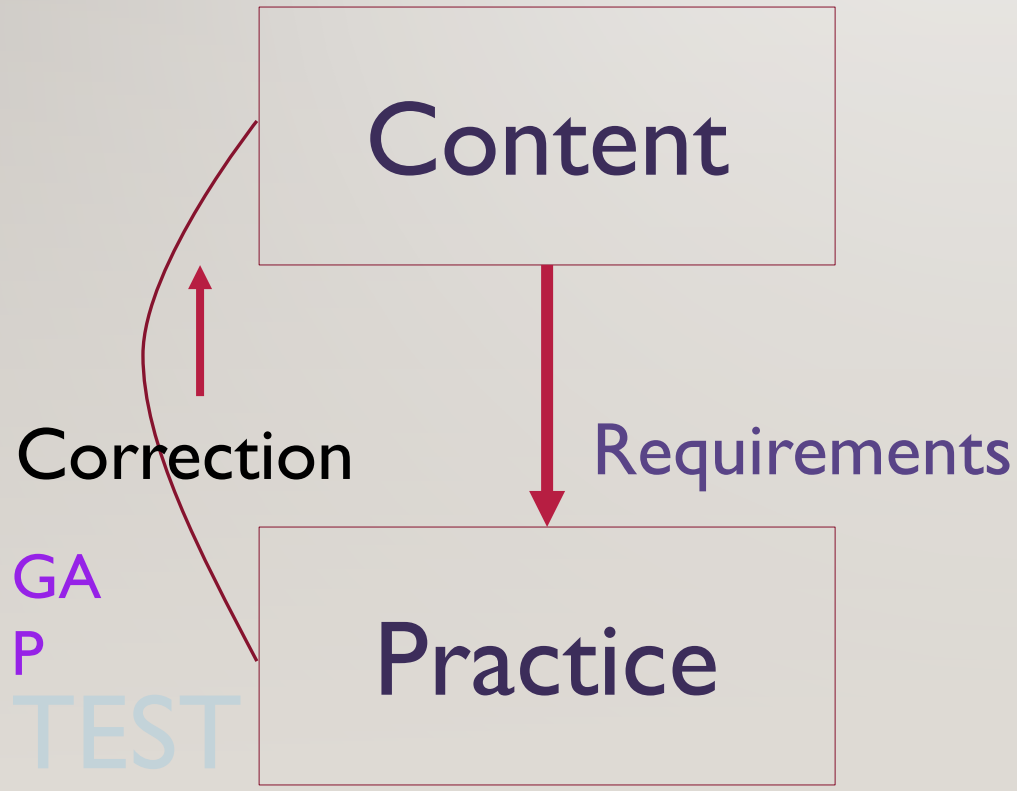


LIBRARY ENVIRONMENT



PERSONALIZED
WE DO FOR YOU
FOR YOURSELF

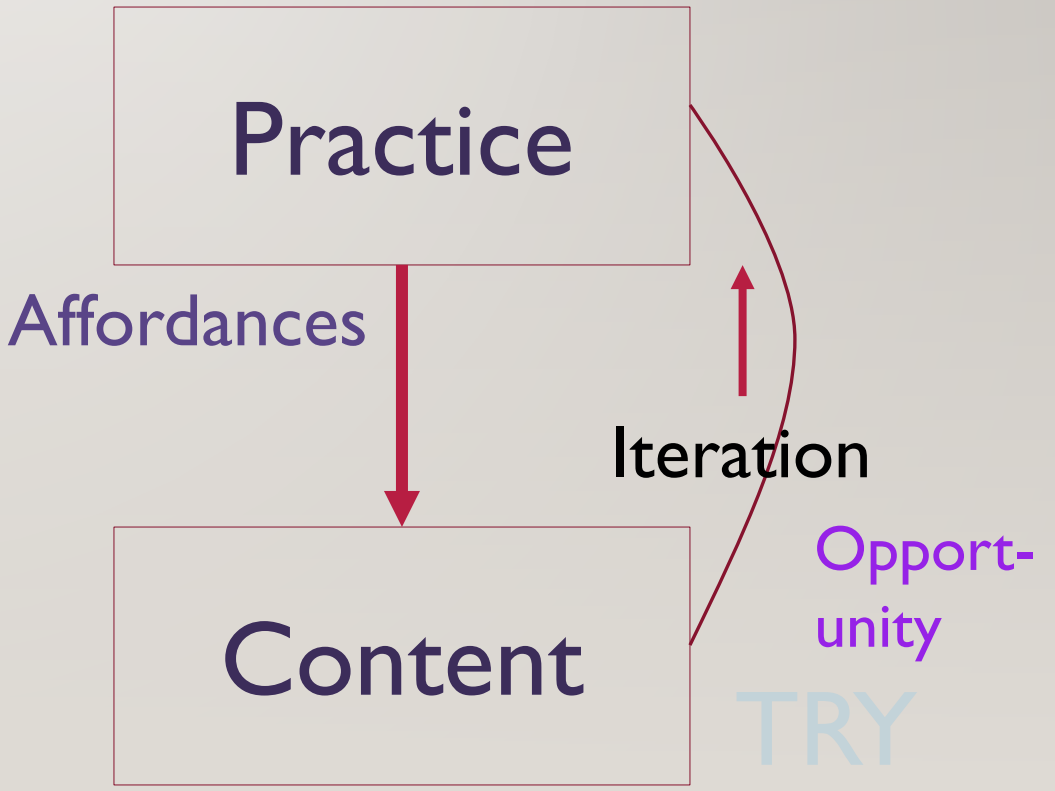
Defines an ideal state



Person tests you

PERSONAL
YOU DO

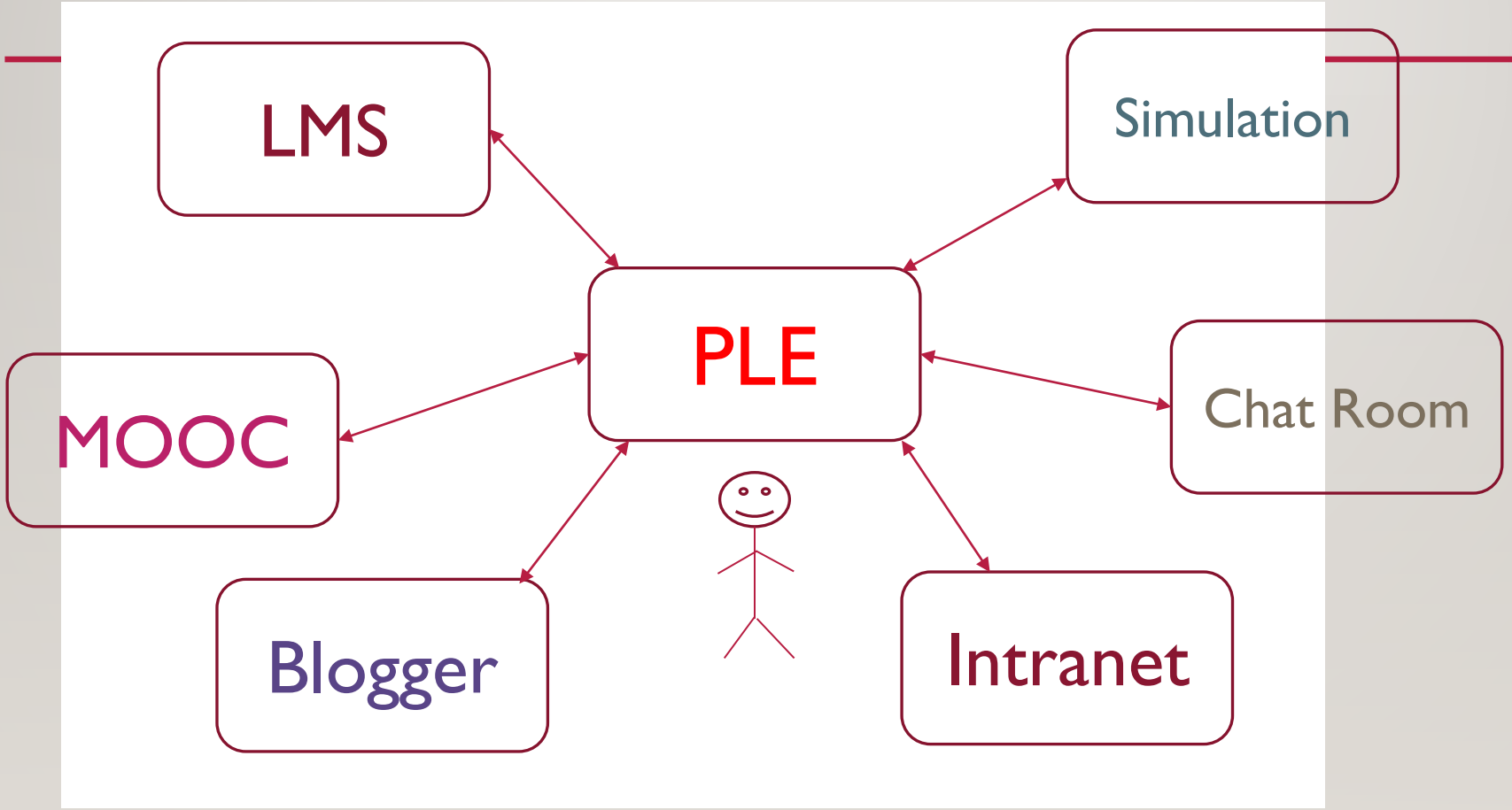
Defines a desired state



Person helps you

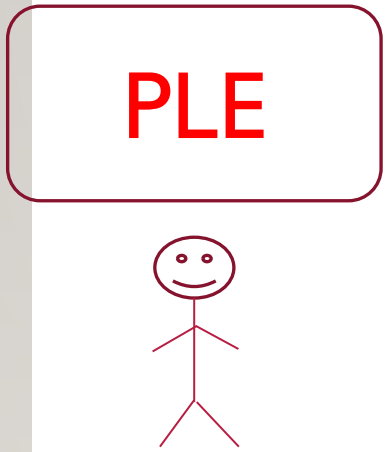
The Personal Learning Environment

