

# A Personal Learning Framework



Stephen Downes  
World Conference in Online Learning, Toronto, Canada,  
October 18, 2017

<http://www.downes.ca/presentation/479>

# The Backchannel


Use Twitter with the hashtag [#icde2017](#)

Or go to

<http://bit.ly/icde2017>  
and use the live  
comments form

If it looks broken, just  
reload it. 😊

Discussion Thread: 755 icde2017. Tag: [icde2017](#)  
Updating every 10 seconds.

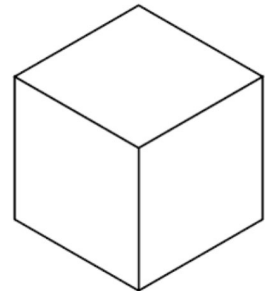
 [@AthraSultan](#): Michael PhD student presented about Open Educational Practices .. Good Luck in your studying journey [@mpaskevi...](#)  
<https://t.co/8nNx8Zus8T>

Twitter (4066)  
Wed Oct 18 11:14:50 2017

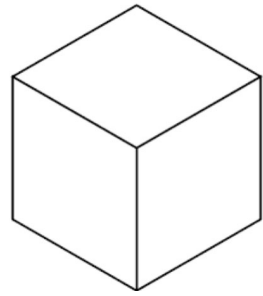
Enter admin:help for options

Signature

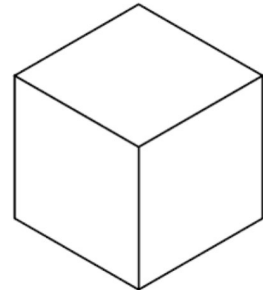
Submit [\[Select Another Backchannel\]](#) [\[Backchannel archives\]](#)



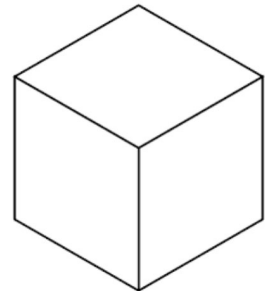
Knowledge



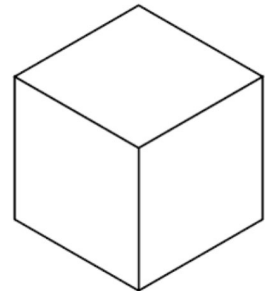
Fact



Skill



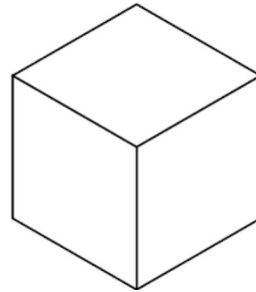
Competency



Content

## Behaviourist

- Disposition
- Rule



## Constructivist

- Meaning
- Model, Representation

## Cognitivist

- Reference
- Truth

## Connectivist

- Recognition
- Structure, Learning Theory



Intuitionalist

**Constructivist**

- Meaning
- Model, Representation

**Connectivist**

- Recognition
- Structure, Learning Theory

Functionalist

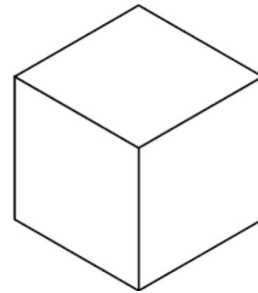
**Behaviourist**

- Disposition
- Rule

Operationalist

**Cognitivist**

- Reference
- Truth



Intuitionalist

**Constructivist**

- Meaning
- Model, Representation

**Connectivist**

- Recognition
- Structure, Learning Theory

Functionalist

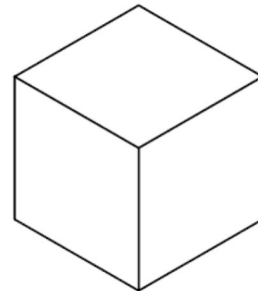
**Behaviourist**

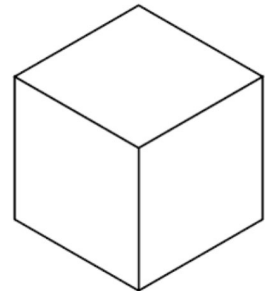
- Disposition
- Rule

Operationalist

**Cognitivist**

- Reference
- Truth

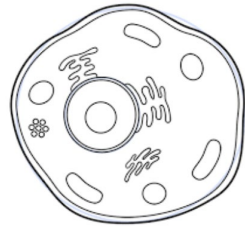




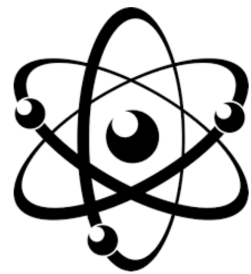
Content



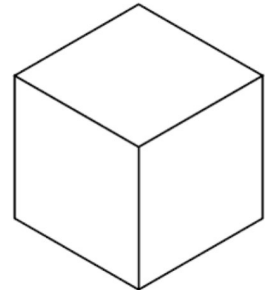
Lego

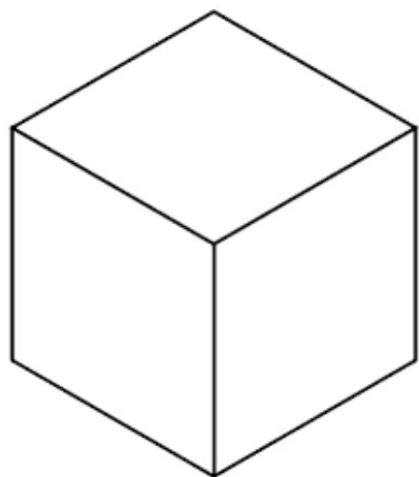


Cell

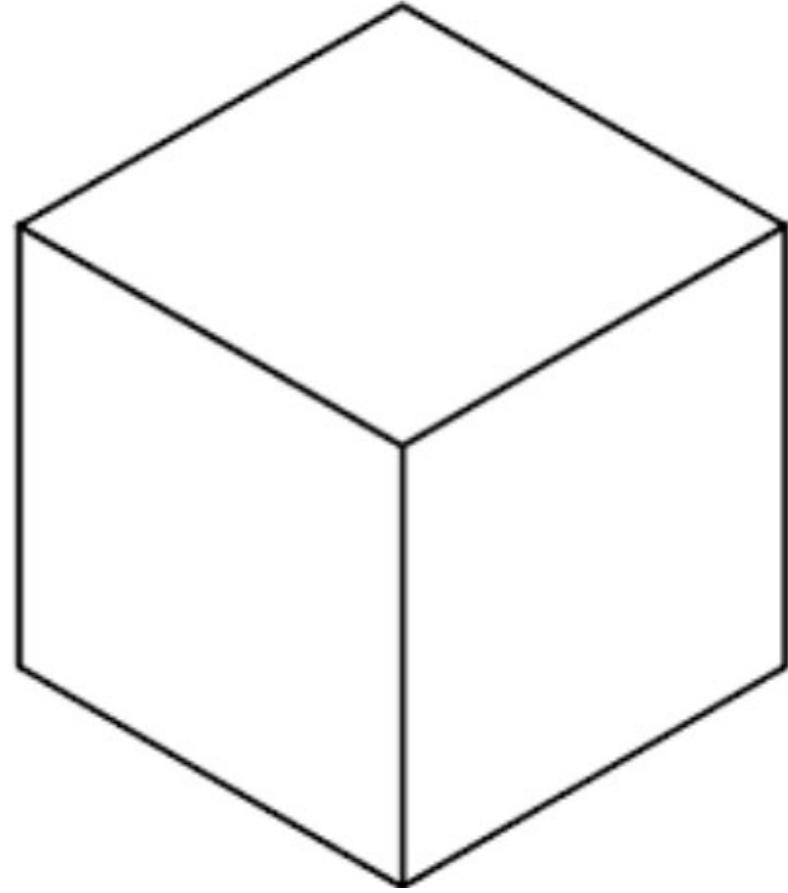


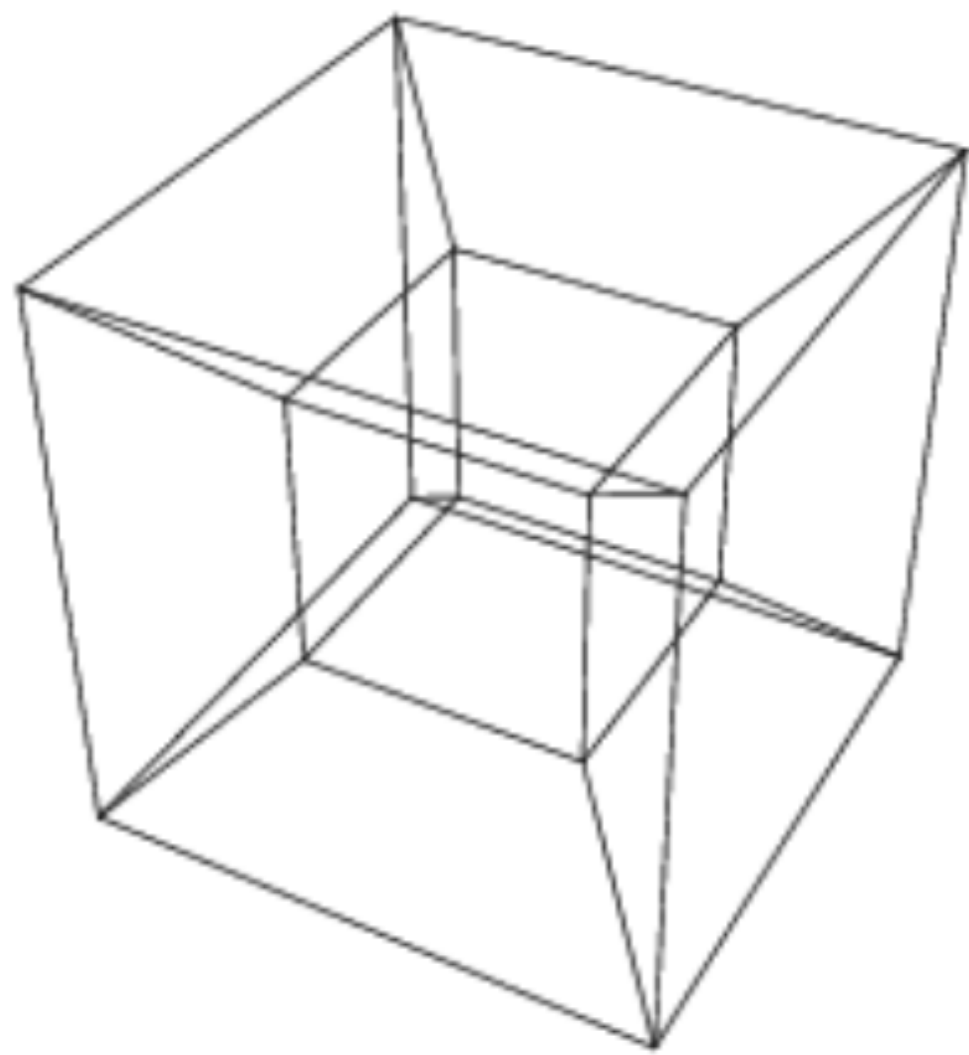
Atom

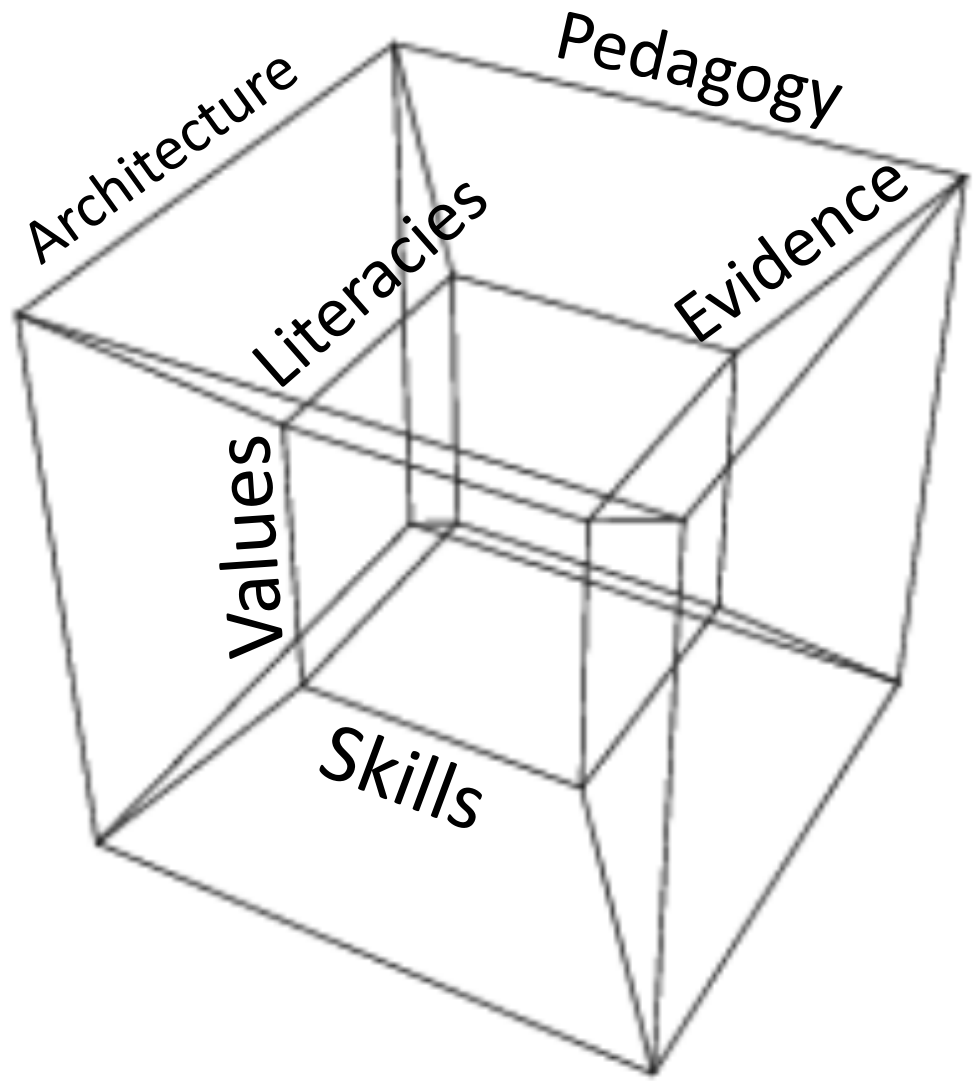


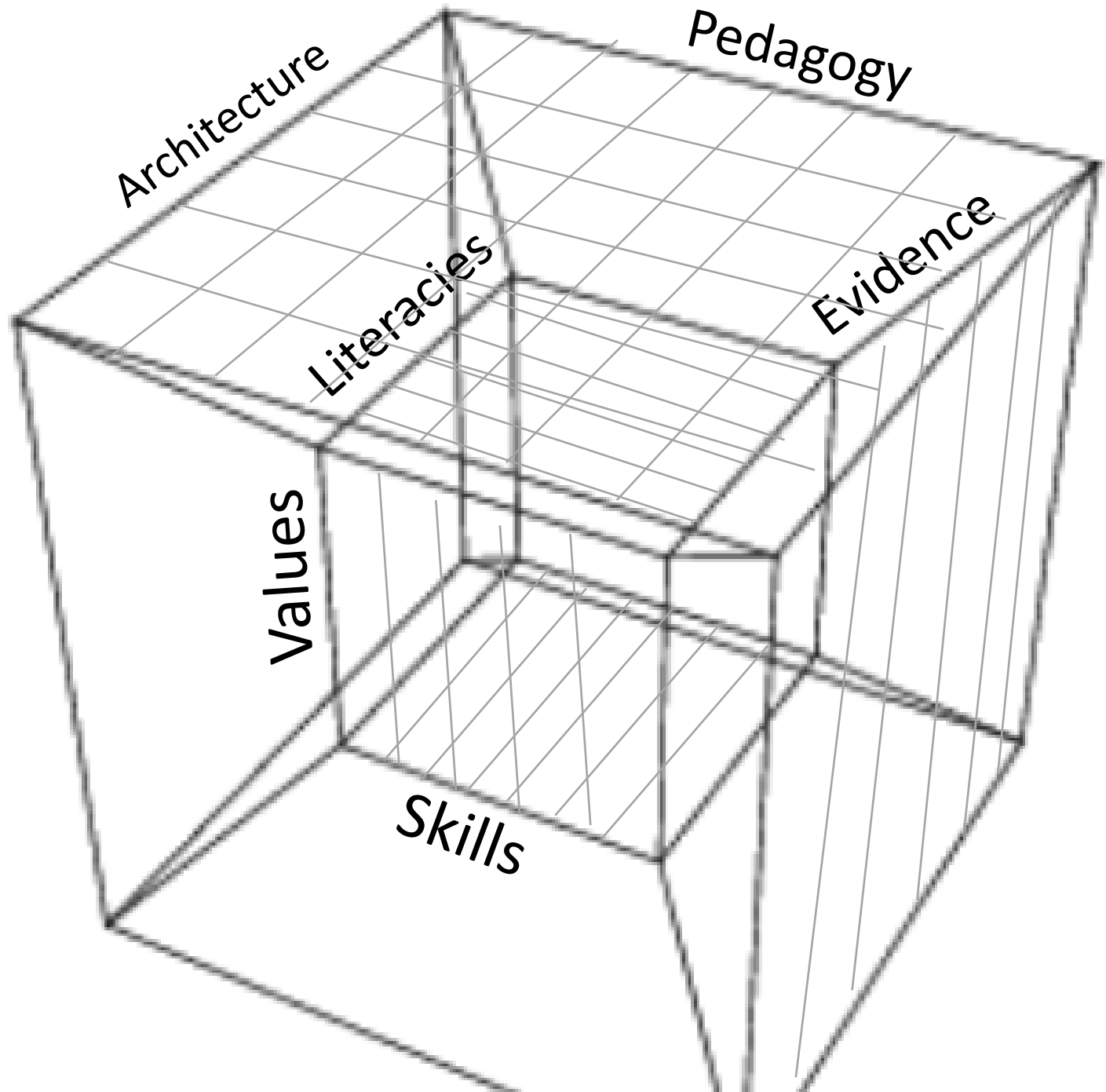












Architecture

Pedagogy

Literacies

Evidence

Values

Skills

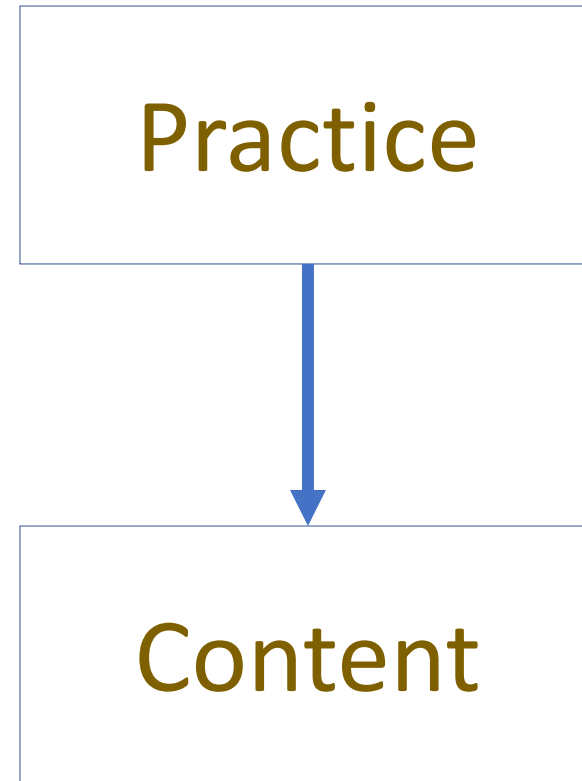
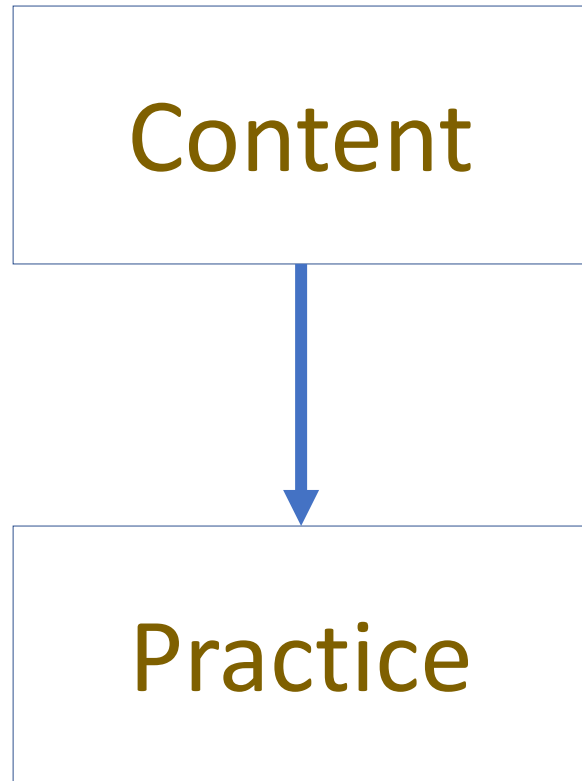
Pedagogy

