

# Connectivist Learning:

How new technologies are promoting  
autonomy and responsibility in education



Stephen Downes  
Barcelona, Spain, October 22, 2011

# Visitors and Residents: A Better Metaphor

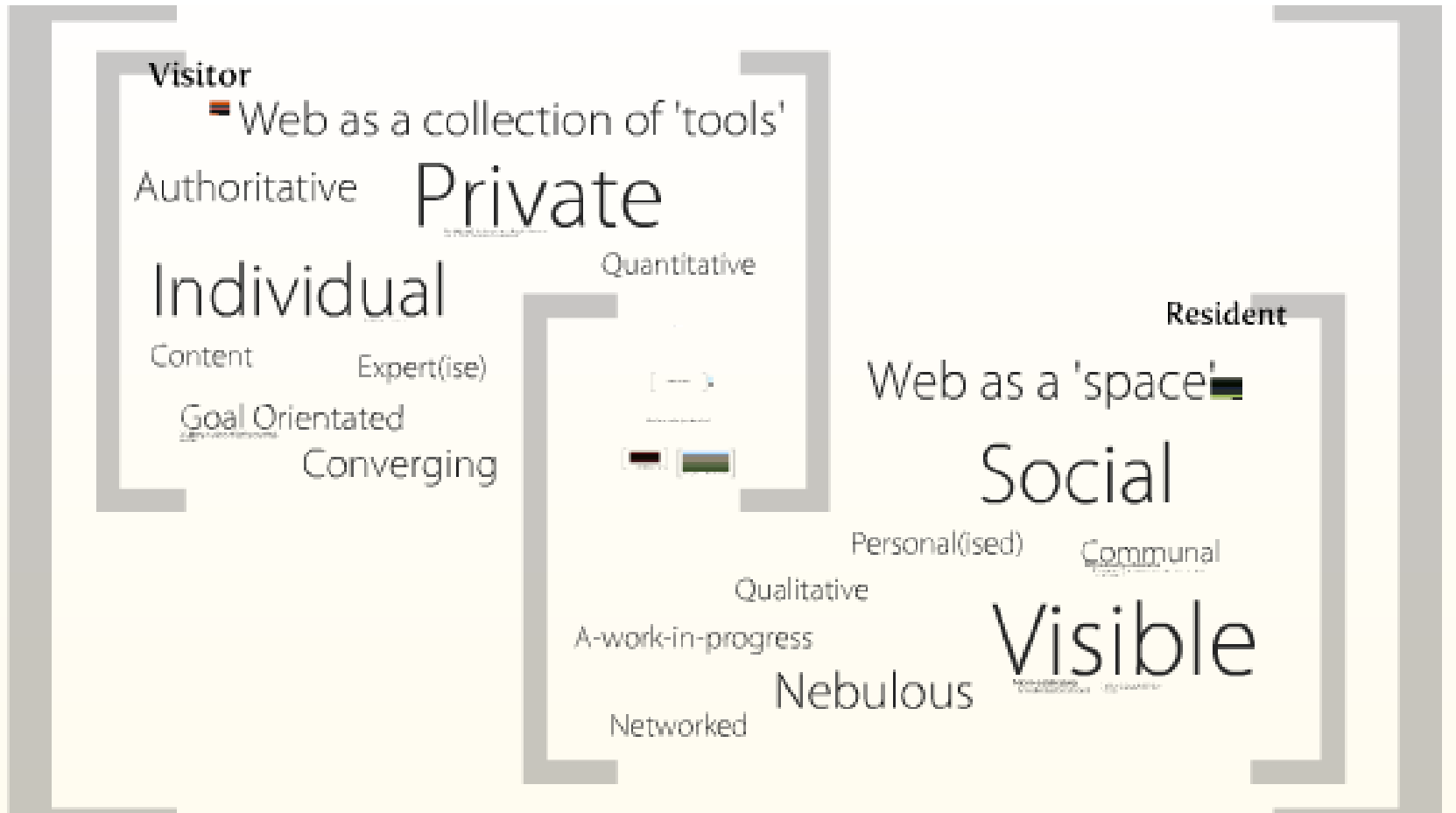


Visitors and Residents: A new typology for online engagement  
by David S. White and Alison Le Cornu.

First Monday, Volume 16, Number 9 - 5 September 2011

<http://www.uic.edu/htbin/cgiwrap/bin/ojs/index.php/fm/article/viewArticle/3171/3049>

# Dimensions of Engagement



Visitors & Residents: The Video

David S. White, TALL blog

<http://tallblog.conted.ox.ac.uk/index.php/2009/10/14/visitors-residents-the-video/>