OVERVIEW OF THE CONCEPT OF PLES



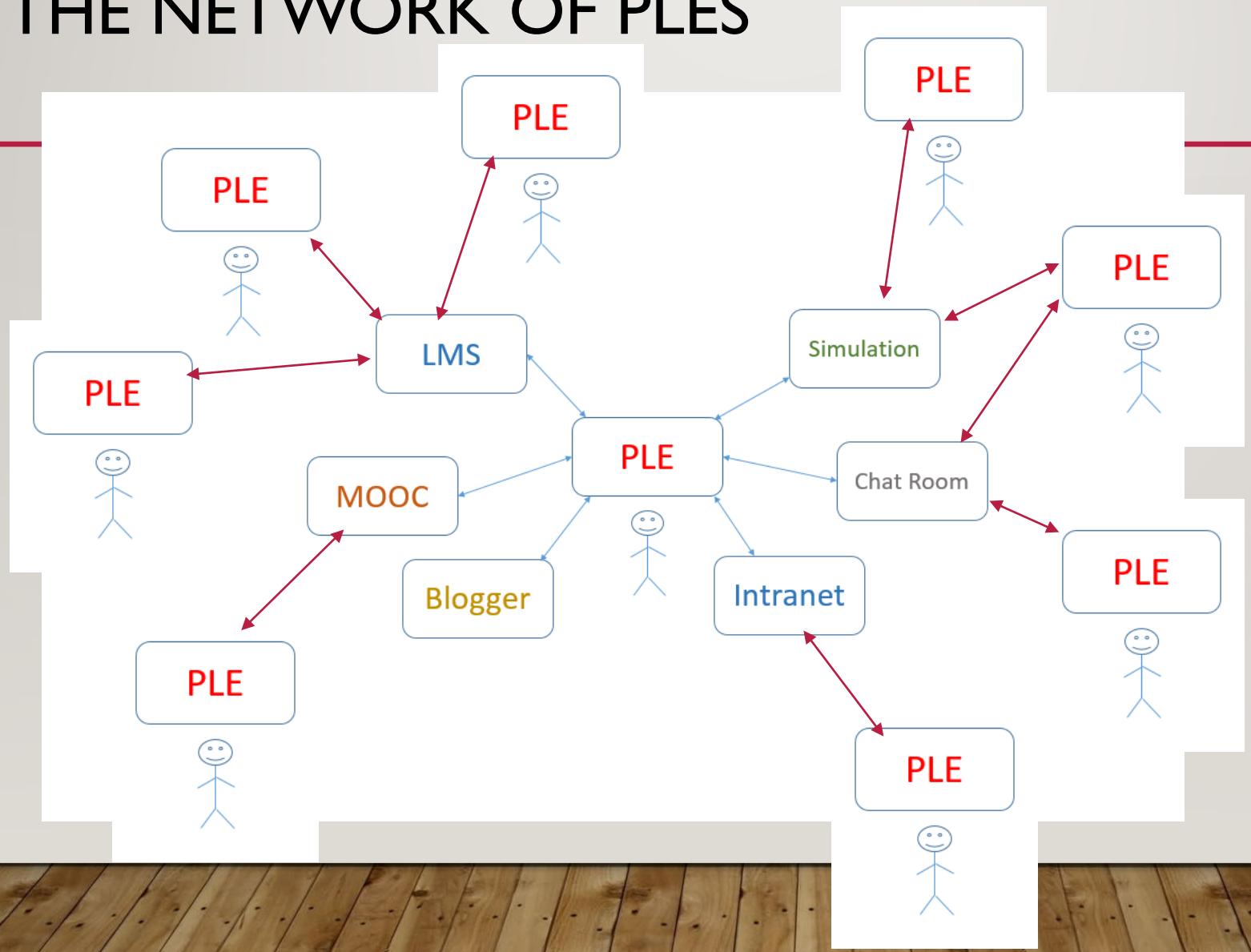
Access to many services in one personal environment

PROPERTIES OF THE PLE…

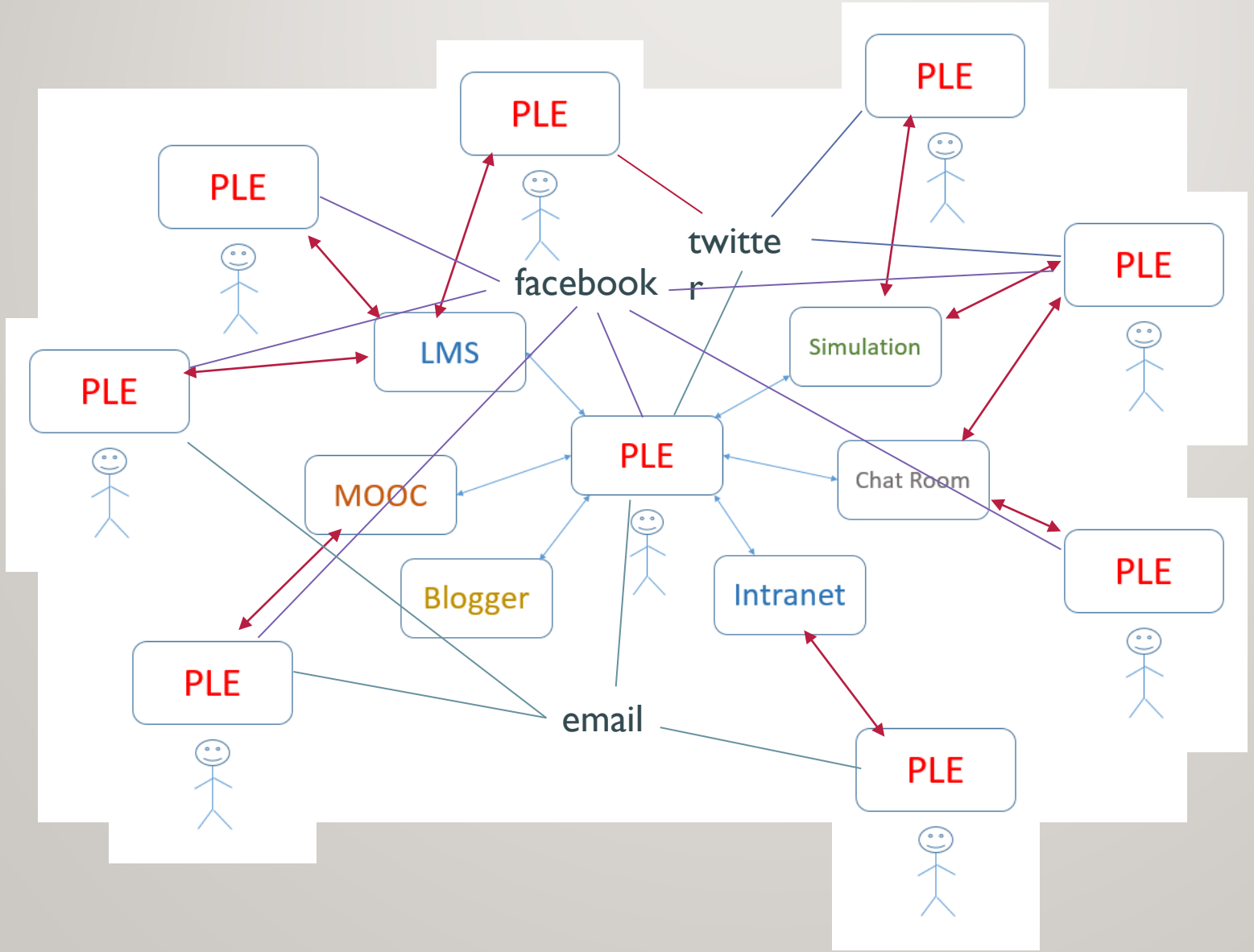


- What information should it record?
- Who owns the data? How private is it?
- What should it *do*?
- What would a person do with it?
- Where, exactly, is a PLE located?