# Personalization?

What is a personalized 21st century education

- personalized education plan (developed by teacher)
- adaptive learning via assessment
- grouping by proficiency, not age
- teacher = director of learning
- cf Kettering Foundation, Individually Guided Education

## 2. Two Approaches...



# Two Approaches...

Defines an ideal state

Content



Practice

TEST

Person tests you

Defines a desired state

Practice



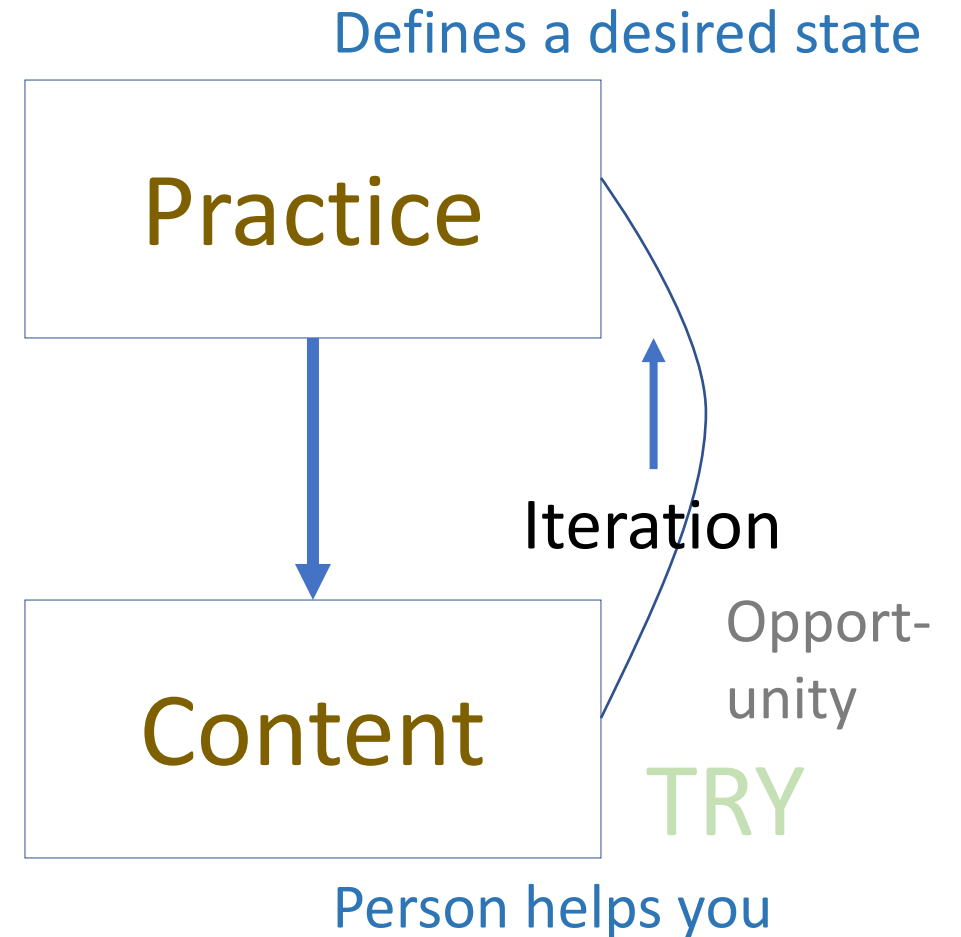
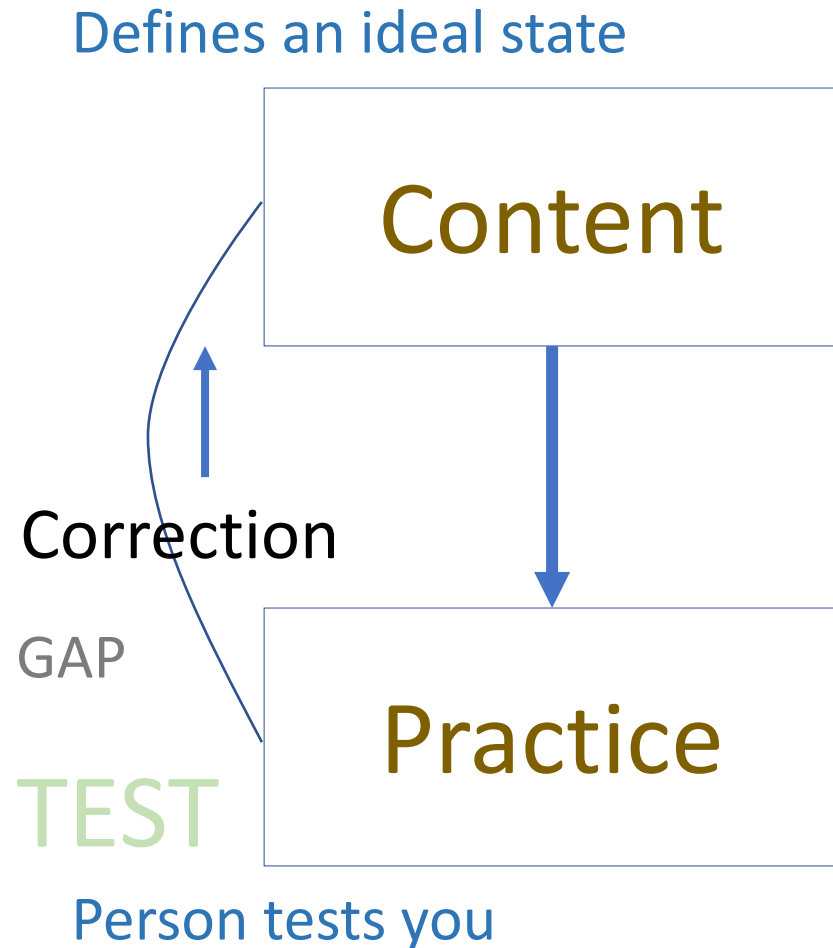
Content

TRY

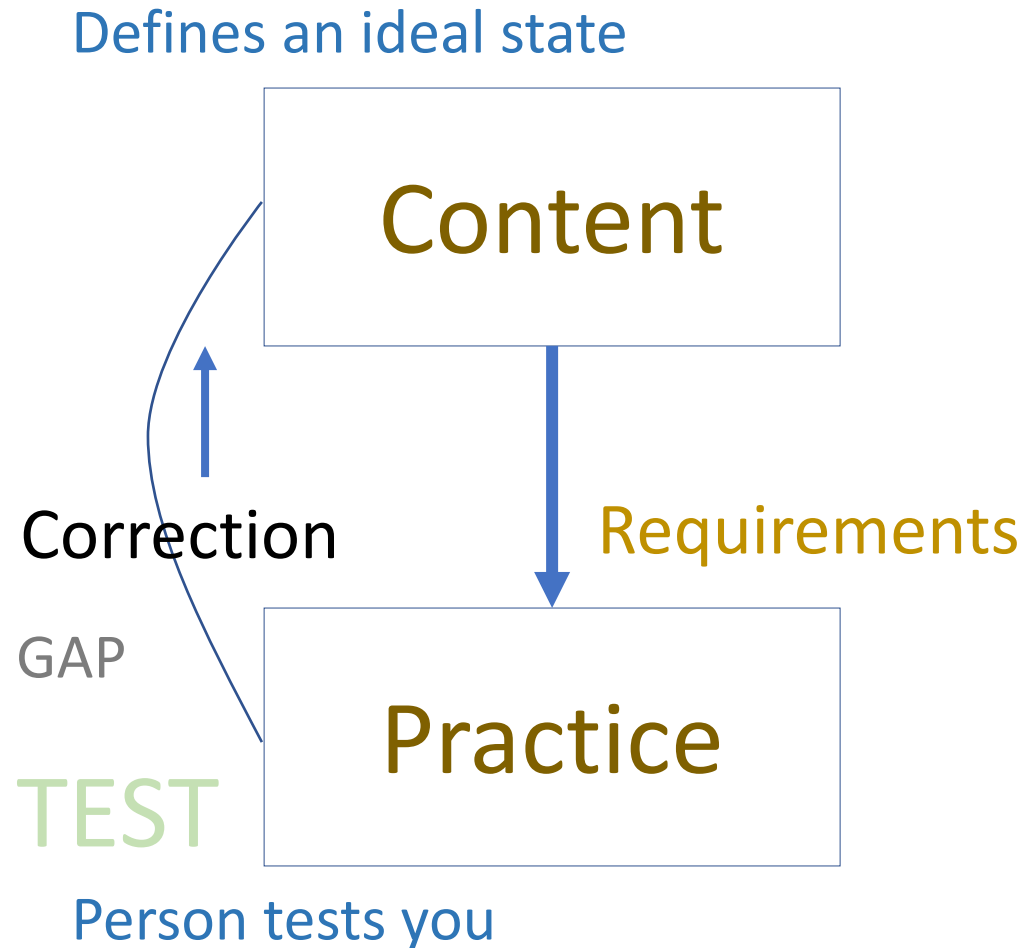
Person helps you



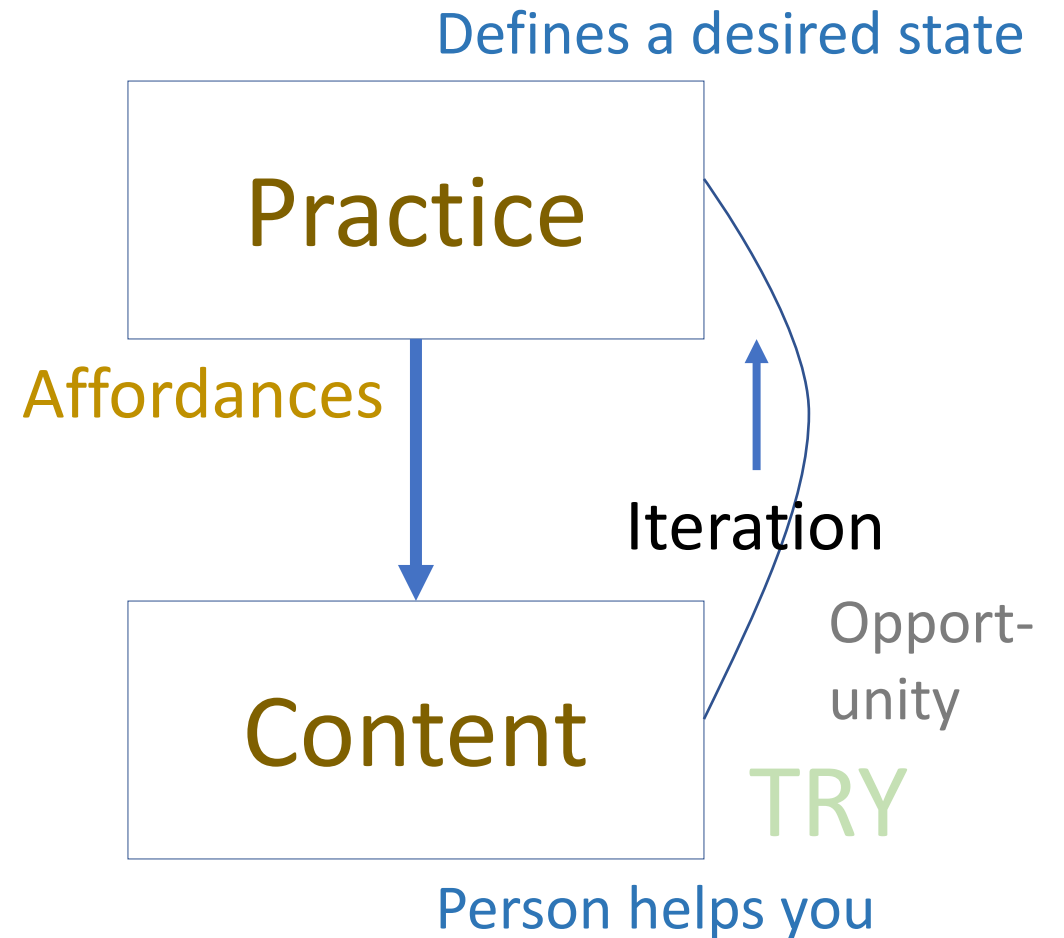
# Two Approaches...