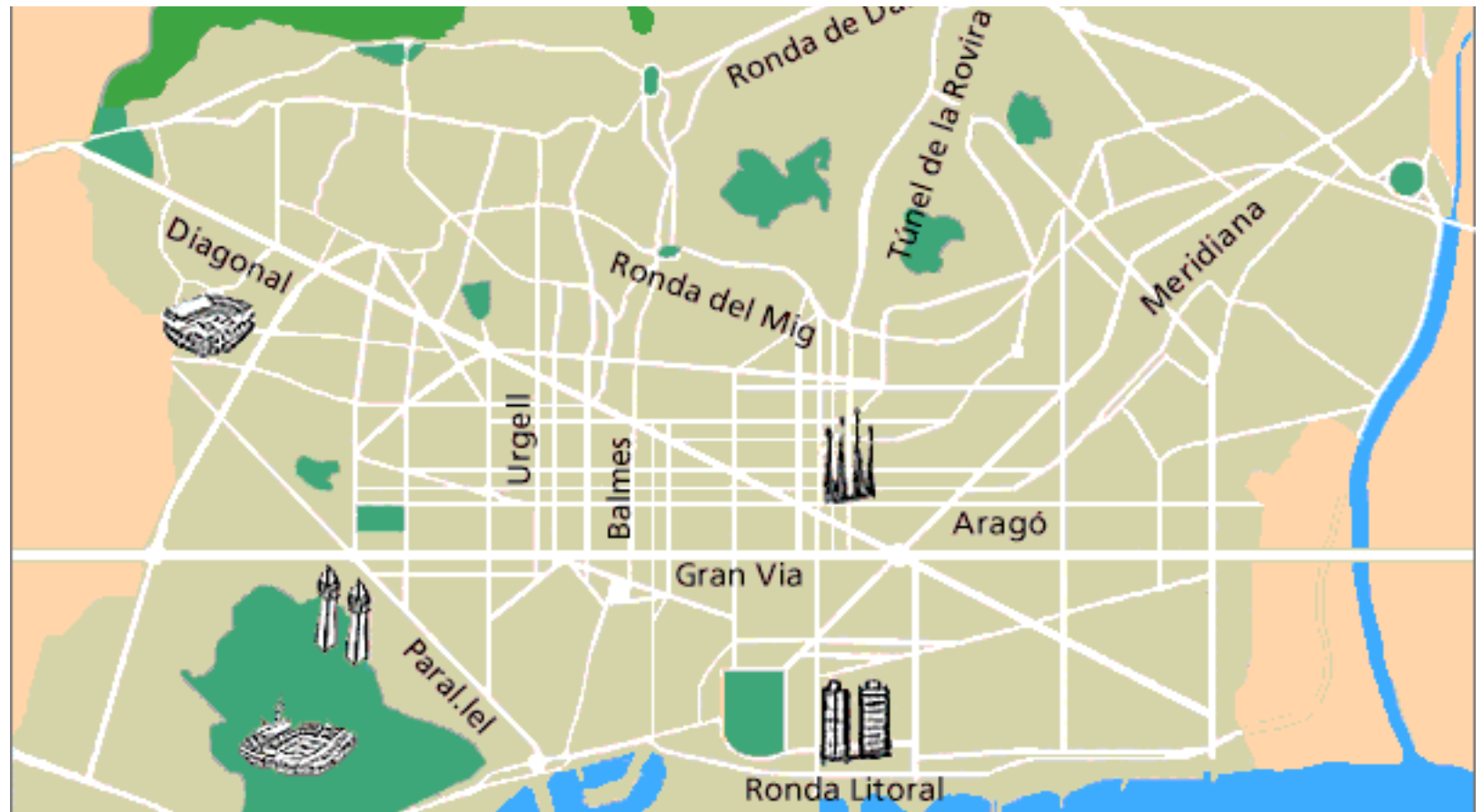
# Knowledge as Community

# The Learner as Visitor

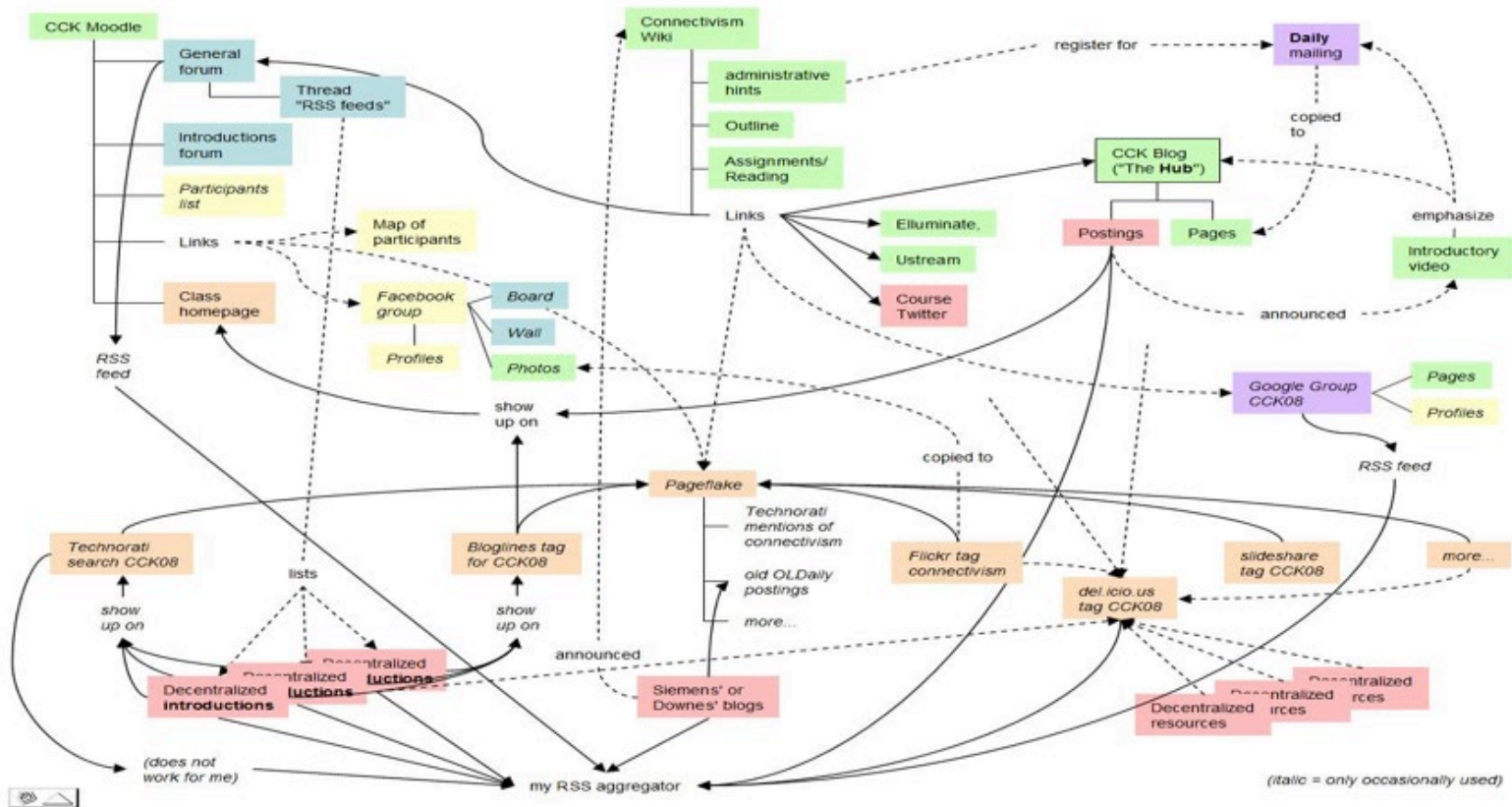


Guide to Thomas Kuhn's *The Structure of Scientific Revolutions*  
Malcolm R. Forster  
<http://philosophy.wisc.edu/forster/220/kuhn.htm>

# A Map of the City



# A Map of the Community



# Connectivism: The Theory



<http://www.clipcanvas.com/video-footage/gfx-graphics-neural-network-human-7728.html>

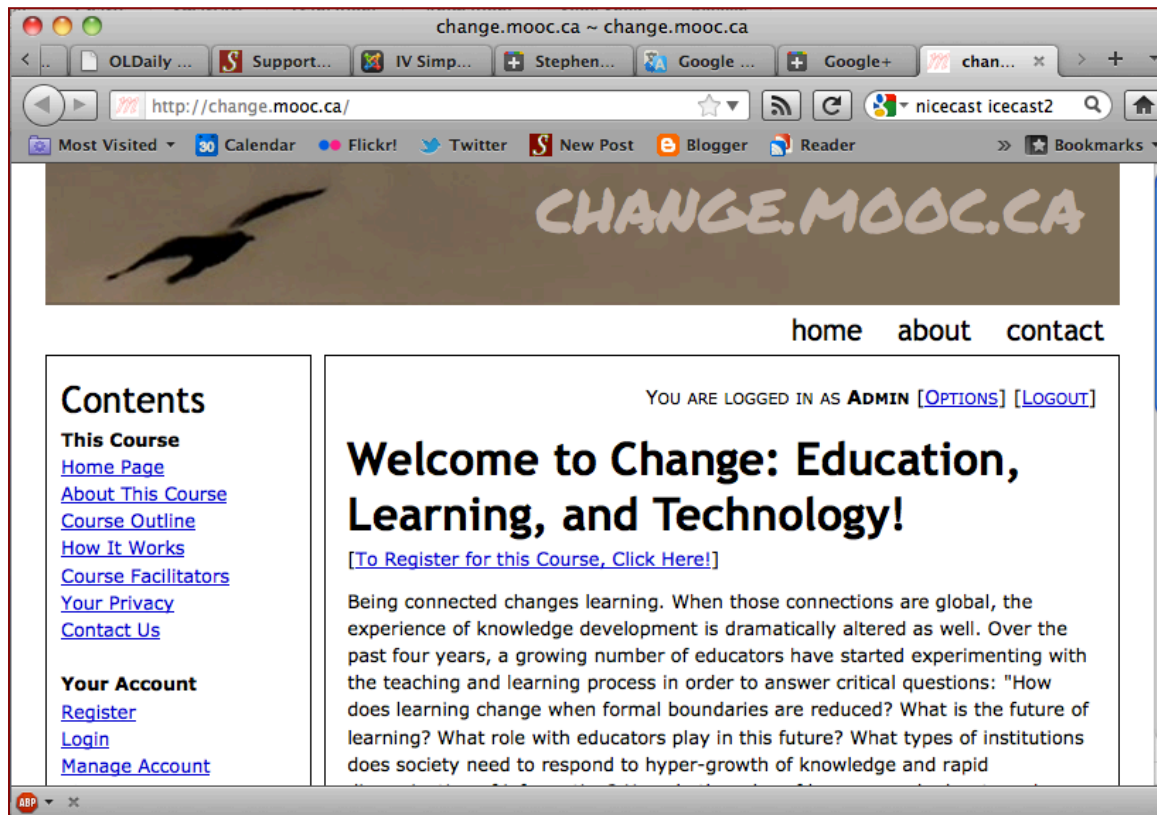
Connectivism: A Learning Theory for the Digital Age  
George Siemens, elearnspace  
<http://www.elearnspace.org/Articles/connectivism.htm>

What Connectivism Is,  
Stephen Downes, Half an Hour  
<http://halfanhour.blogspot.com/2007/02/what-connectivism-is.html>



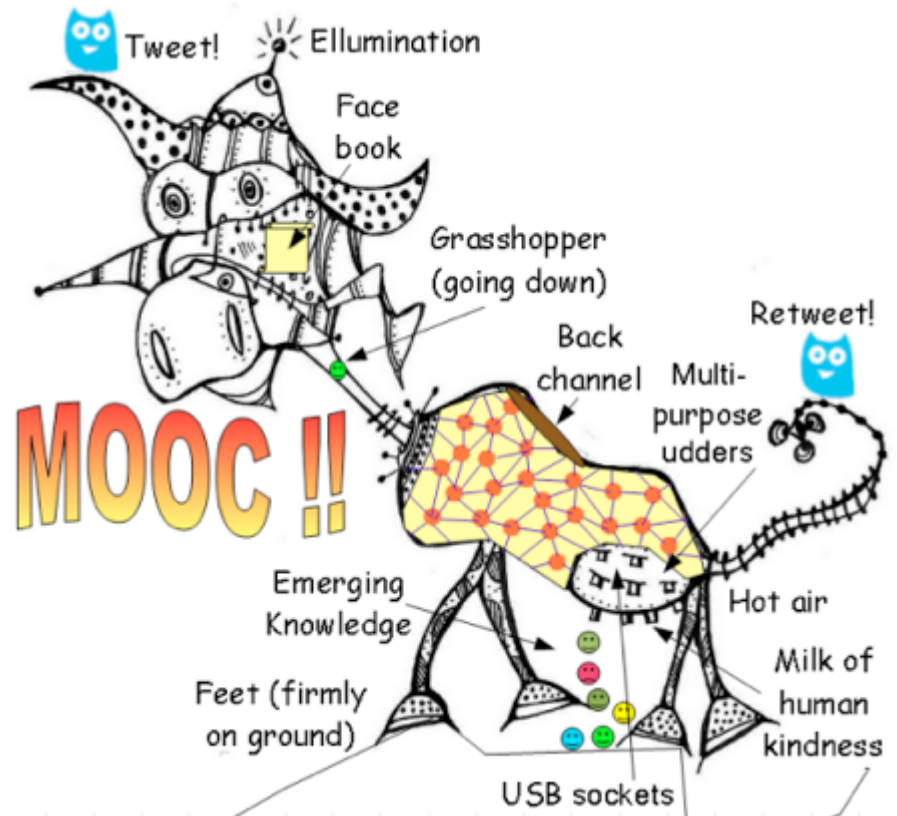
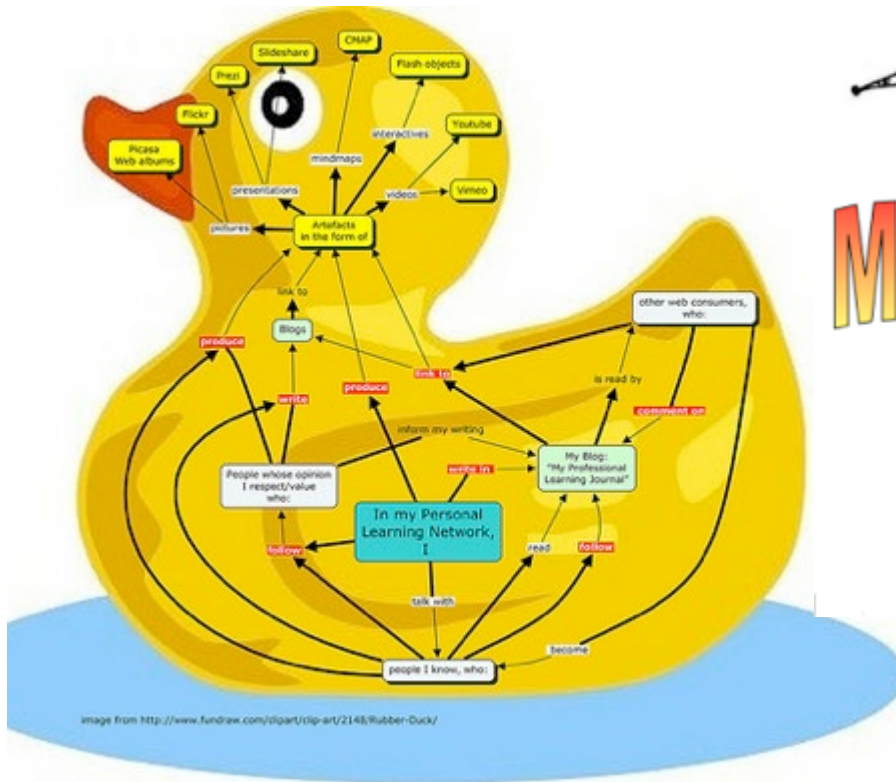
# Connectivism: The Practice

