Connectivist Learning:

How new technologies are promoting autonomy and responsibility in education

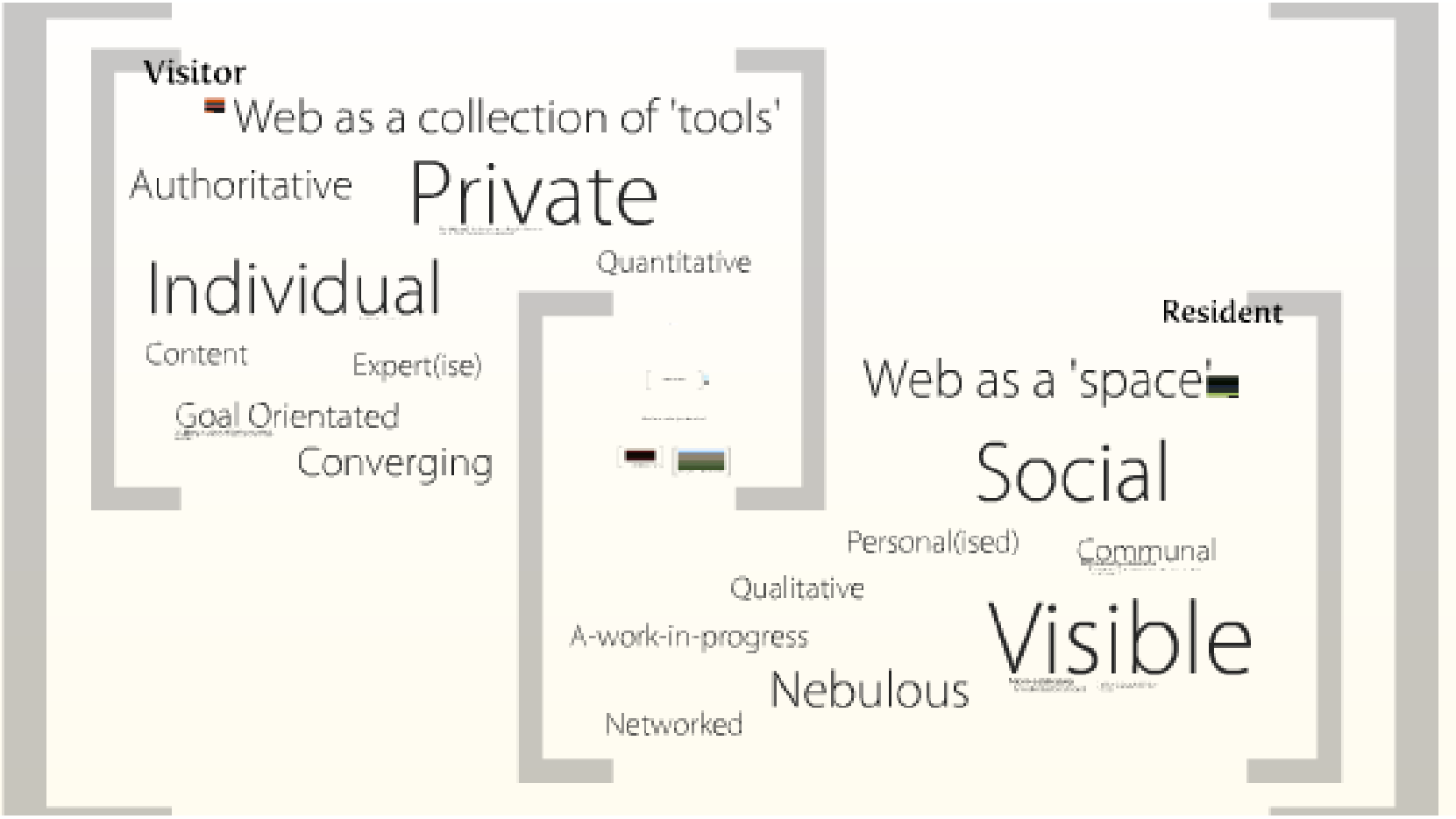
Stephen Downes

Barcelona, Spain, October 22, 2011

Visitors and Residents: A Better Metaphor

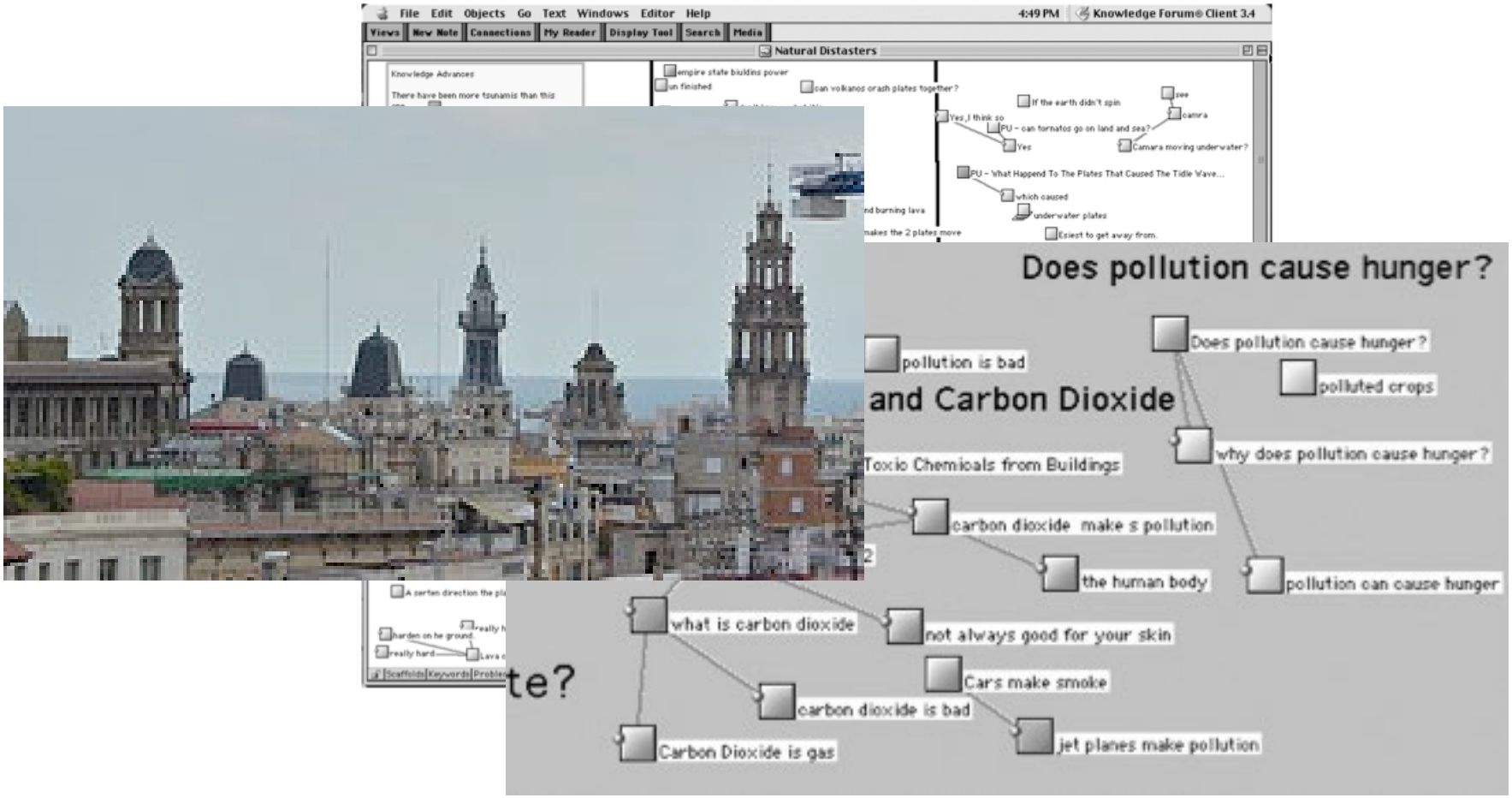
Visitors and Residents: A new typology for online engagement
by David S. White and Alison Le Cornu.
First Monday, Volume 16, Number 9 - 5 September 2011
http://www.uic.edu/htbin/cgiwrap/bin/ojs/index.php/fm/article/viewArticle/3171/3049

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

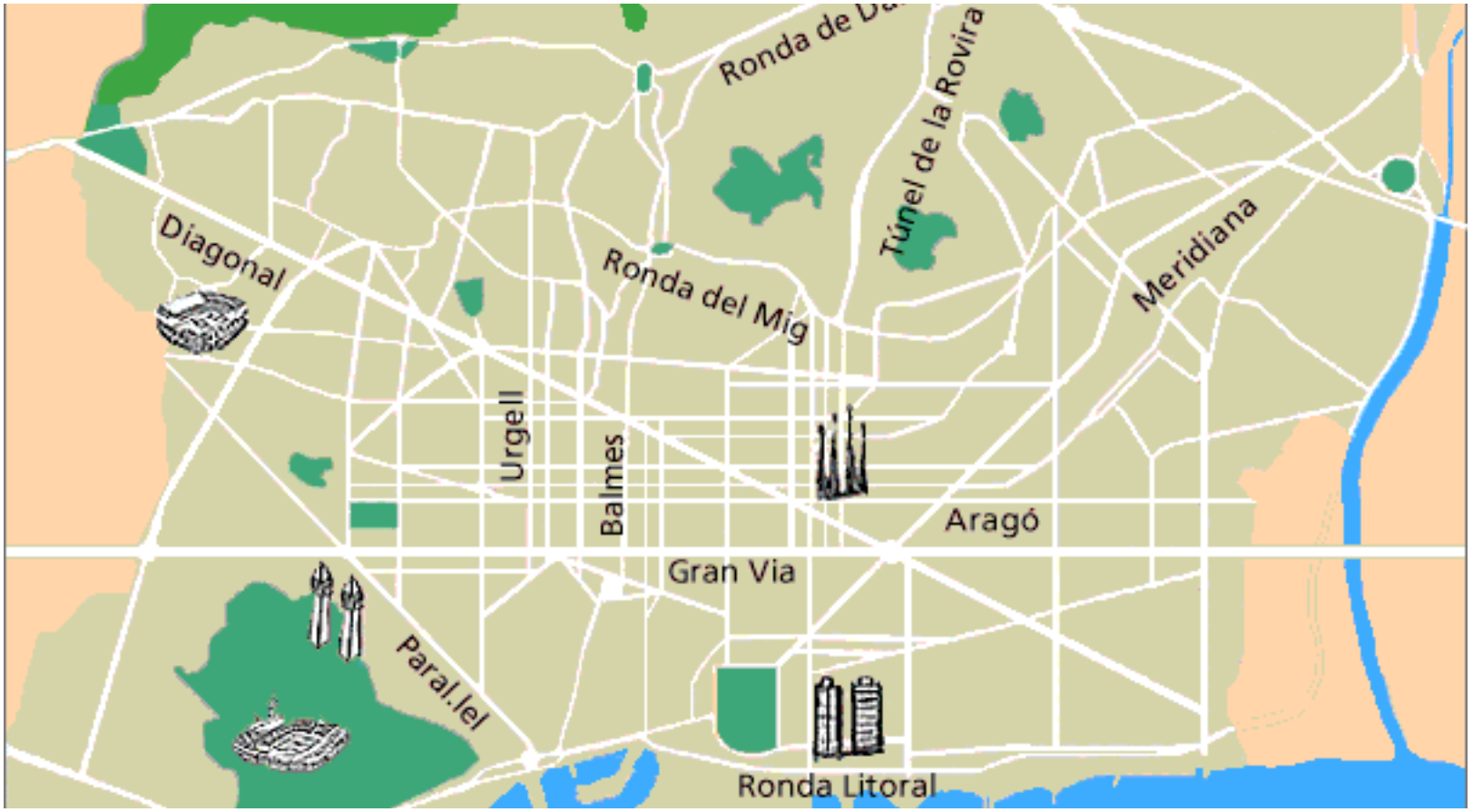


Knowledge Building: Theory, Pedagogy, and Technology
Marlene Scardamalia and Carl Bereiter, Cambridge Handbook of the Learning Sciences
http://ikit.org/fulltext/2006_KBTheory.pdf