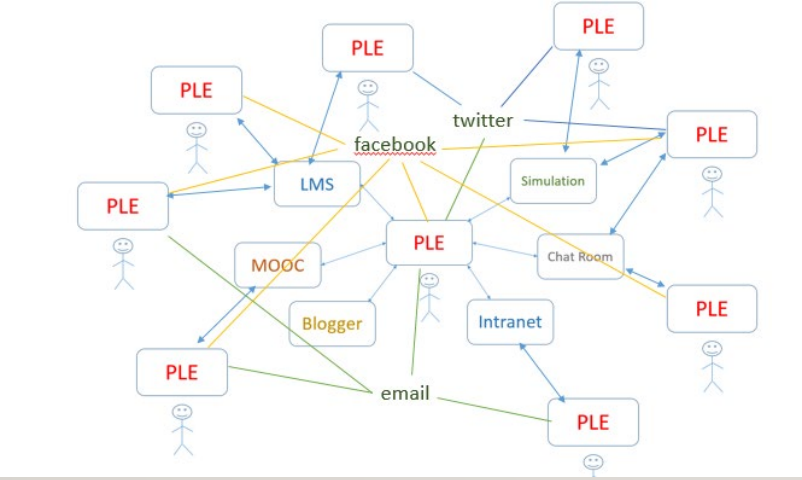
THE NETWORK OF PLES



THE SOCIAL NETWORK OF PLES



PROPERTIES OF THE NETWORK…



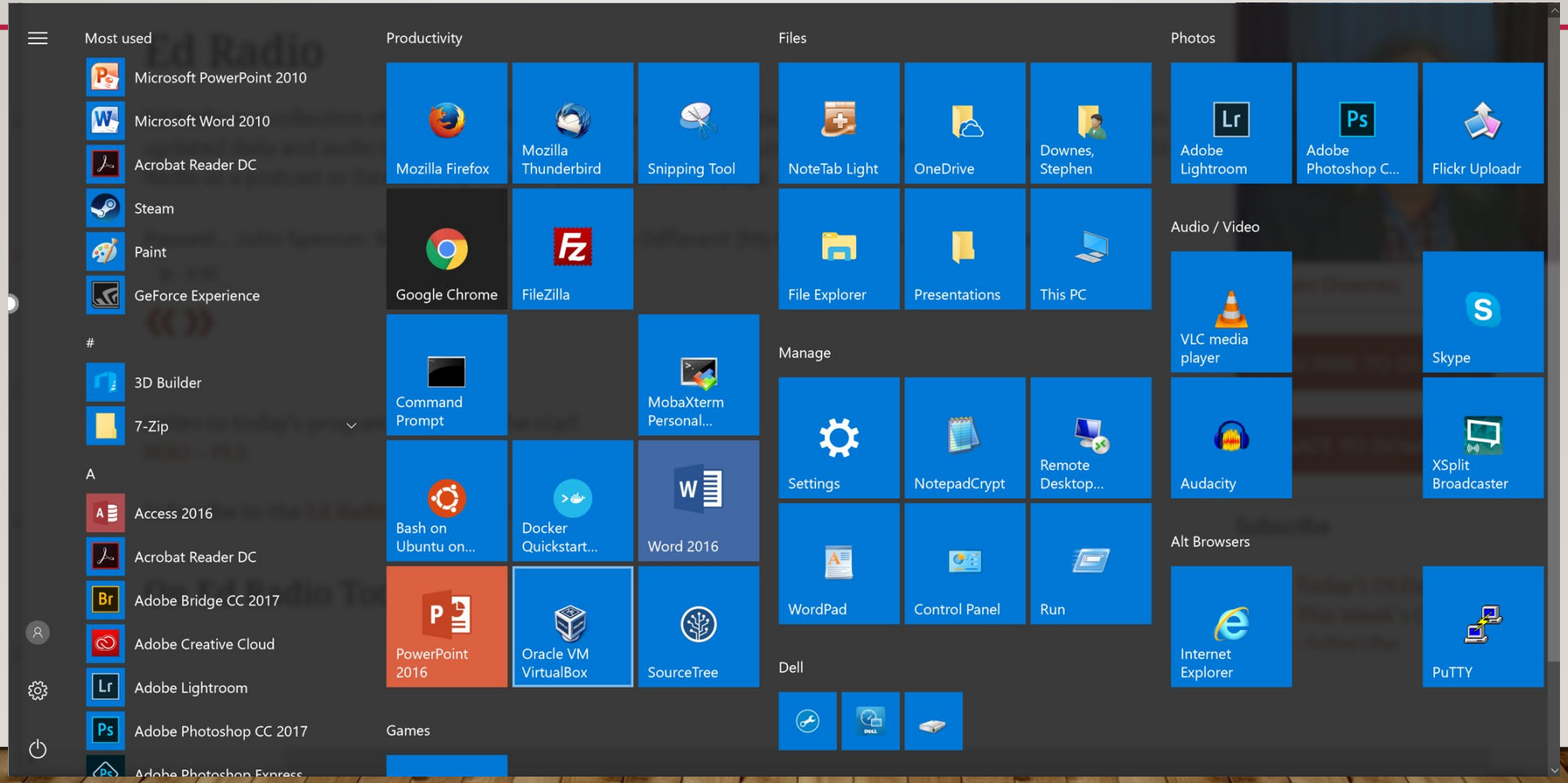
- How do people find each other? Services?
- How do they communicate? What do they share?
- How does a single PLE work with services?
- Do we need centralized registries?

WHY A PERSONAL LEARNING ENVIRONMENT?

- What is the *value proposition* for a PLE?
  - Note: value isn't what you can *do*, it's how you benefit
  - This is usually stated in financial terms (earn more, cost less)
  - Can also be stated in terms of quality: faster, bigger, better
  - And can be non-financial goods: satisfaction, happiness, memories

Education is not a search problem

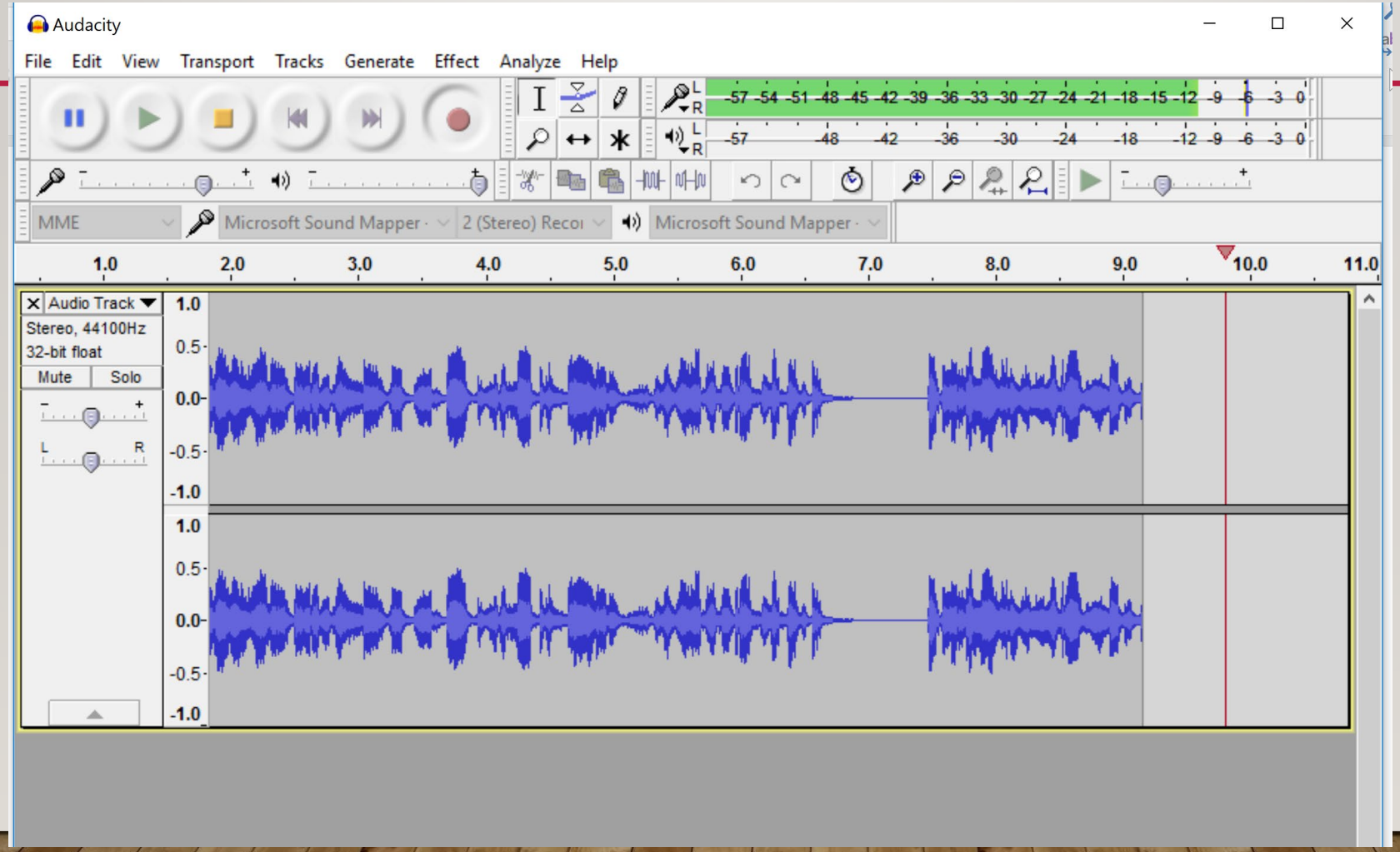
MAKING


Most used
Microsoft PowerPoint 2010
Microsoft Word 2010
Acrobat Reader DC
Steam
Paint
GeForce Experience
#
3D Builder
7-Zip
A
Access 2016
Acrobat Reader DC
Adobe Bridge CC 2017
Adobe Creative Cloud
Adobe Lightroom
Adobe Photoshop CC 2017
Productivity
Mozilla Firefox
Mozilla Thunderbird
Snipping Tool
Google Chrome
FileZilla
Command Prompt
MobaXterm Personal...
Bash on Ubuntu on...
Docker Quickstart...
Word 2016
PowerPoint 2016
Oracle VM VirtualBox
SourceTree
Games
Files
NoteTab Light
OneDrive
Downes, Stephen
File Explorer
Presentations
This PC
Manage
Settings
NotepadCrypt
Remote Desktop...
WordPad
Control Panel
Run
Dell
Photos
Adobe Lightroom
Adobe Photoshop C...
Flickr Uploadr
Audio / Video
VLC media player
Skype
Audacity
XSplit Broadcaster
Alt Browsers
Internet Explorer
PuTTY