# Library

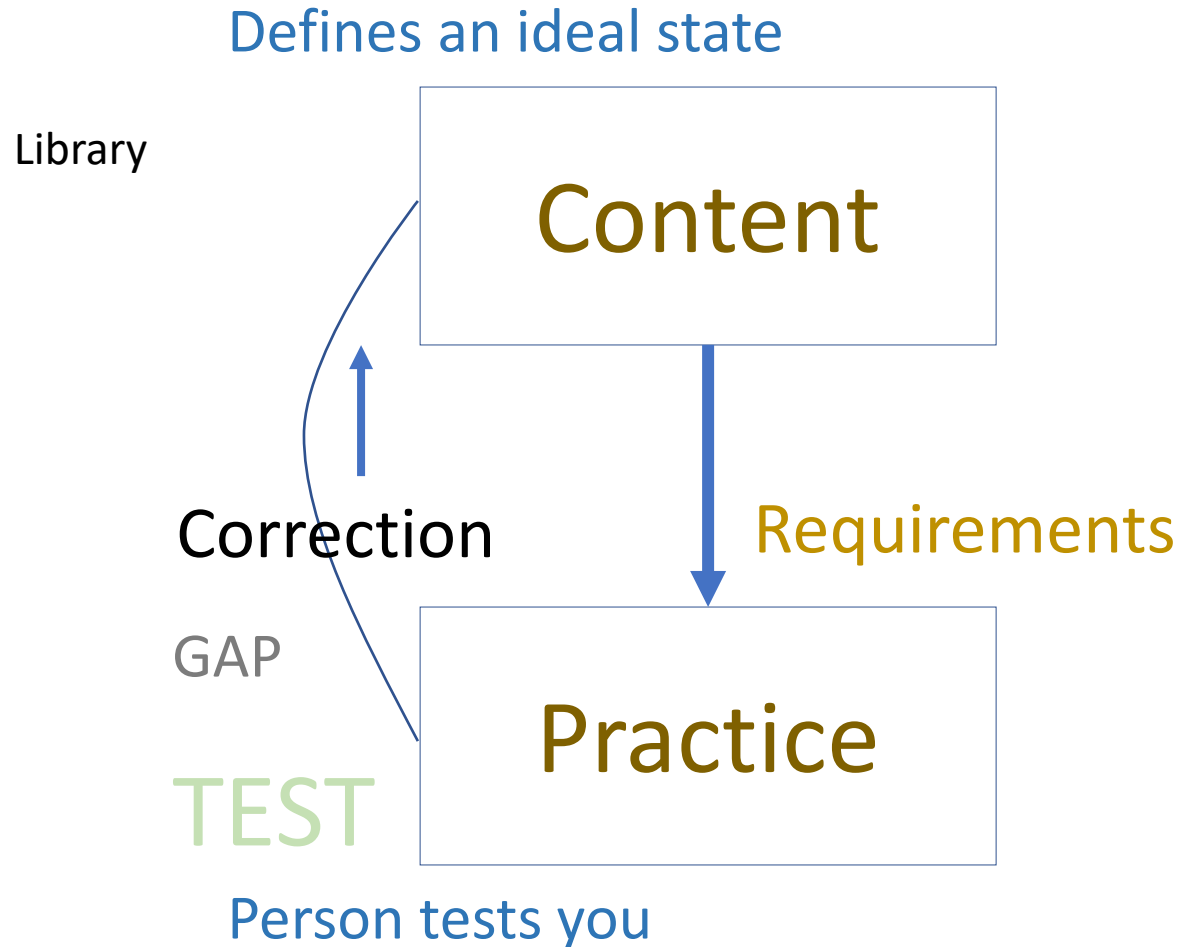


# Environment



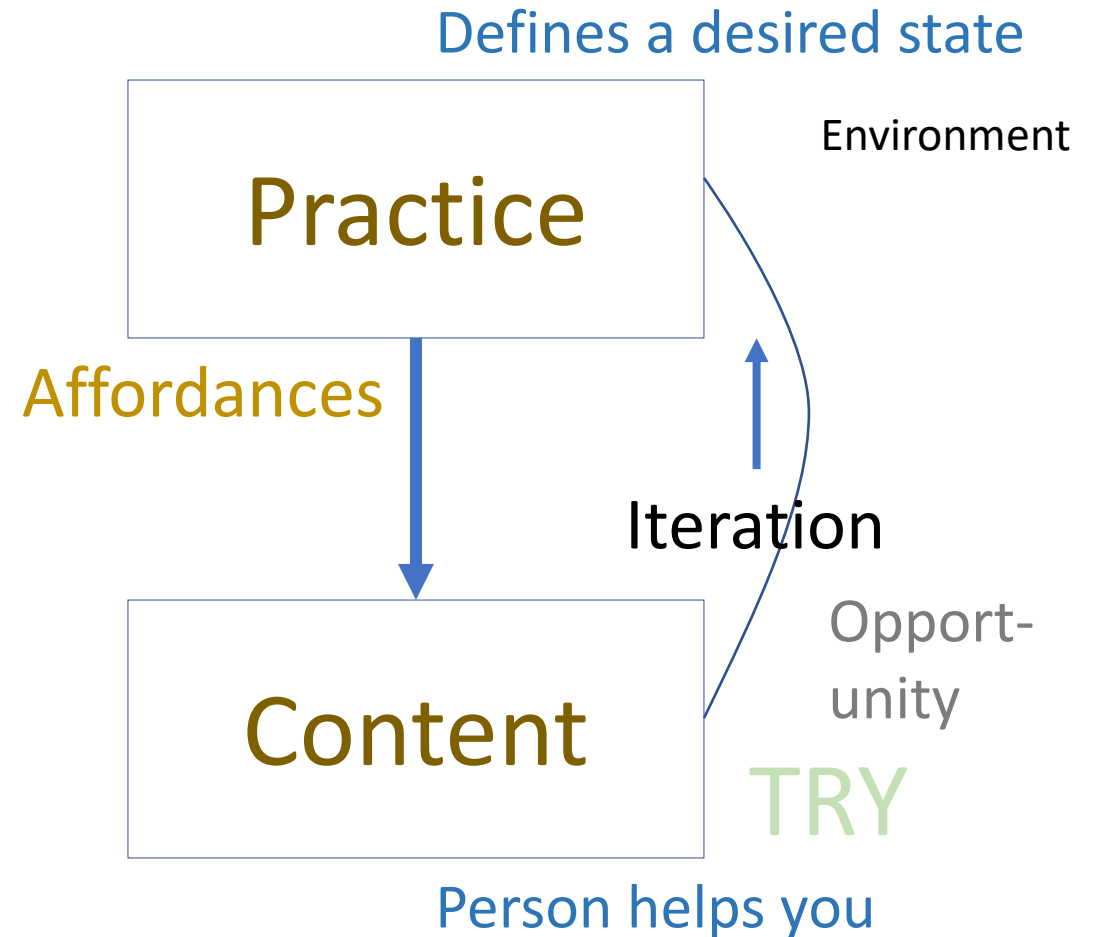
# Personalized

We do for you



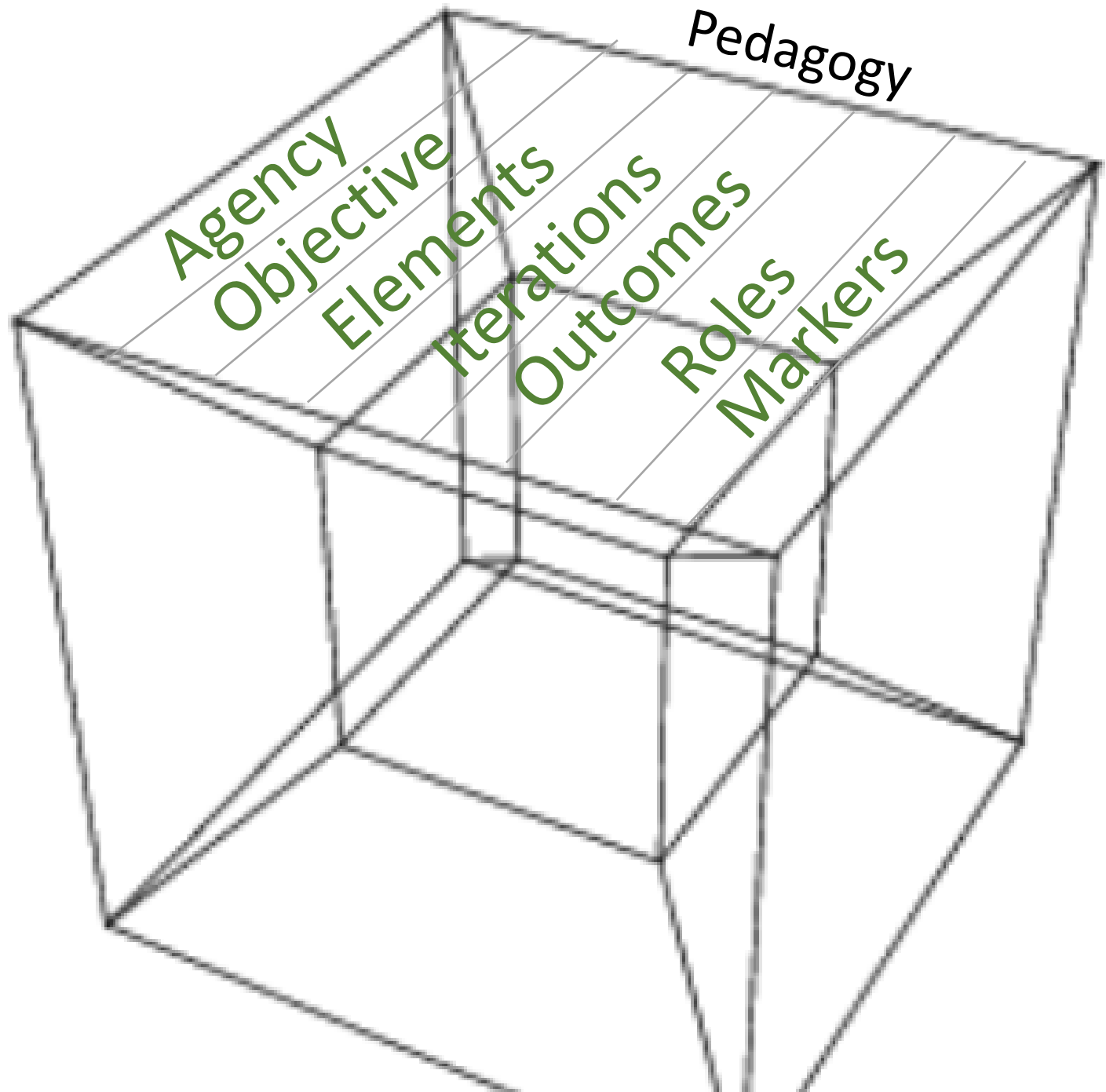
# Personal

You do for yourself



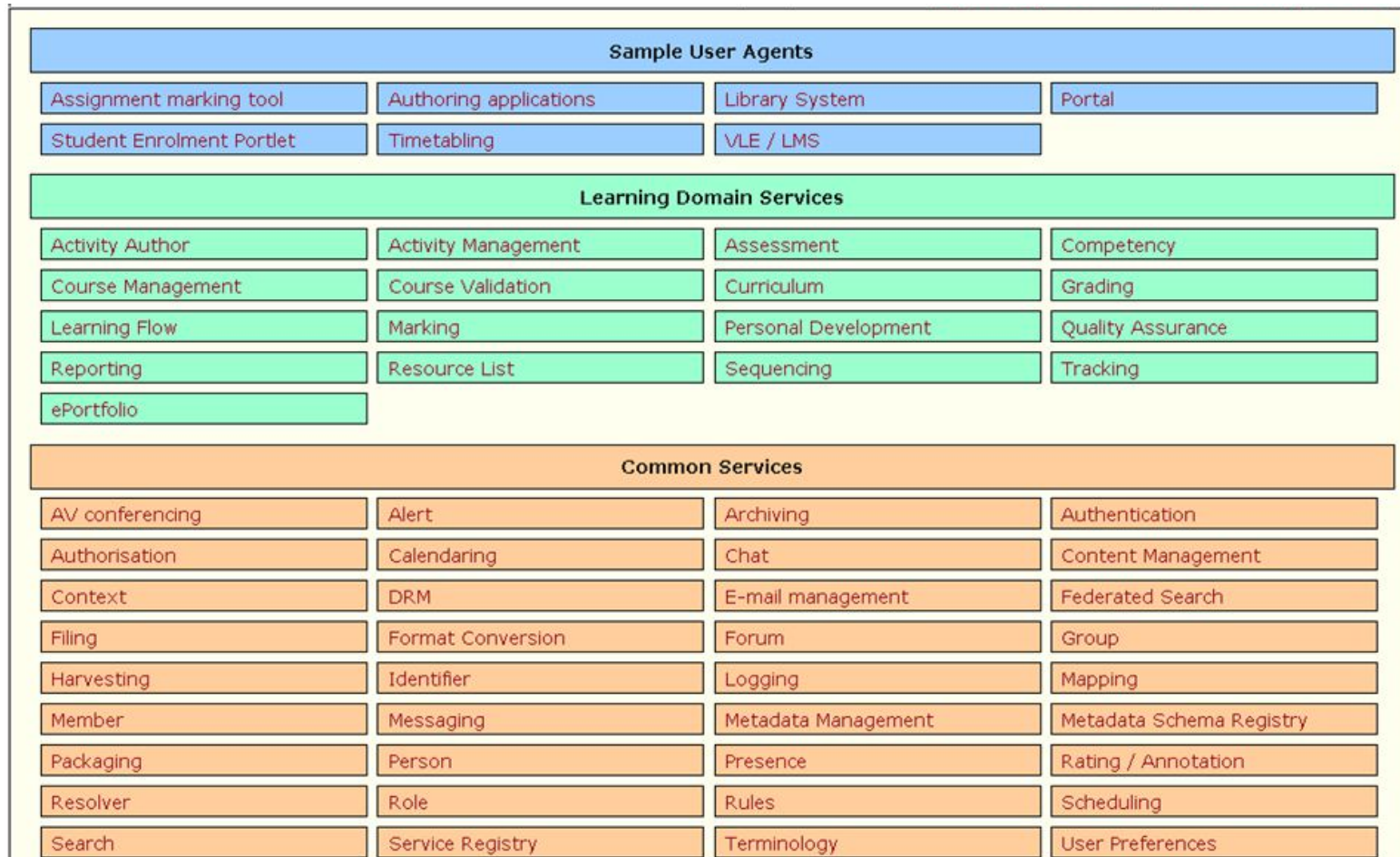
# Personal vs. Personalized

- Compare between:
  - Personalized health care (something the National Health Service or Health Management Organization provides)
  - Personal health care (something you do for yourself)
- Personal goals versus institutional goals
- Practice versus content