## The Massive Open Online Course



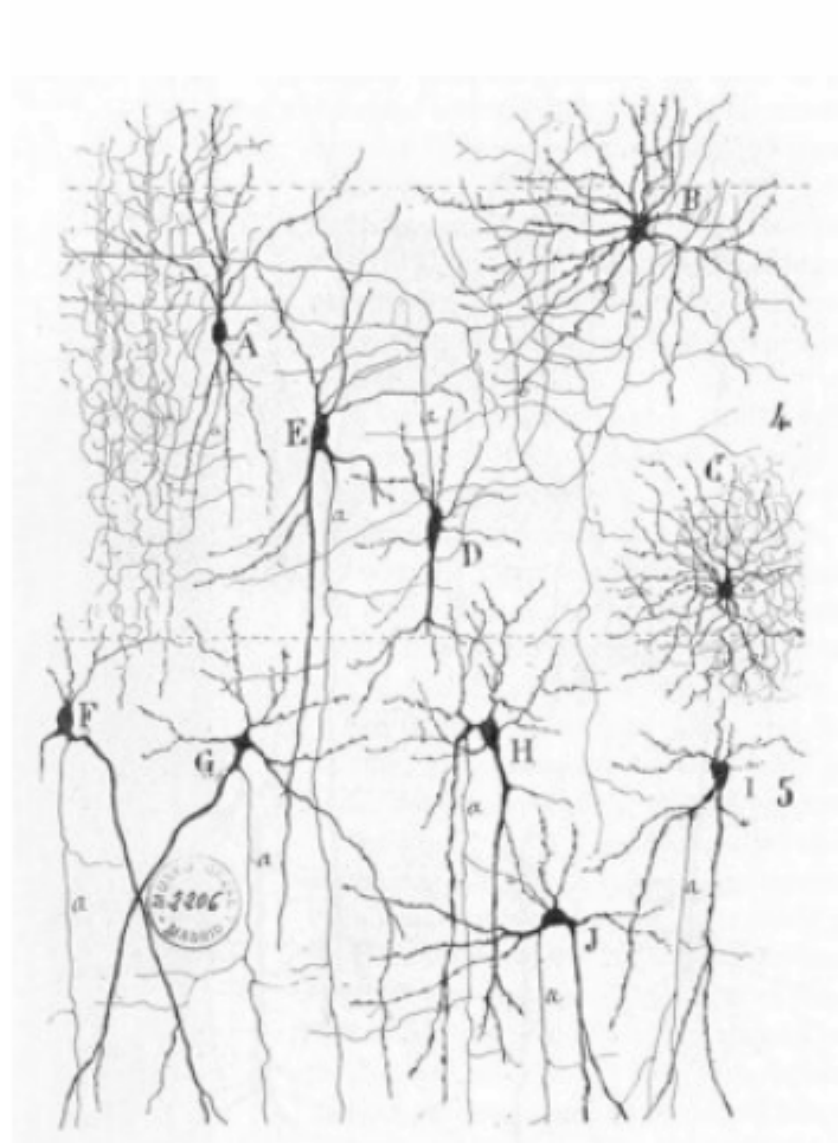
Change 2011, George Siemens, Dave Cormier, Stephen Downes  
<http://change.mooc.ca>

# The Anatomy of a MOOC

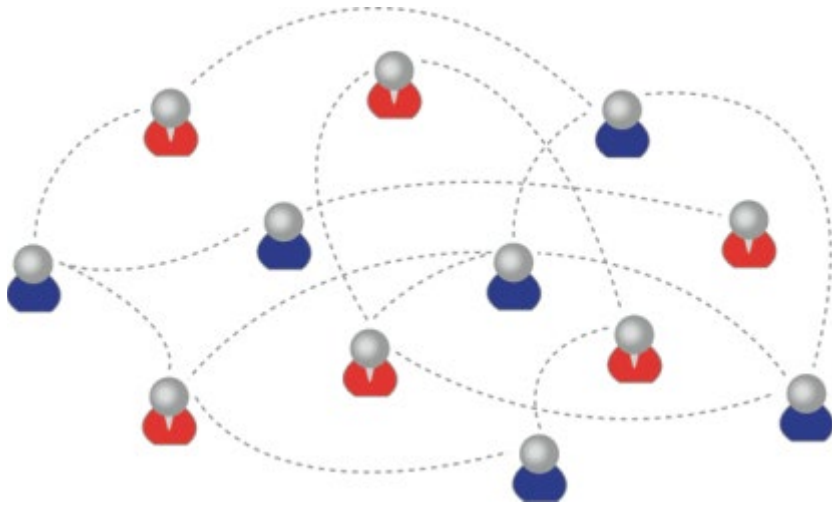


# Learning as a Network

- Teachers are nodes, students are nodes
- Both teaching and learning consists of sending and receiving communications to other nodes



# Personal Knowledge



We are using one of these

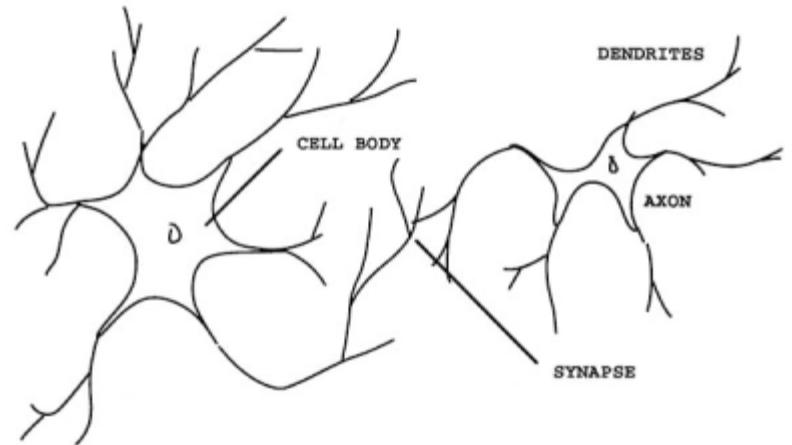


Figure 1. Biological Neuron

To create one of these

Personal knowledge consists of *neural* connections, not social connections

# Network Learning: Success Factors

## Types of Networks

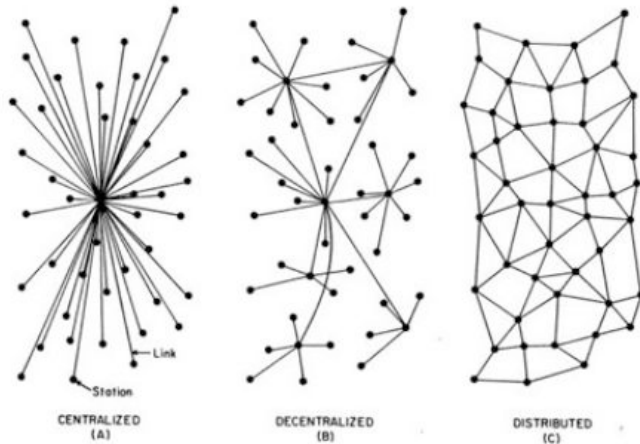
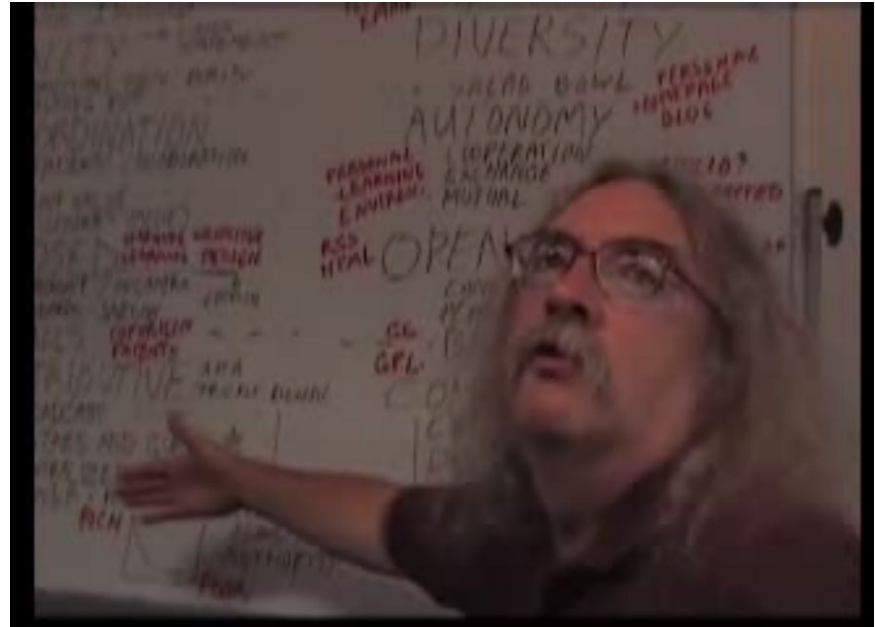


FIG. 1 – Centralized, Decentralized and Distributed Networks



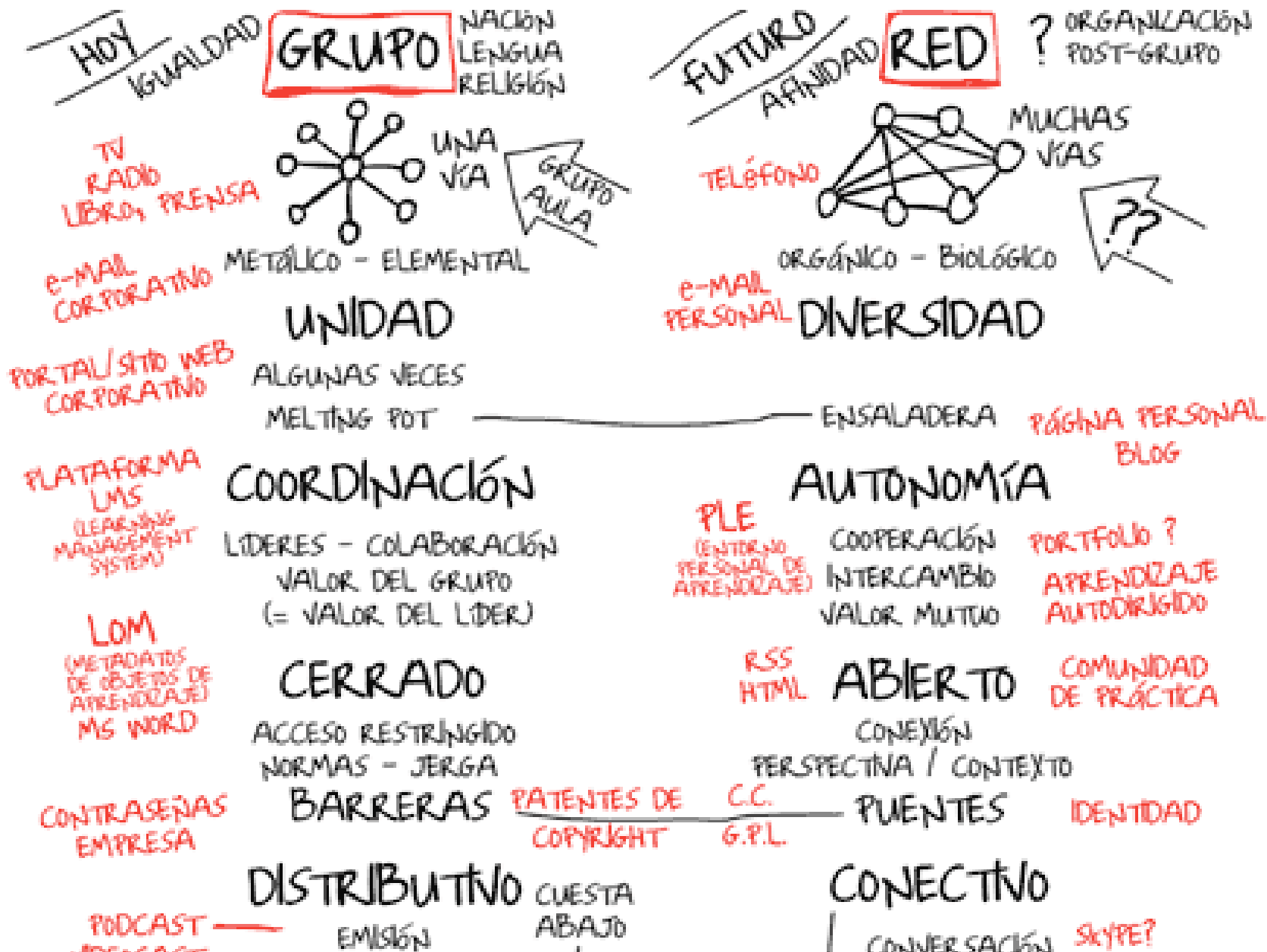
Paul Baran's Networks. Via Barabasi, 2002, p, 144