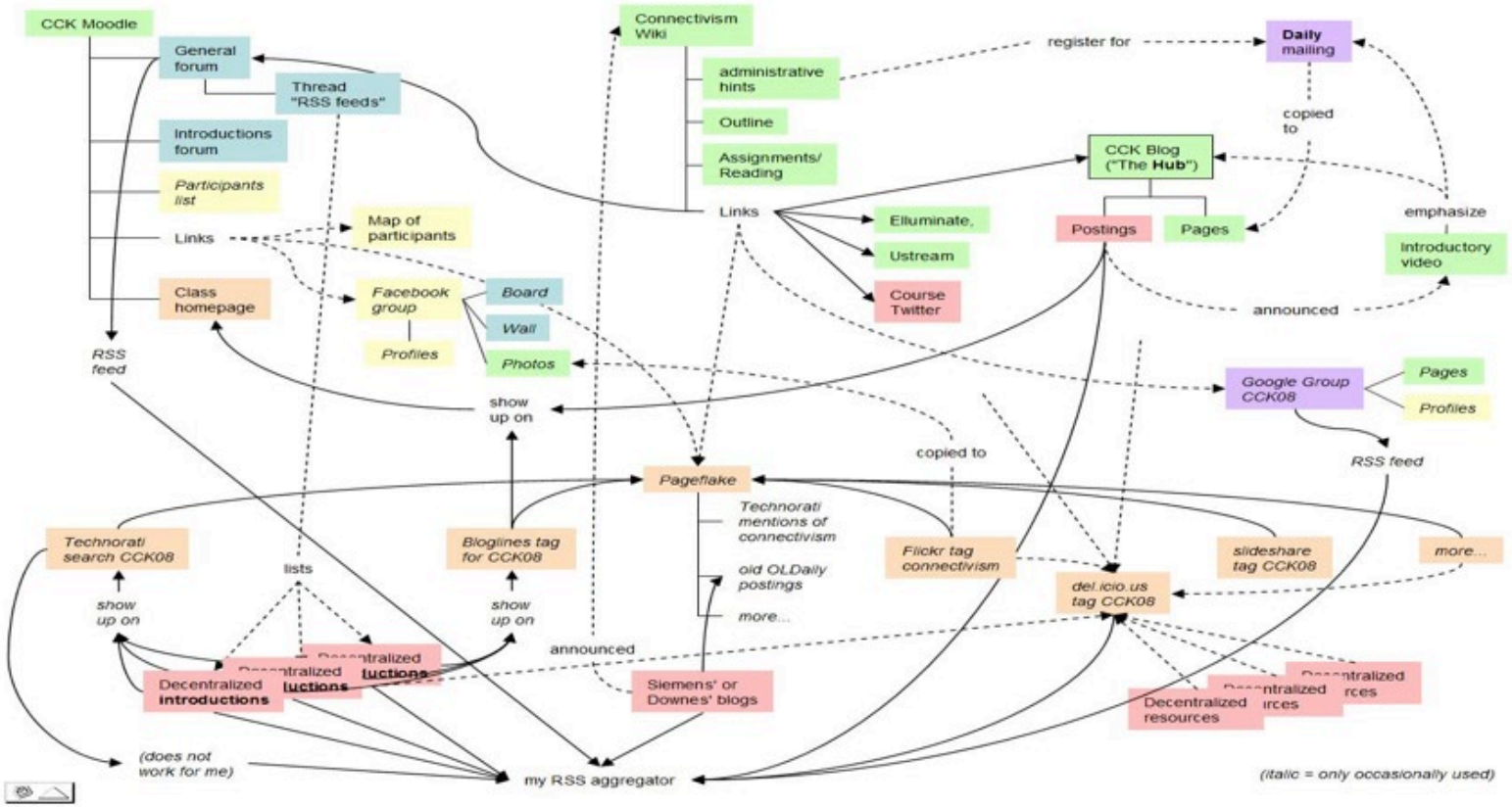
The Learner as Visitor

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: A Theory of Personal Learning
Stephen Downes, December 3, 2008, Educational Development Centre, Ottawa
http://www.downes.ca/presentation/208

Connectivism: The Theory

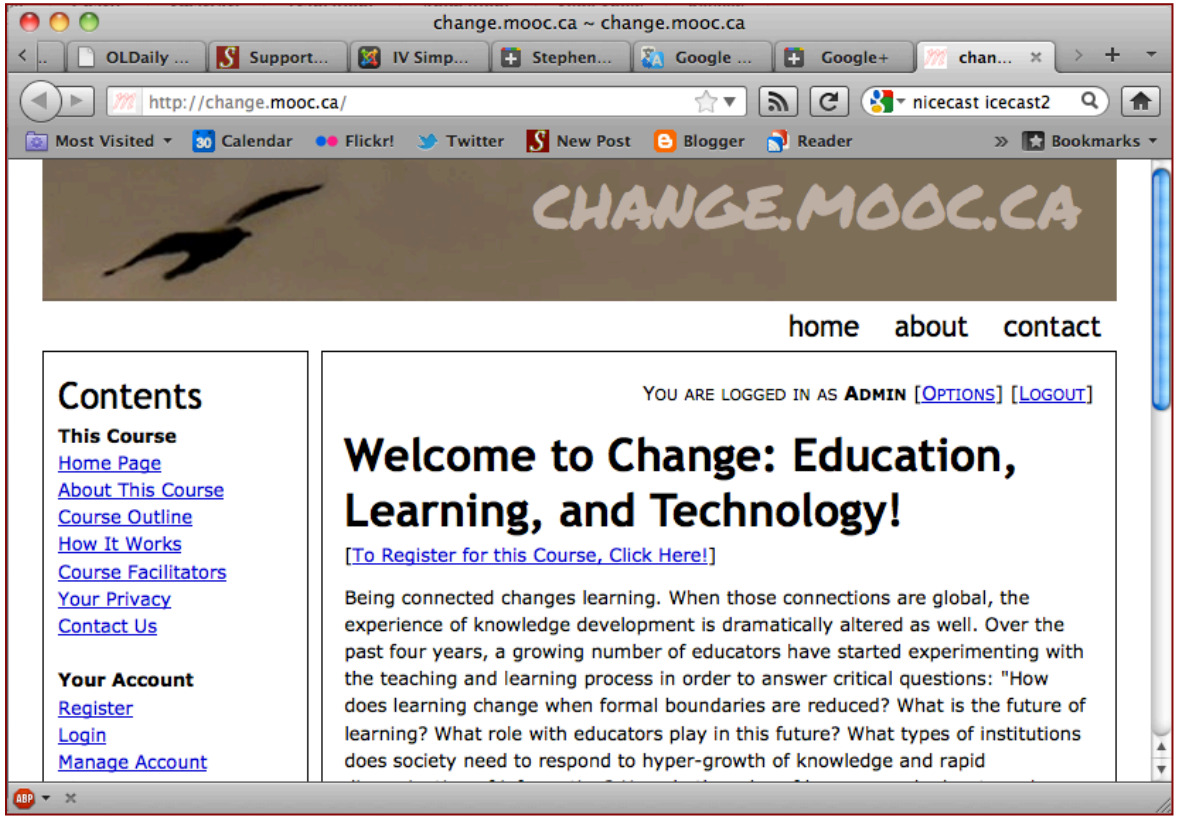
http://www.clipcanvas.com/video-footage/gfx-graphics-neural-network-human-7728.html