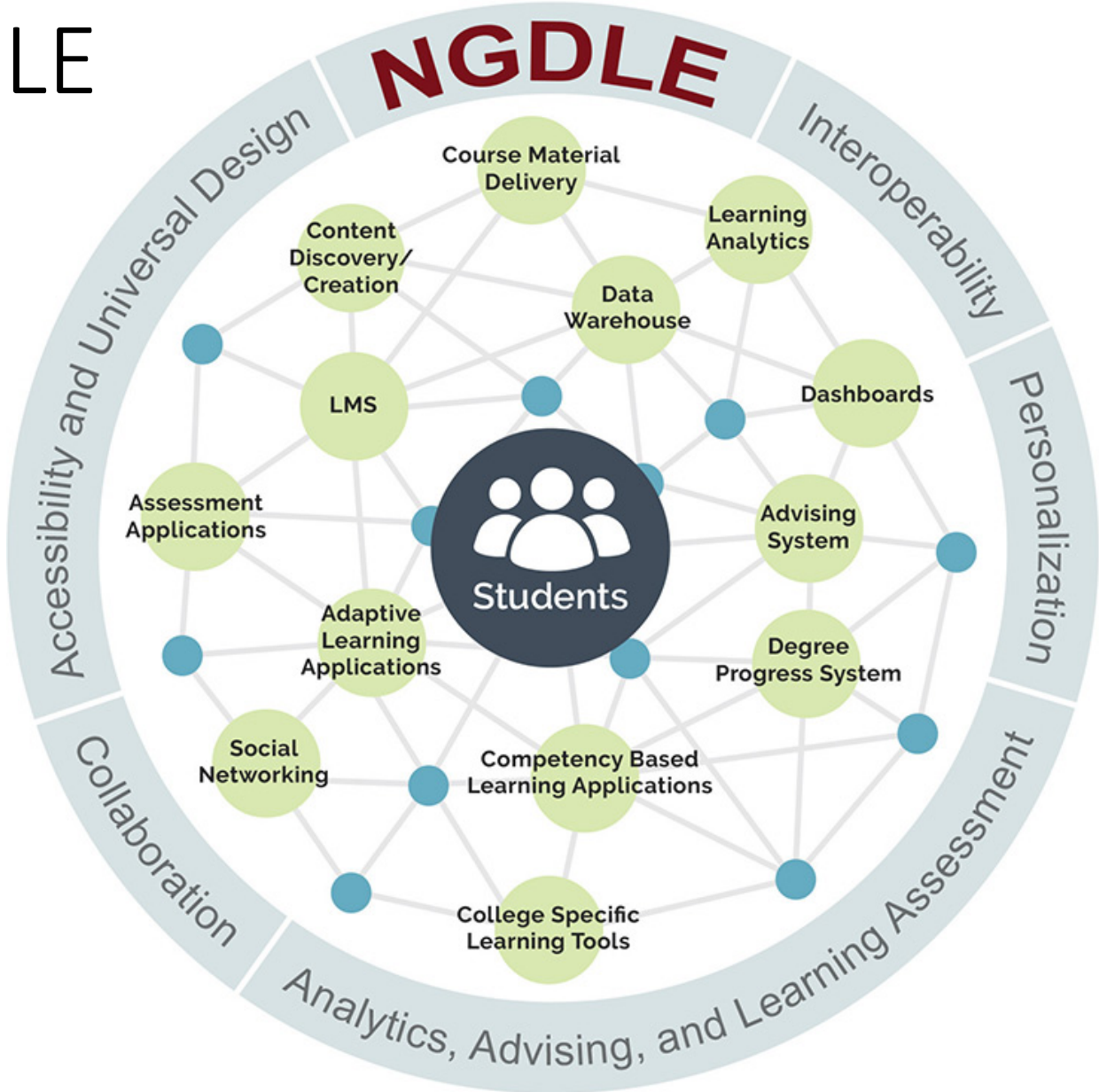


Architecture

# JISC E-Learning Framework



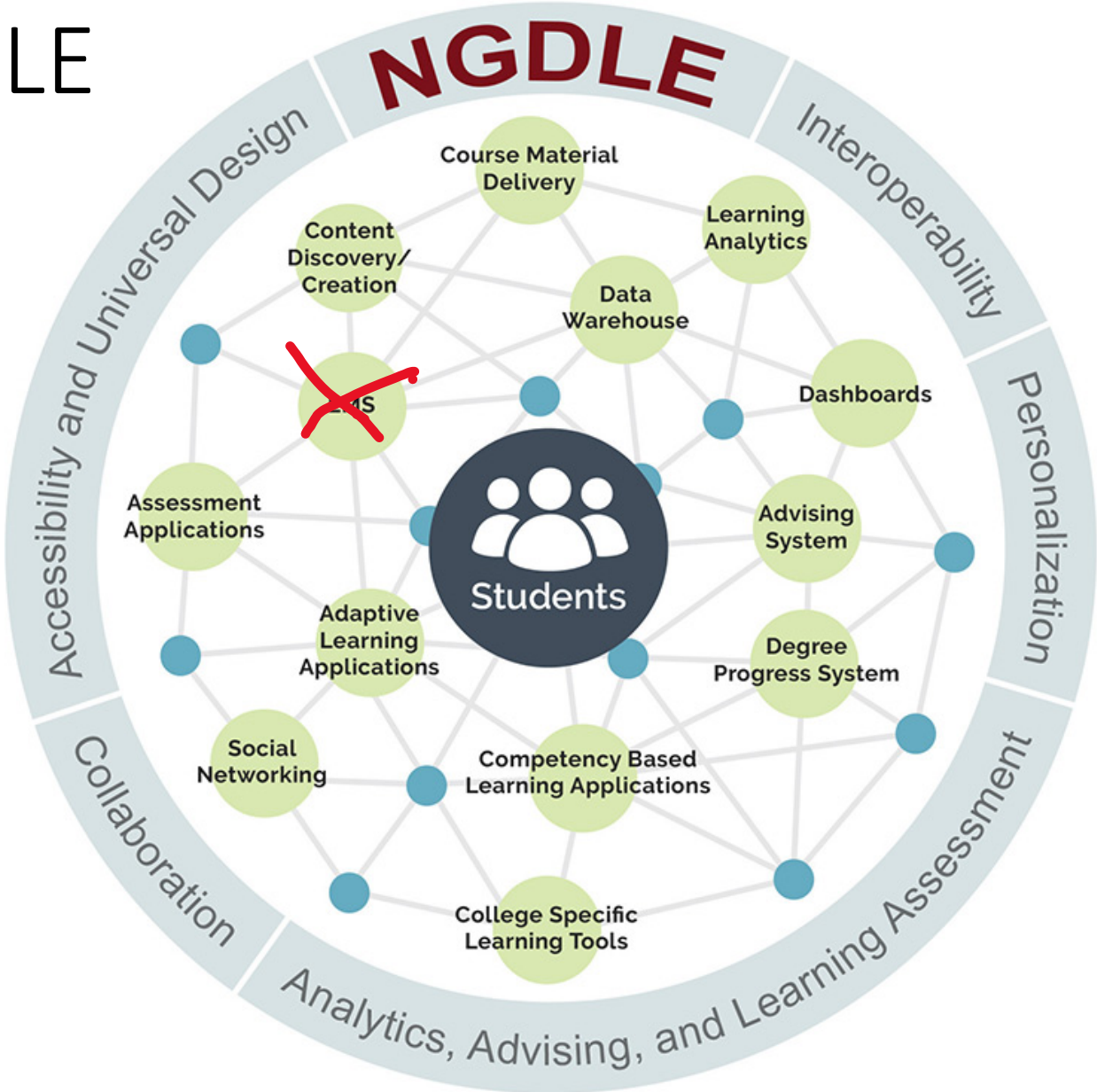
# NGDLE



<https://er.educause.edu/articles/2017/7/the-ngdle-we-are-the-architects>

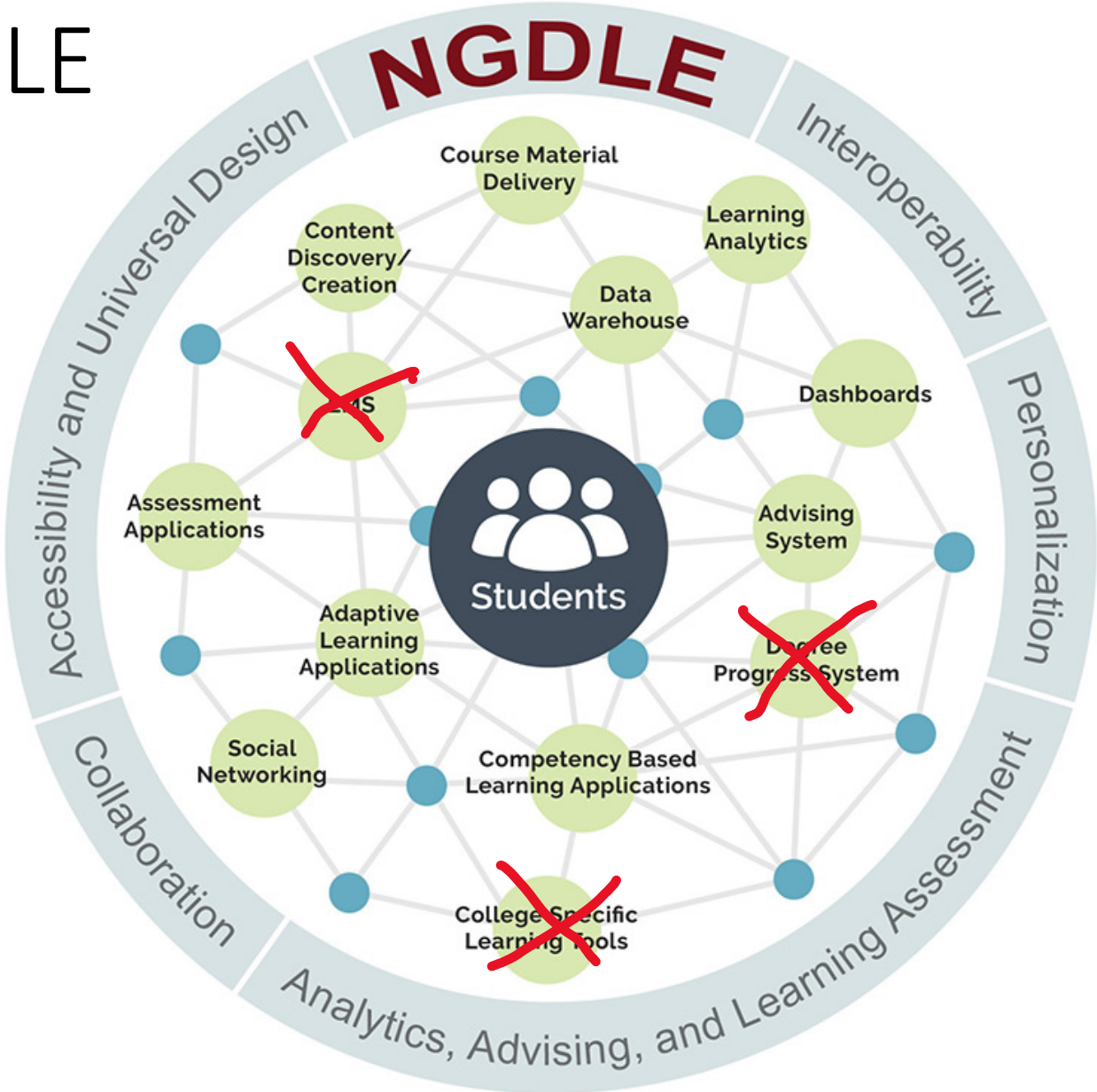


# NGDLE



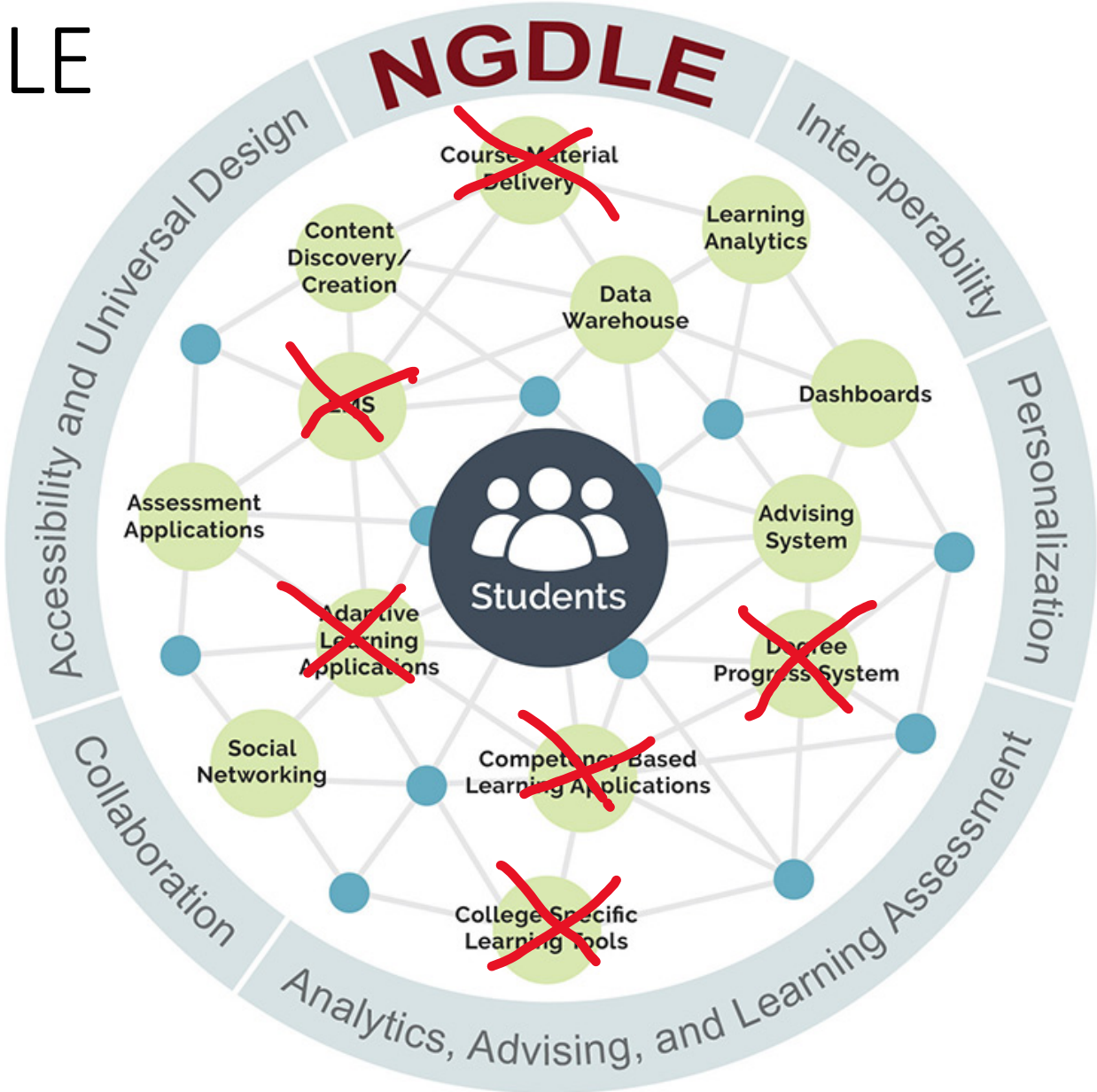
<https://er.educause.edu/articles/2017/7/the-ngdle-we-are-the-architects>

# NGDLE



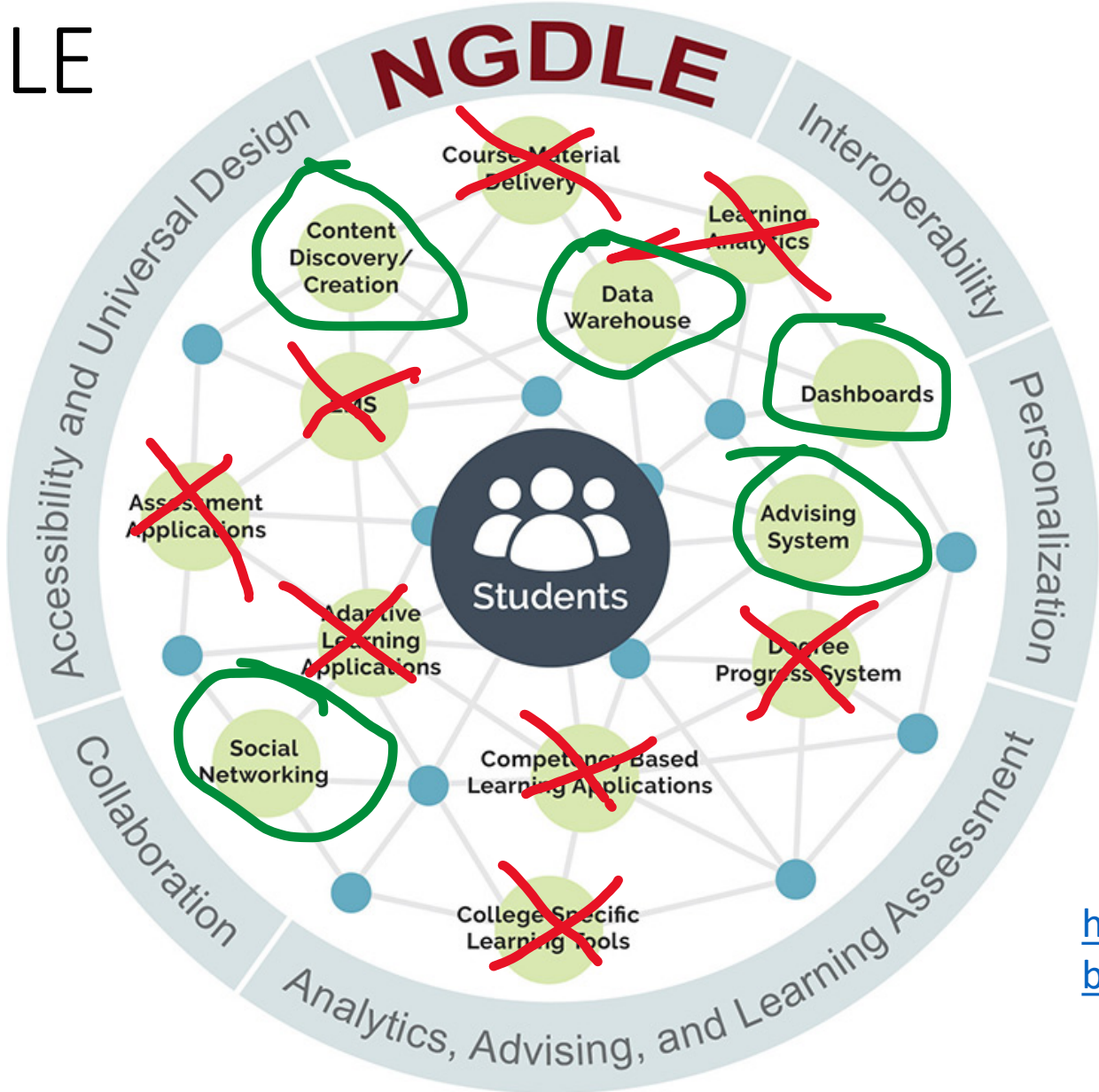
<https://er.educause.edu/articles/2017/7/the-ngdle-we-are-the-architects>

# NGDLE



<https://er.educause.edu/articles/2017/7/the-ngdle-we-are-the-architects>

# NGDLE



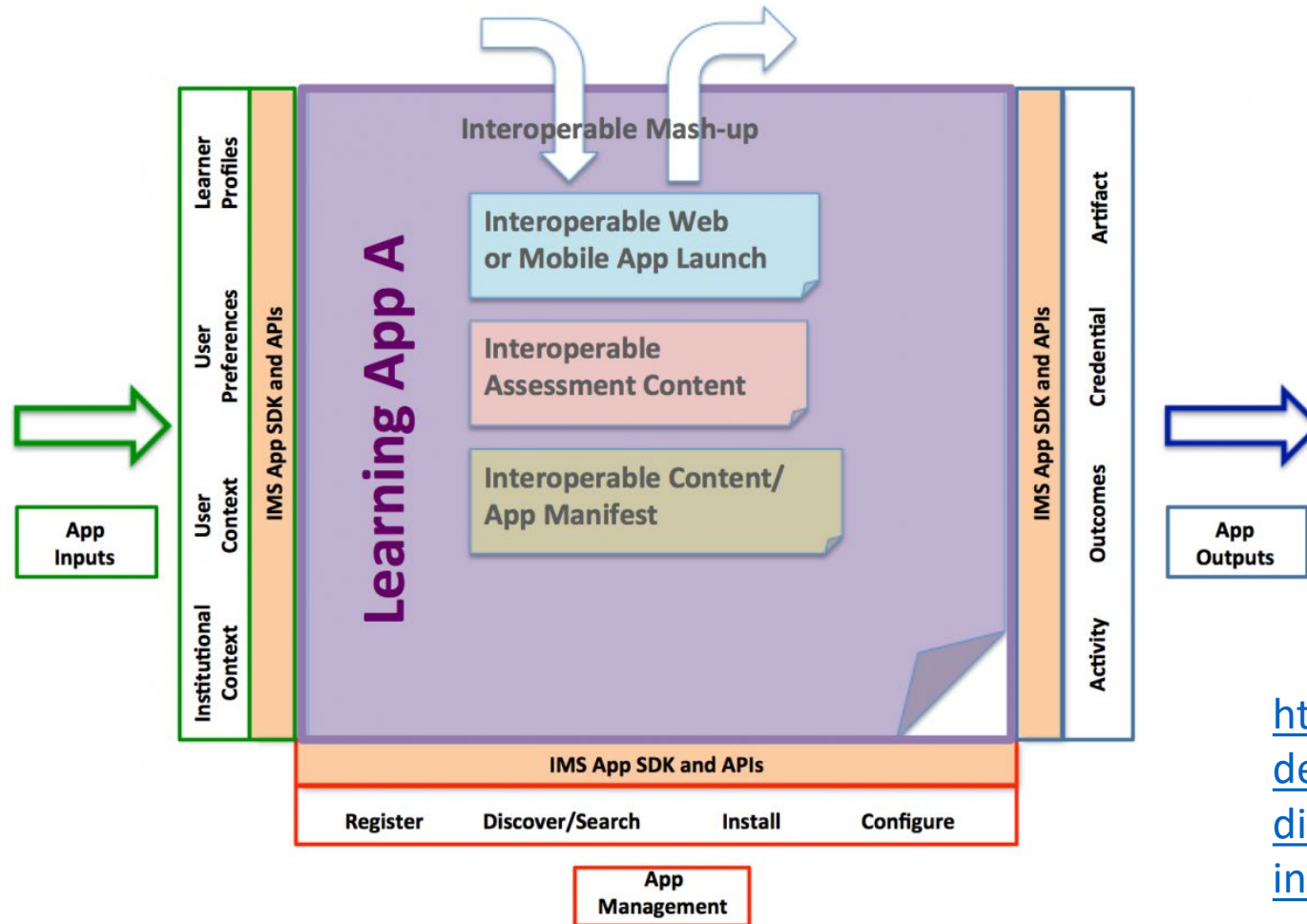
<https://er.educause.edu/articles/2017/7/the-ngdle-we-are-the-architects>

<https://library.educause.edu/~media/files/library/2015/4/eli3035-pdf.pdf>



# Interoperable Learning App?

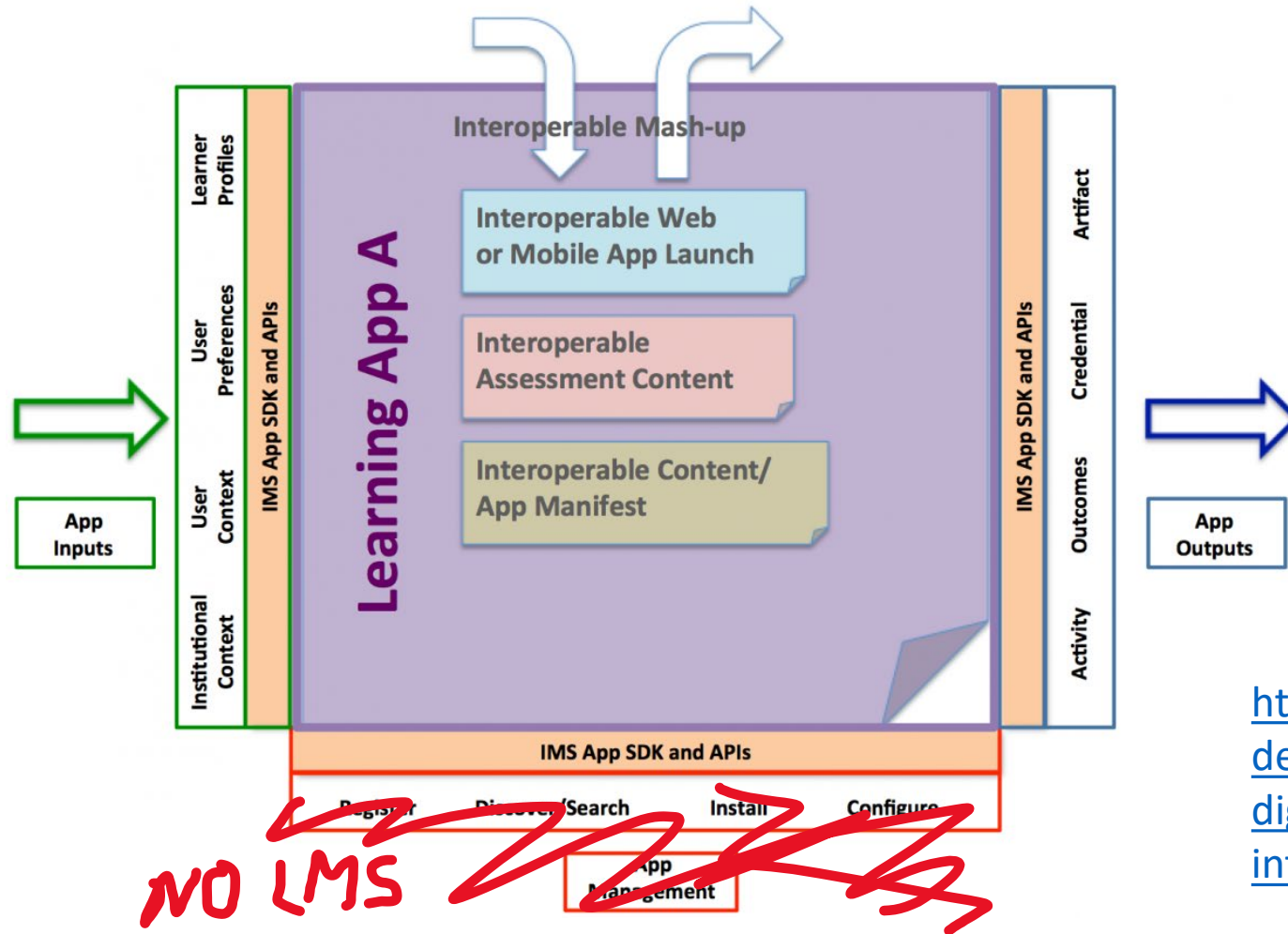
## Anatomy of an Interoperable Learning App