Autonomy – each node is self-governing

Diversity – nodes encouraged to have varying states

Openness – unhindered movement of signals, nodes

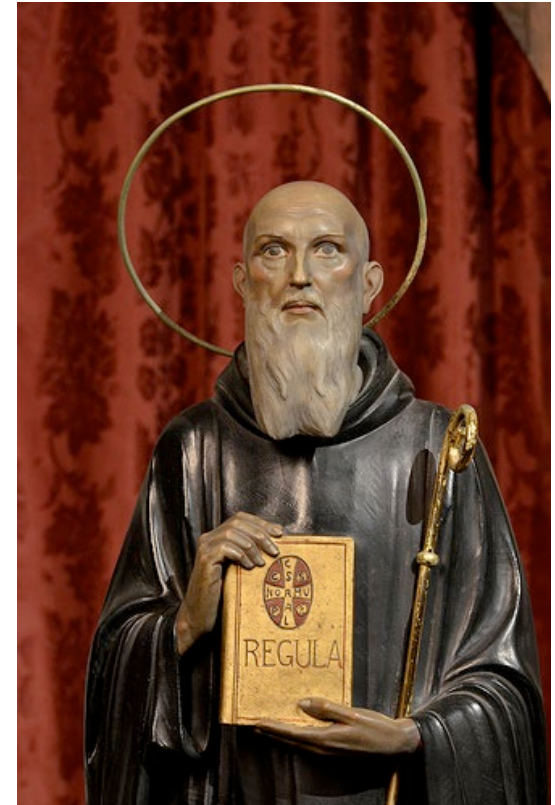
Interactivity – knowledge and learning are emergent



Mapa conceptual de Stephen Downes traducido por Potâchov, e-learning, conocimiento en red

# Autonomy and Connectivism

- Wikipedia: Autonomy means freedom from external authority.
- Autonomy is what distinguishes between 'personal learning', which we do for ourselves, and 'personalized learning', which is done for us.

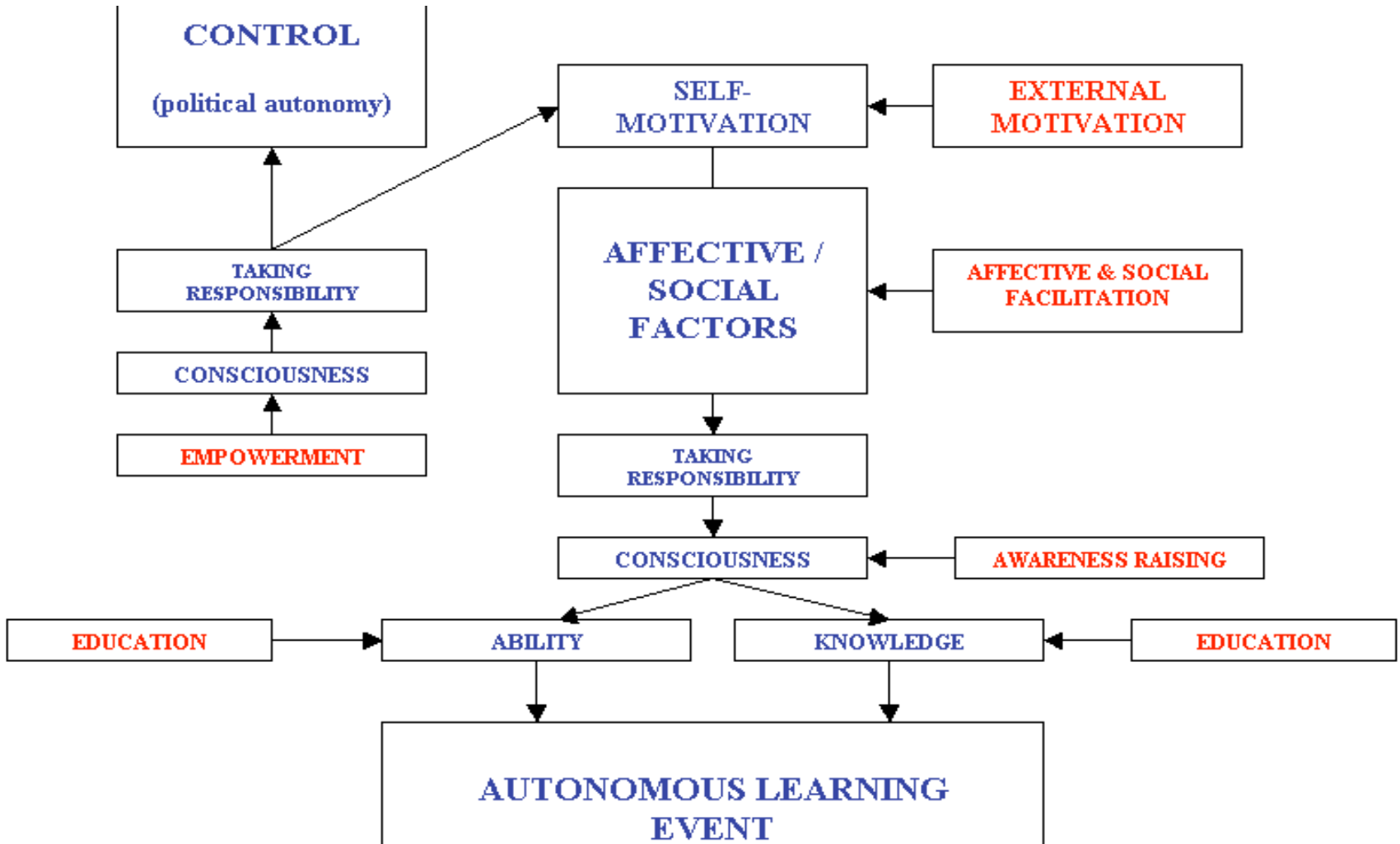


Autonomy

Stephen Downes

<http://www.downes.ca/post/38545>

# Autonomy as Capacity to Act



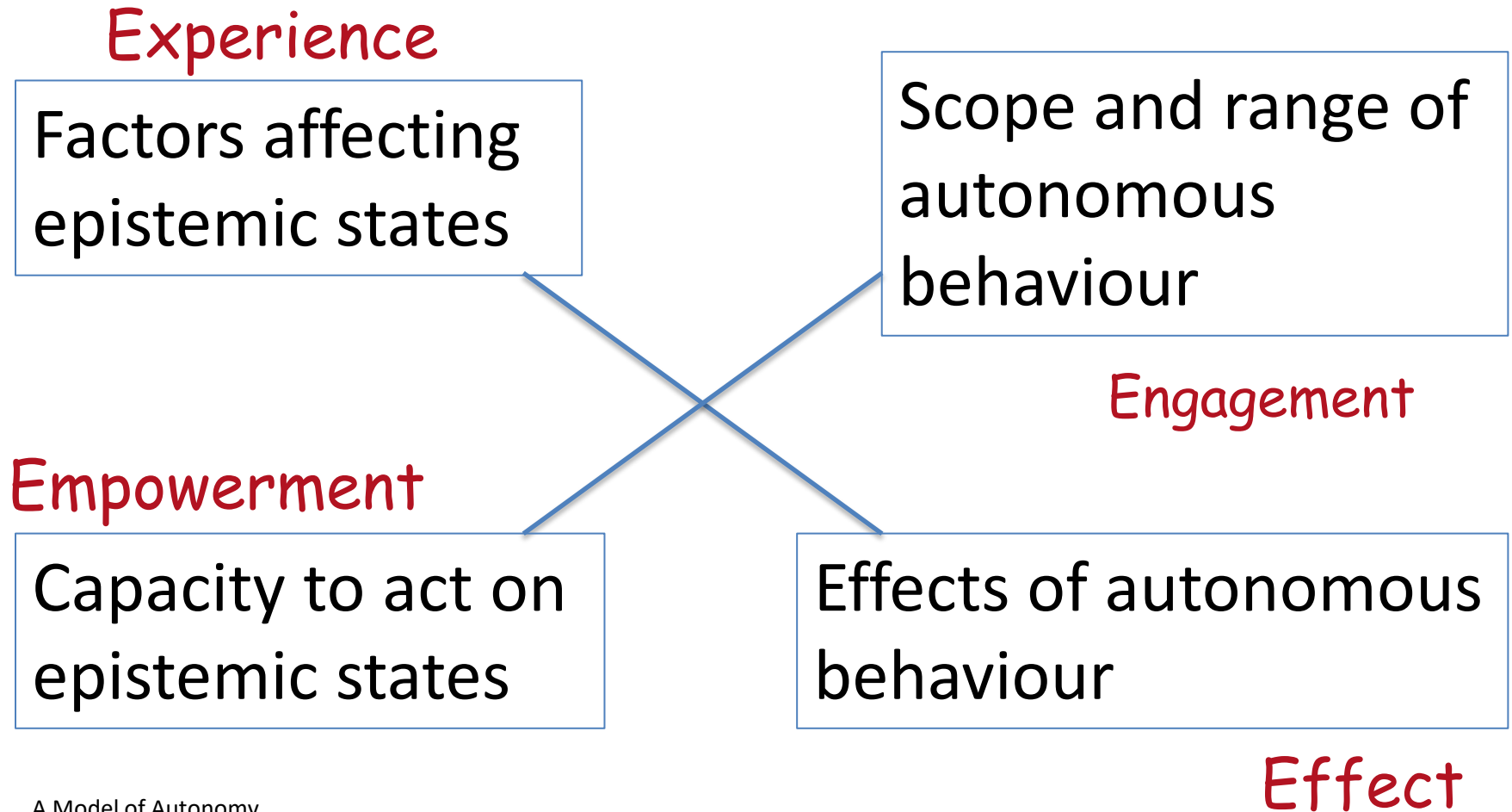
Do it yourself? A Learners' Perspective on Learner Autonomy and Self-Access Language Learning