MAKING

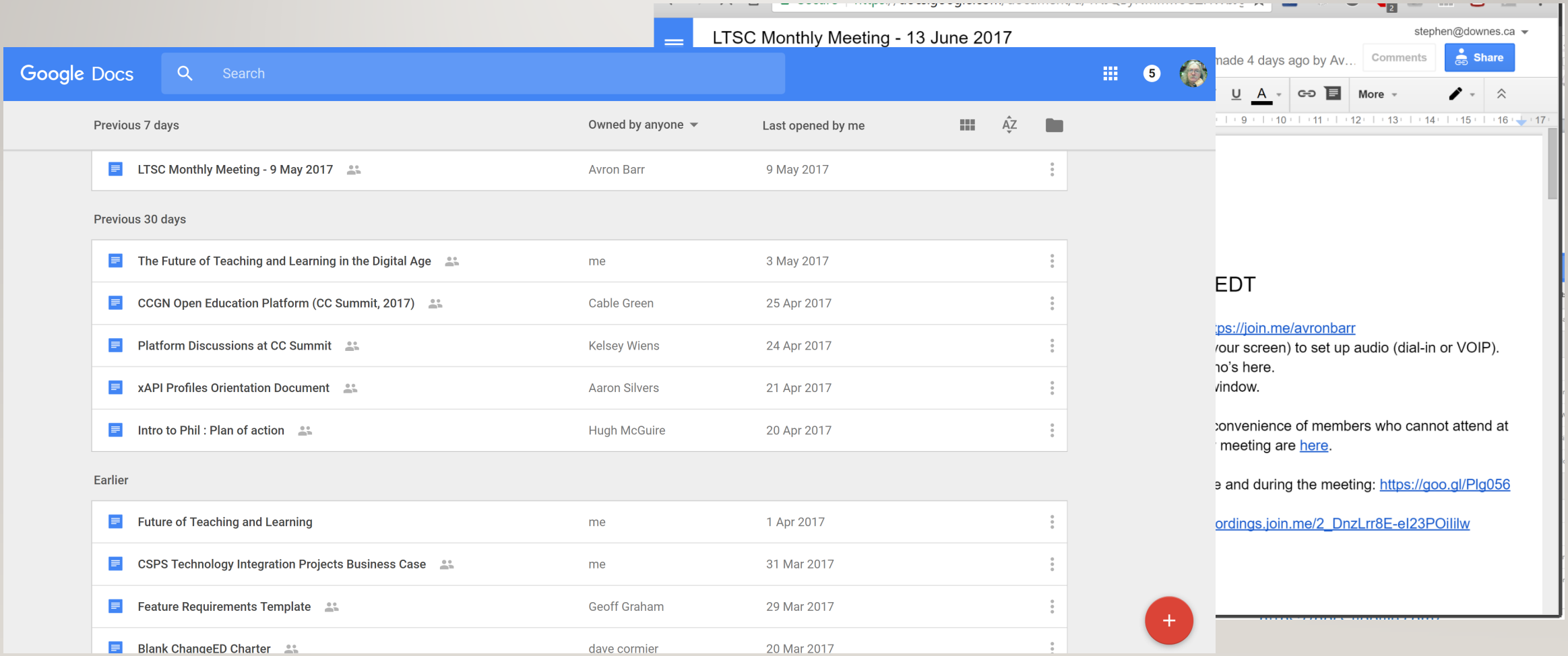
https://lightroom.adobe.com/

MAKING



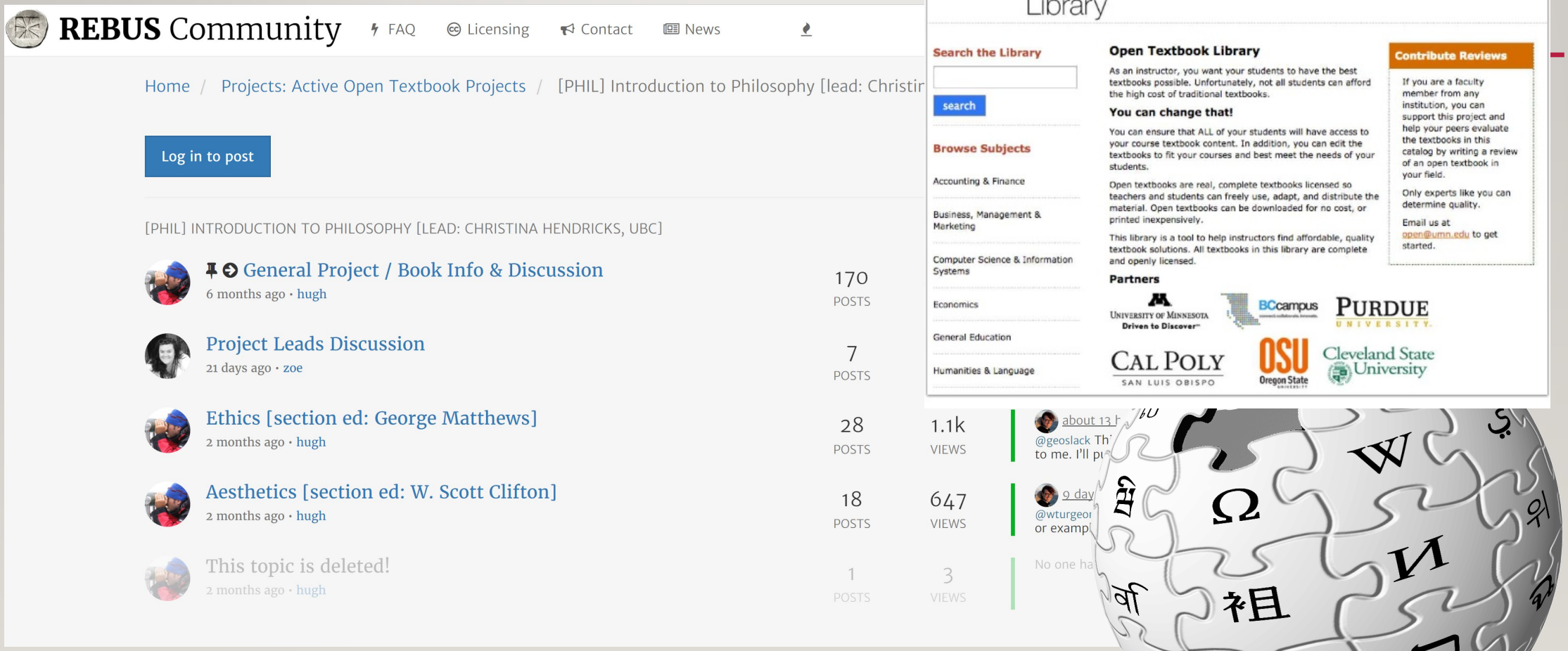
http://www.audacityteam.org/download/

MAKING



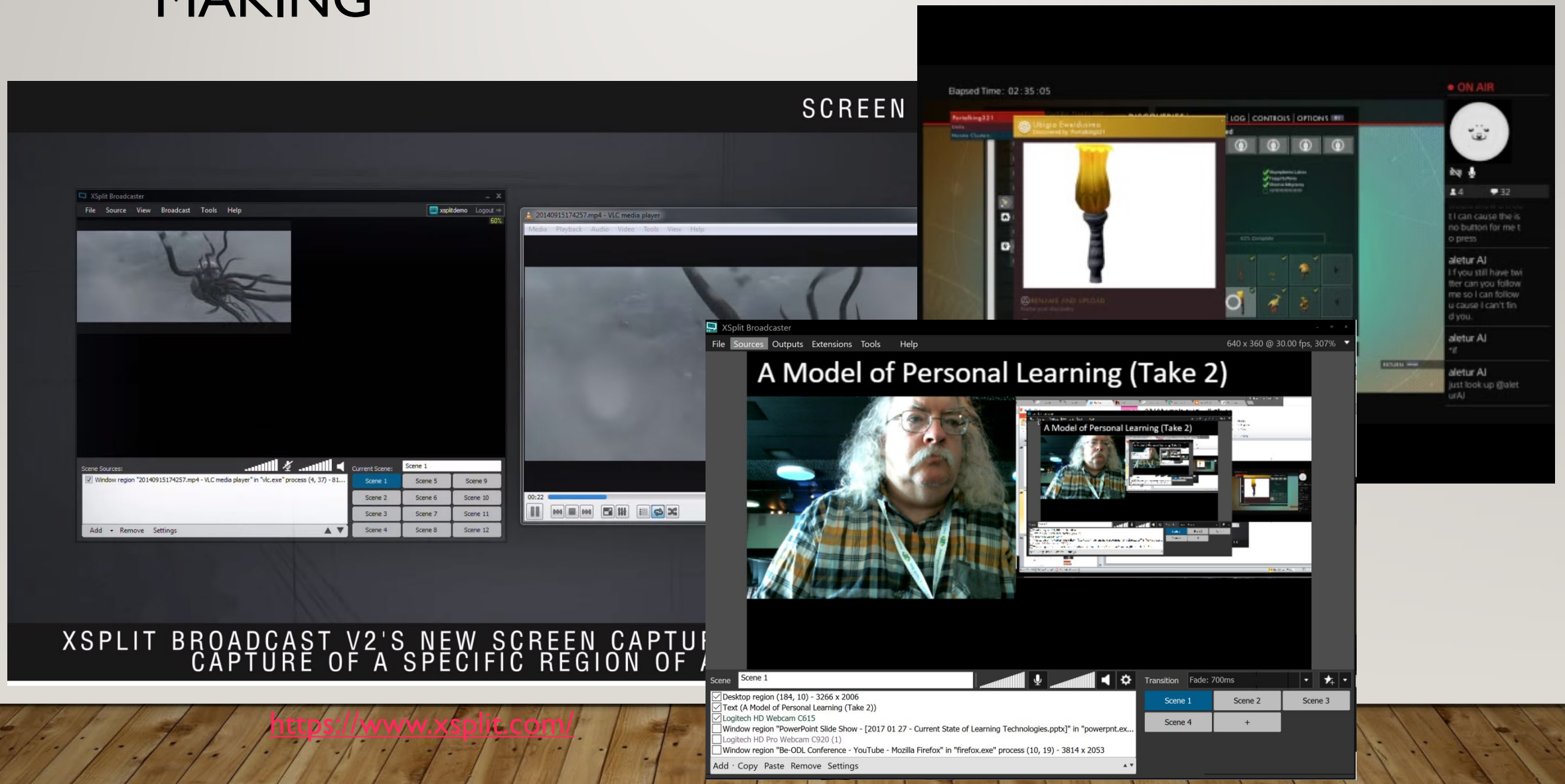
https://docs.google.com/

MAKING



https://forum.rebus.community/category/17/phil-introduction-to-philosophy-lead-christina-hendricks-ubc

MAKING



https://www.xsplit.com/

SHARING

Stephen Downes

Knowledge, Learning, Community

Books Publications Newsletter Articles Presentations

Ed Radio

Ed Radio is a collection of audio reports centered around the topics of education and media. The collection is