<https://www.imsglobal.org/article/deeper-dive-next-generation-digital-learning-environment-ngdle-interoperability-part>

# Interoperable Learning App?

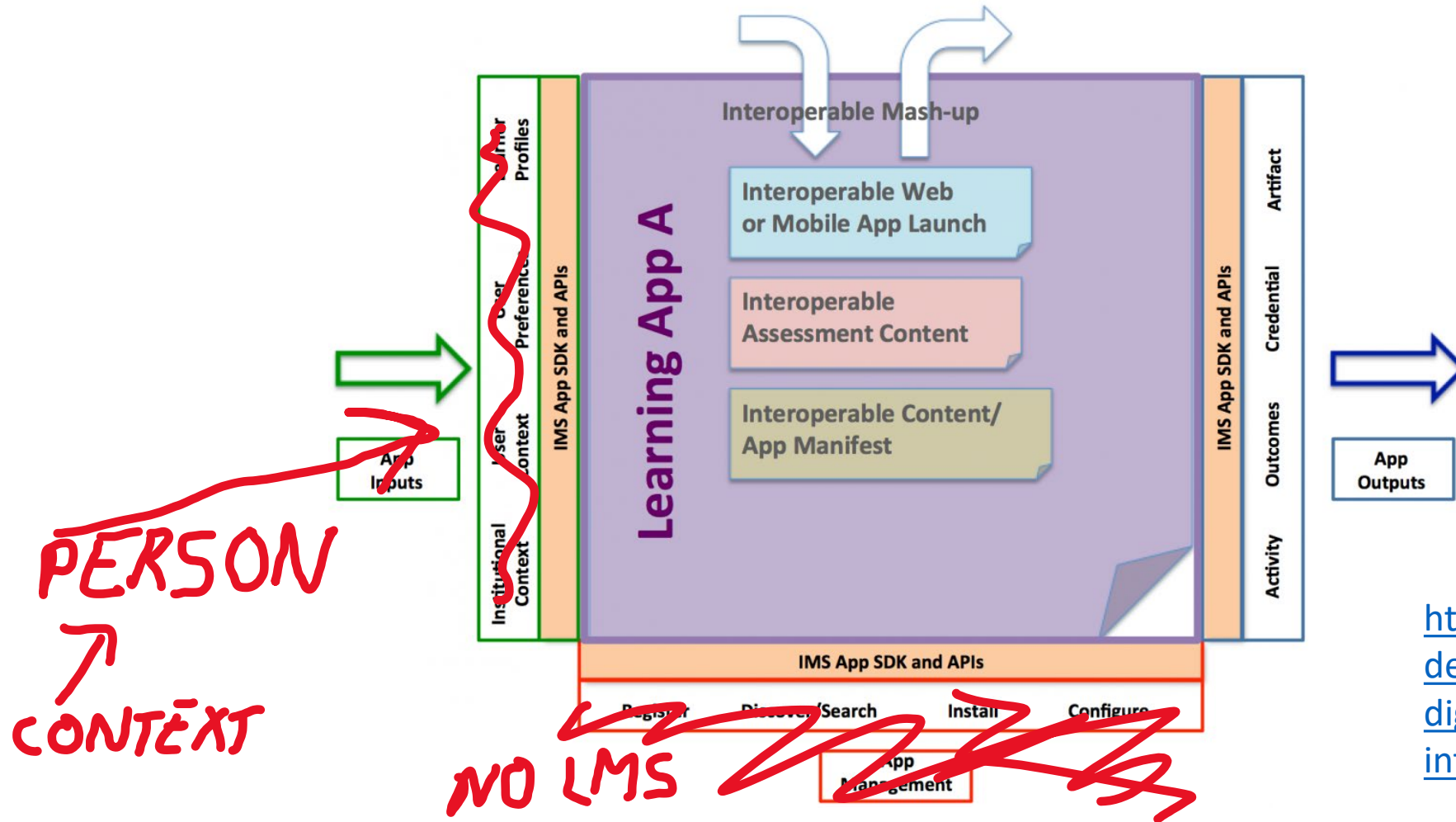
## Anatomy of an Interoperable Learning App



<https://www.imsglobal.org/article/deeper-dive-next-generation-digital-learning-environment-ngdle-interoperability-part>

# Interoperable Learning App?

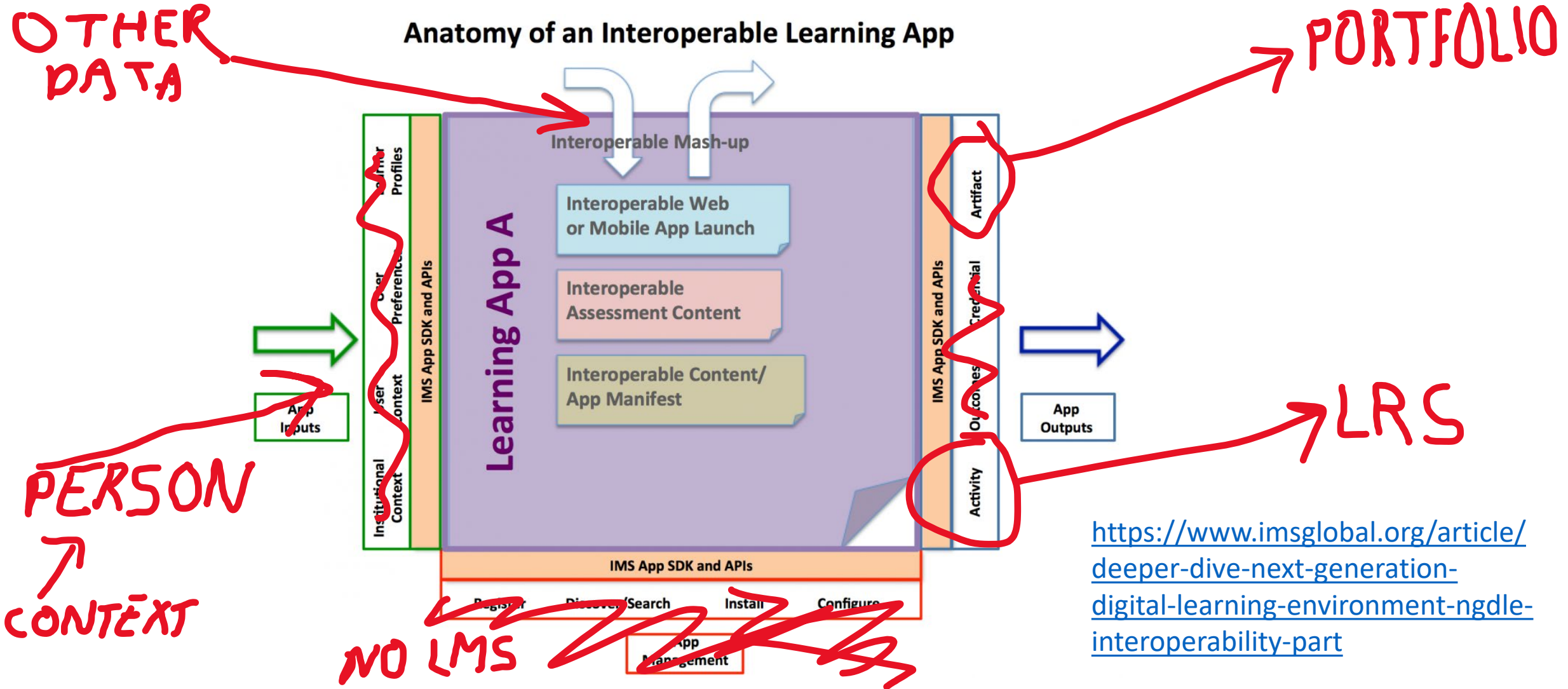
## Anatomy of an Interoperable Learning App



<https://www.imsglobal.org/article/deeper-dive-next-generation-digital-learning-environment-ngdle-interoperability-part>

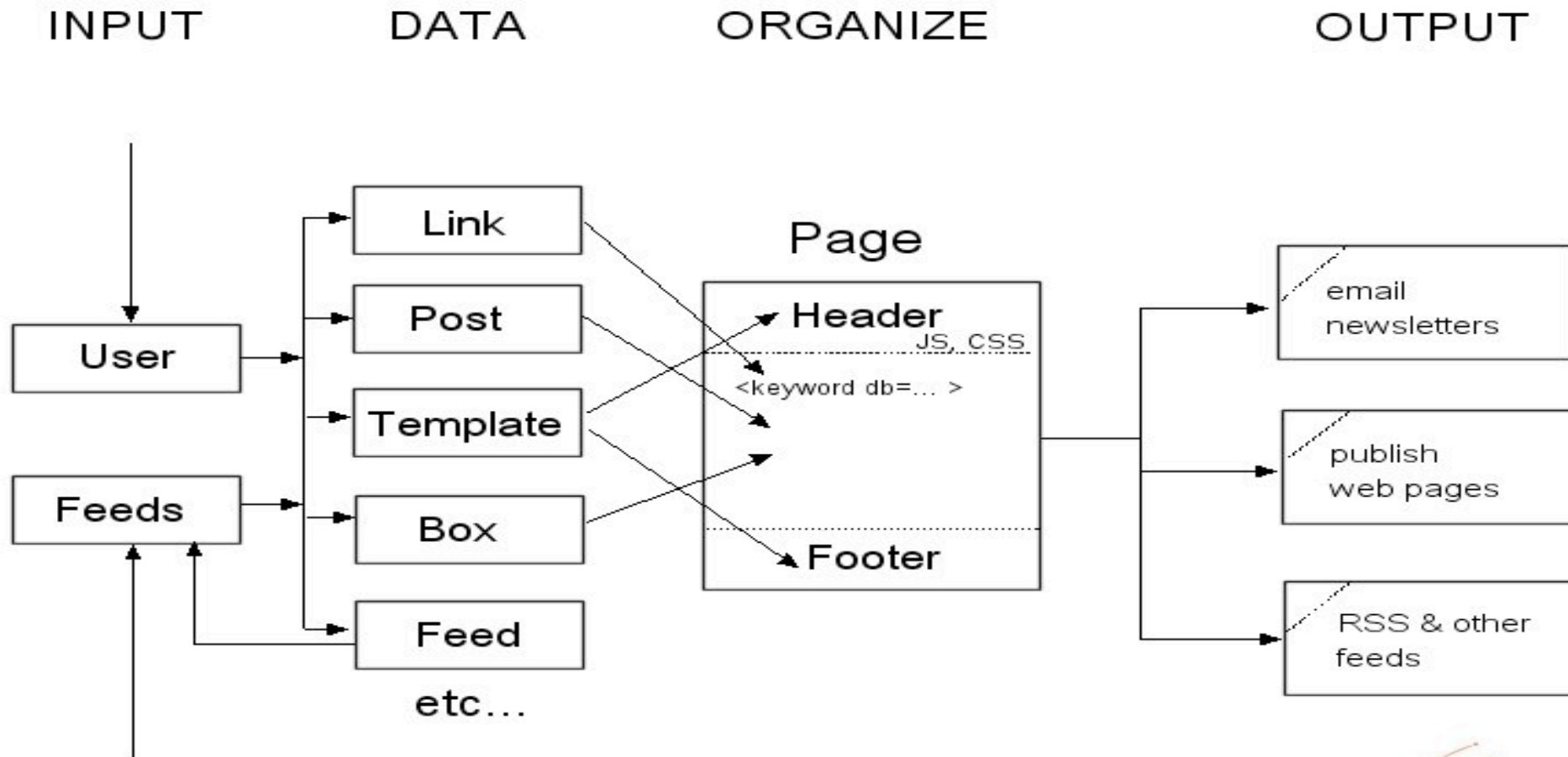
# Interoperable Learning App?

Anatomy of an Interoperable Learning App

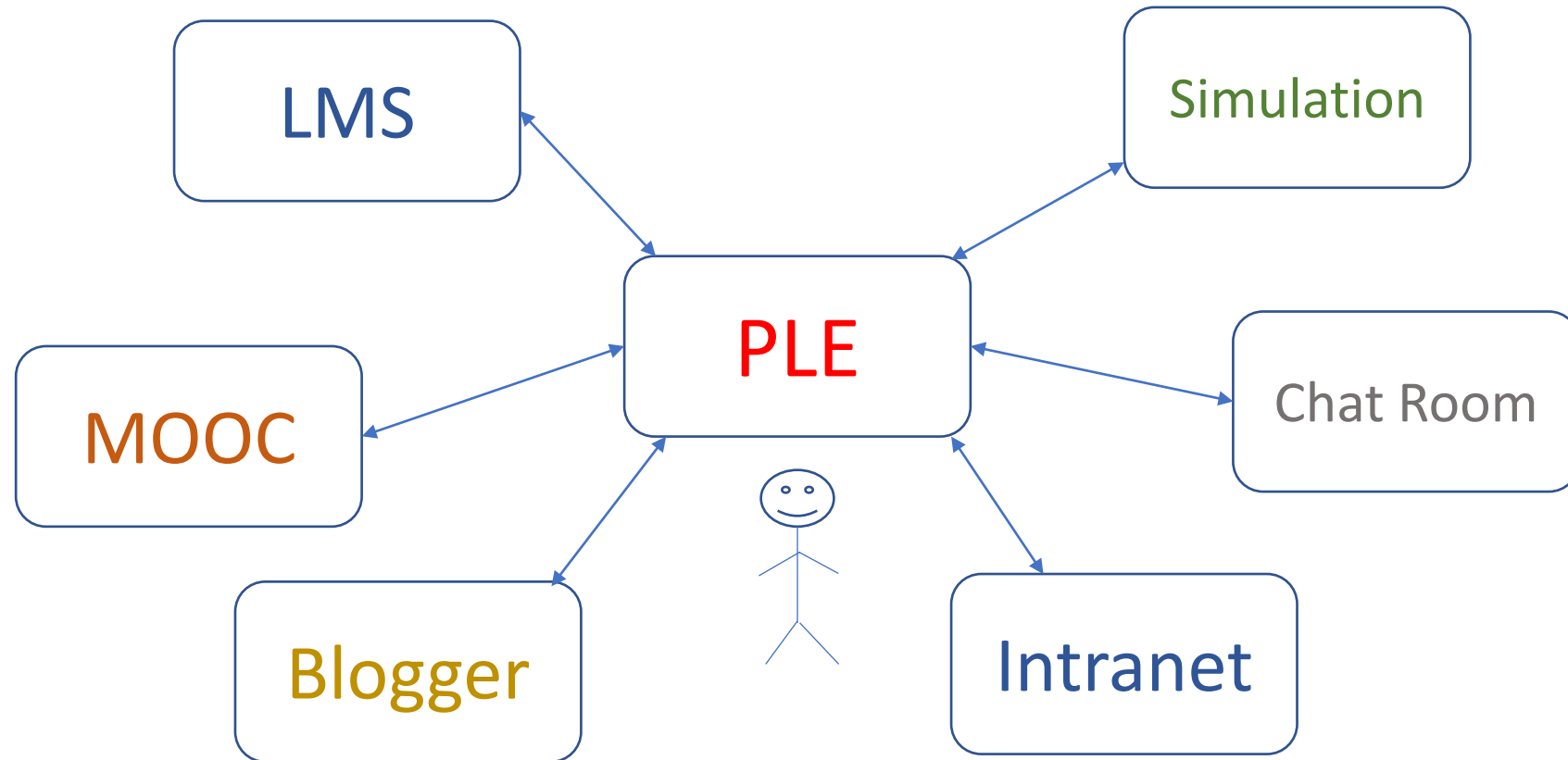




# gRSShopper

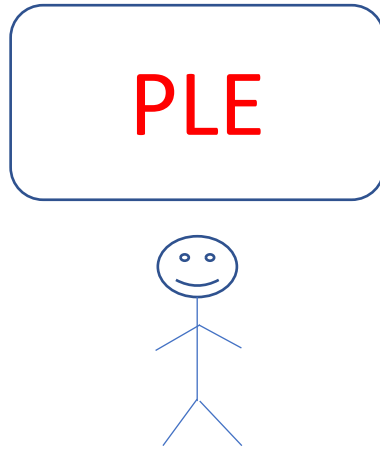


# Overview of the Concept of PLEs



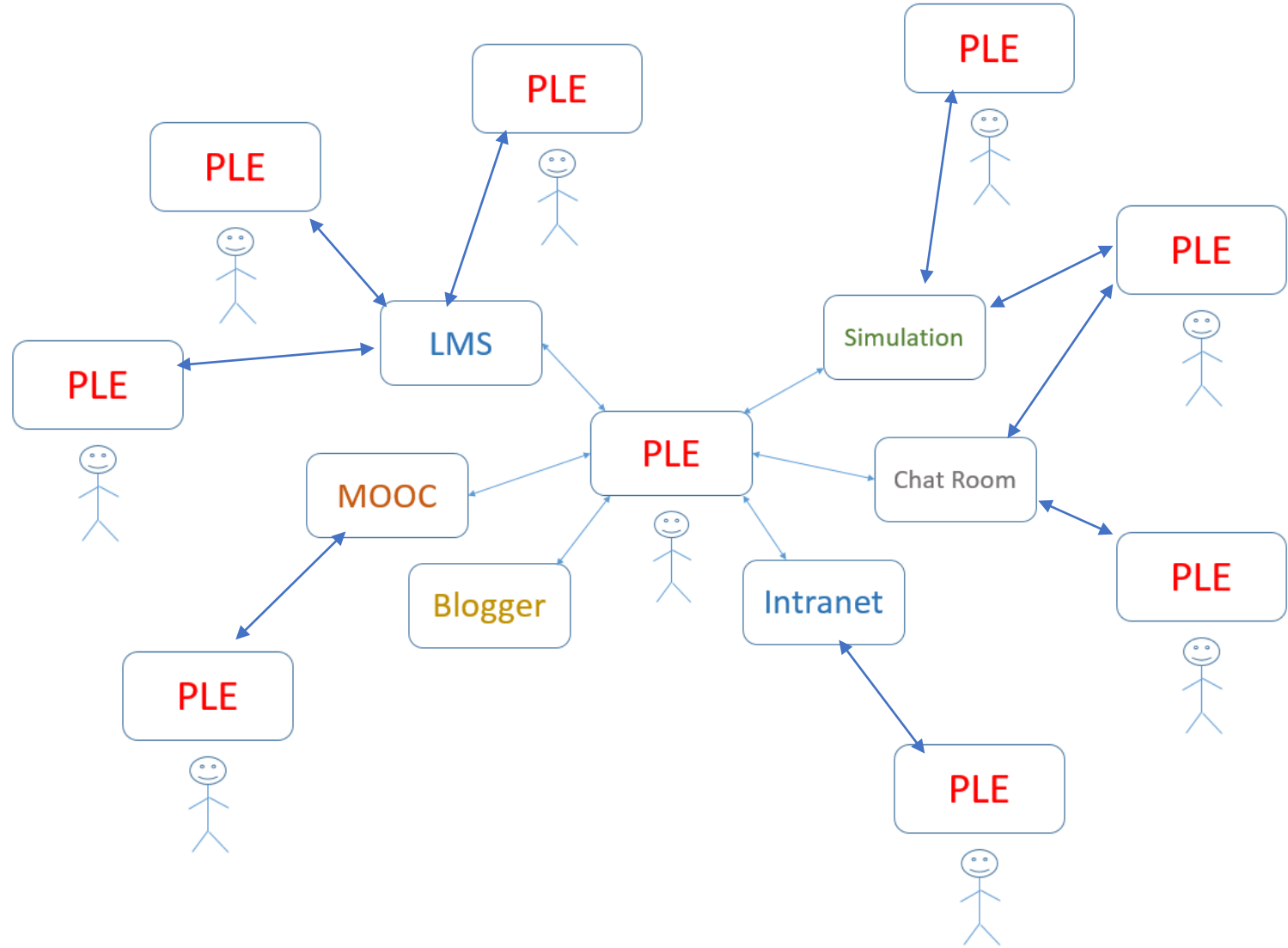
Access to many services in one personal environment