Hayo Reinders

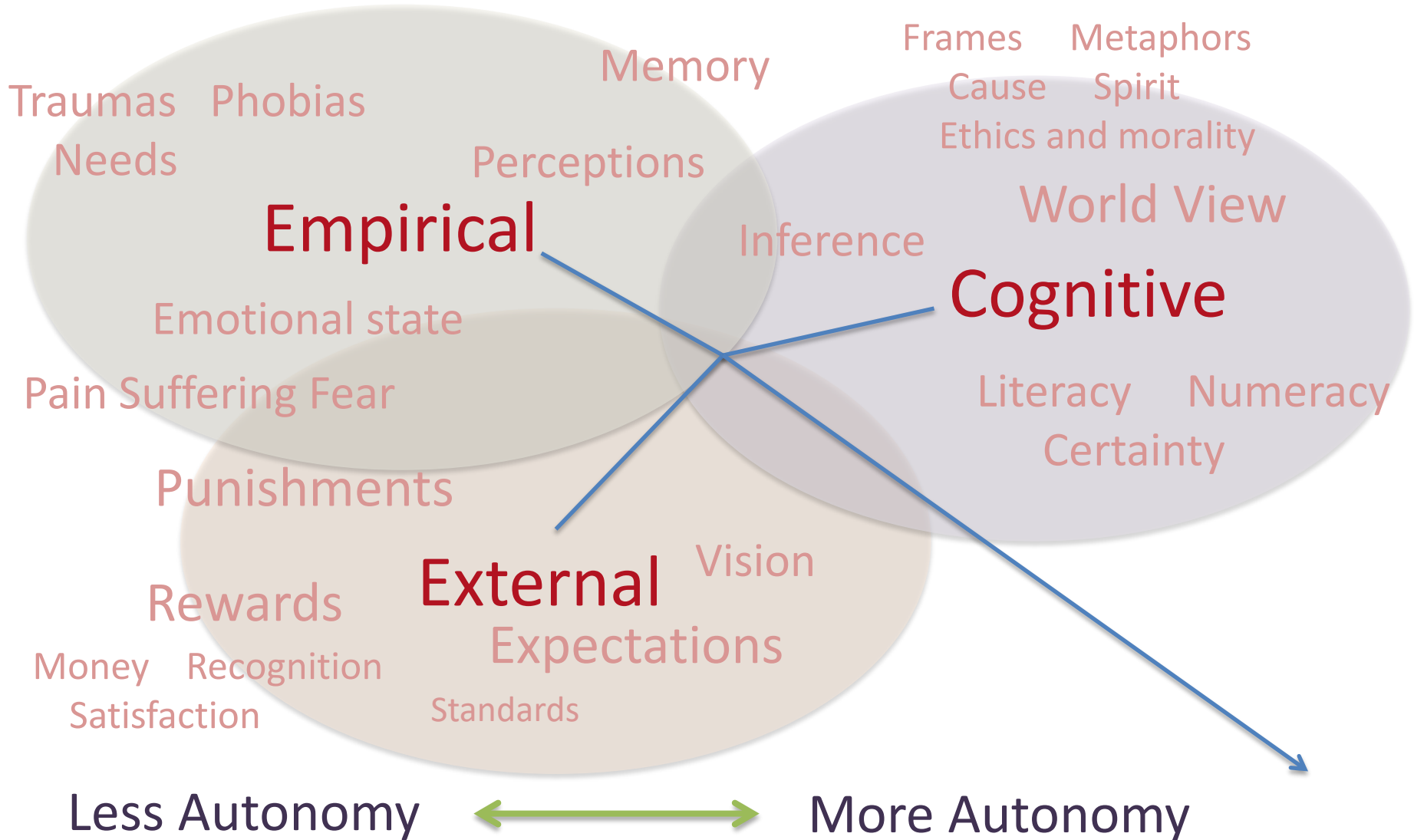
[http://www.innovationinteaching.org/thesis\\_request.php](http://www.innovationinteaching.org/thesis_request.php)



# Four-Factor Model of Autonomy



# Factors Effecting Experience



# Connectivism and Experience (1)



1. Minimize the factors limiting autonomy, such as pain, fear, punishment, rewards

A connectivist course does not have tests and grades, competition, passing, failure...

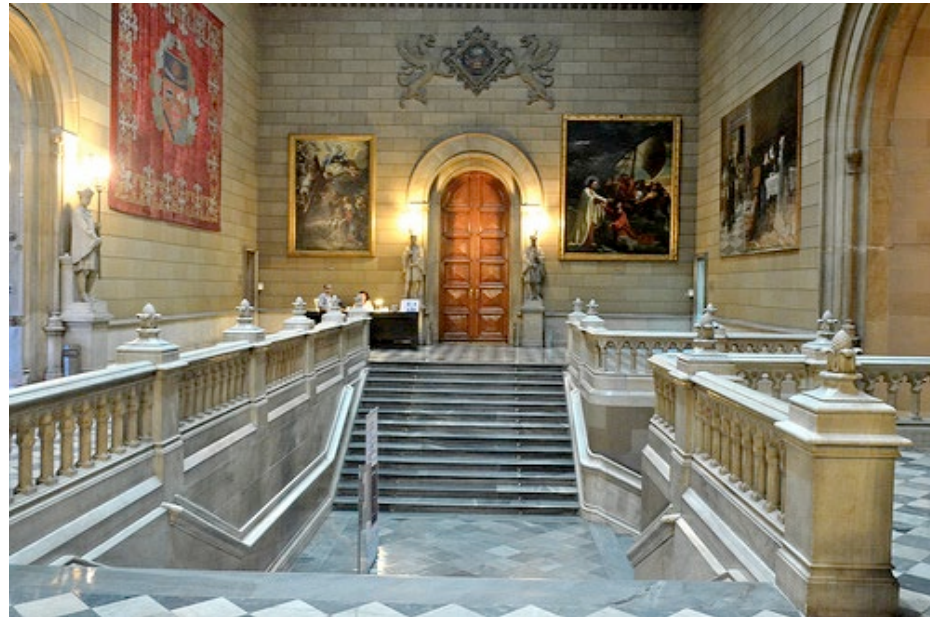
# Connectivism and Experience (2)



2. Encourage a diversity of non-debilitating factors, such as memories, perceptions, visions, expectations

A connectivist course provides many resources, varied exercises, new technology and media

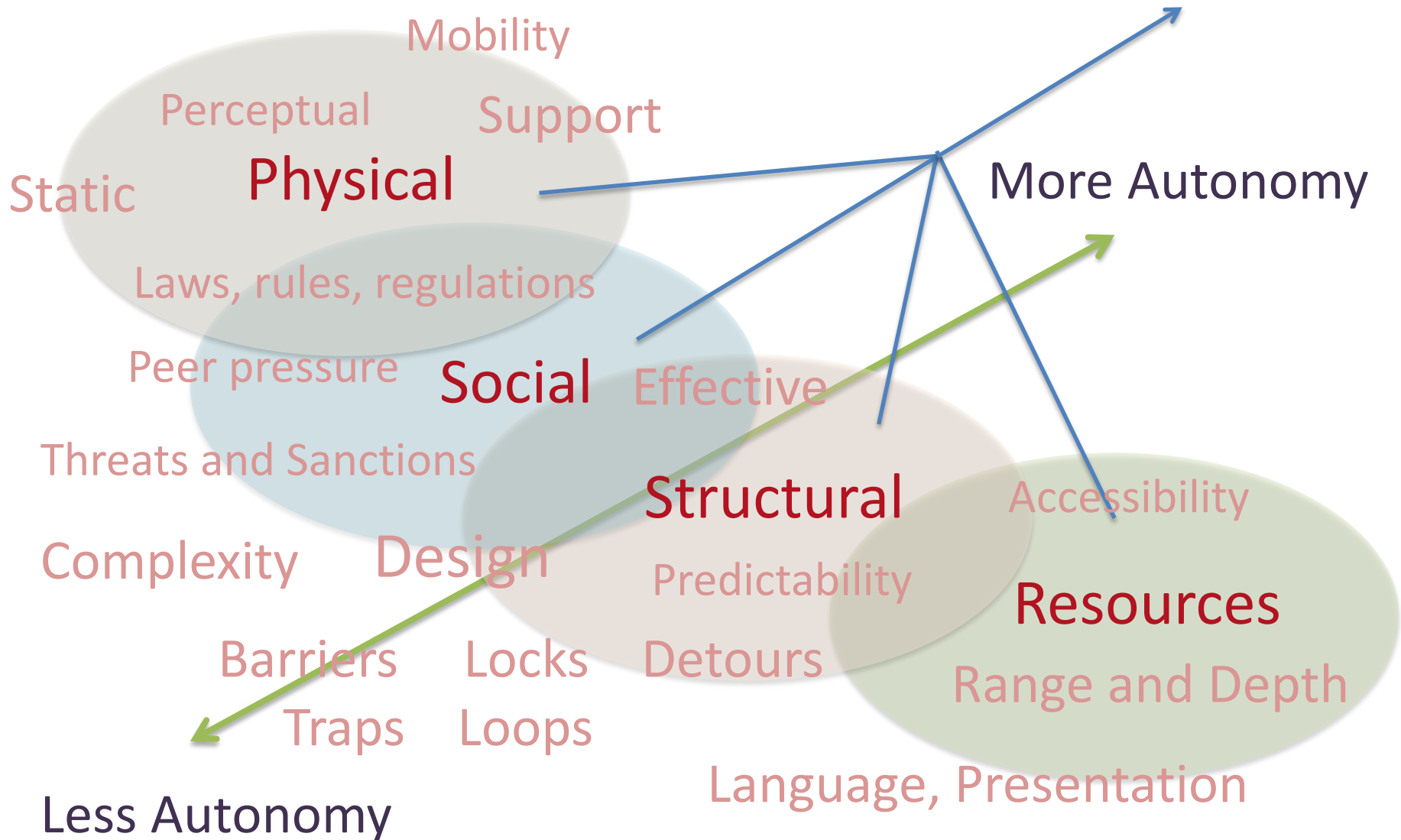
# Connectivism and Experience (2)



3. Maximize the factors strengthening autonomy, such as perspective, point of view, literacy, numeracy

A connectivist course models and provides scaffolds encouraging development of personal capacities

# Factors Effecting Empowerment



# Connectivism & Empowerment (1)



1. Maximize the factors providing greater physical flexibility and control

A connectivist course supports the learner's own physical environment, including mobile