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

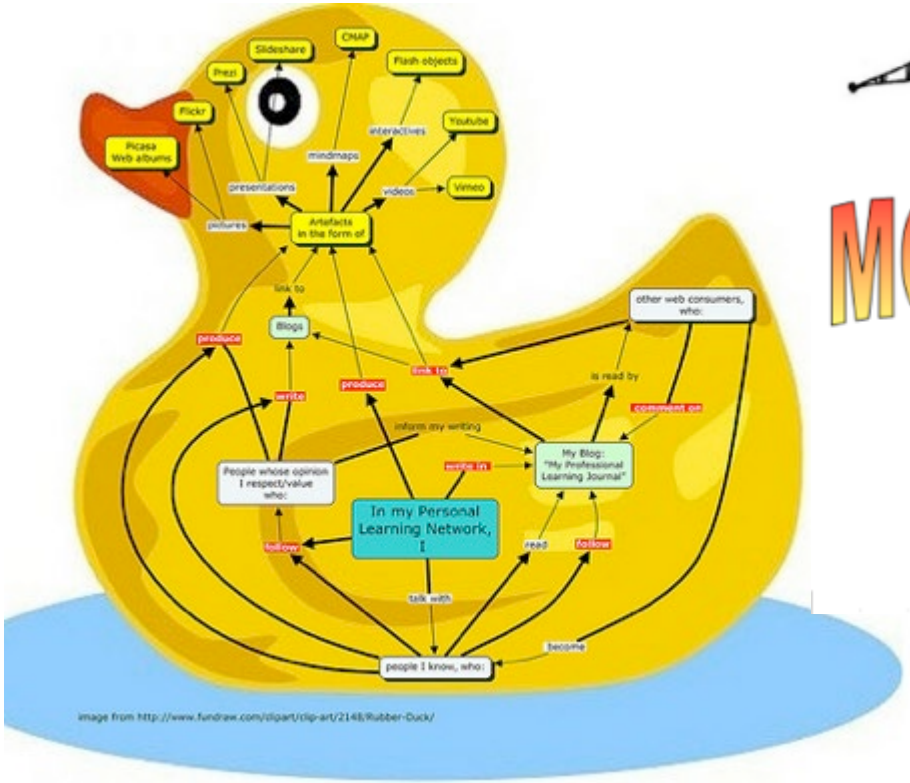
Connectivism: The Practice

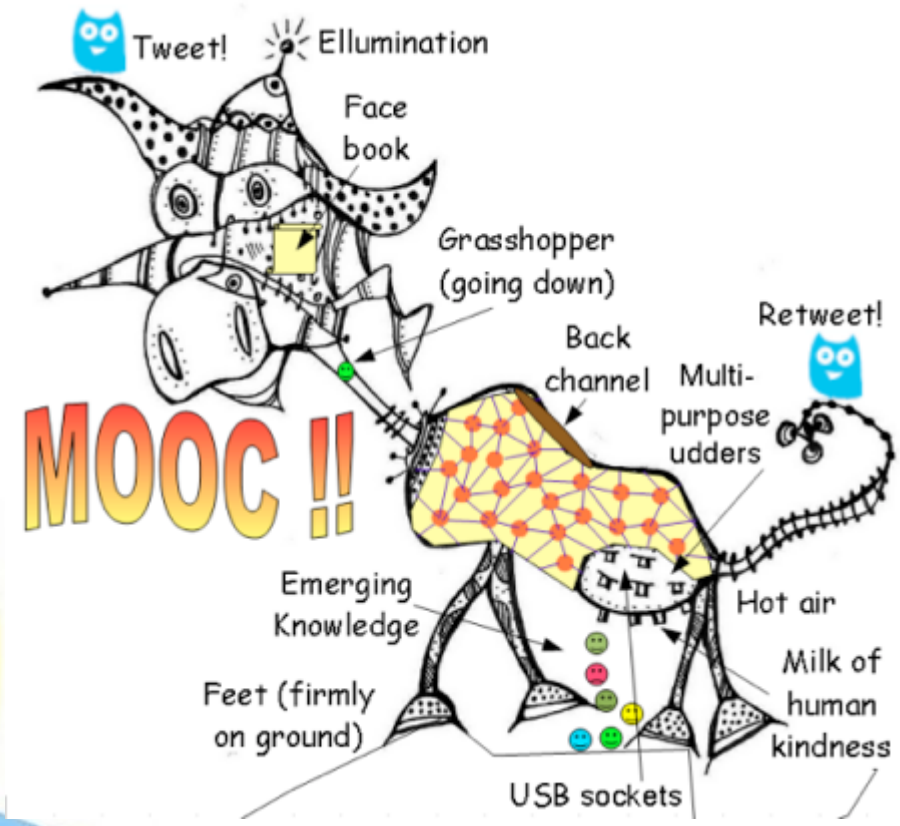
The Massive Open Online Course



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

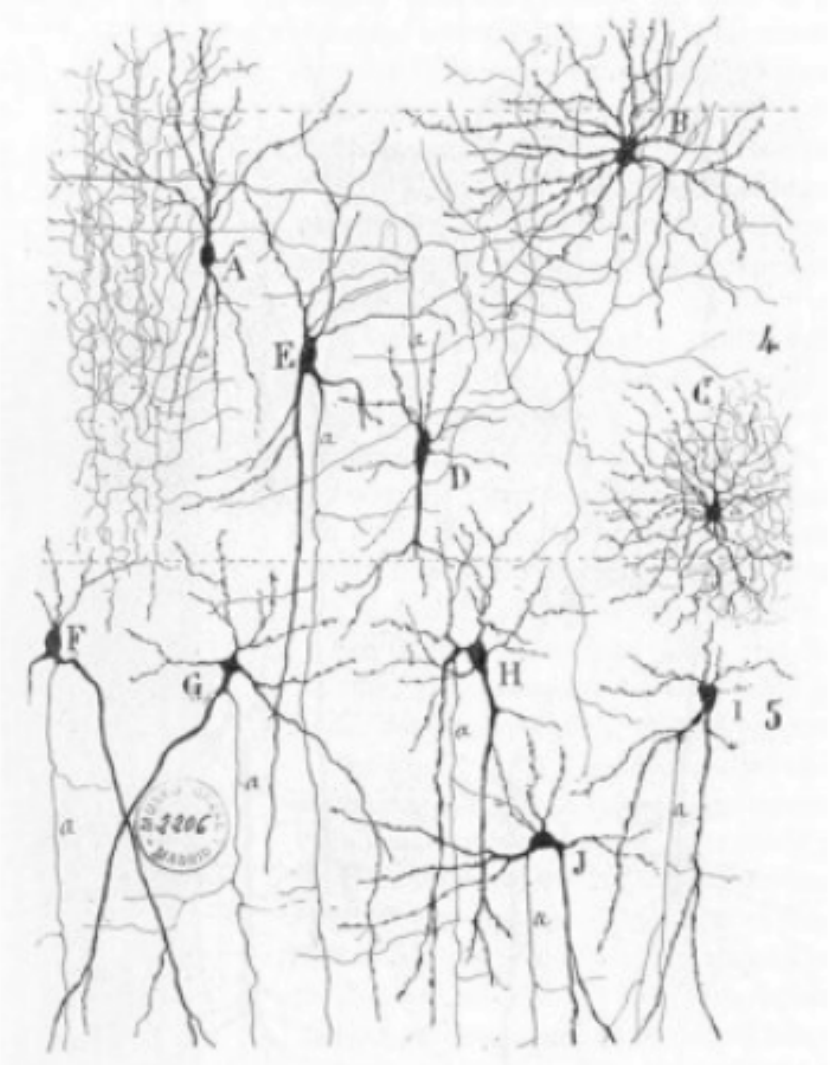
The Anatomy of a MOOC



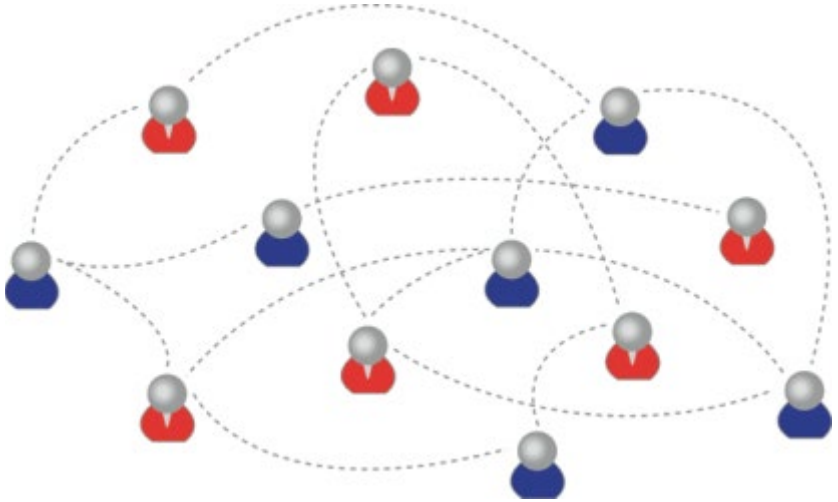


Learning as a Network

- 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

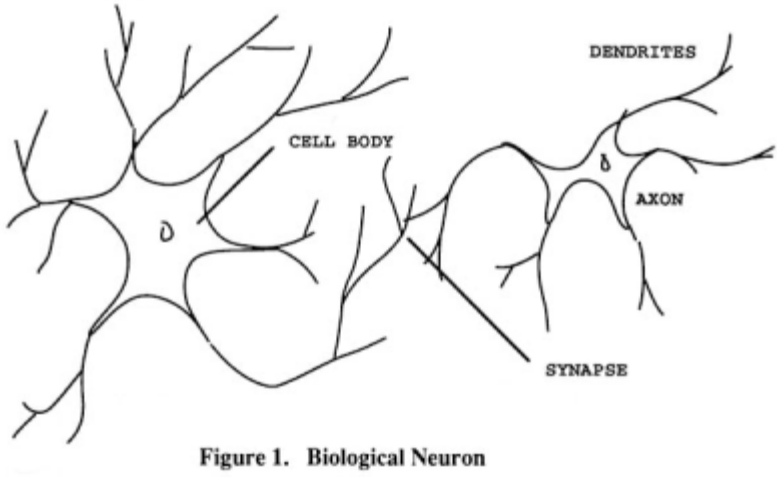
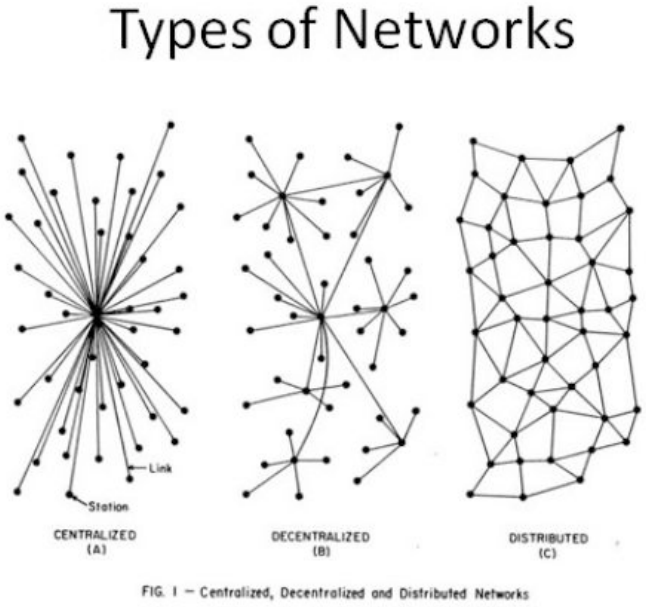


Figure 1. Biological Neuron

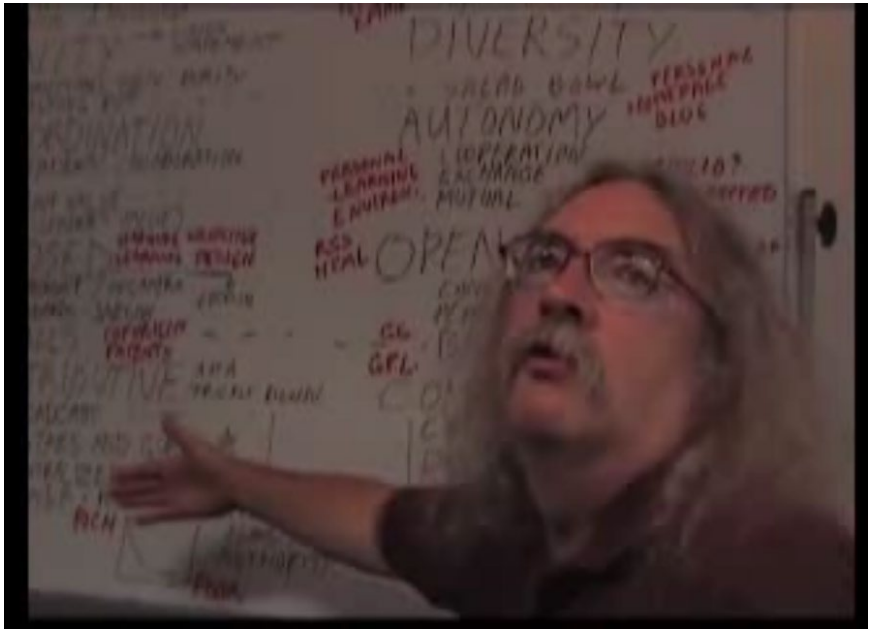
To create one of these

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

Network Learning: Success Factors



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



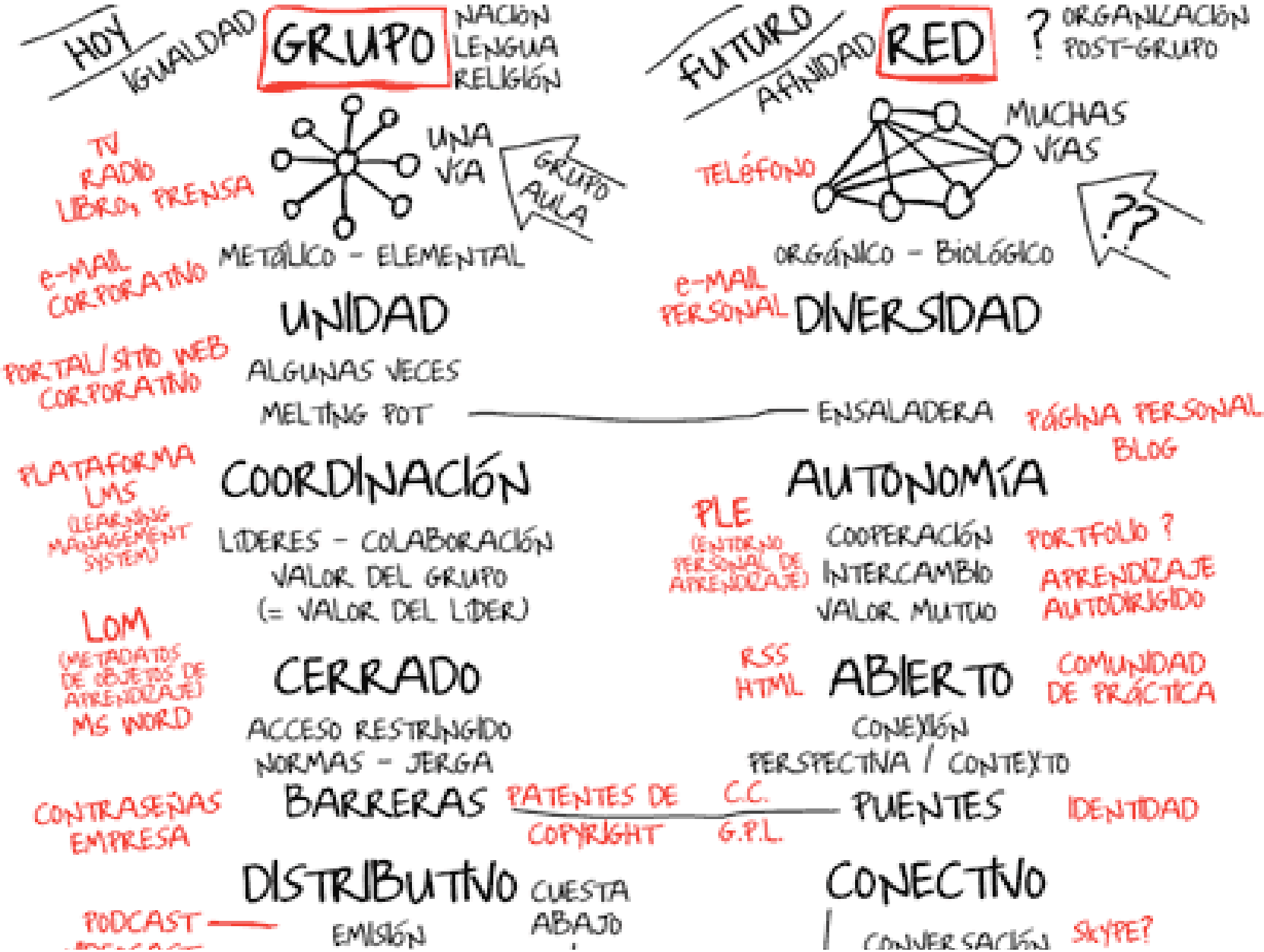
Autonomy – each node is self-governing

Diversity – nodes encouraged to have varying states

Openness – unhindered movement of signals, nodes

Interactivity – knowledge and learning are emergent

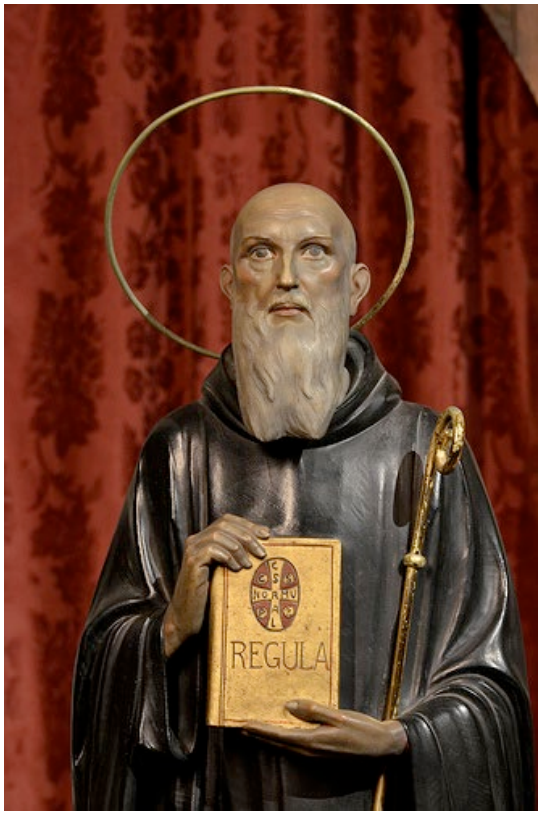
http://video.google.com/videoplay?docid=-4126240905912531540#