# Properties of the PLE...

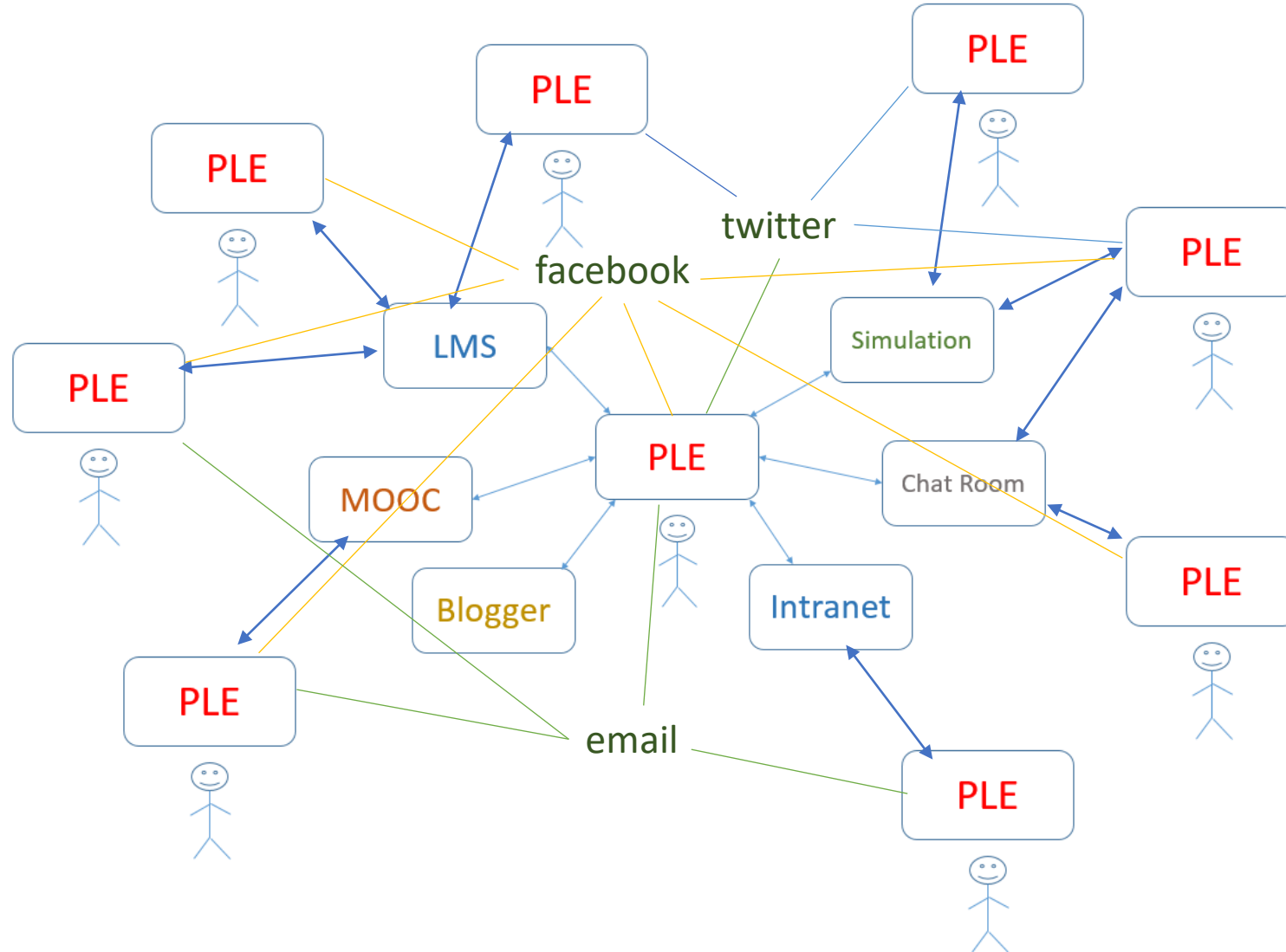


- What information should it record?
- Who owns the data? How private is it?
- What should it *do*?
- What would a person do with it?
- Where, exactly, is a PLE located?

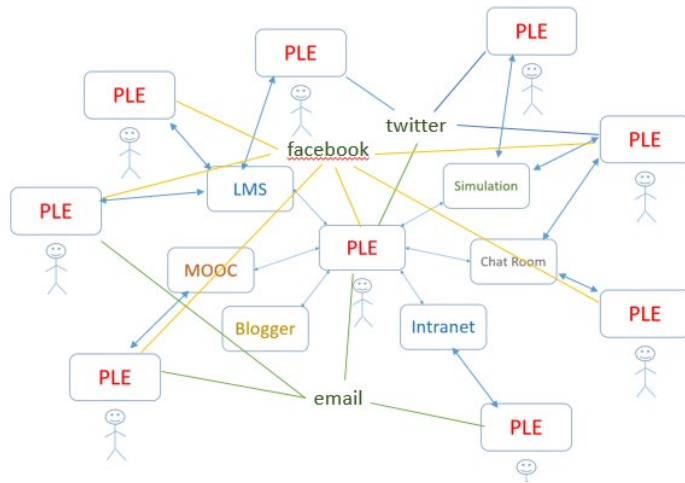
# The Network of PLEs



# The Social Network of PLEs



# Properties of the Network...

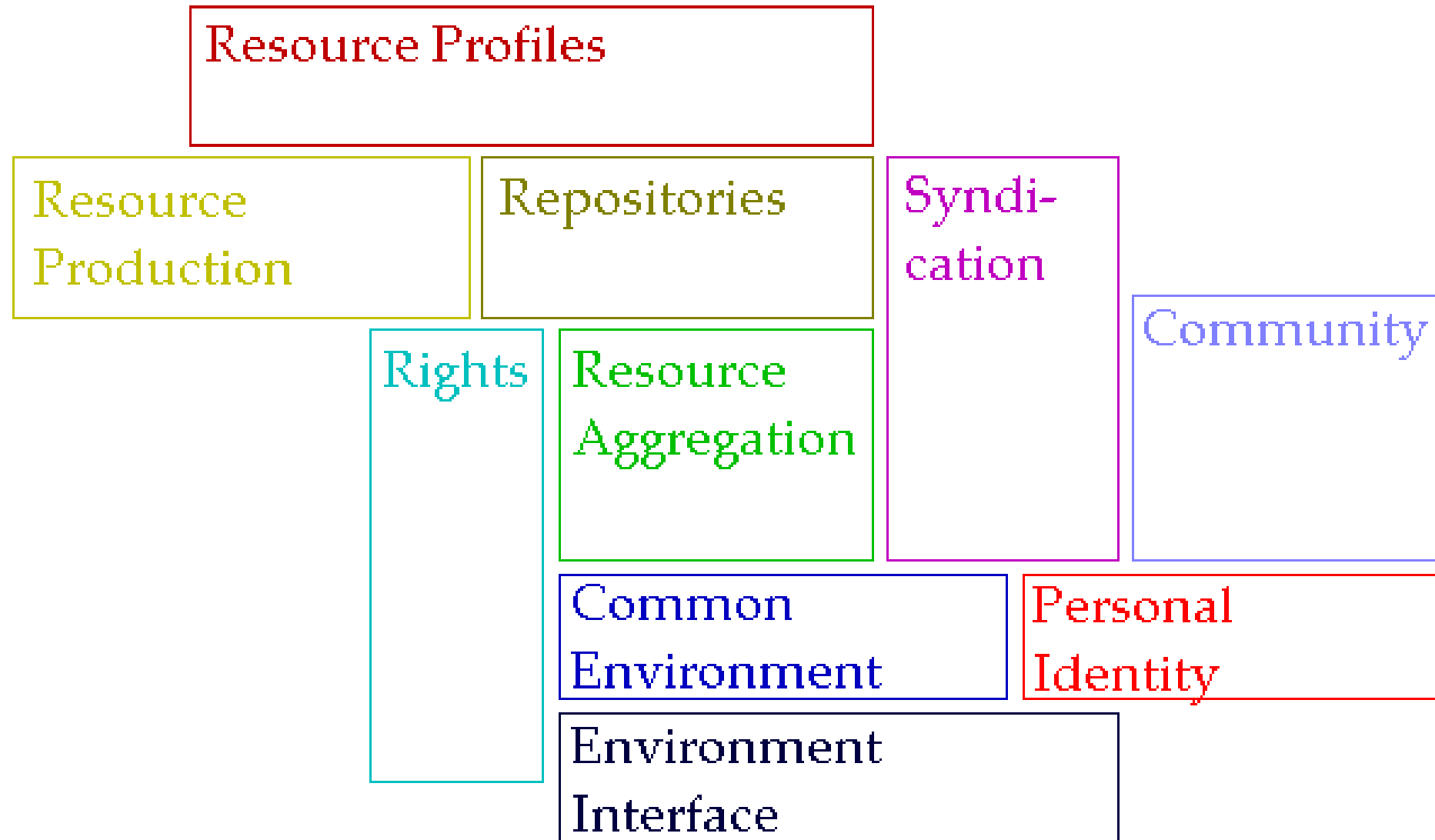


- How do people find each other? Services?
- How do they communicate? What do they share?
- How does a single PLE work with services?
- Do we need centralized registries?

# Why a personal learning environment?

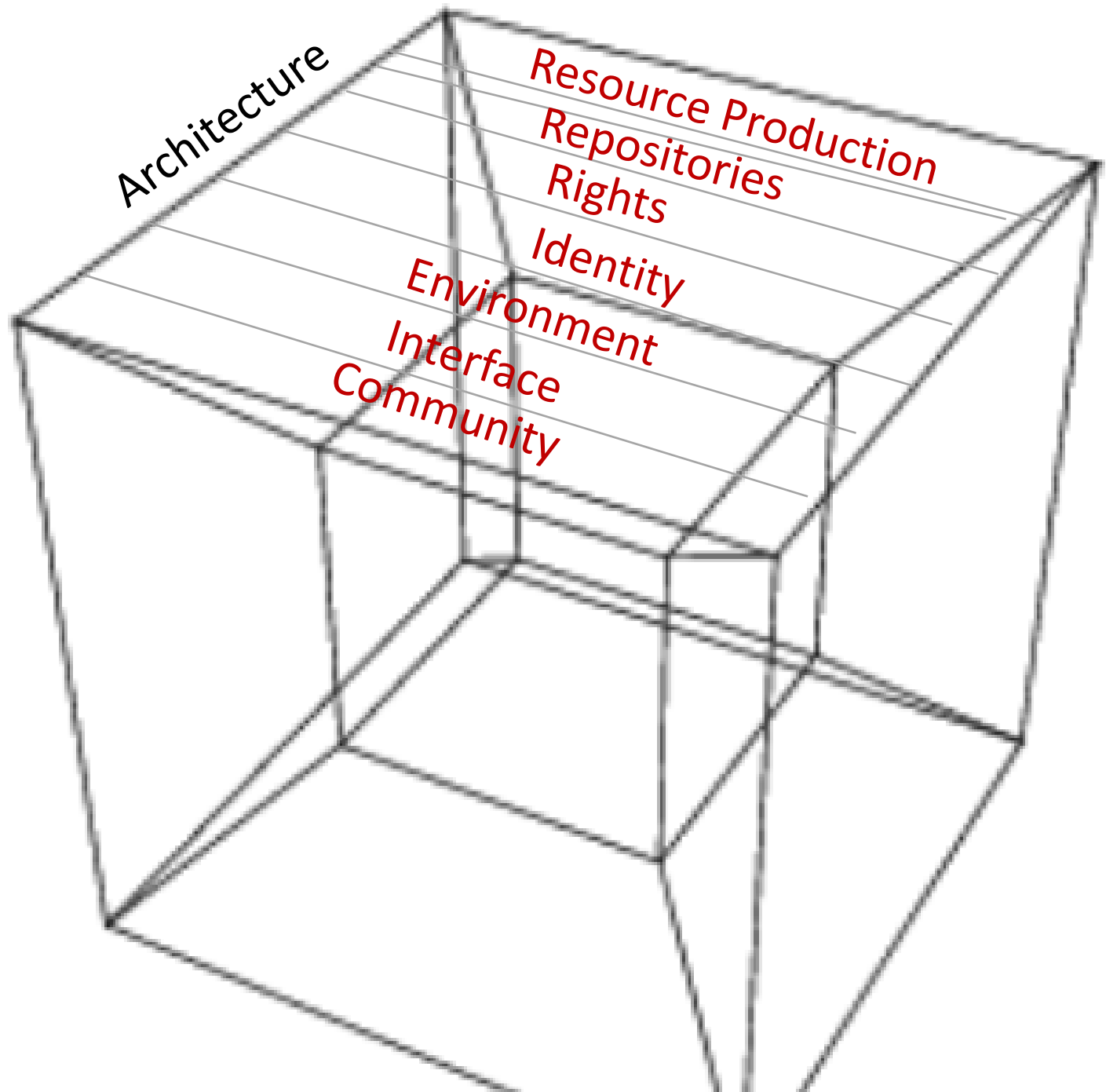
- What is the *value proposition* for a PLE?
  - Note: value isn't what you can *do*, it's how you benefit
  - This is usually stated in financial terms (earn more, cost less)
  - Can also be stated in terms of quality: faster, bigger, better
  - And can be non-financial goods: satisfaction, happiness,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