# Connectivism & Empowerment (2)



2. Minimize social pressures and encourage people to participate in their own way

By supporting multiple environments, and not (say) a central forum, negative social impacts are minimized



# Connectivism & Empowerment (3)



2. Minimize structural constraints and reduce forced detours, loops, and requirements

Connectivist courses as a whole are not 'designed' and do not attempt to engage a particular structure

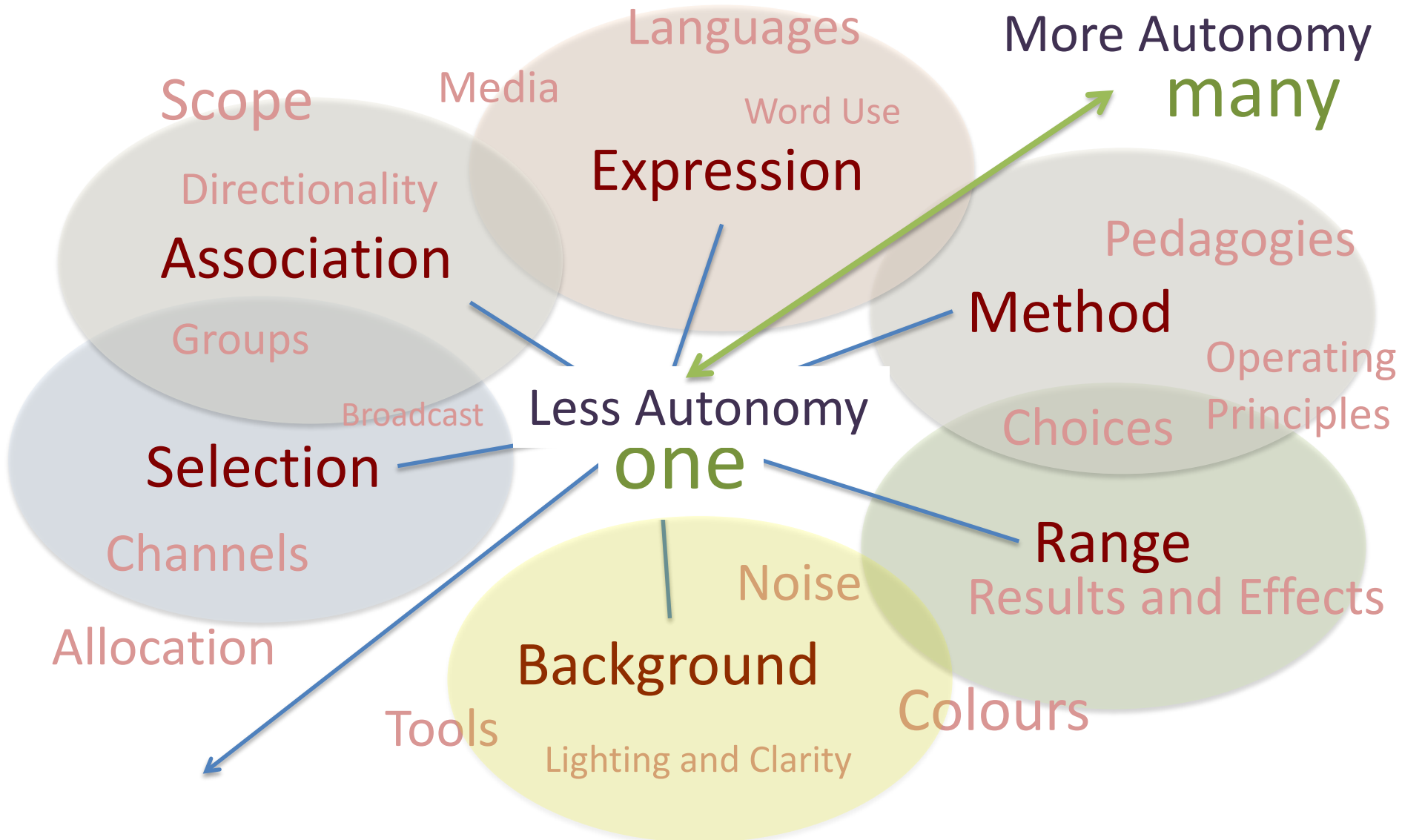
# Connectivism & Empowerment (4)



2. Maximize the range, depth, openness and accessibility of resources

Connectivist courses use open resources; all participants may create or submit resources

# Factors Effecting Engagement



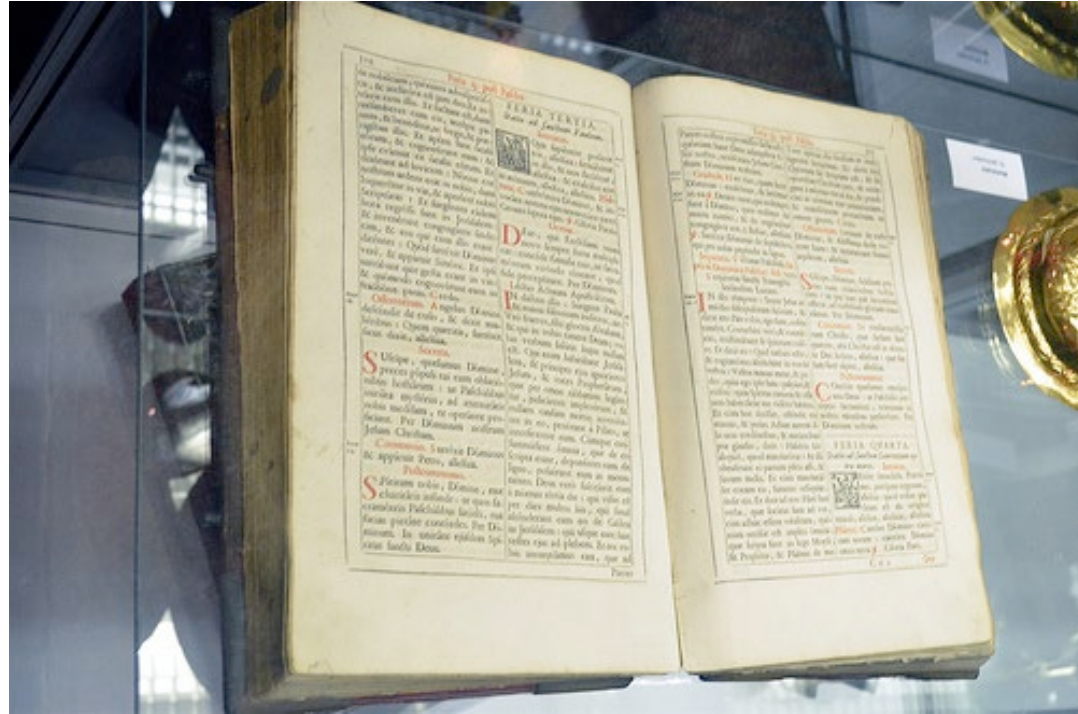
# Connectivism & Engagement (1)



1. Maximize the range and flexibility of association and groupings

Connectivist courses do not create a single group or community, but encourage the creation of many

# Connectivism & Engagement (2)



2. Encourage multiple languages and diverse communications environments

Connectivist courses are run in multiple languages and varying modalities: images, audio, simulation...

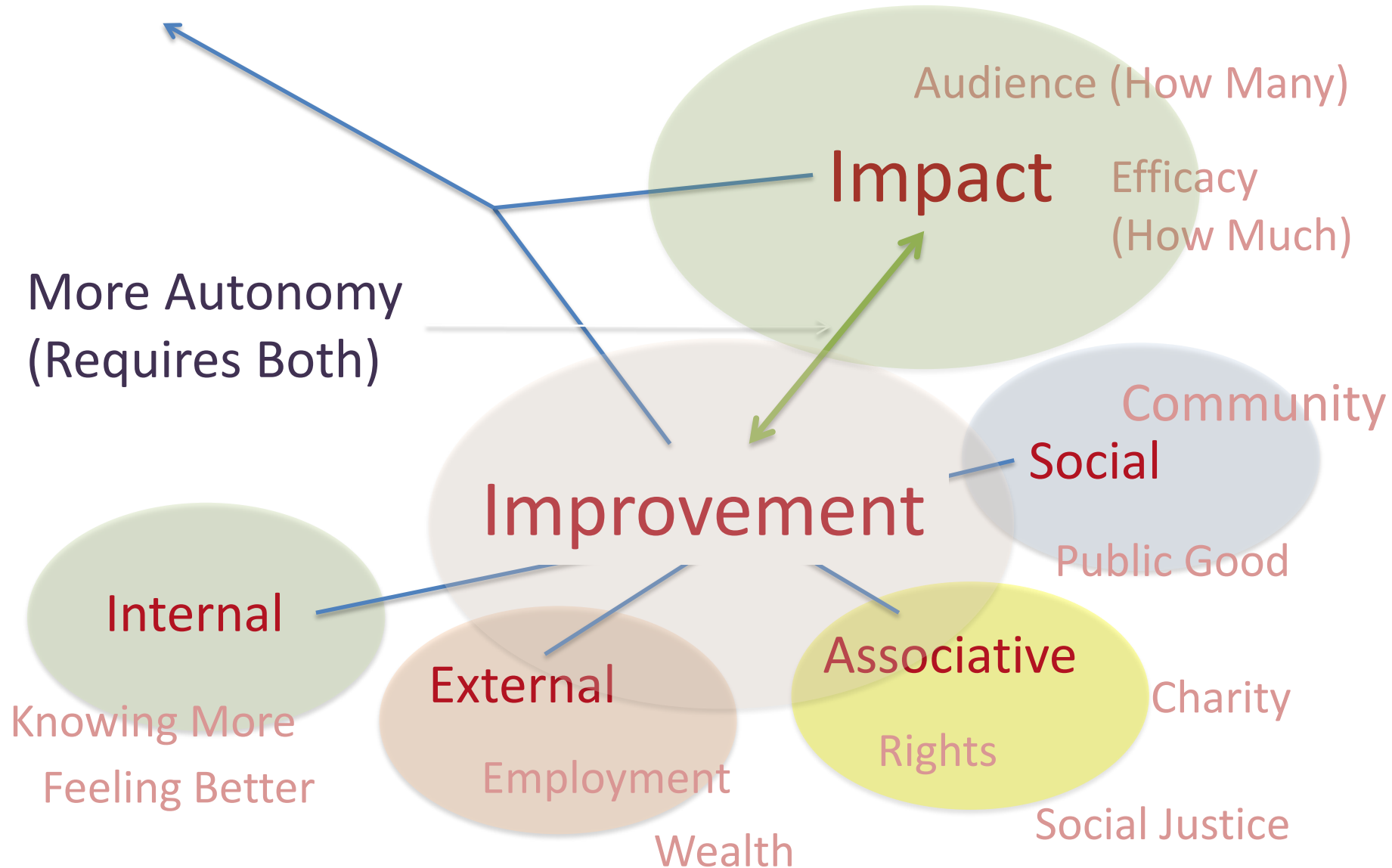
# Connectivism & Engagement (3)