Mapa conceptual de Stephen Downes traducido por Potâchov,
e-learning, conocimiento en red
http://e-learning-teleformacion.blogspot.com/2008/07/la-va-ivan-illich-i-mapa-conceptual-de.html

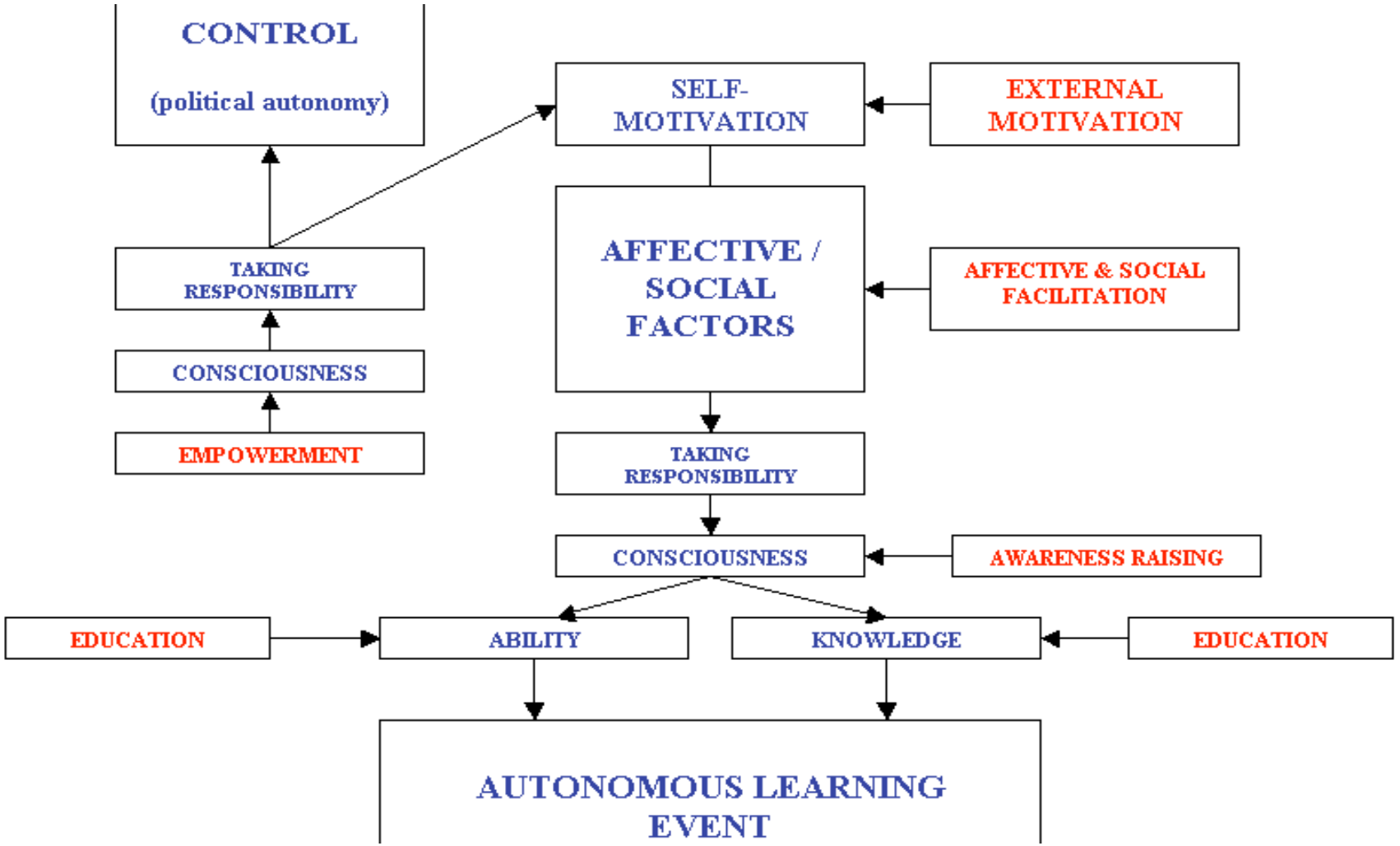
Autonomy and Connectivism

- 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.



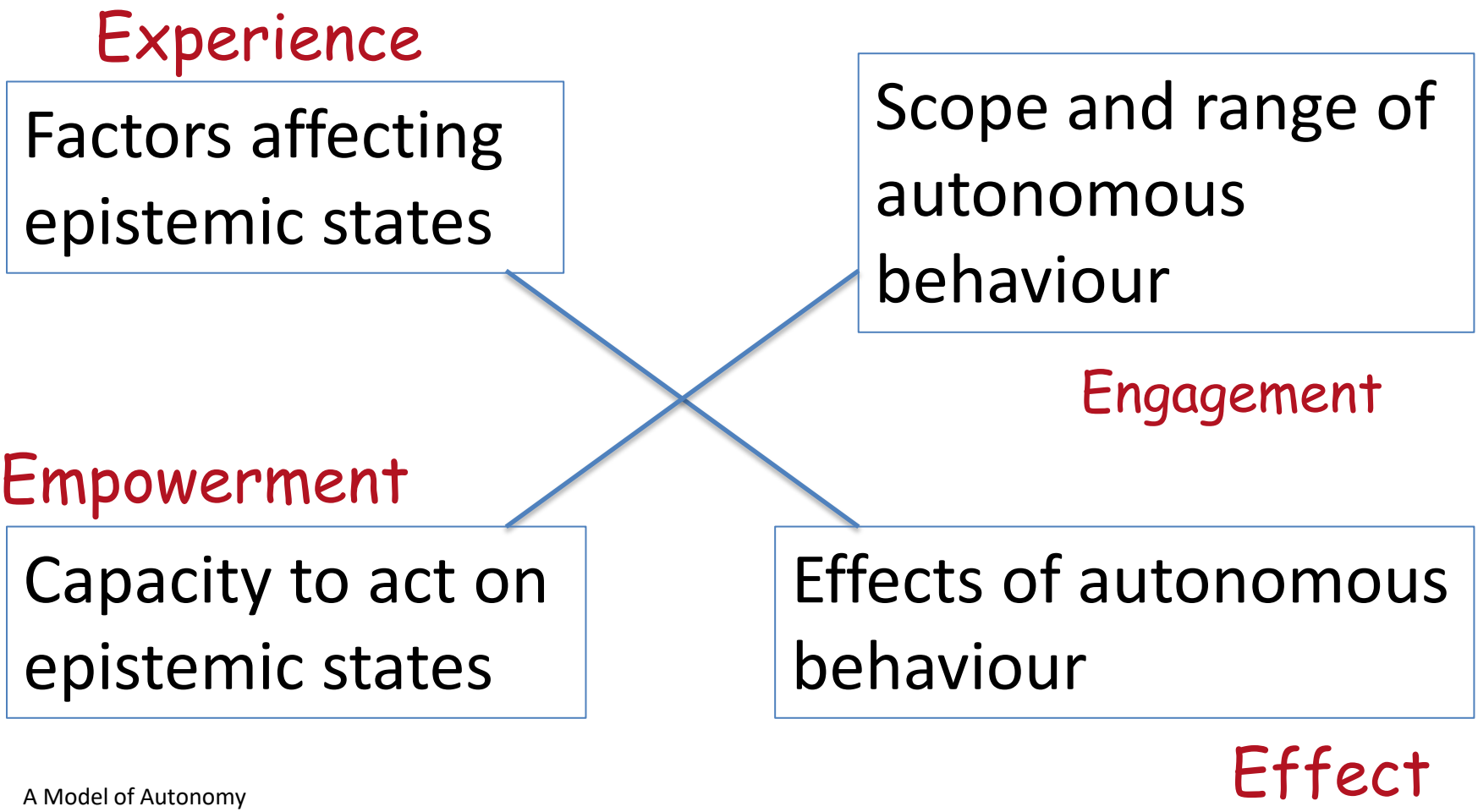
Autonomy
Stephen Downes
http://www.downes.ca/post/38545

Autonomy as Capacity to Act



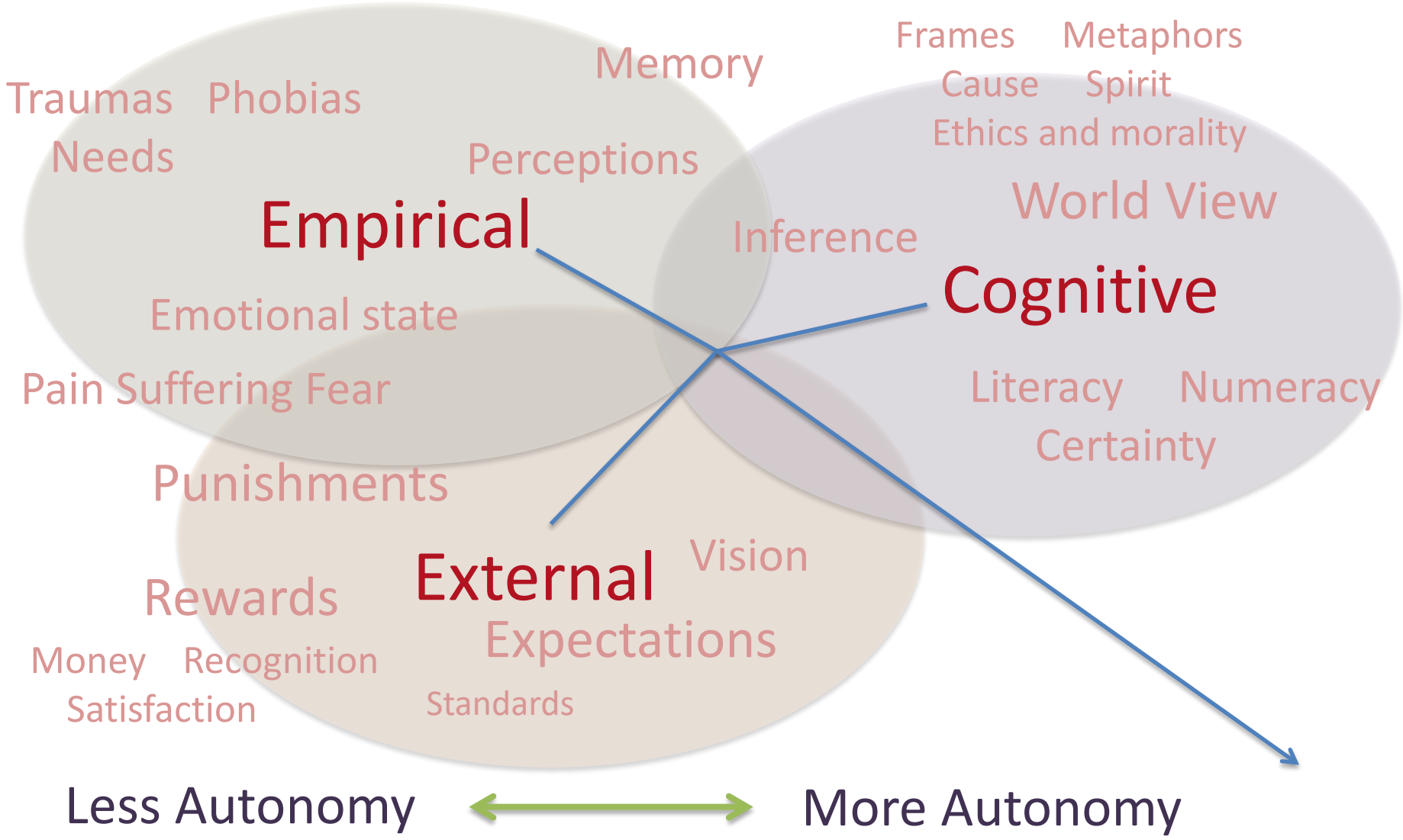
Do it yourself? A Learners' Perspective on Learner Autonomy and Self-Access Language Learning
Hayo Reinders
http://www.innovationinteaching.org/thesis_request.php