updated daily and audio is drawn from a number of different sources, listed below. You can subscribe to Ed Radio as a podcast or listen to any or all of the items on this page.

Paused... John Spencer: Be Wildly and Unabashedly Different (My Hope for My Cohort as They Graduate)

0:00

« »

Listen to today's programming from the start
M3U -- PLS

Subscribe to the Ed Radio RSS Podcast

On Ed Radio Today

Stephen Downes

SUBSCRIBE TO OLDAILY

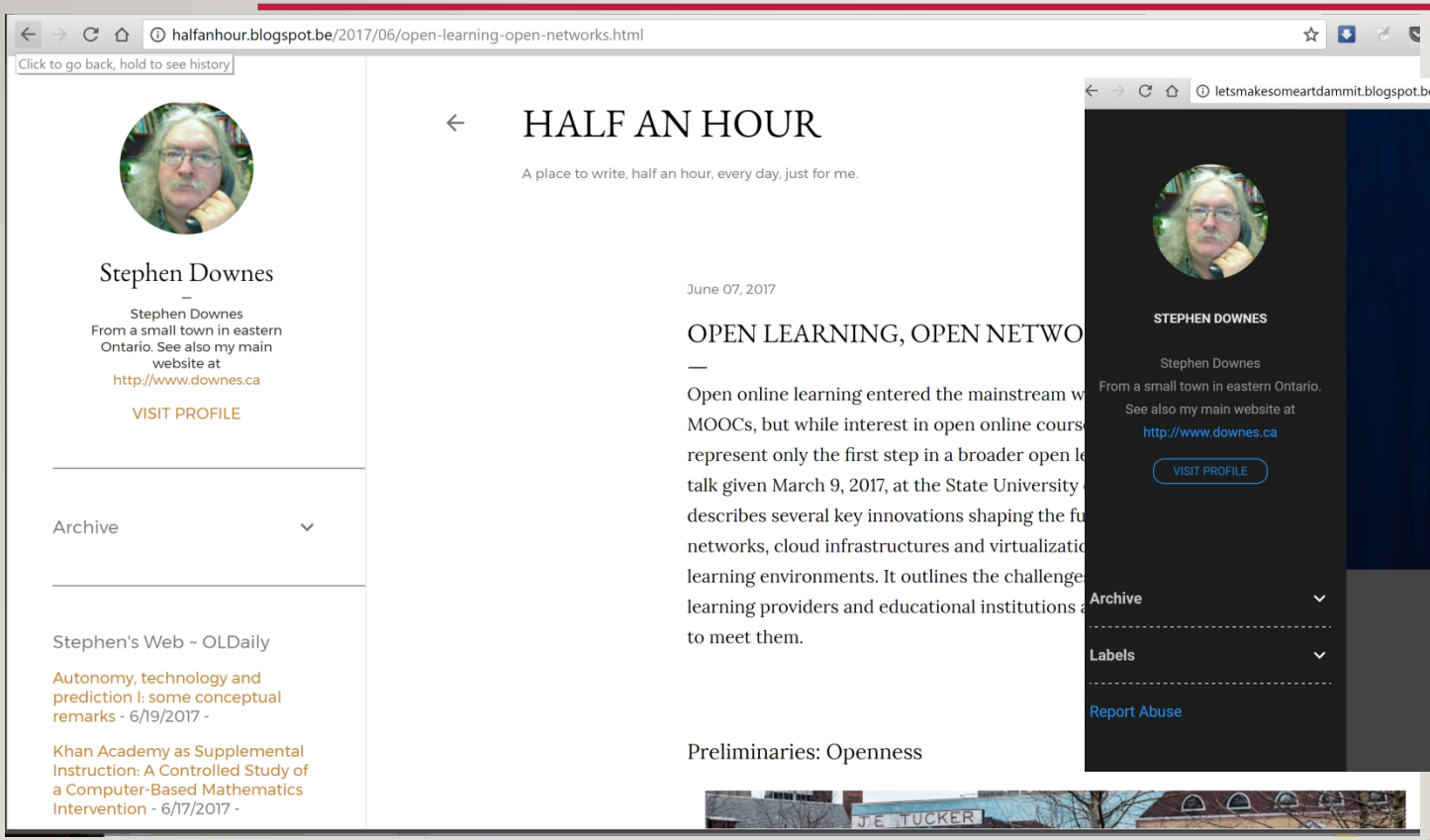
DONATE TO DOWNES.CA

Subscribe

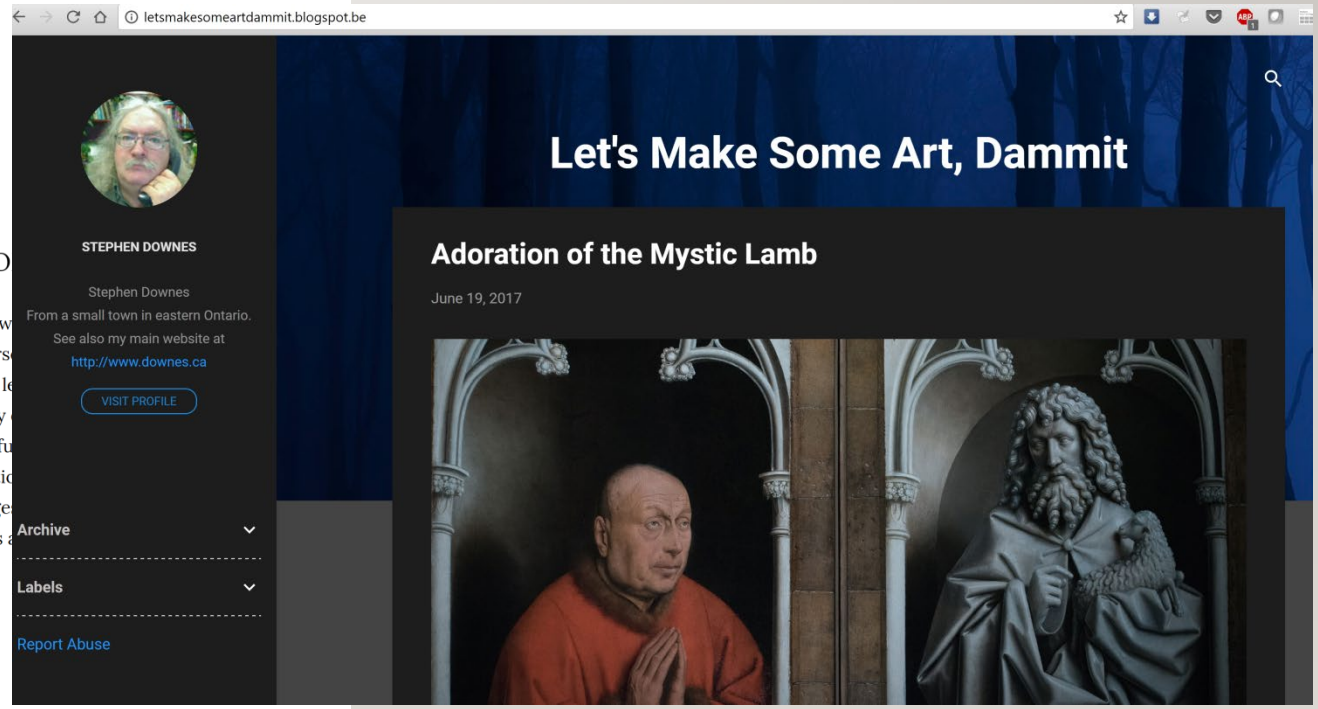
Web - Today's OLDaily
Web - This Week's OLWeekly
Email - Subscribe