3. Expect different reasons for engagement, multiple outcomes, and varying mechanisms

Connectivist support cooperation over collaboration, with varying pedagogies to support multiple aims

# Factors Effecting Effect



# Connectivism & Effect (1)



1. While at the same time emphasizing the personal, maximize effect range and impact  
Connectivist courses support massive participation and growing impactful engagement in community



# Connectivism & Effect (2)



1. Recognize and support the potential for improvements both social and personal

The impact of connectivist courses is measured by one's engagement and improvement in the wider knowledge community

# Learning Outcomes

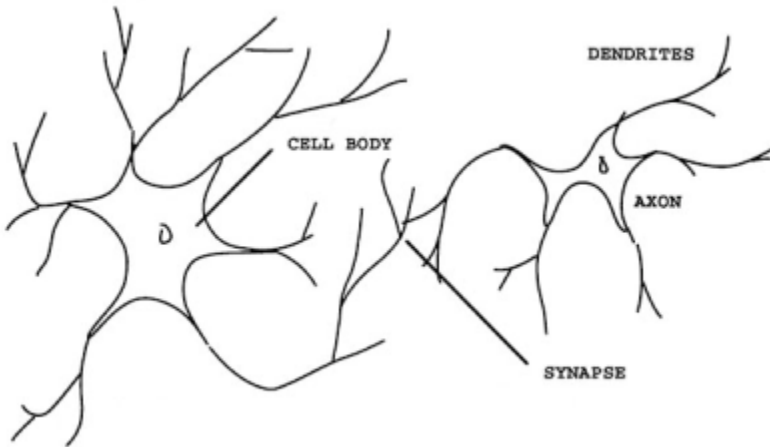
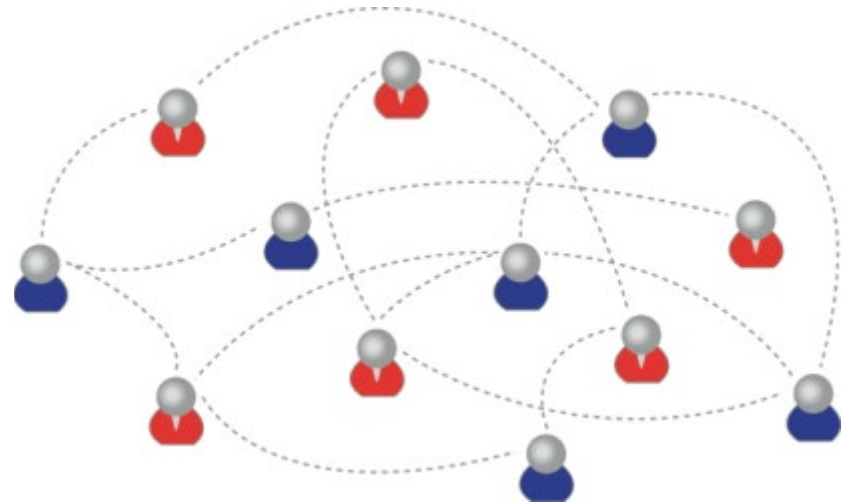


Figure 1. Biological Neuron

We recognize this



By performance in this

There are not specific bits of knowledge or competencies, but rather, personal capacities  
(more on this later)

# 2010: Stephen Downes, Rita Kop Critical Literacies & PLENK 2010

PLENK2010  
Personal Learning Environments  
Networks and Knowledge 2010

home discussion wiki the daily blog live sessions recordings about

YOU ARE NOT LOGGED IN. [\[LOGIN\]](#) [\[REGISTER\]](#)

### Schedule

WEEK OF...  
12TH SEPTEMBER 2010  
[A TOUR OF PLES AND PLNs](#)

19TH SEPTEMBER 2010  
[CONTRASTING PLES WITH LMSs](#)

26TH SEPTEMBER 2010  
[THE NEXT/EXTENDED WEB](#)

3RD OCTOBER 2010  
[PLE/PLN AND LEARNING THEORIES](#)

10TH OCTOBER 2010  
[EVALUATING LEARNING IN PLE/NS](#)

17TH OCTOBER 2010  
[USING PLES SUCCESSFULLY](#)

24TH OCTOBER 2010  
[PLE/PLN AND LEARNING THEORIES](#)

### Welcome to the Course

SEE! I CAN PLENK, TOO!

PLENK 2010

If you would like to register for PLENK2010 there's still time to register.  
[Click here to Register](#)

PLENK 2010 involved a significant research effort

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

# PLENK Analytics



Rita Kop

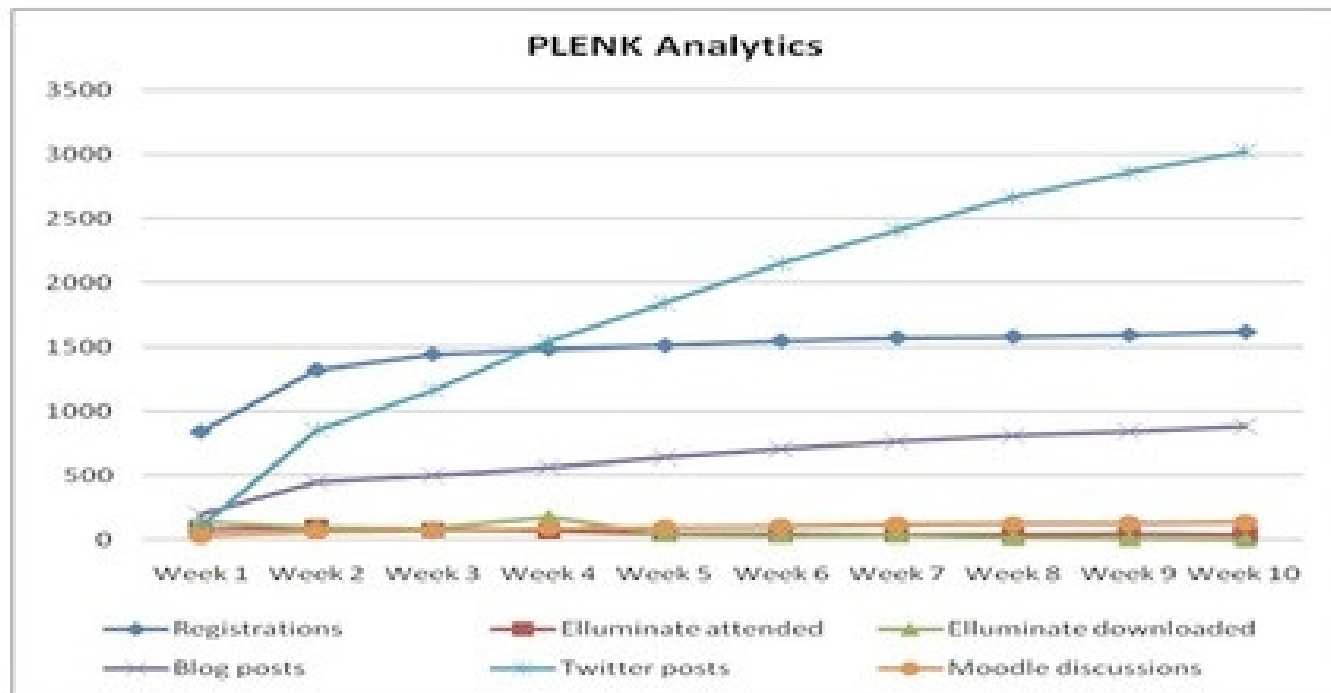


Chart 2. PLENK participation rates.

Supporting ongoing MOOC participation

<http://www.irrodl.org/index.php/irrodl/article/view/882>

# Critical Literacies

A frame for understanding new media  
Morris, Derrida and a little Lao Tzu

Syntax	Cognition
Semantics	Context
Pragmatics	Change



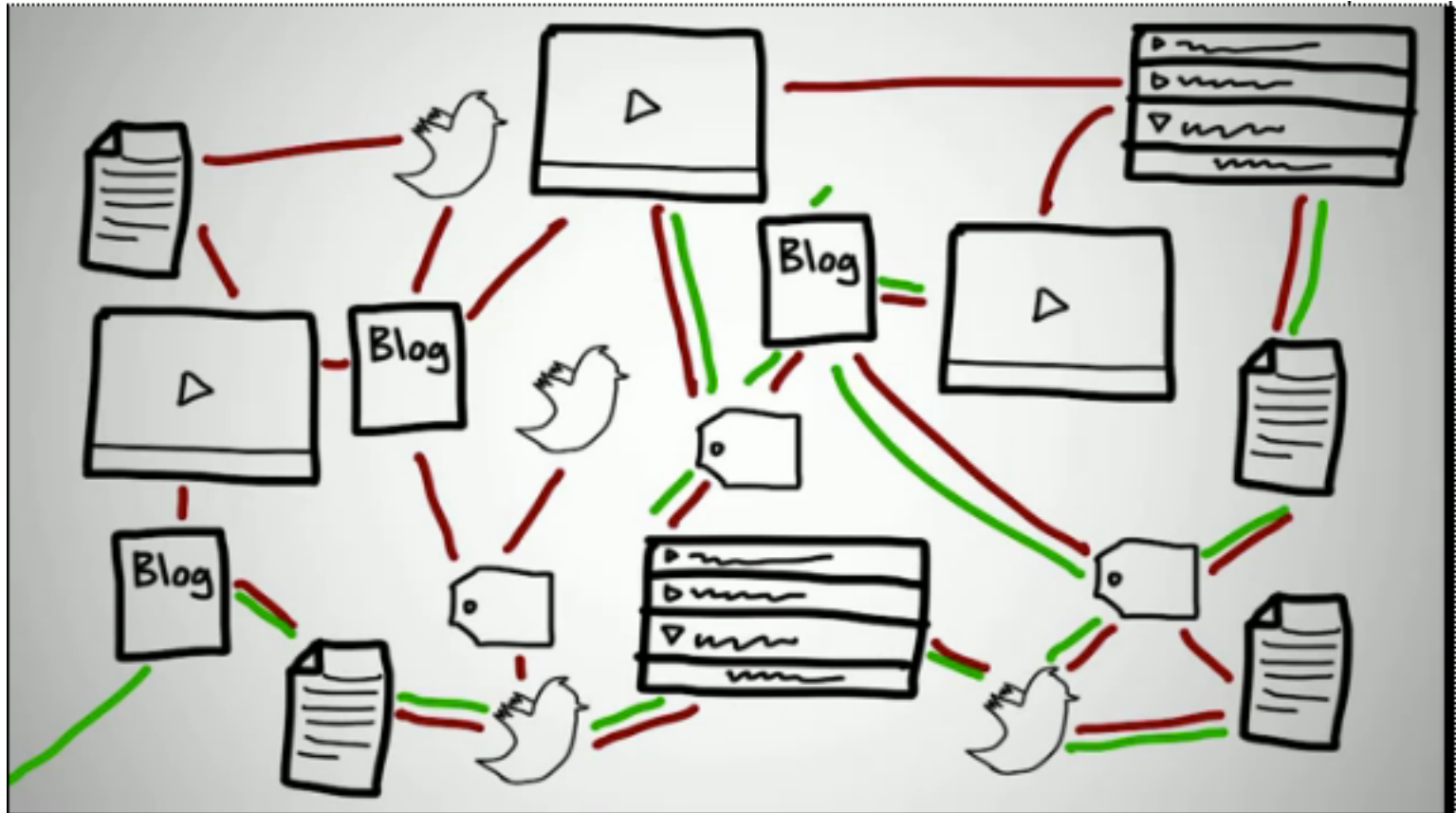
Understanding how we use artifacts to  
*communicate* in online and other learning  
networks