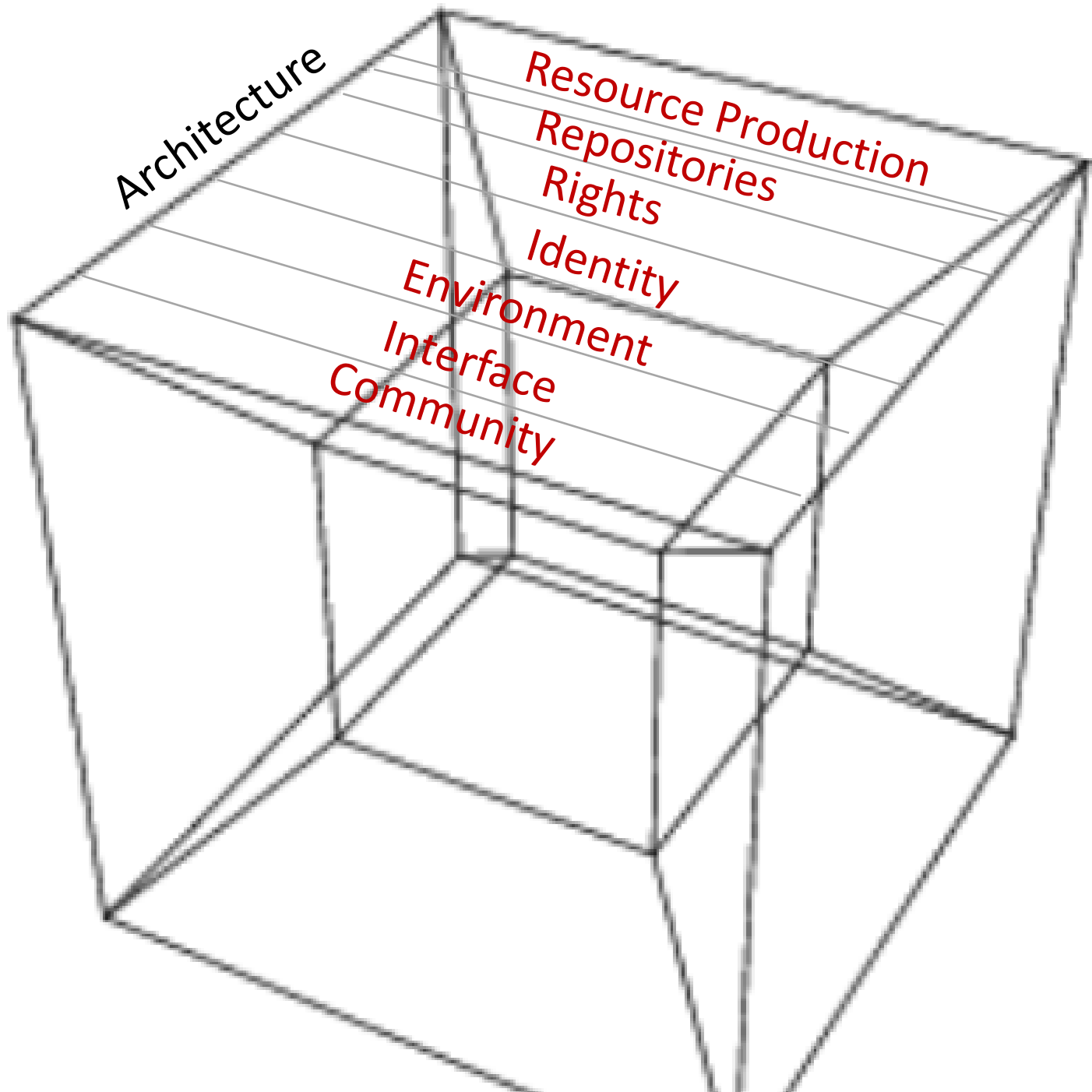


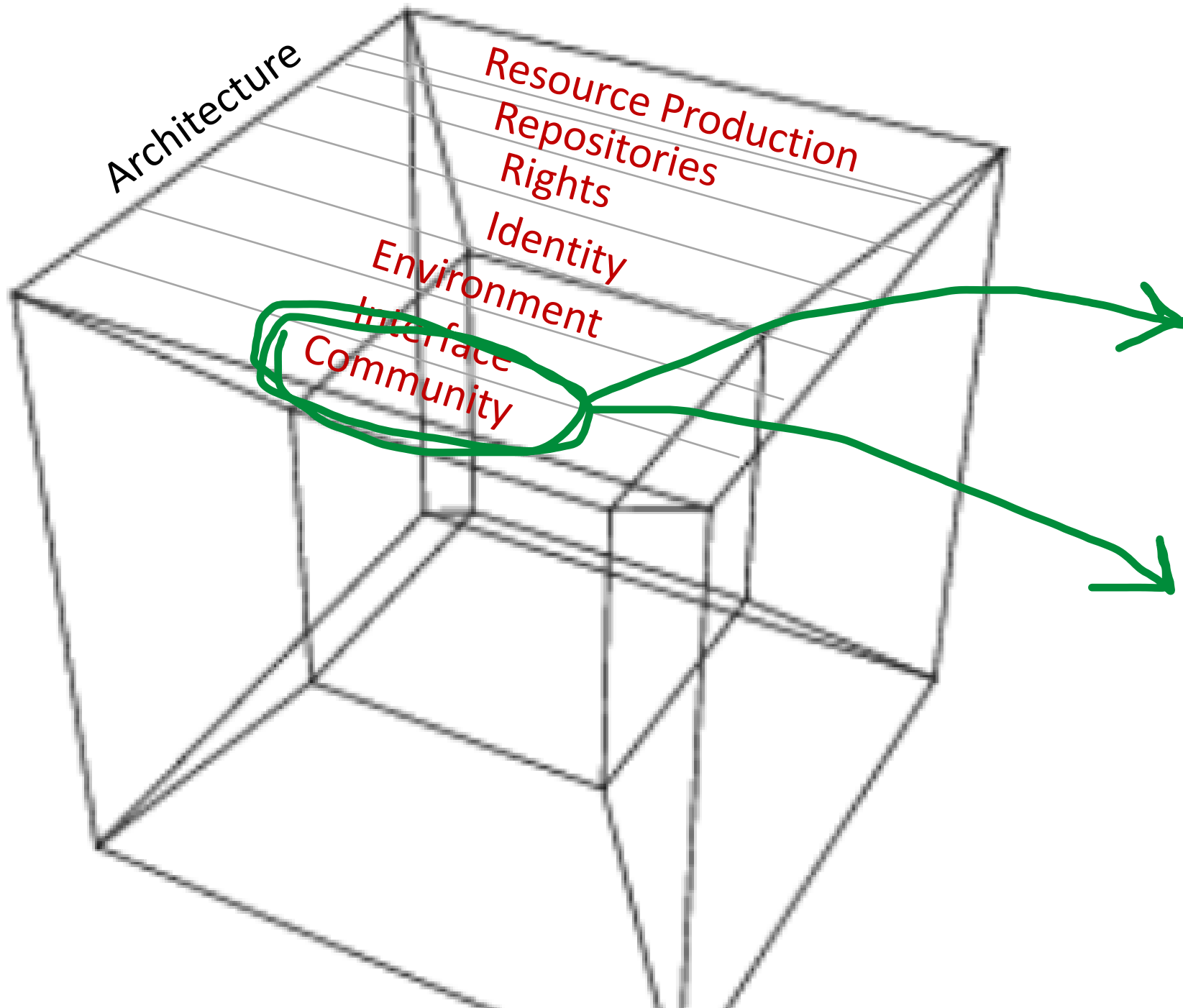


## Personal Learning Architecture

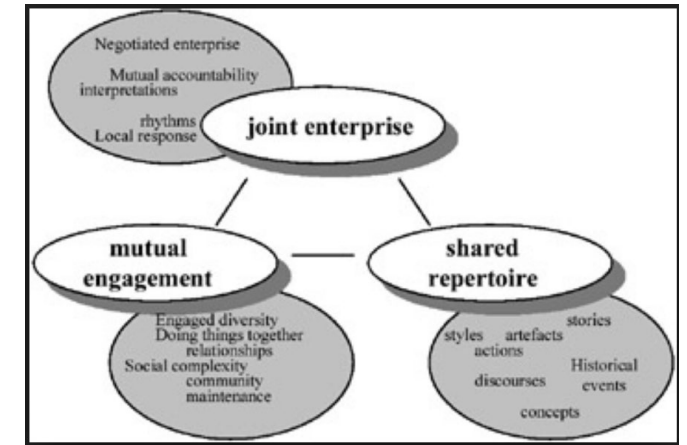




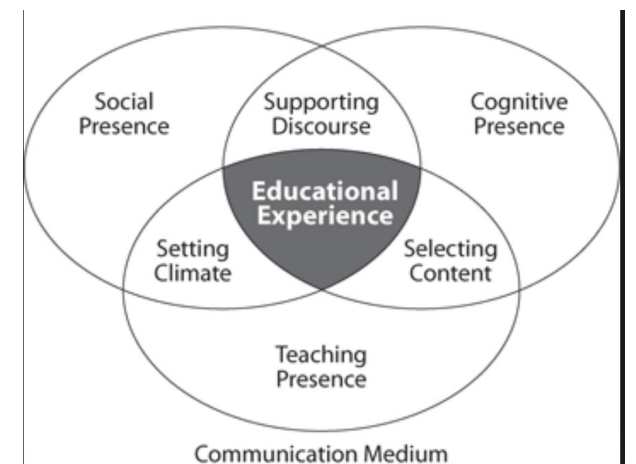




## Community of Practice



## Community of Inquiry



Values

# Groups Versus Networks



# The Semantic Condition

- Autonomy, diversity, openness, interactivity
- These conditions are the conditions for a constructive dialogue...
- And are thus the design principles for a MOOC



<http://itforum.coe.uga.edu/paper92/paper92.html>

# Values

## Autonomy

- Choice of contents
- Personal learning
- No curriculum

## Openness

- Open access
- Open content
- Open activities
- Open assessment

## Diversity

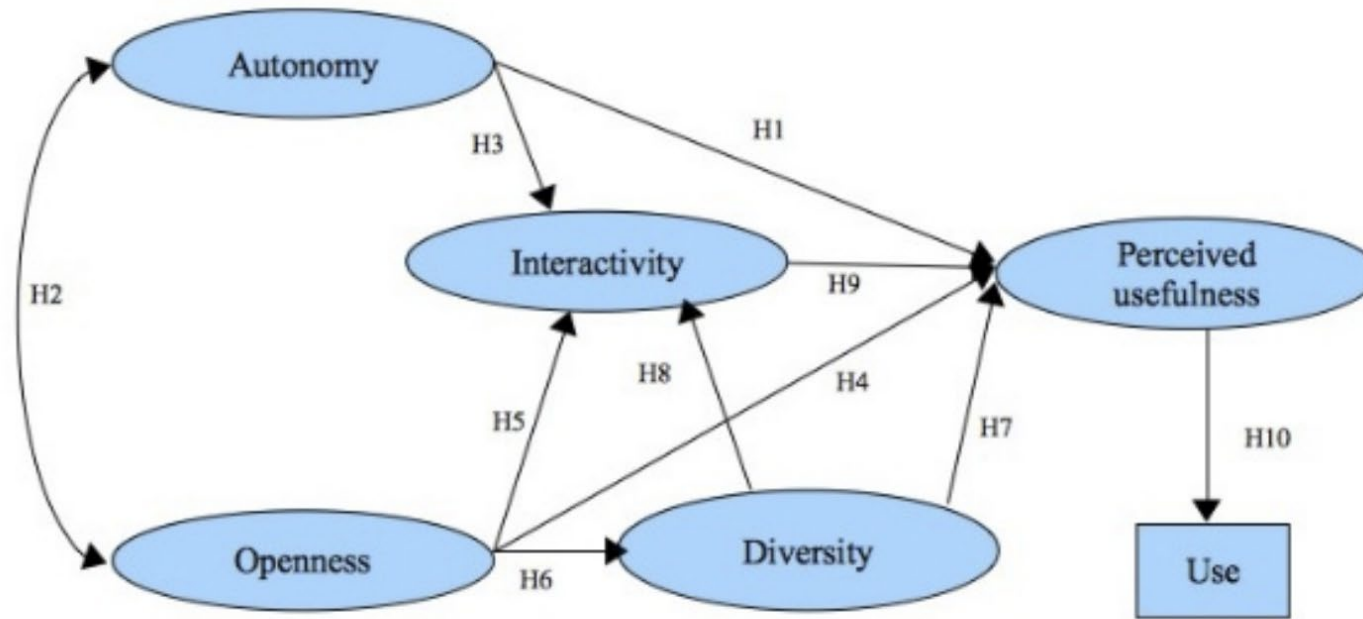
- Multiple tools
- Individual perspective
- Varied content

## Interactivity

- Encourage communication
- Cooperative learning
- Emergent knowledge

<http://itforum.coe.uga.edu/paper92/paper92.html>

# Skills



<https://www.slideshare.net/jomiralb/social-networking-sites-and-knowledge-exchange-the-proposal-of-an-acceptance-model>

Oriol Miralbell





Values

Autonomy

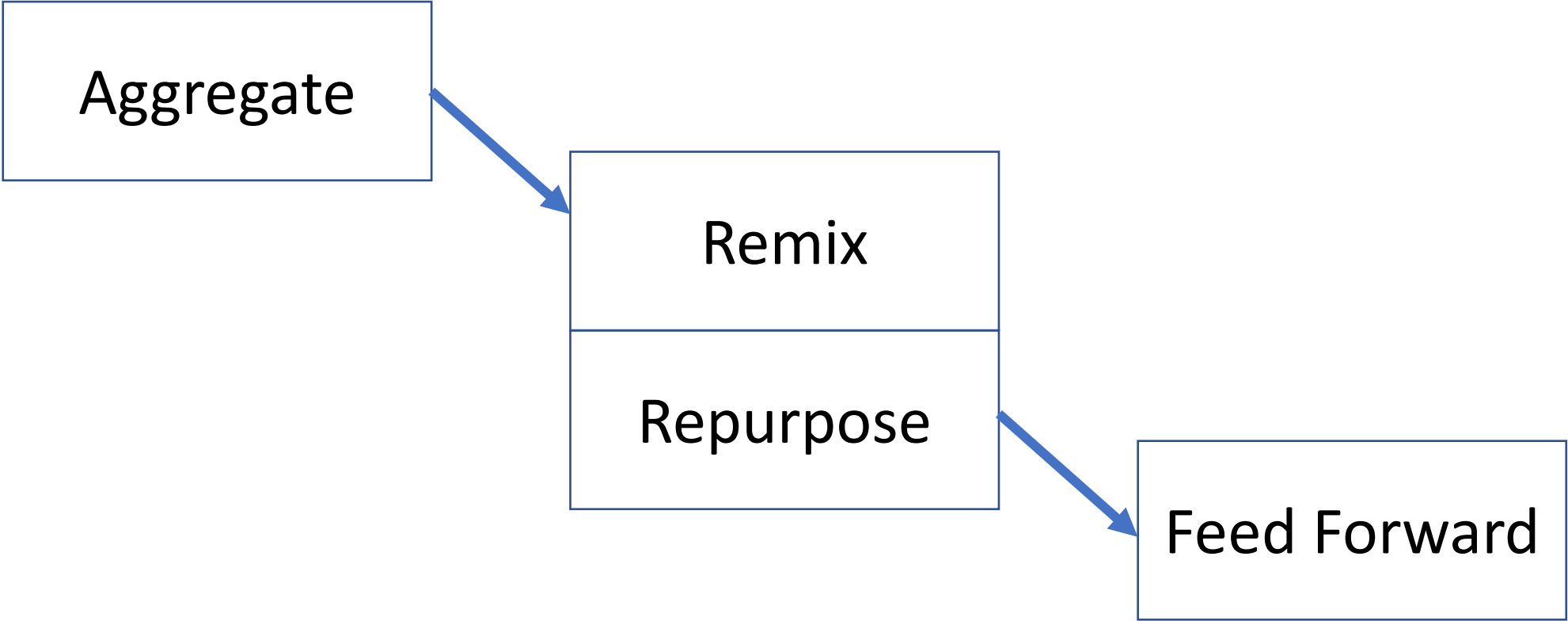
Diversity

Openness

Interactivity

**Skills**

# The ARRFF Model



# Aggregate

**Yes this is my start page**

Downes	Audio	Photos	Social	MLB	Video	NRC
NewPost	<a href="#">Google Music</a>	Upload	<a href="#">Google Plus</a>	Games	<a href="#">Live - Watch</a>	<a href="#">Wiki-ICT</a>
ListPosts	CBC Radio	Albums	<a href="#">Medium</a>	Scores	Live- Create	<a href="#">Wiki-LPSS</a>
Presentation	<a href="#">Jamendo</a>	Camera Roll	Twitter	Standings	My Channel	<a href="#">Zone</a>
Pages	<a href="#">SoundCloud</a>	<a href="#">OneDrive Photos</a>	Twitter Activity	Blue Jays	YouTube	SAP
Admin	Ed Radio	<a href="#">Let's Make Art</a>	Mastodon	Banter	Netflix	Service
Downes.ca				Jays Journal	Crave	GCCollab
Services	Travel	News	Email	Slides	Blog	<a href="#">Intellexir</a>
Bank	Expedia	<a href="#">Weather</a>	OWA Email	Slideshare	Half an Hour	<a href="#">FedScience Library</a>
Maps	Air Canada	Google News	Everycloud	<a href="#">Upload Slides</a>	NewBlog Post	GCCampus
Translate	Lufthansa	Feedly			<a href="#">Drive</a>	
<a href="#">Unix Date</a>		Pocket				
<a href="#">Linguee</a>						

# Aggregate

The screenshot shows the Feedly web interface. The browser address bar displays <https://feedly.com/category/ed%20-%20consultants>. The page title is "ed - consultants". On the left, there is a sidebar with a "FEEDS" list including "All", "ed - admin", "ed - analytics", "ed - companies", "ed - computing", "ed - consultants" (highlighted), "ed - corporate", "ed - design", "ed - faculty", "ed - foundations", "ed - higher ed", "ed - instructional design", "ed - international", "Ed - Journals", "ed - languages", and "ed - leaders". The main content area shows "LATEST" articles with titles like "cities and the future of work", "Attendance policy lacks the requested teeth", and "What Does the 19th Party Congress Mean for the PLA?".

<https://feedly.com>

The screenshot shows the RSShopper website's "Edit feed" page. The browser address bar displays <http://grsshopper.downes.ca/>. The page has a dark navigation bar with links: "General", "Harvester", "Users", "Newsletters", "Database", "Meetings", "Accounts", "Permissions", and "Viewer". The main heading is "Edit feed". Below it are links: "[Admin]", "[View Feed]", "[List All Feeds]", "[Create New Feed]", and "[Harvest Feed]". A "Preview:" section shows the feed's content: "Circulating Ideas [HTML][XML]", "RSS 0.91. Last Updated: Tue, 16 Aug 2016 12:31:38 +0000", and "the librarian interview podcast [] [Edit] [Delete]". Below the preview is a table with the following data:

feed_id	15
feed_identifier	feed_identifier
feed_type	RSS 0.91
feed_title	Circulating Ideas
feed_description	the librarian interview podcast

<http://grsshopper.downes.ca/>

# Making, Learning and Sharing



I made Art References

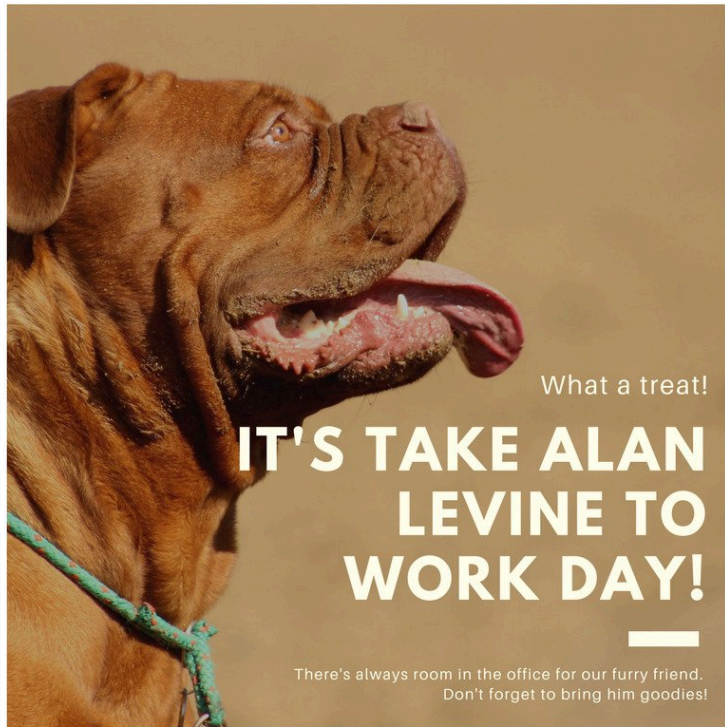
5,624 views

👍 797    💬 1    ➦ SHARE    ≡    ⋮

“Really I made these references for me but I thought I’d share with other people.”

<https://www.youtube.com/watch?v=gOtlpLvT3w0>

# Making, Learning and Sharing



“Playing with Canva.”

<https://www.canva.com/>



# Making, Learning and Sharing



I MADE RICE SLIME!