Four-Factor Model of Autonomy



A Model of Autonomy
Stephen Downes
http://www.downes.ca/post/54222

Factors Effecting Experience



Connectivism and Experience (1)

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

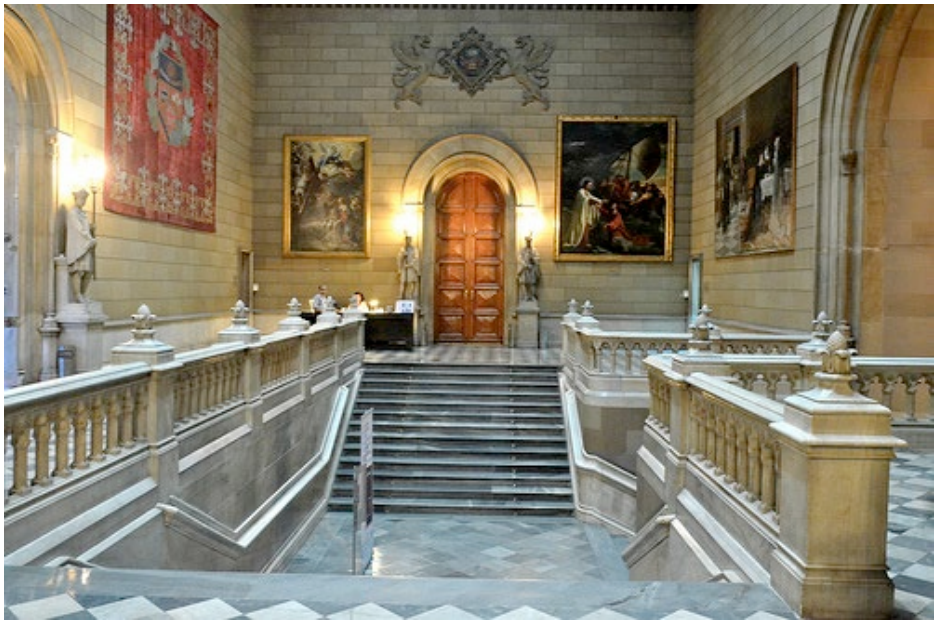
   A connectivist course does not have tests and grades, competition, passing, failure…

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

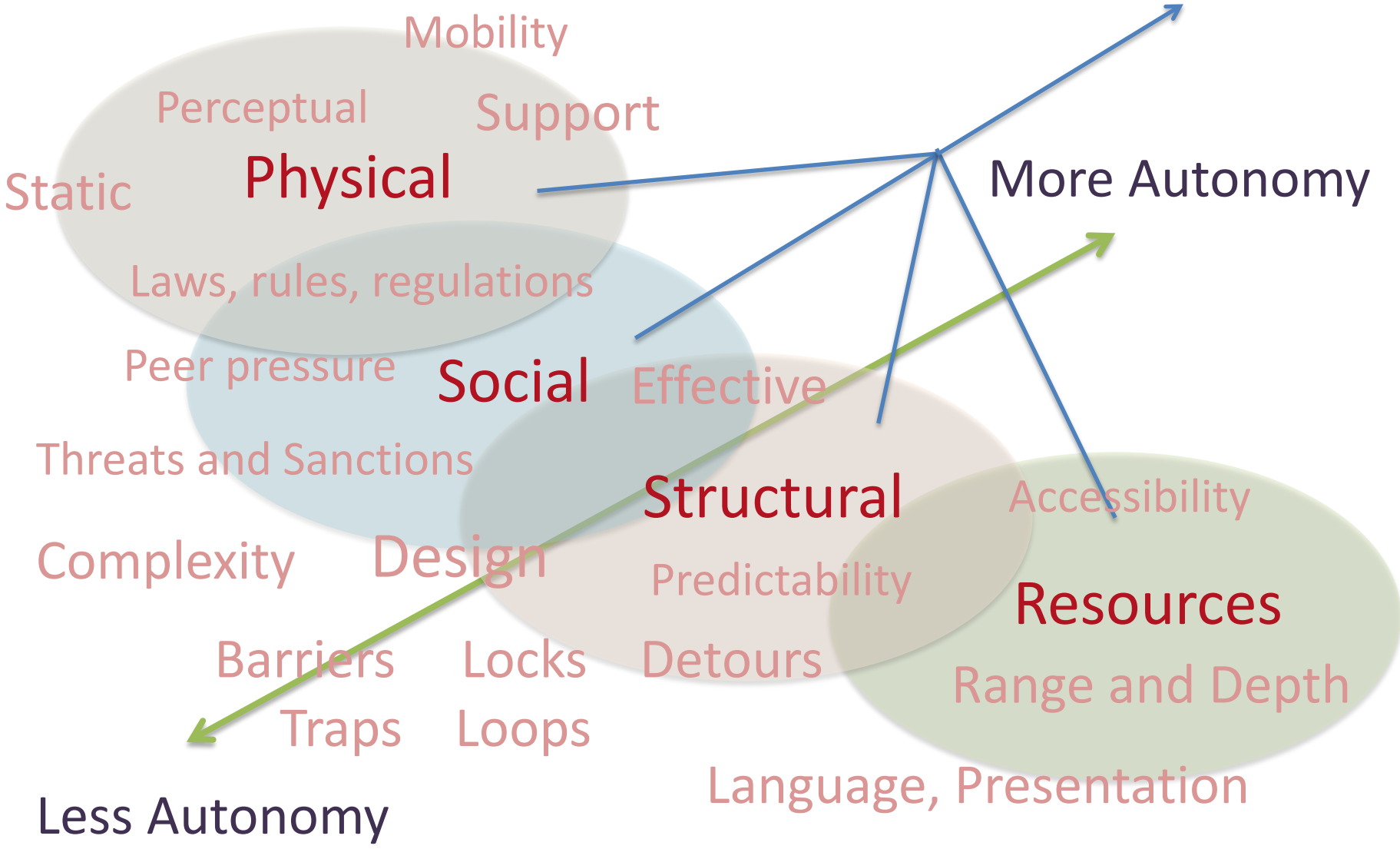
Connectivism and Experience (2)



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

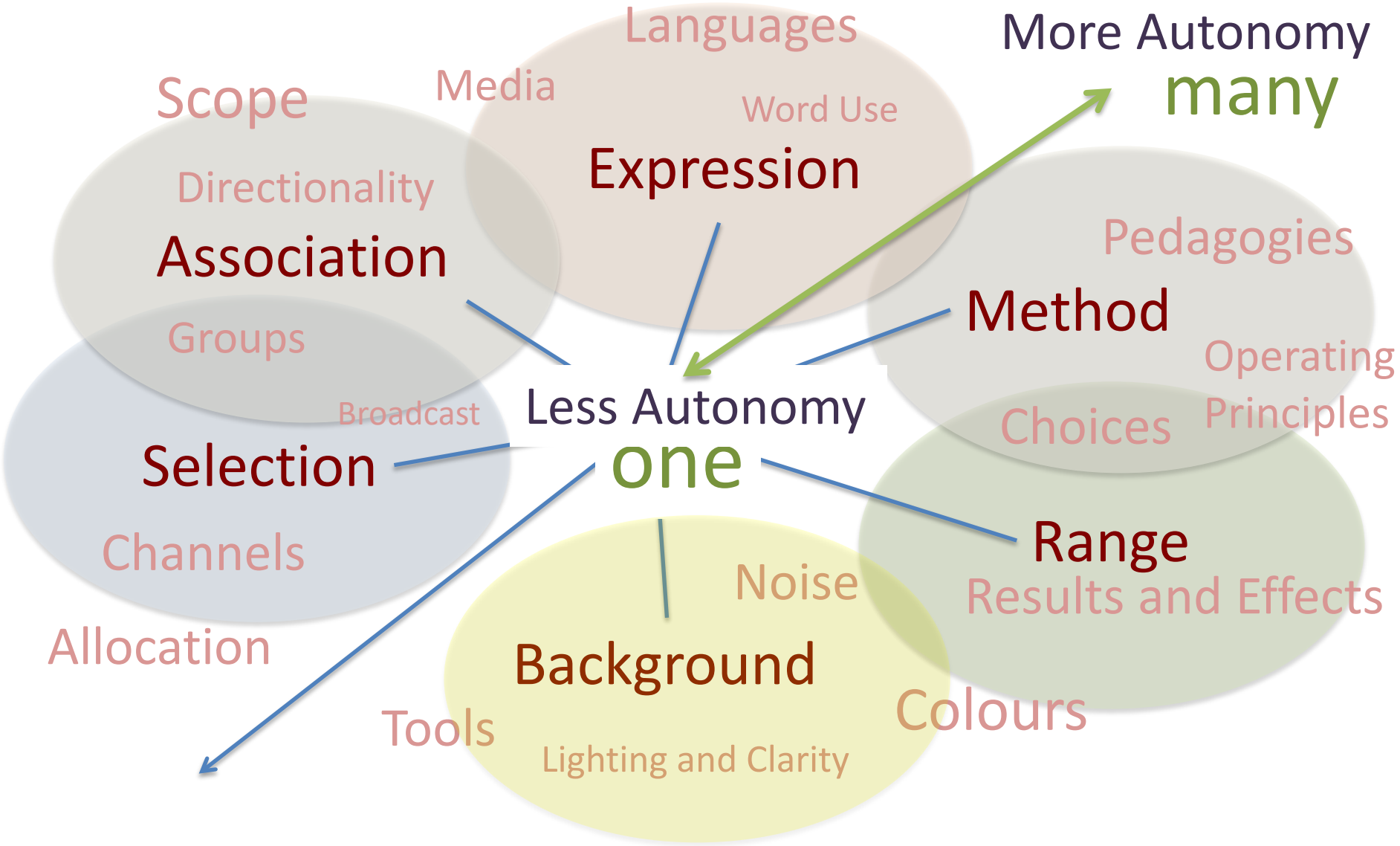
Connectivist courses as a whole are not ‘designed’ and do not attempt to engage a particular structure

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

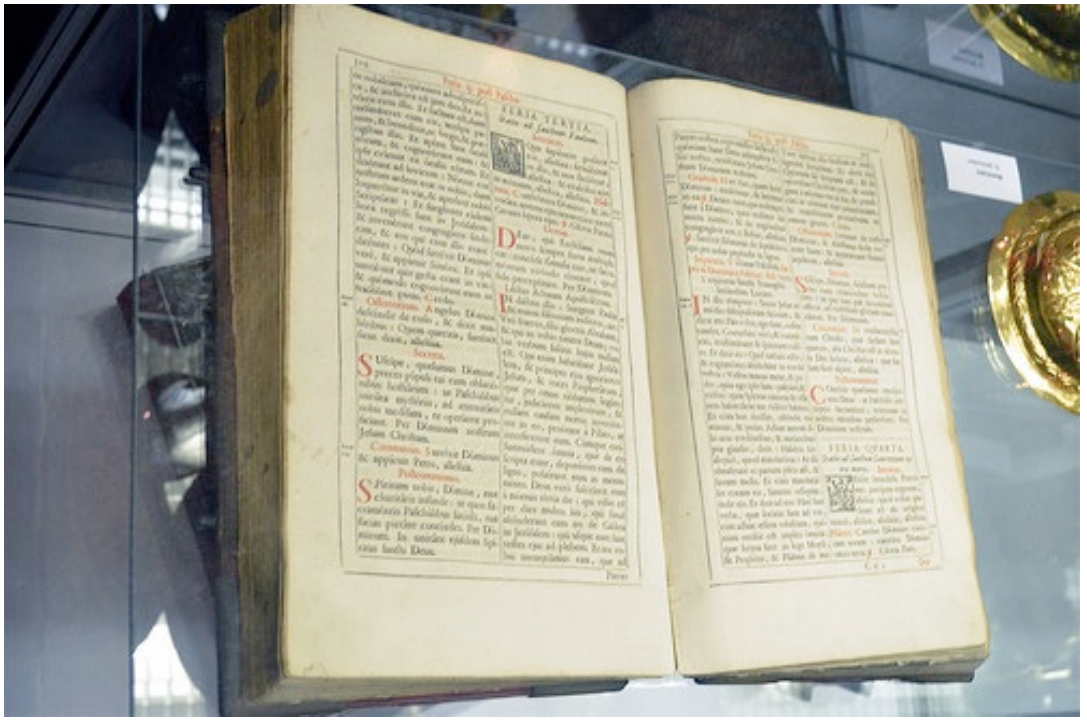


Connectivism & Engagement (1)