<http://www.downes.ca/presentation/232>

# 2011: Year of the MOOC



# Connectivism & Connective Knowledge



CCK11: How to Learn in a MOOC

<http://www.youtube.com/watch?v=eW3gMGqcZQc>

# How to be Successful in a MOOC

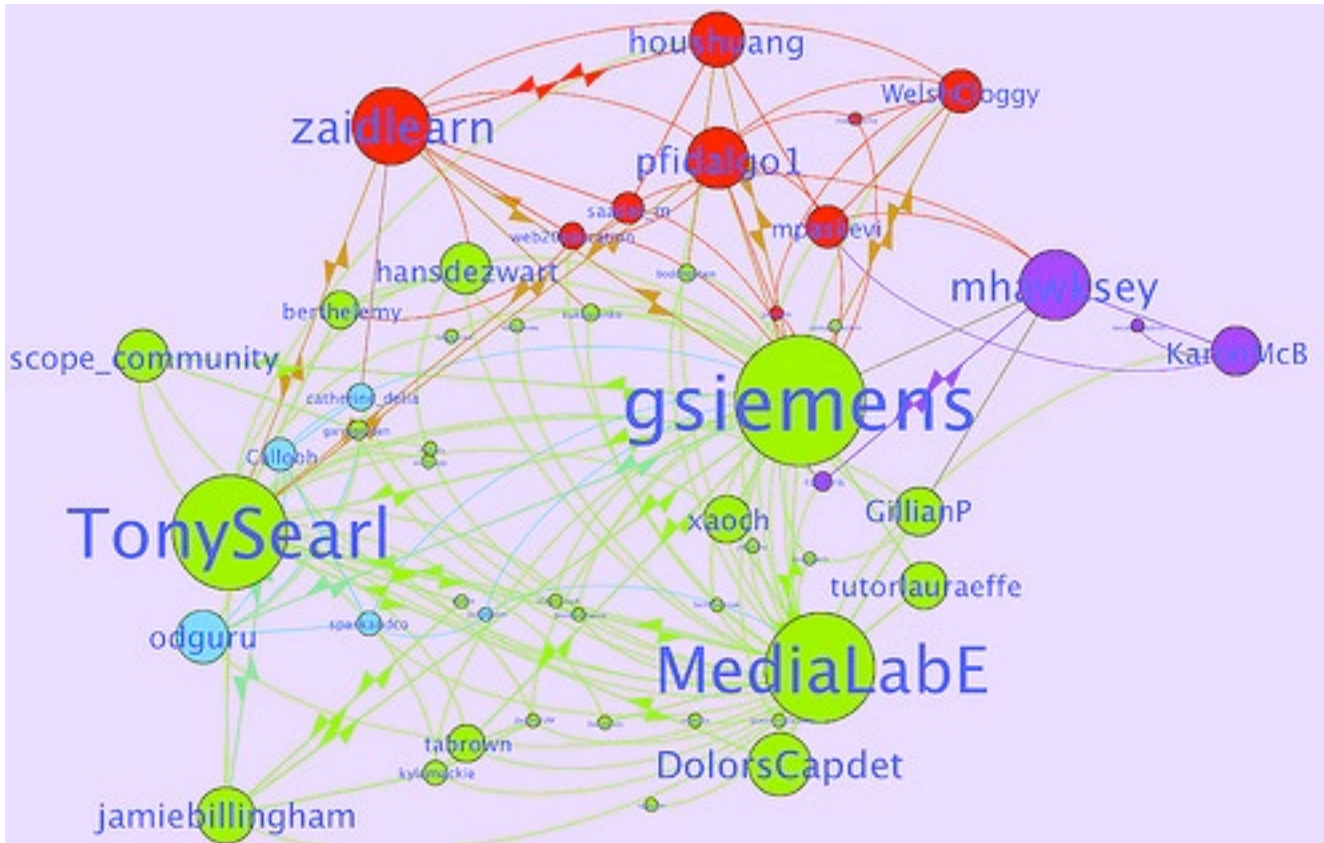


Dave Cormier

<http://www.youtube.com/watch?v=r8avYQ5ZqM0>



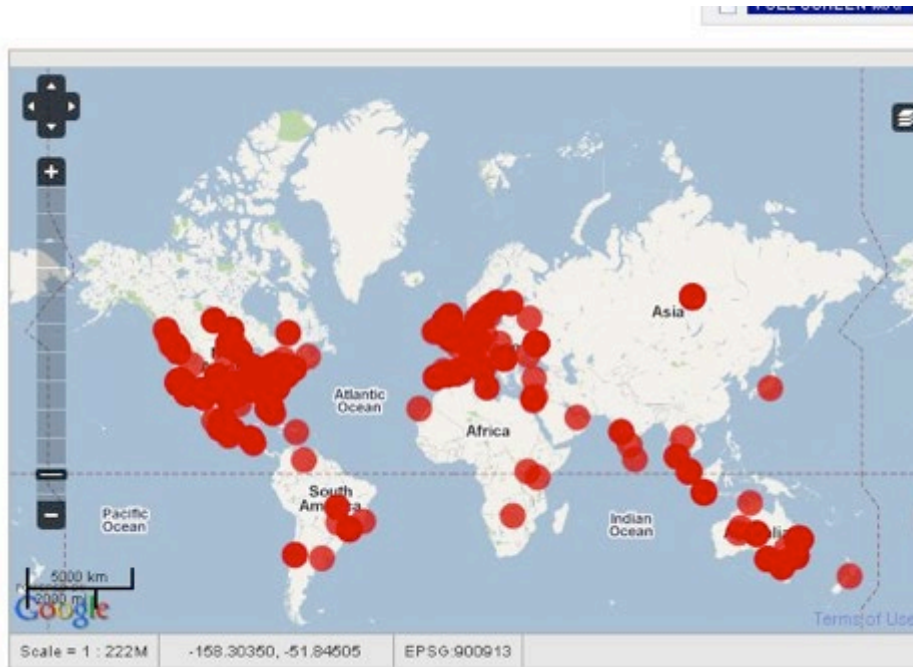
# Learning Analytics



LAK11: How to measure success in a MOOC

<http://scope.bccampus.ca/course/view.php?id=365>

# MobiMOOC



**ALL CATEGORIES**

- VIA MOBIMOOC TEXT MESSAGE
- TWITTER #MOBIMOOC
- VIA MOBIMOOC CALL
- VIA MOBIMOOC EMAIL
- VIA CROWDMAP WEBSITE
- PROJECT: GGATIN (MANITOBA, CA)
- VIA SMARTPHONE APP
- PROJECT: SEAN ABAJIAN FIELD TESTS MLEARNING (LOS ANGELES, US)

Inge de Waard

Supporting Mobile Learning Technology

<http://mobimooc.wikispaces.com/>

# The madness and mayhem of DS106



Jim Groom

DS = Digital Storytelling

DS106 redefined activities and participation

<http://ds106.us/>

# eduMOOC

Welcome to the  
University of Illinois Springfield

At the time of an event, click the play button for the live webcast.



UNIVERSITY OF ILLINOIS  
SPRINGFIELD

00:00 00:00  
▶ PLAY FULLSCREEN MUTE

eduMOOC  
Online Learning Today...and  
Tomorrow



twitter Join the conversation

Use the #edumoooc8  
hash when you tweet  
your comments:

46

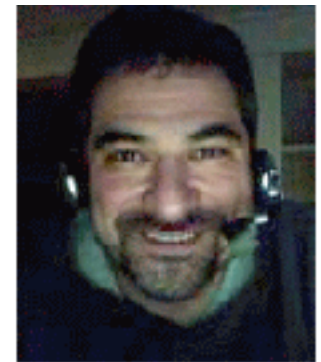
Join the Twitter Back Channel.  
(Twitter account needed. [Login](#)  
info requested on next screen.)

Tweet

Large, well publicized, but not very interactive

<http://sites.google.com/site/edumoooc/>

# eduMOOC underground



Jeff  
Lebow

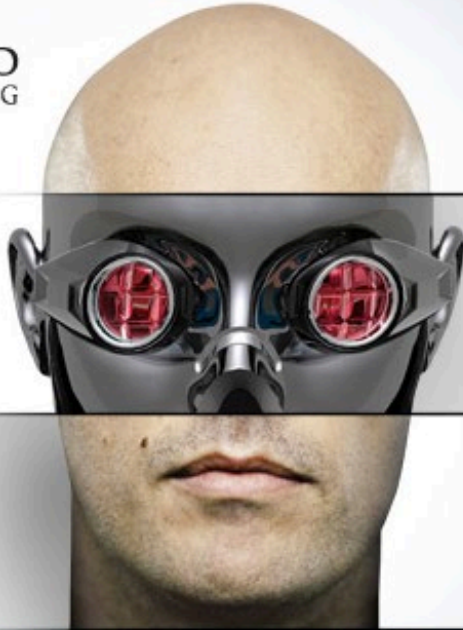
Jeff Lebow, Google+ hangout, and Livestream:  
Taking something ordinary, and making it something  
special – YOU make the MOOC

<http://www.livestream.com/jefflebow/>

# AI-Class: Redefining Massive



Oct. 10 ~ DEC. 16, 2011



INTRODUCTION TO

# Artificial Intelligence

**In partnership with the Stanford University School of Engineering.**  
You can join this online worldwide class this fall.

More than 100,000 people signed up for pre-registration

<http://www.ai-class.com/>

# Change 2011



Downes, Cormier and Siemens try again

Image: <http://steve-wheeler.blogspot.com/2011/04/running-mooc.html>

<http://change.mooc.ca>



**Stephen Downes**  
<http://www.downes.ca>