713,981 views

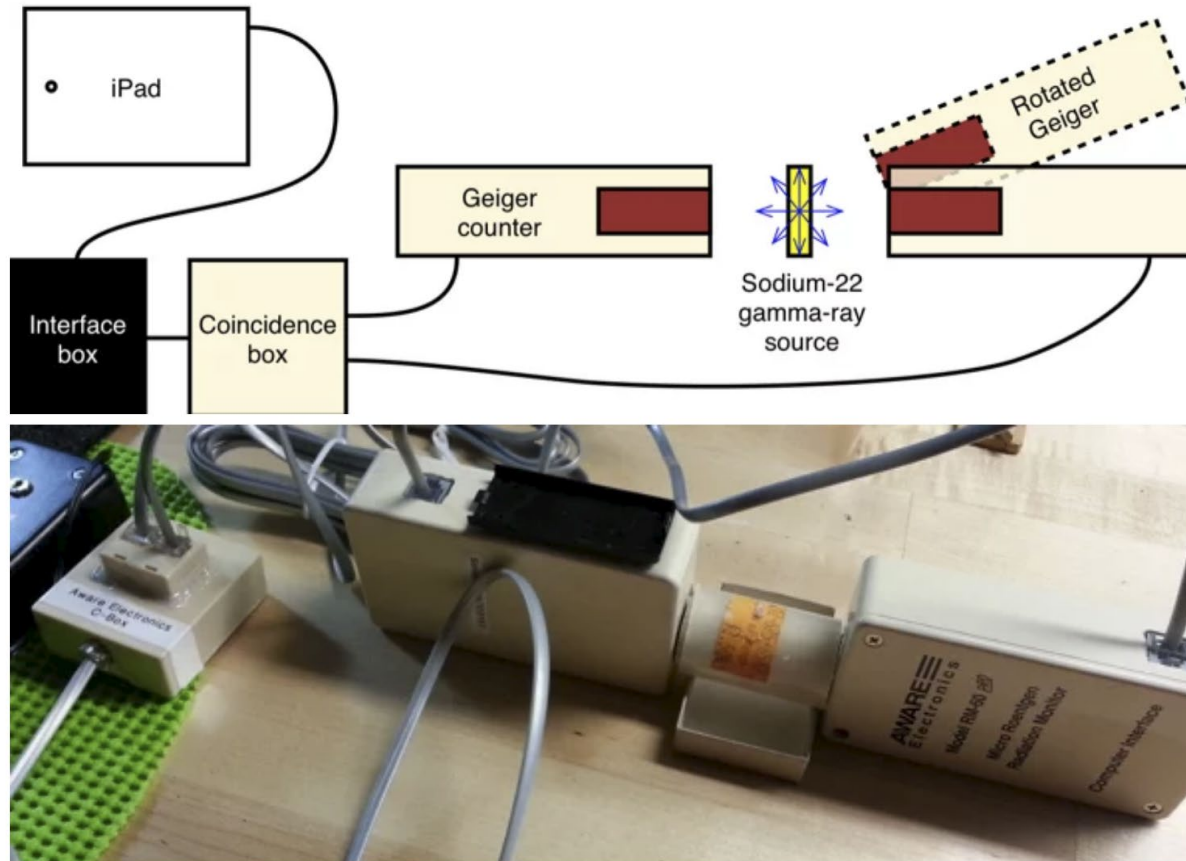
👍 15K    💬 689    ➦ SHARE    ≡+    ...

“A part of me kinda wishes I made it in a bigger bowl.”

<https://www.youtube.com/watch?v=dcD3-kUUEDM>



# Making, Learning and Sharing



“How to Build Your Own Quantum Entanglement Experiment”

<https://blogs.scientificamerican.com/critical-opalescence/how-to-build-your-own-quantum-entanglement-experiment-part-1-of-2/>

<https://blogs.scientificamerican.com/critical-opalescence/how-to-build-your-own-quantum-entanglement-experiment-part-2-of-2/>

# Making, Learning and Sharing



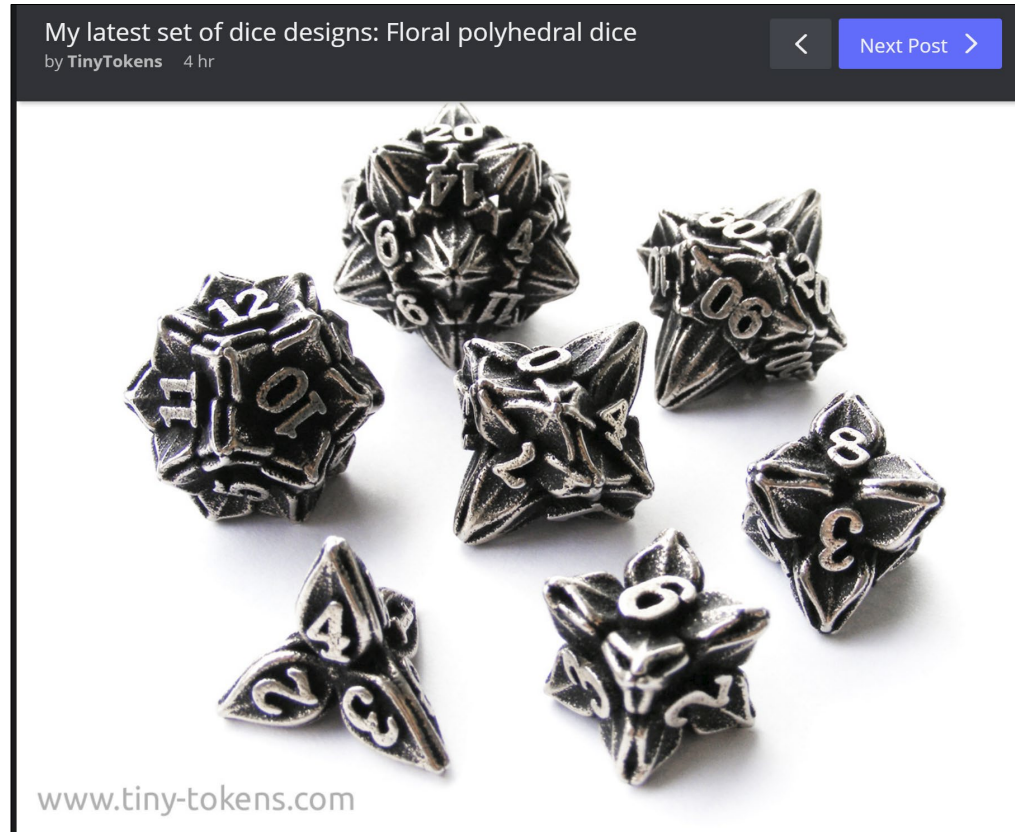
Road testing a Stirling engine powered buggy, (filmed in Norwich England, 2001)

2,423,621 views

👍 5K    💬 327    ➦ SHARE    ≡    ⋮

<https://www.youtube.com/watch?v=qS5x91CZbtY>

# Making, Learning and Sharing



“All of the dice have been designed to be balanced and give a fair roll..”

<https://imgur.com/gallery/WERPj>

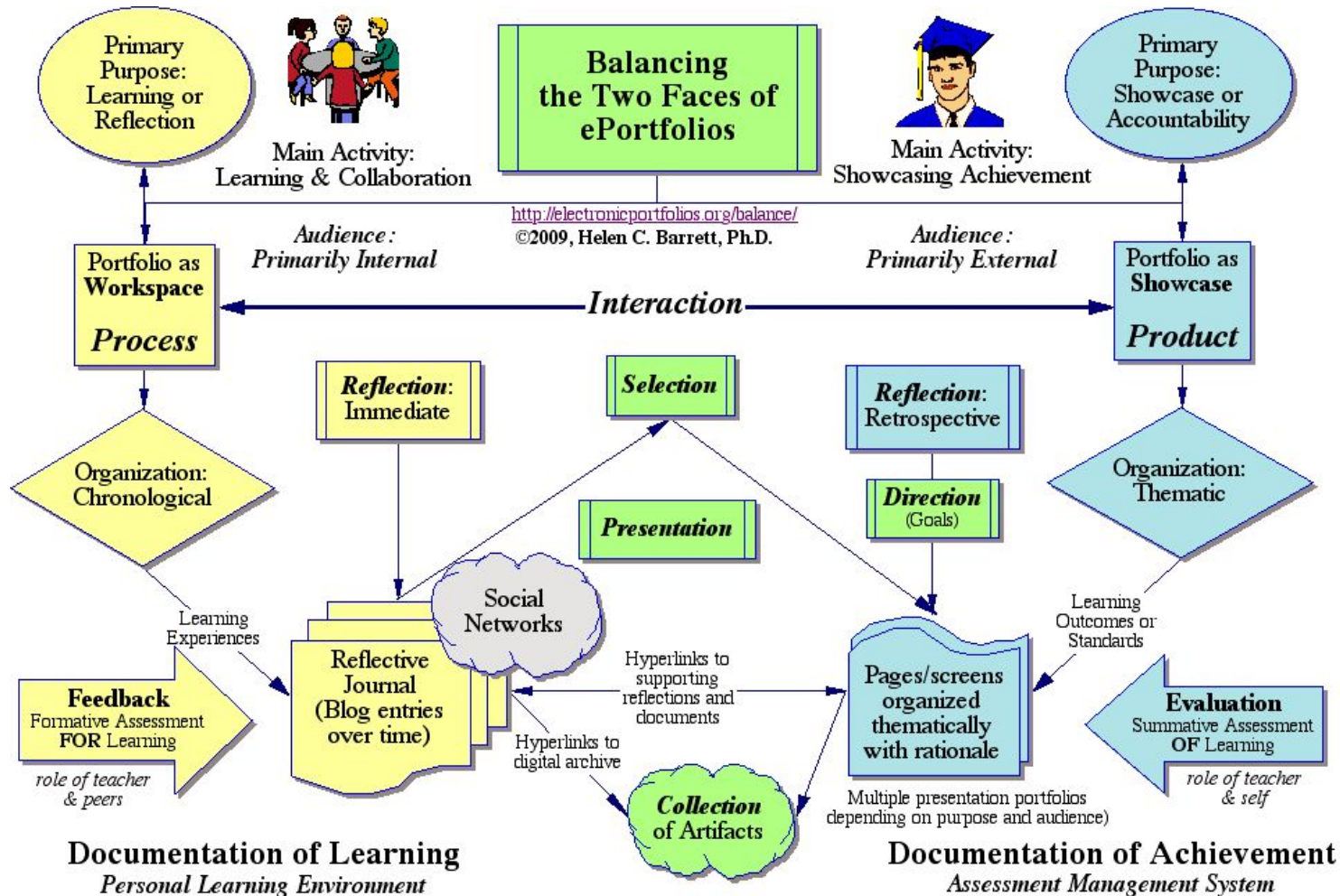


# Making, Learning and Sharing

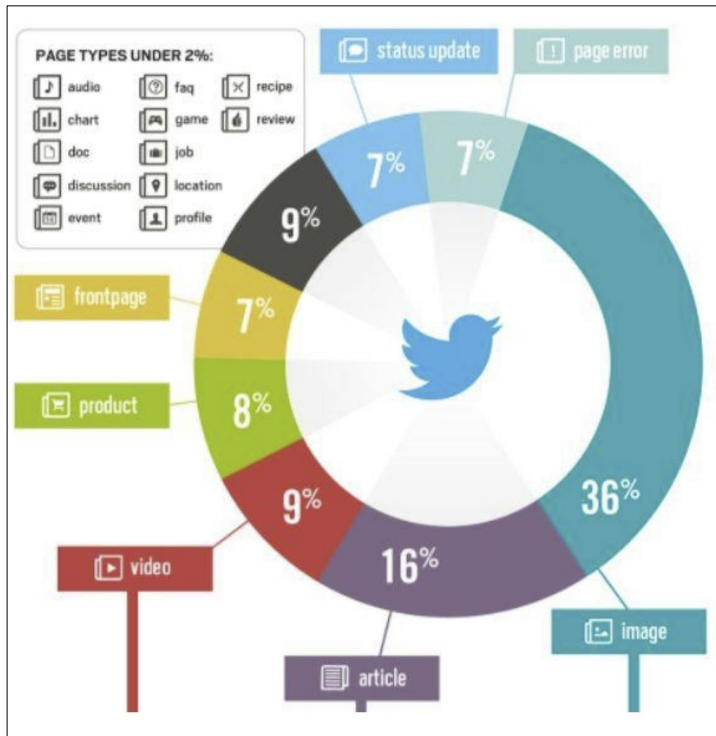


“It's always a good idea to have a fire extinguisher handy at the flying field, but it's mandatory with turbines.”  
<http://www.tested.com/tech/589319-hobby-rc-introduction-rc-jets/>

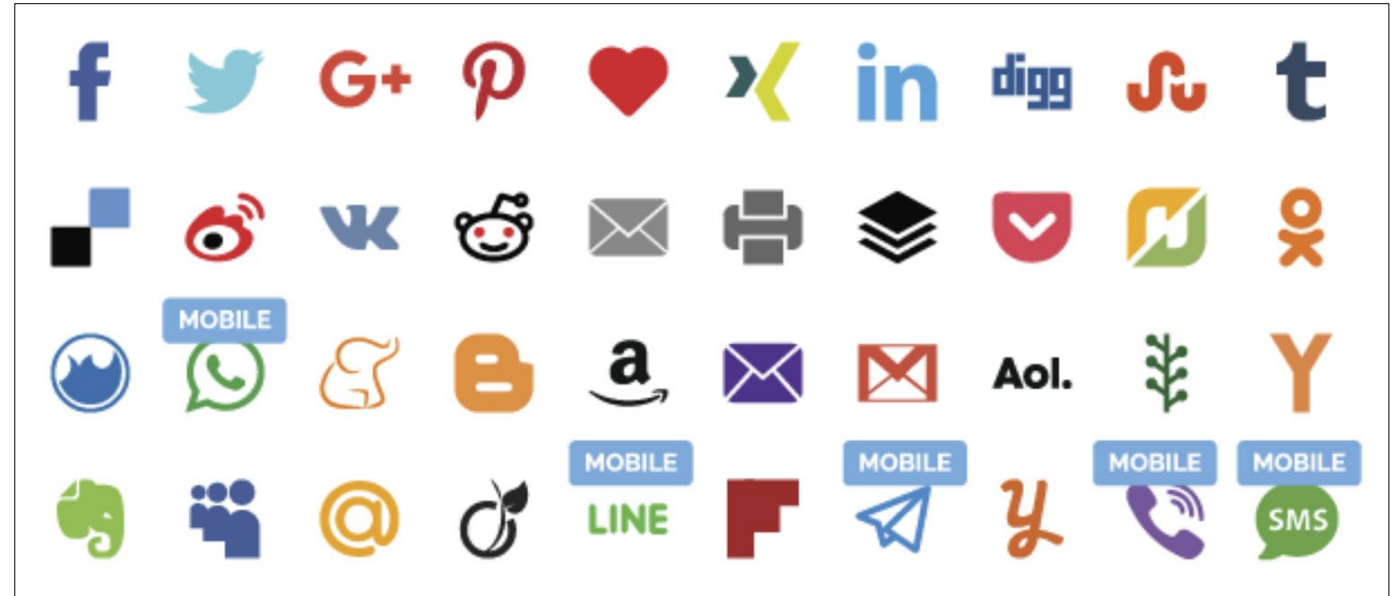
# Our Portfolios



# Feeding Forward



<http://www.smallbizwebdesign.ca/what-to-share-on-social-media-sites/>



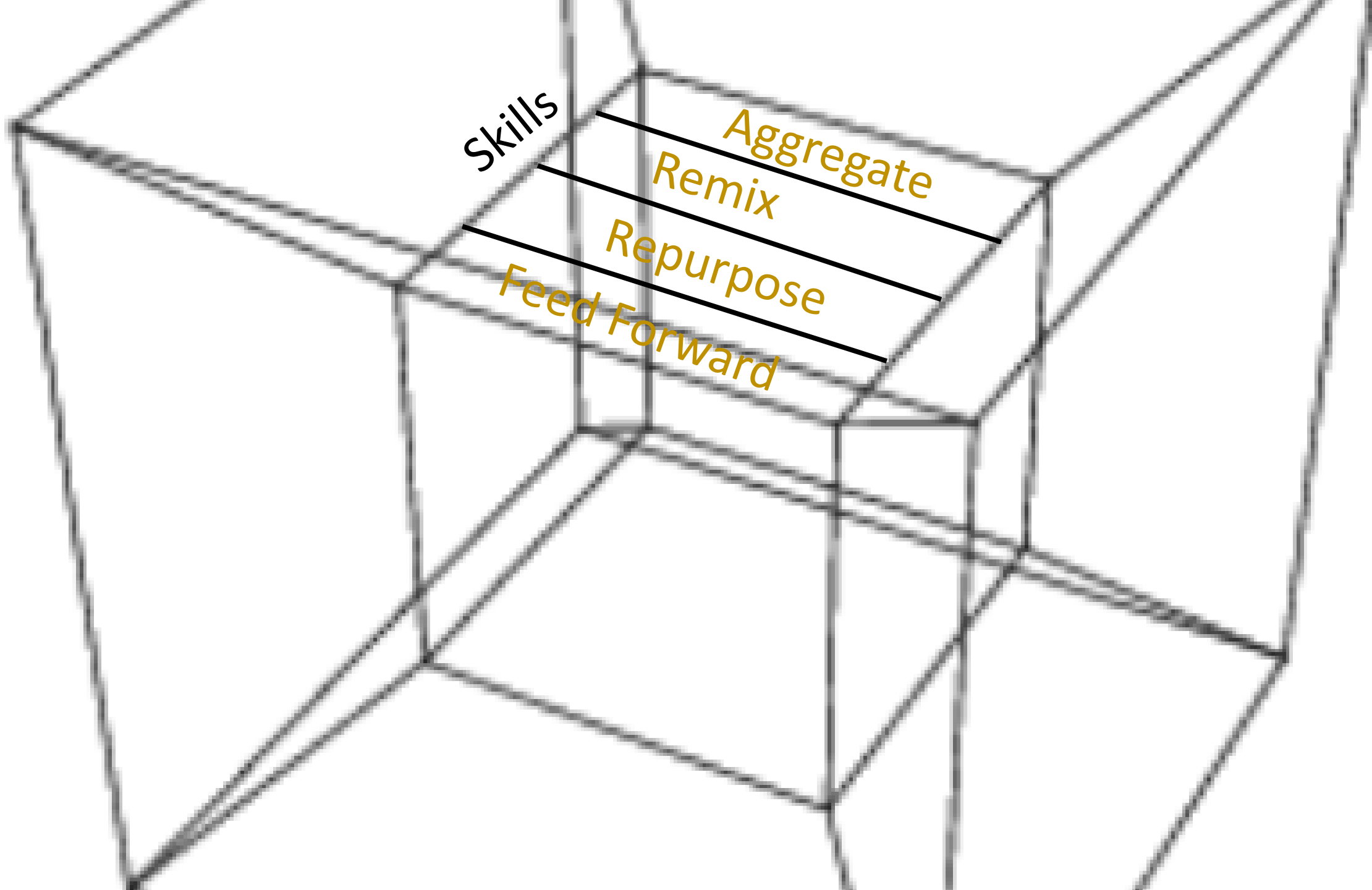
<https://dcrazed.com/wordpress-social-network-plugins/>

**if You Tube then Blogger**  
When new video is uploaded, automatically creates new post with video embed on your blog  
created about 3 hours ago  
never triggered

**if Twitter then Blogger**  
Twitter DM thanks for follow + newsletter promotion  
created June 27, 2012  
last triggered 1 day ago  
triggered 48 times

**if RSS then Blogger**

<https://ifttt.com/>



Skills

Aggregate

Remix

Repurpose

Feed Forward

Literacies



Syntax	Cognition
Semantics	Context
Pragmatics	Change

Critical Literacies

Evidence

# Evidence

## Sources

- Philosophical
  - Quine, van Fraassen, Hanson
- Mathematical
  - Euler, Bayes
- Biological
  - Kosslyn, Churchland, Le Doux
- Social
  - Watts, Barabasi
- Linguistic
  - Lakoff

## Measures

- Completeness
  - Godel, Newton
- Simplicity
  - Einstein
- Fidelity
  - Hume, Heidegger
- Consistency
- Prediction
  - Hempel, Popper
- Utility
  - James, Pierce, Dewey



<http://www.downes.ca>