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

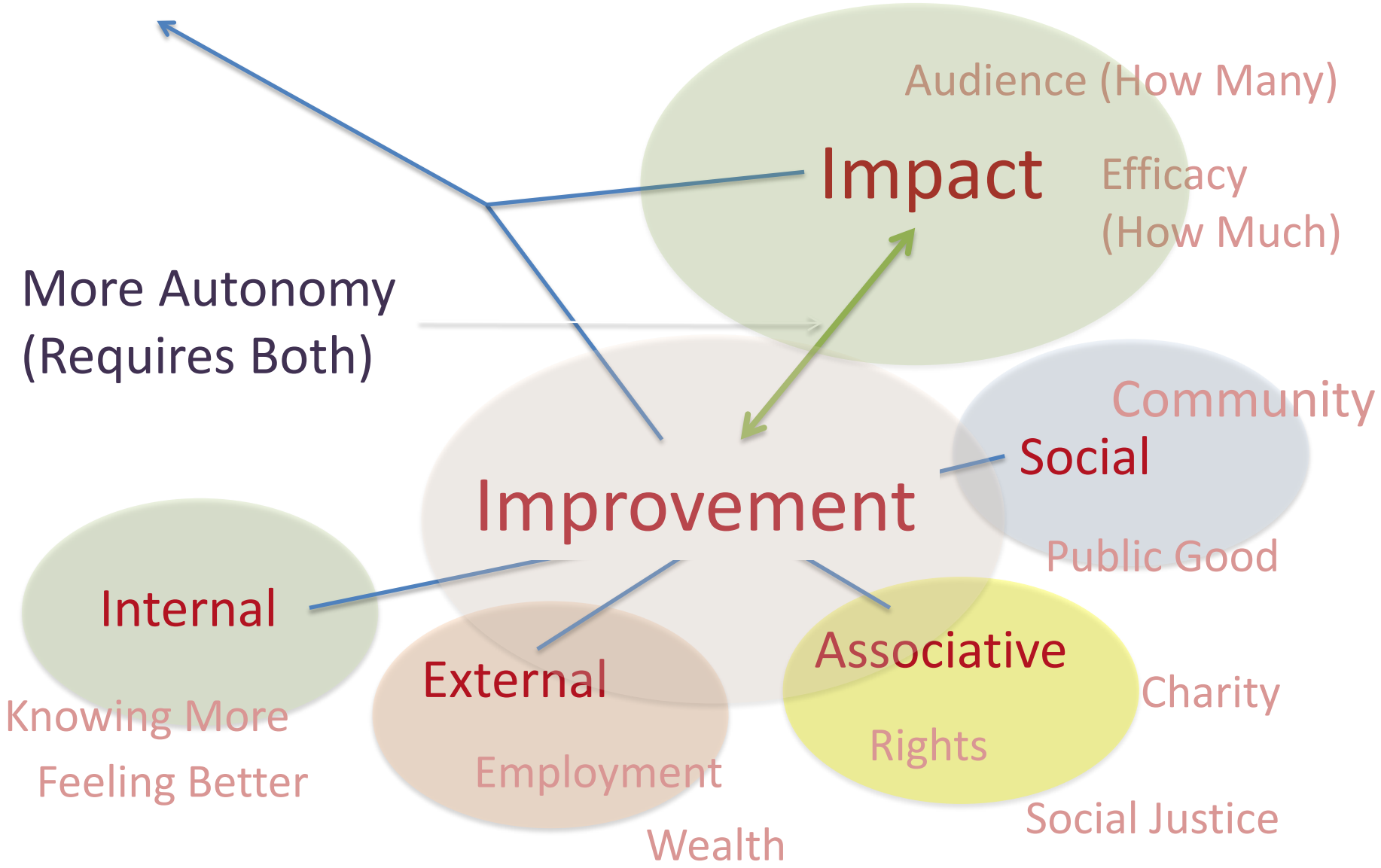
Connectivist courses are run in multiple languages and varying modalities: images, audio, simulation…

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

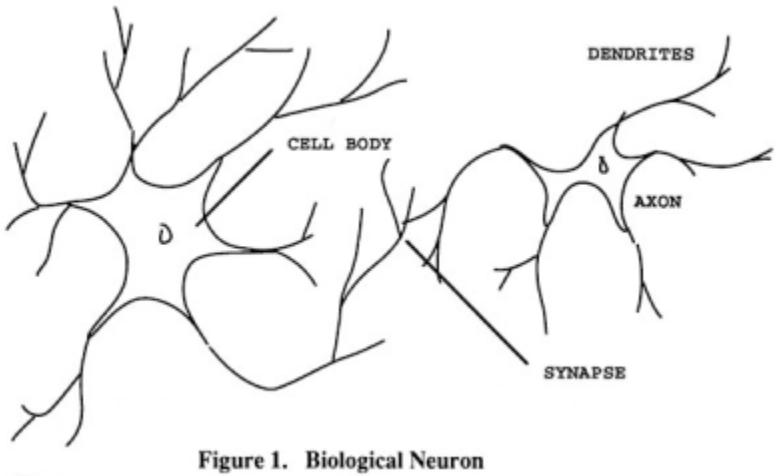
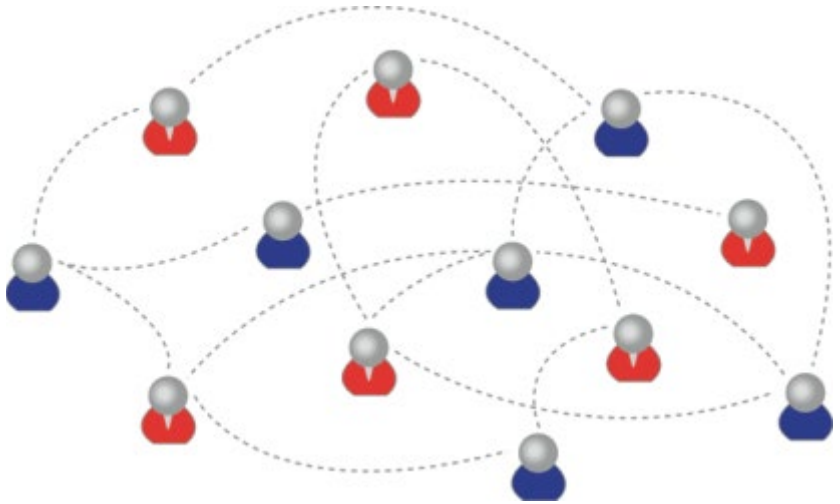


Figure 1. Biological Neuron

We recognize this



By perfomance 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

PLENK 2010 involved a significant research effort

http://connect.downes.ca/

PLENK Analytics

Rita Kop

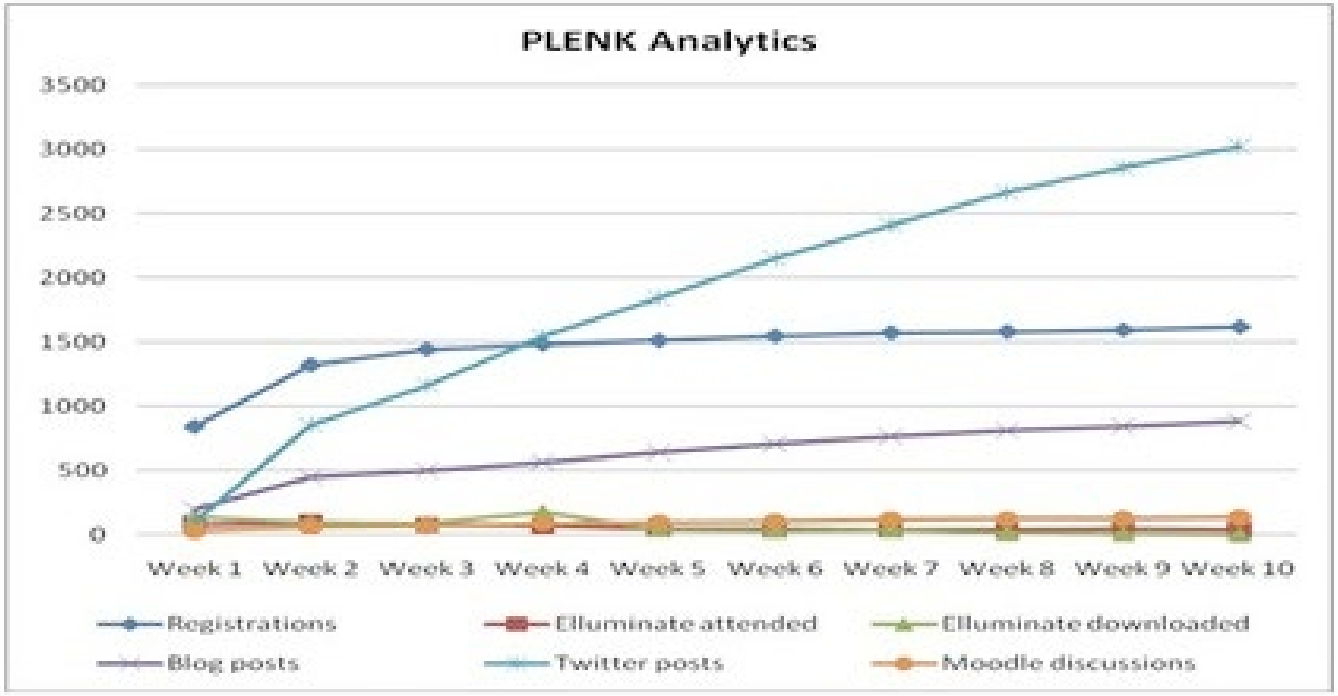
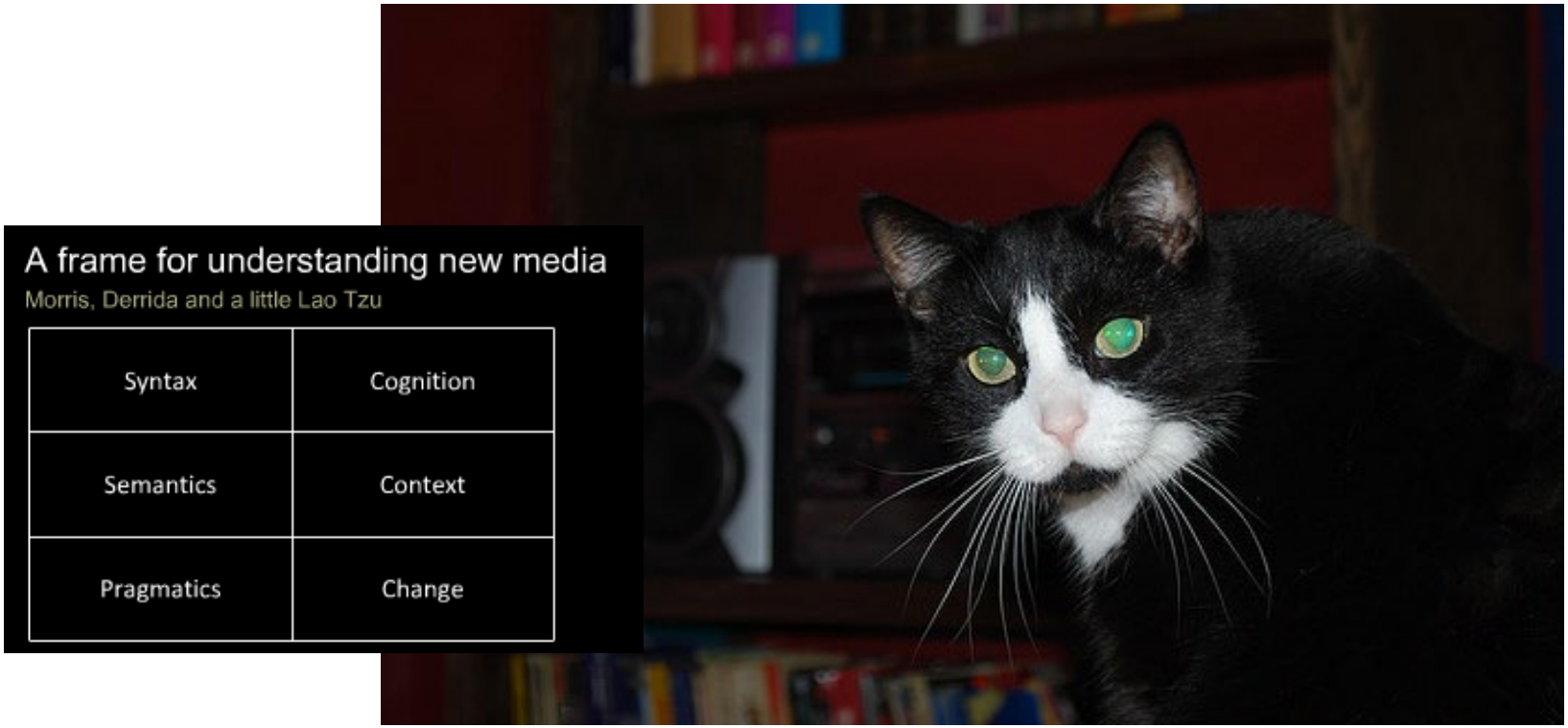


Chart 2. PLENK participation rates.