http://www.downes.ca/edradio.htm

SHARING

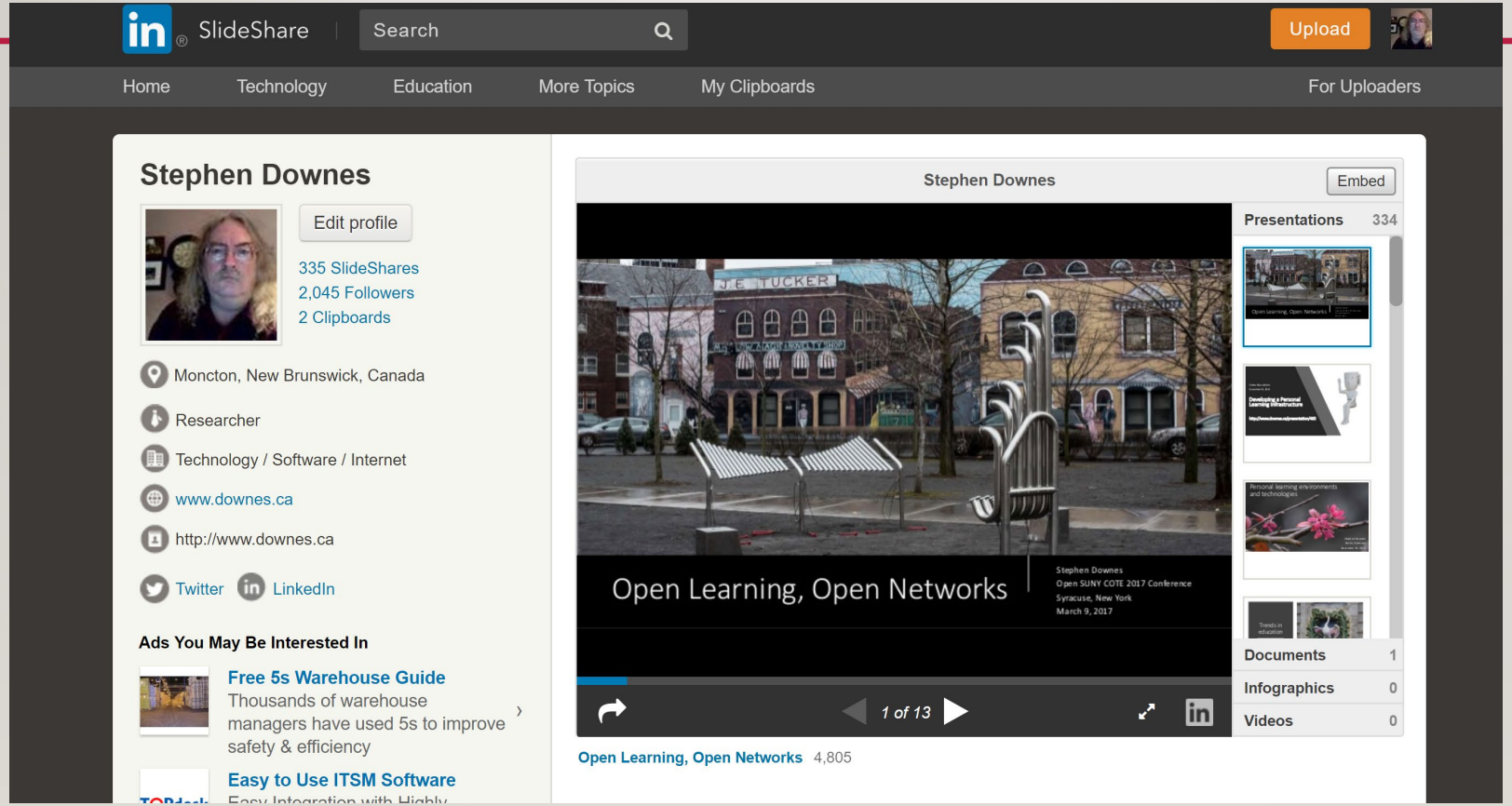


http://halfanhour.blogspot.com



http://letsmakesomeartdammit.blogspot.com

SHARING



https://www.slideshare.net/Downes

SHARING

Stephen Downes

Knowledge, Learning, Community

Open Learning, Open Networks

00:00 / 75:58

SUNY Open COTE 2017, Syracuse, New York, .

Open online learning entered the mainstream with the growth and popularity of MOOCs, but while interest in open online courses has never been greater MOOCs represent only the first step in a broader open learning infrastructure. In this keynote Stephen Downes will describe several key innovations shaping the future of open learning: distributed social networks, cloud infrastructures and virtualization, immersive reality, and personal learning environments. The talk will outline the challenges this evolving model will pose to learning providers and educational institutions and recommend policies and processes to meet them. Link to hosted video.

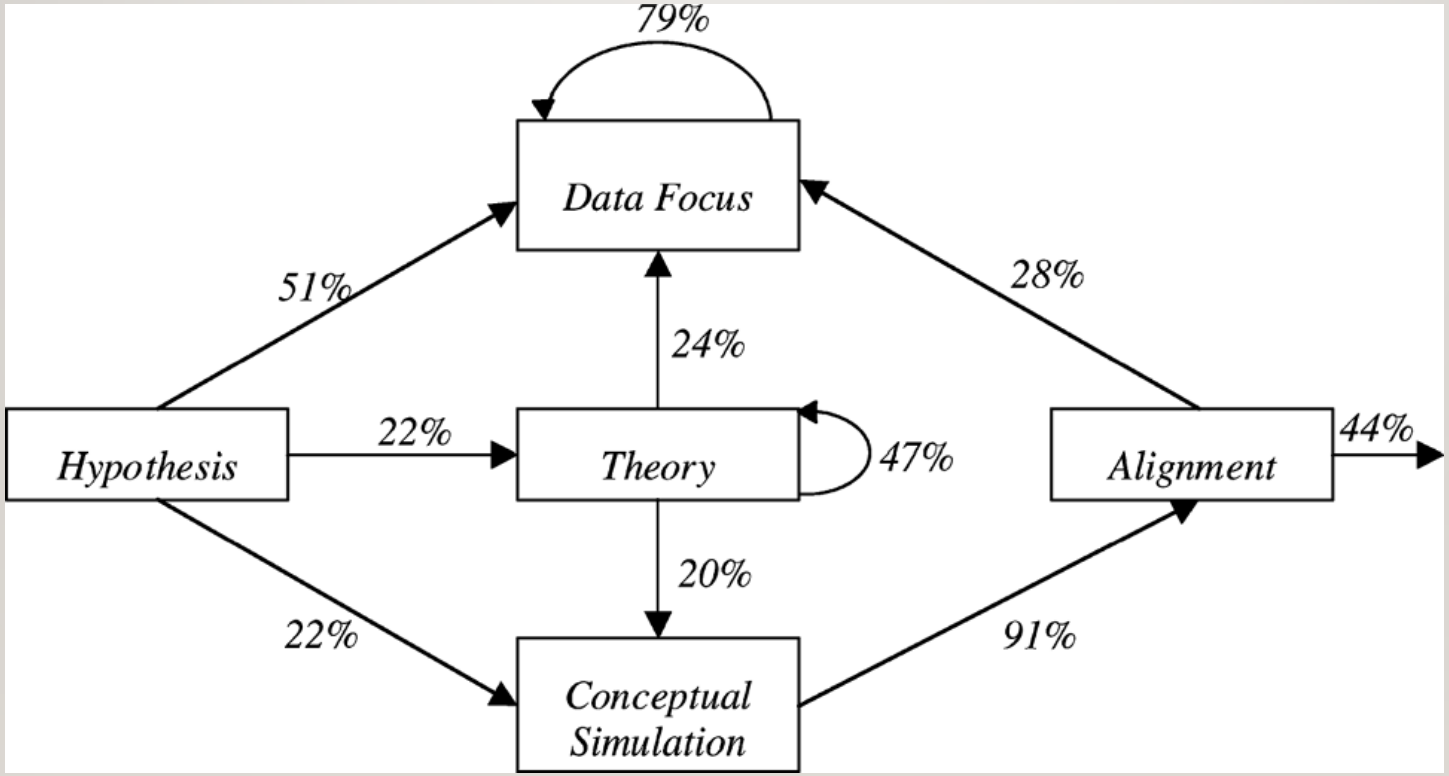
Keynote, Mar 09, 2017.