Supporting ongoing MOOC participation

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

Critical Literacies

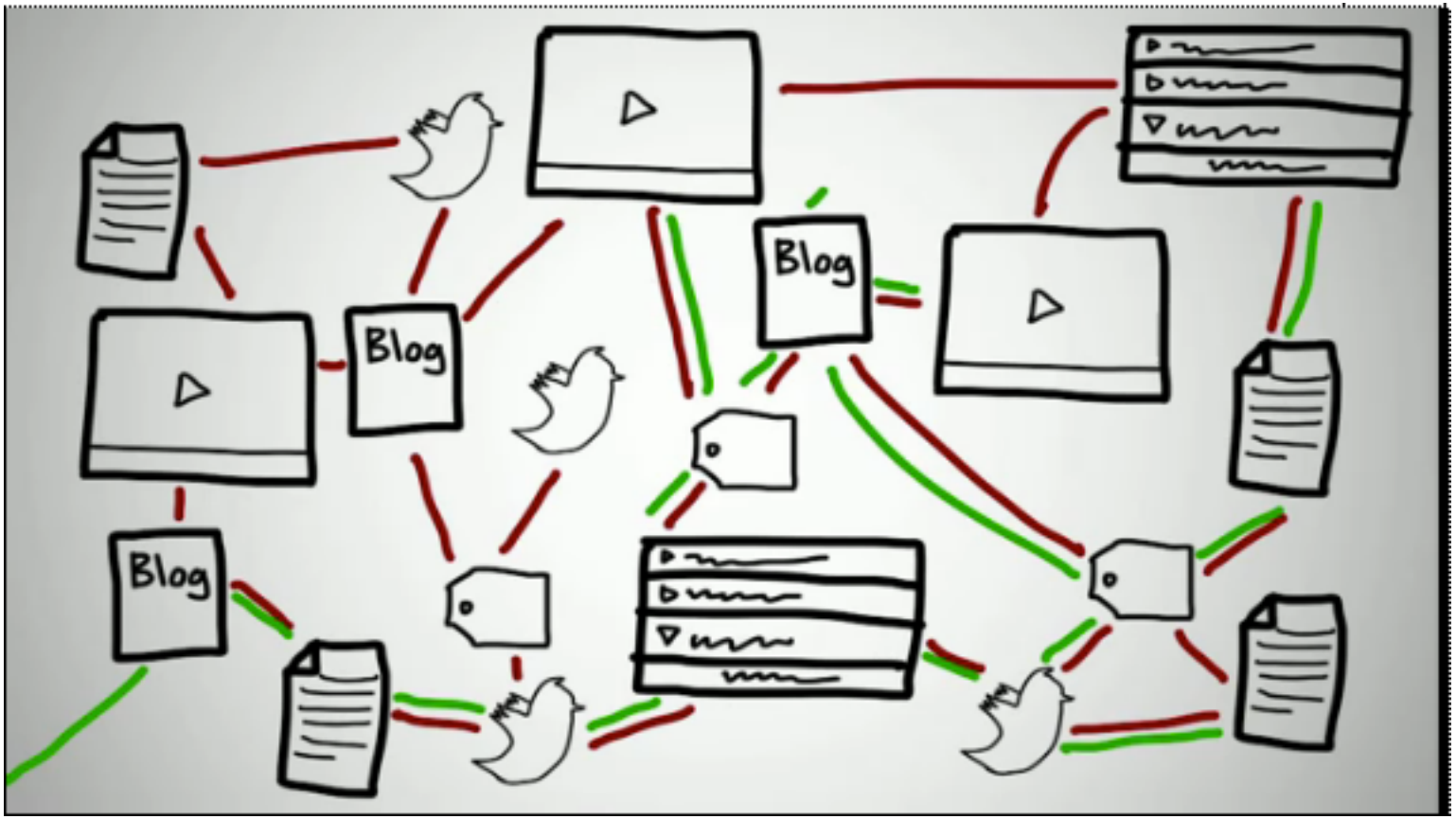


Understanding how we use artifacts to *communicate* in online and other learning networks

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

2011: Year of the MOOC

Connectivism & Connective Knowledge



CCK11: How to Learn in a MOOC

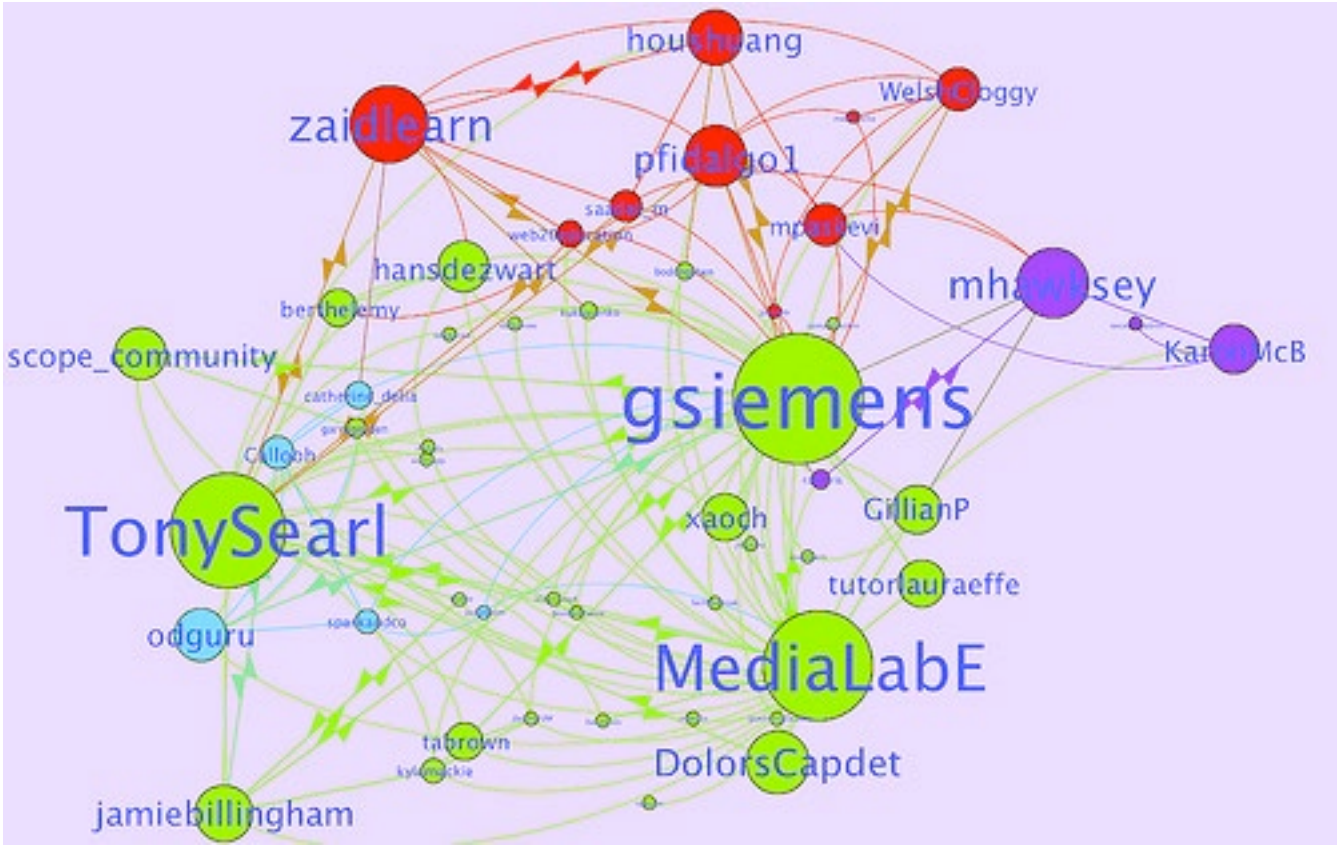
http://www.youtube.com/watch?v=eW3gMGqcZQc

How to be Successful in a MOOC

Dave Cormier

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

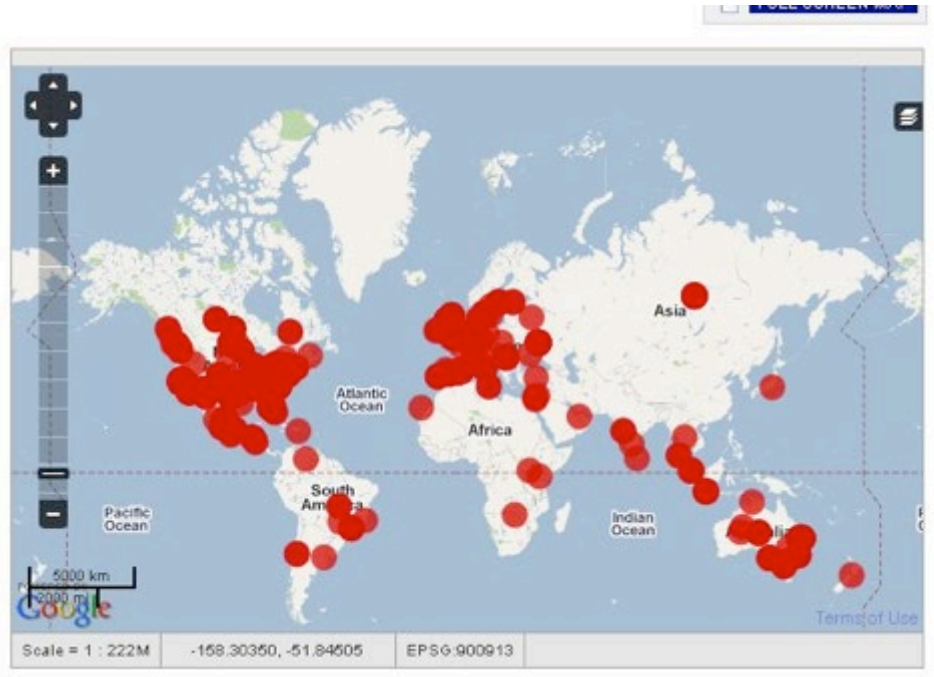
Learning Analytics



LAK11: How to measure success in a MOOC

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

MobiMOOC

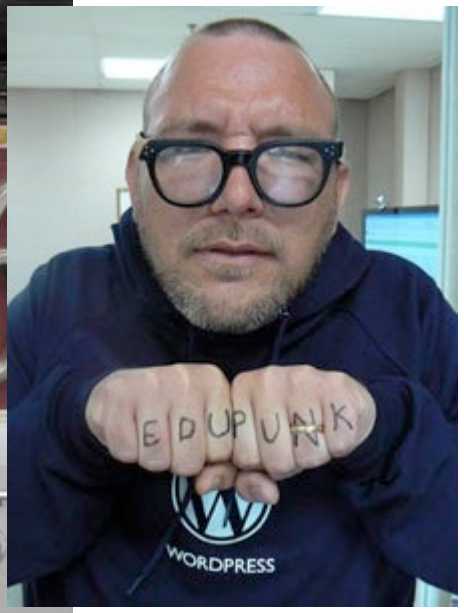


Inge de Waard

Supporting Mobile Learning Technology

http://mobimooc.wikispaces.com/

The madness and mayhem of DS106



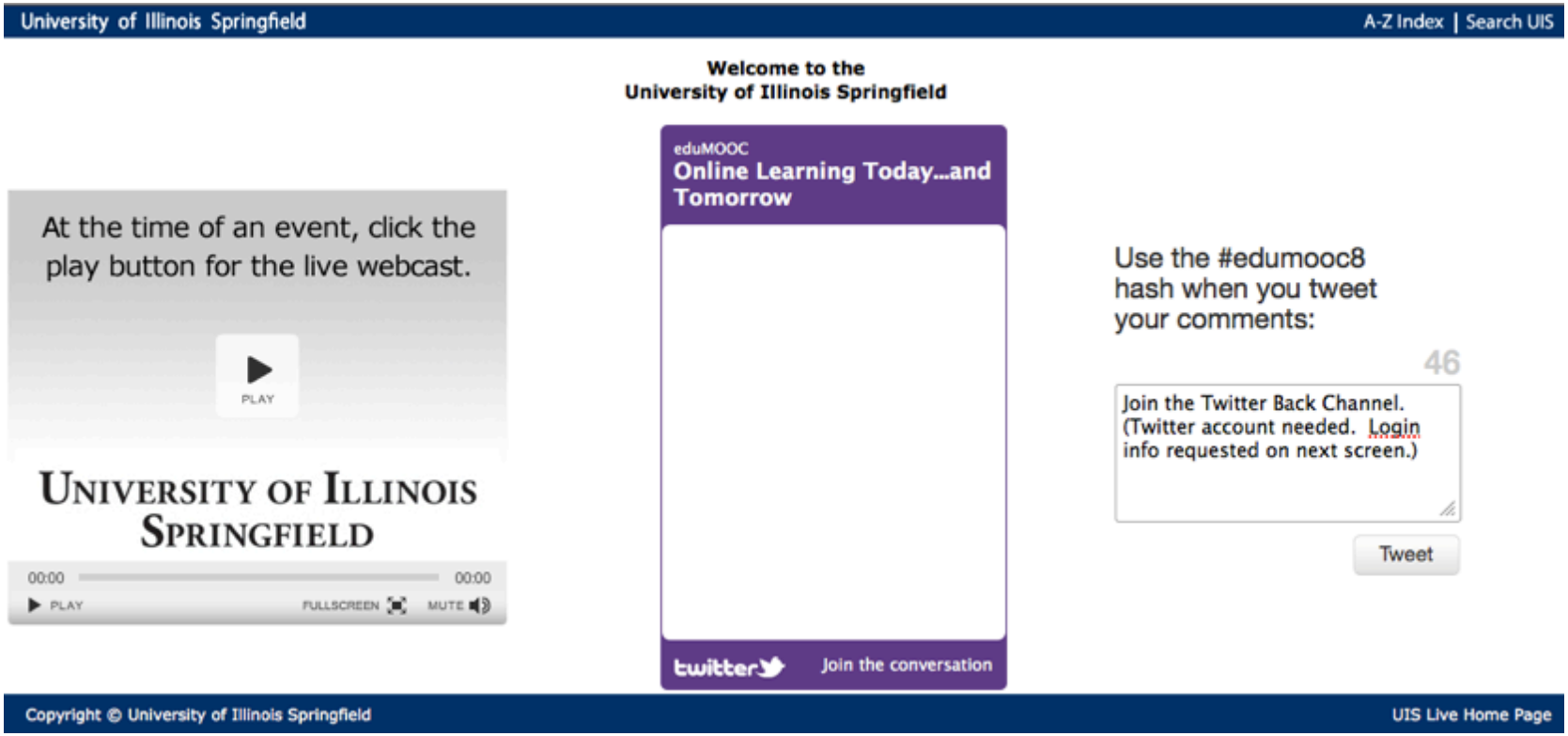
Jim Groom

DS = Digital Storytelling

DS106 redefined activities and participation

http://ds106.us/

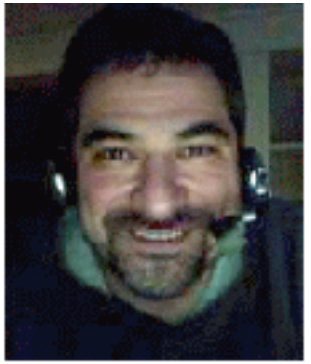
eduMOOC



Large, well publicized, but not very interactive

http://sites.google.com/site/edumooc/

eduMOOC underground

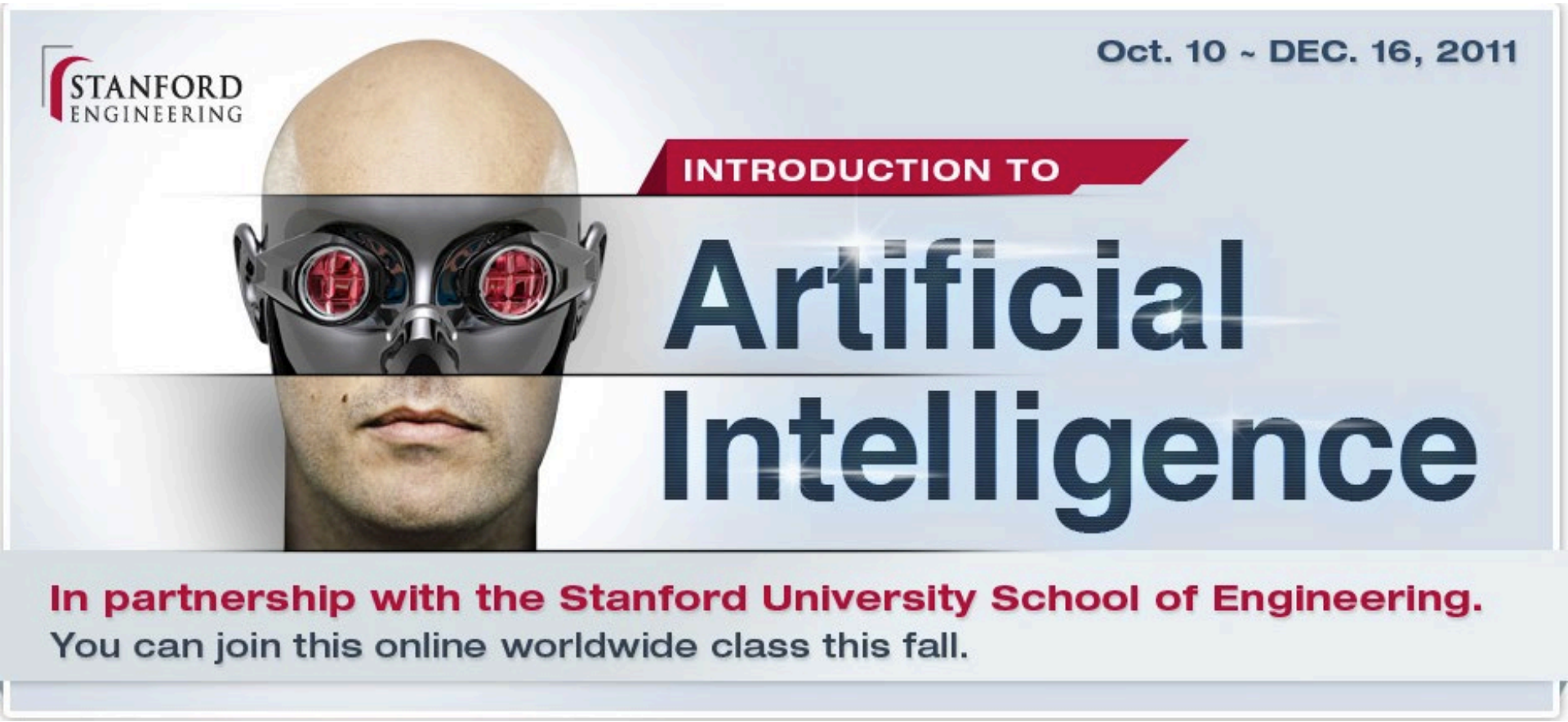


Jeff Lebow

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

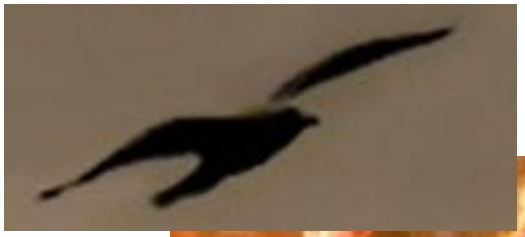
http://www.livestream.com/jefflebow/

AI-Class: Redefining Massive

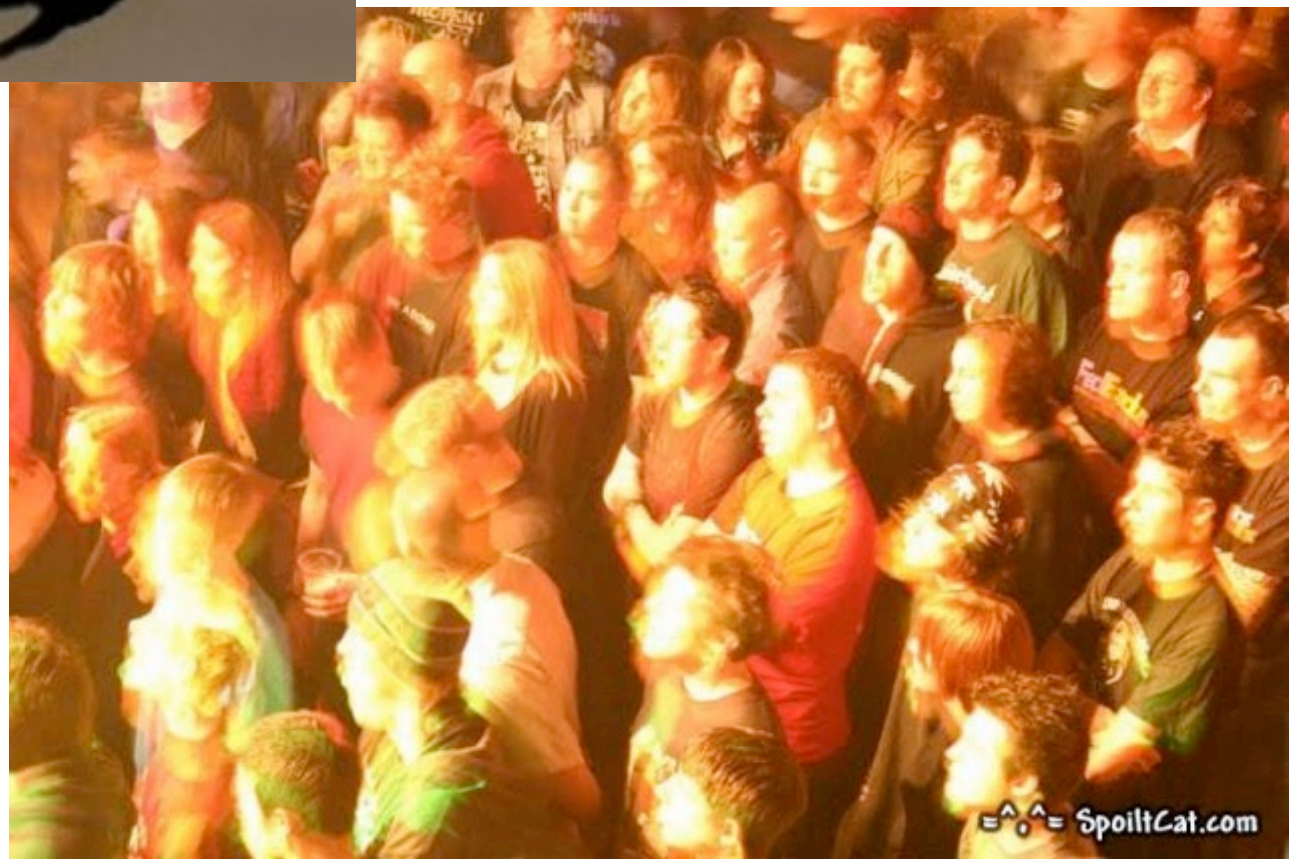


More than 100,000 people signed up for pre-registration

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