Downloads: [Slides] [Audio] [Conference Link]

http://www.downes.ca/presentation/468

Critical Literacies

Science as language, learning as conversation, knowledge as inference

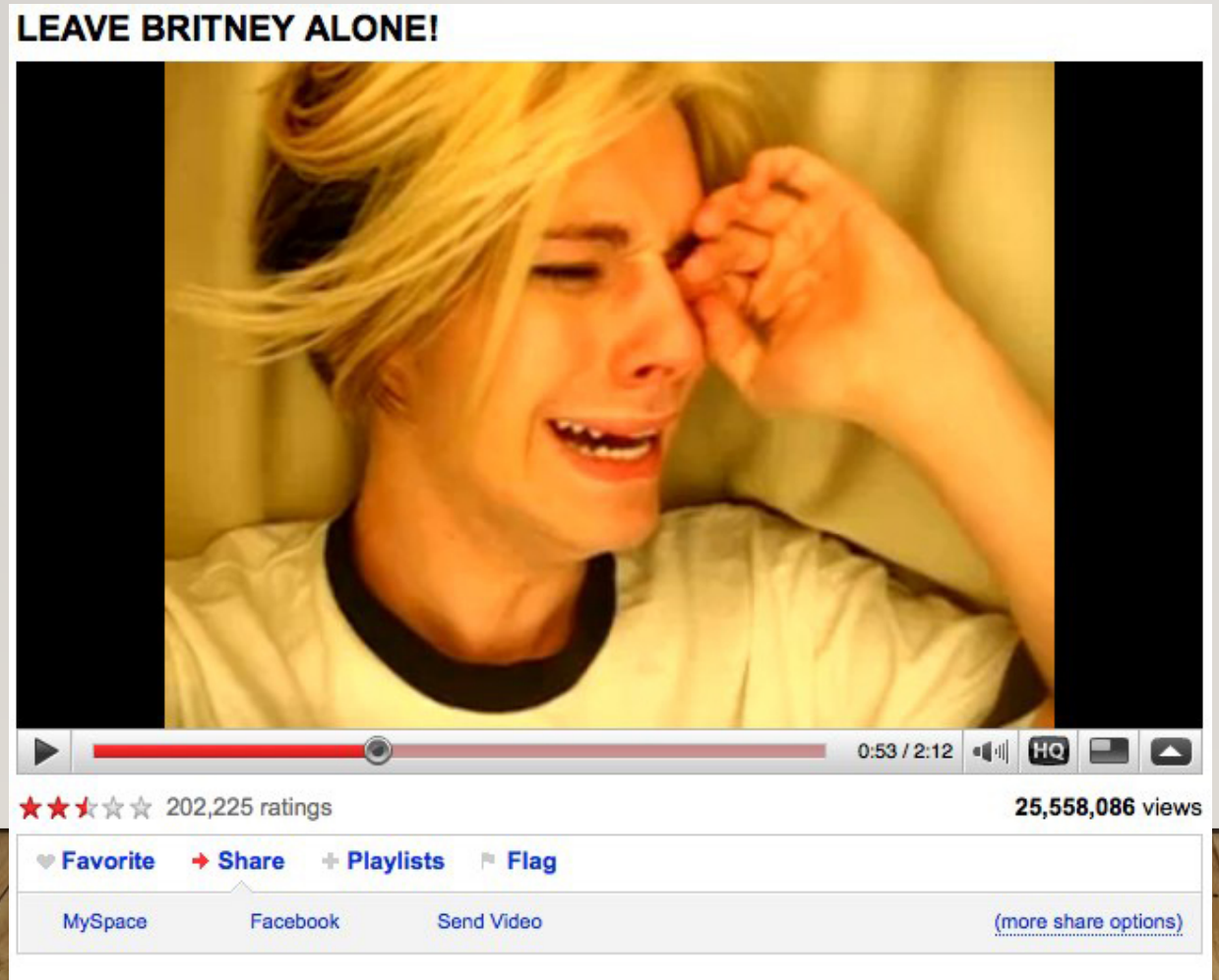


"What if…": The Use of Conceptual Simulations in Scientific Reasoning

http://www.informaworld.com/smpp/1925728116-26233474/ftinterface~db=all~content=a788101161~fulltext=713240928

The Second Thesis, Part B

This means getting beyond narrow text-based conceptions we have of media



Conceptions Like:

- messages have a sender and a receiver
- words get meaning from what they represent
- truth is based on the real world
- events have a cause, and causes can be known
- science is based on forming and testing hypotheses

These, taken together, constitute, a static, linear, coherent picture of the world

The world, as though it were a book, or a library

Not everyone sees it that way

A frame for understanding new media

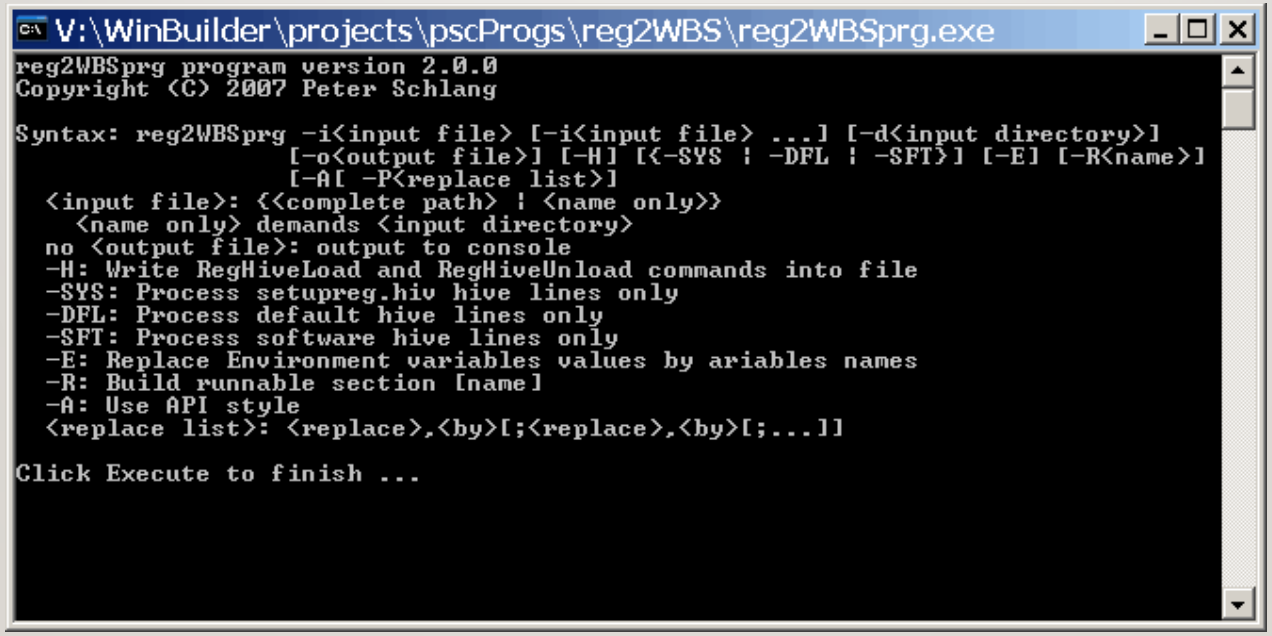
Morris, Derrida and a little Lao Tzu

Syntax	Cognition
Semantics	Context
Pragmatics	Change

We need this frame because (as Jukes said) if we aren't looking for these things, we just won't see them.

Syntax

Not just rules and grammar



Forms: archetypes? Platonic ideals?

Rules: grammar = logical syntax

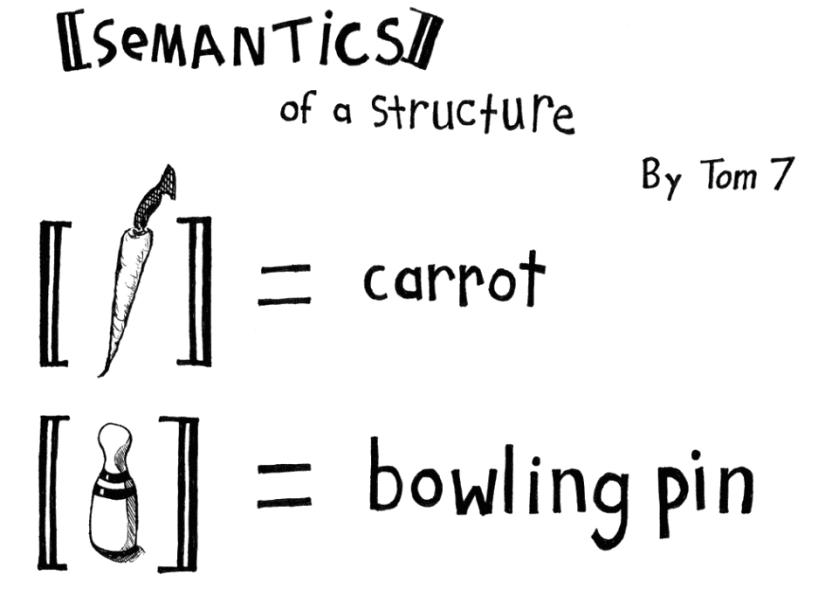
Operations: procedures, motor skills

Patterns: regularities, substitutivity (eggcorns, tropes)

Similarities: Tversky - properties, etc

Semantics

theories of truth / meaning / purpose / goal



http://www.cs.cmu.edu/~tom7/csnotes/fall02/semantics.gif

- Sense and reference (connotation and denotation)
- Interpretation (Eg. In probability, Carnap - logical space; Reichenbach - frequency; Ramsey - wagering / strength of belief)
- Forms of association: Hebbian, contiguity, back-prop, Boltzmann
- Decisions and decision theory: voting / consensus / emergence

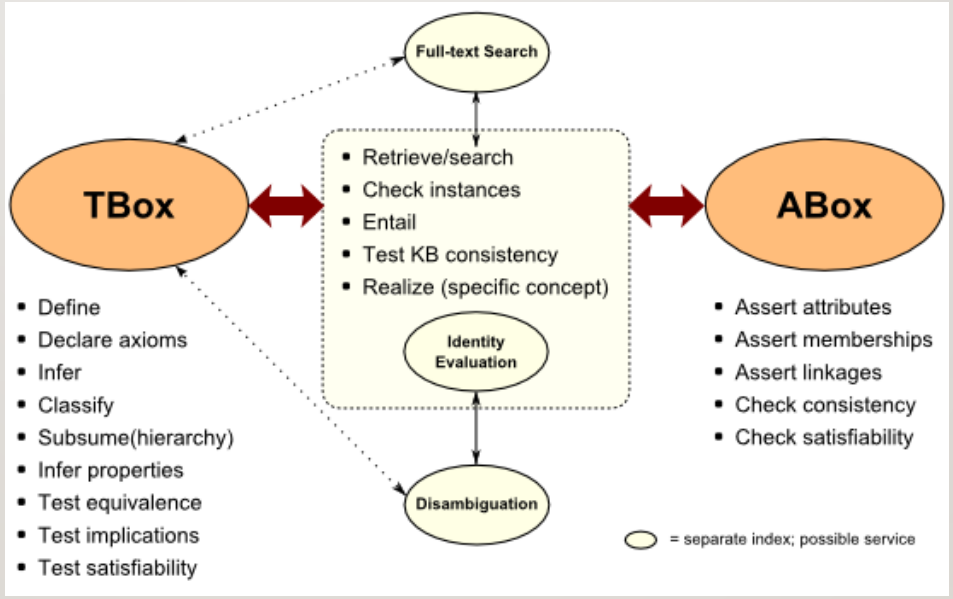
Pragmatics

use, actions, impact

- Speech acts (J.L. Austin, Searle) assertives, directives, commissives, expressives, declarations (but also - harmful acts, harassment, etc)
- Interrogation (Heidegger) and presupposition
- Meaning (Wittgenstein - meaning is use)

Cognition

reasoning, inference and explanation



http://www.mkbergman.com/category/description-logics/

- description - X (definite description, allegory, metaphor)
- definition - X is Y (ostensive, lexical, logical (necess. & suff conds), family resemblance - but also, identity, personal identity, etc
- argument - X therefore Y - inductive, deductive, abductive (but also: modal, probability (Bayesian), deontic (obligations), doxastic (belief), etc.)
- explanation - X because of Y (causal, statistical, chaotic/emergent)

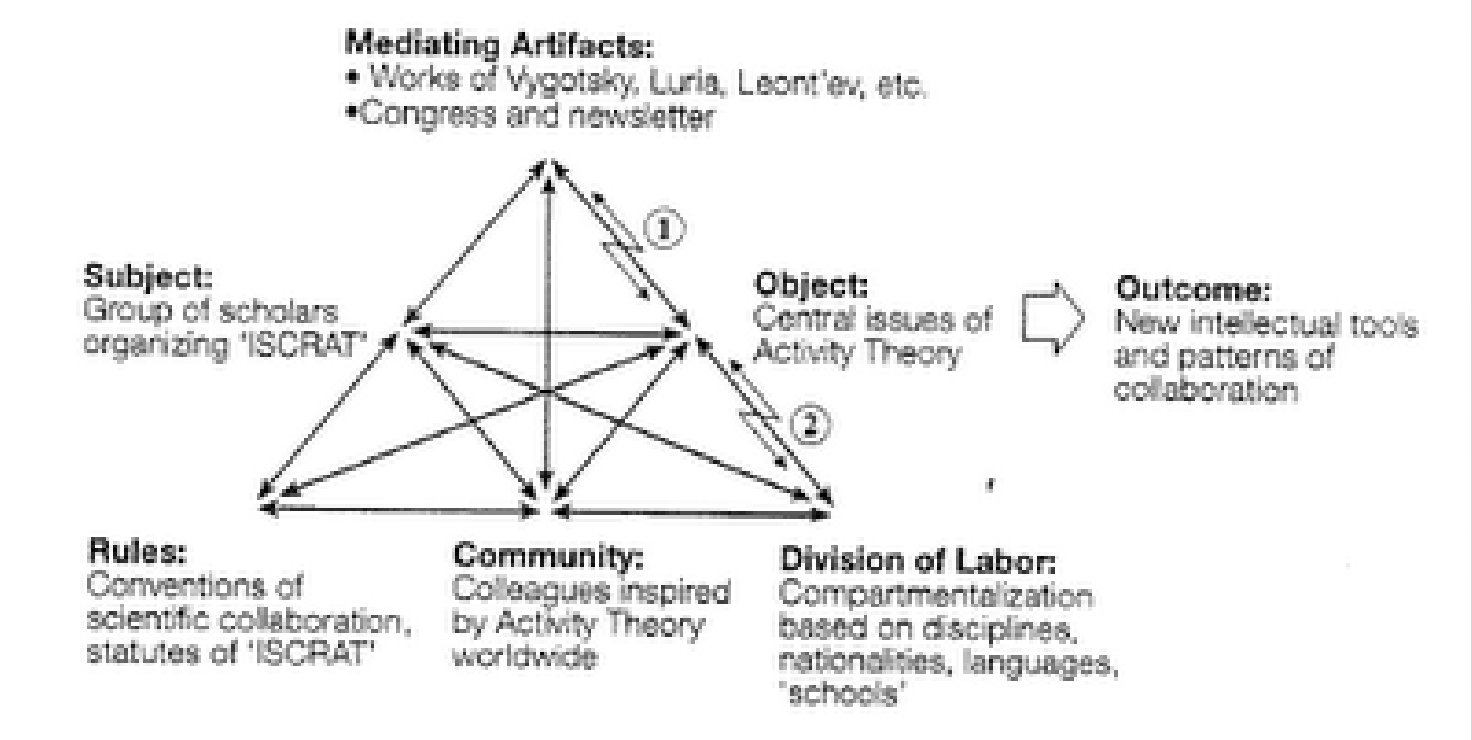
Context

placement, environment

http://www.occasionbasedmarketing.com/what-it-is

- explanation (Hanson, van Fraassen, Heidegger)
- meaning (Quine); tense - range of possibilities
- vocabulary (Derrida); ontologies, logical space
- Frames (Lakoff) and worldviews

Change



- relation and connection: I Ching, logical relation
- flow: Hegel - historicity, directionality; McLuhan - 4 things
- progression / logic -- games, for example: quiz&points, branch-and-tree, database
- scheduling - timetabling - events; activity theory / LaaN

21st Century ~~Skills~~ Languages

http://spotlight.macfound.org/btr/entry/new_media_literacies/

The ‘skills’ described by Jenkins – *performance, simulation, appropriation, etc* - are actually *languages* and should be understood in terms of these six dimensions

21st Century Languages

Languages / Elements	Performance	Simulation	Appropriation
Syntax			
Semantics			
Pragmatics			
Cognition			
Context			
Change			

Example: Performance - Syntax

Languages / Elements	**Performance** (the ability to adopt alternative identities for the purpose of improvisation and discovery) (subcategories?)
Syntax: - Forms - Rules - Operations - Patterns - Similarities	- Presentation acting, method acting - "Know your lines" etc http://filmtvcareers.about.com/od/gettingthejob/a/GJ_Actor_Tips.htm - Stanislavski's system (etc…) http://en.wikipedia.org/wiki/Stanislavski%27s_system - Ritual Performance (etc.) http://www.let.rug.nl/koster/papers/JHP.Koster2.Edit.pdf - Comparing Tales (etc.) http://artsedge.kennedy-center.org/content/2343/