

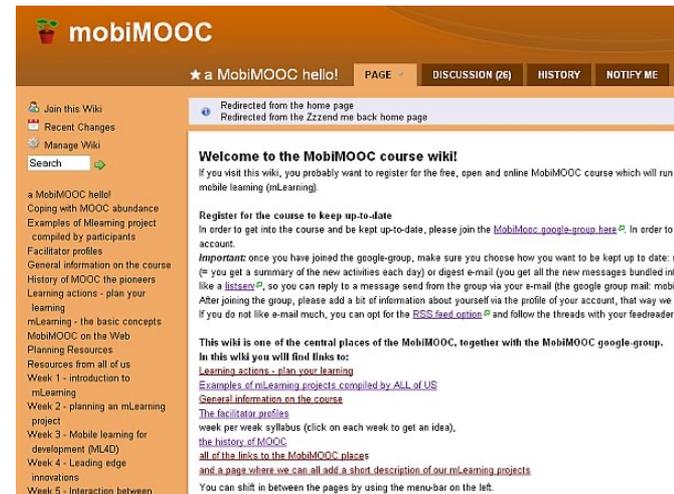
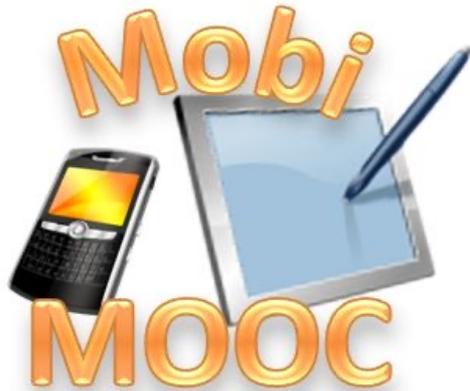
# **Looking at Ubiquitous MOOC Learner Interactions**

Inge Ignatia de Waard

# Setting the stage: remember...



# Background: MobiMOOC = MOOC lab



- Different facilitator approaches (passive, active, participatory...)
- Different course architecture (linear, branching...)
- Different learning/teaching dynamics (behaviorist => social-constructivist/connectivist)
- Different durations

# About MobiMOOC

A Massive Open Online Course (MOOC) on mobile learning (mLearning) => MobiMOOC

1250 learners, 17 facilitators, 9 weeks, 14 mLearning topics:

2 core course spaces:

Course wiki (<http://mobimooc.wikispaces.com/>)

Course discussion group

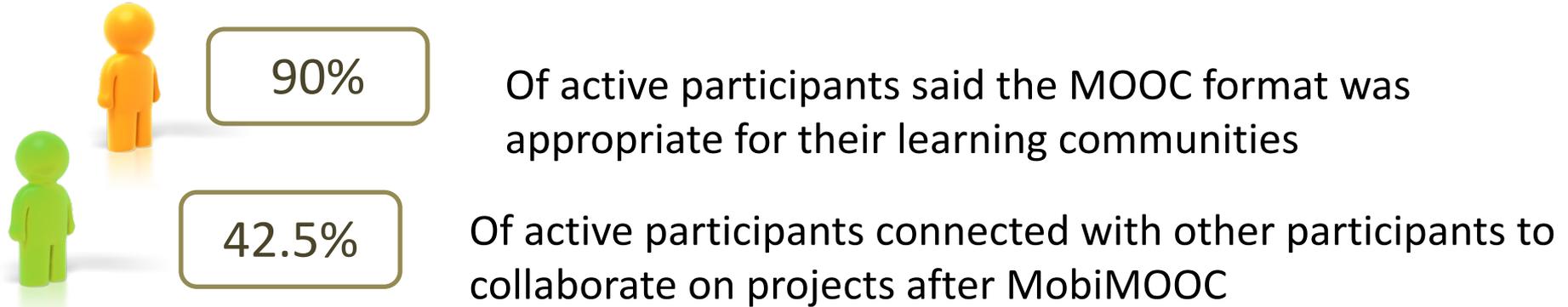
<https://groups.google.com/group/mobimooc2012>



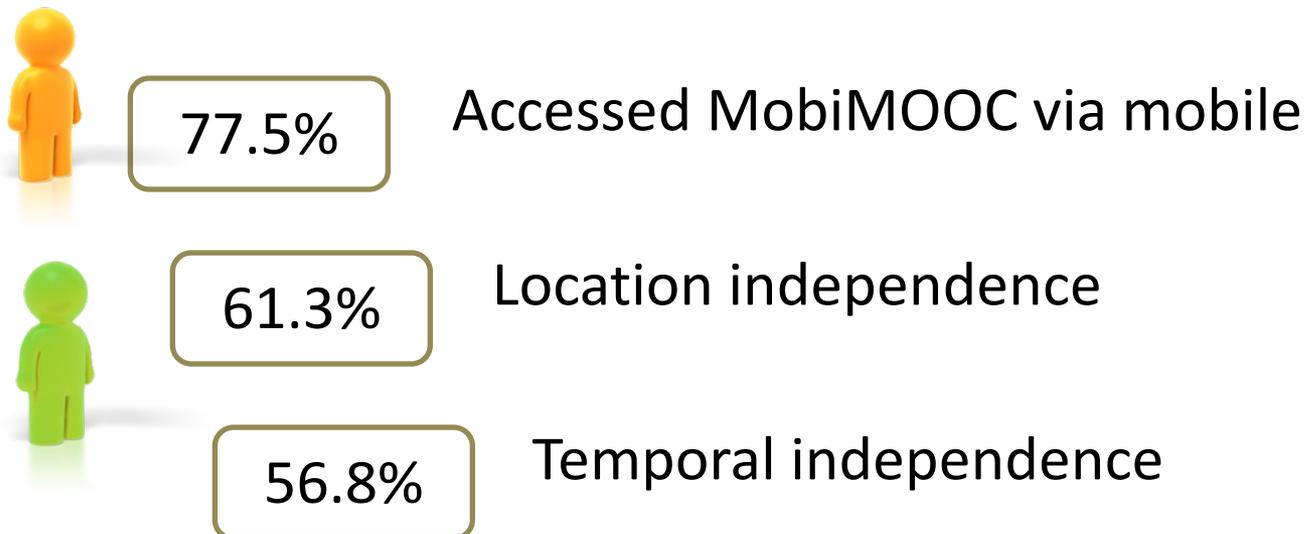
- MobiMOOC 2011, first run: April-May 2011
- MobiMOOC 2012, September 2012



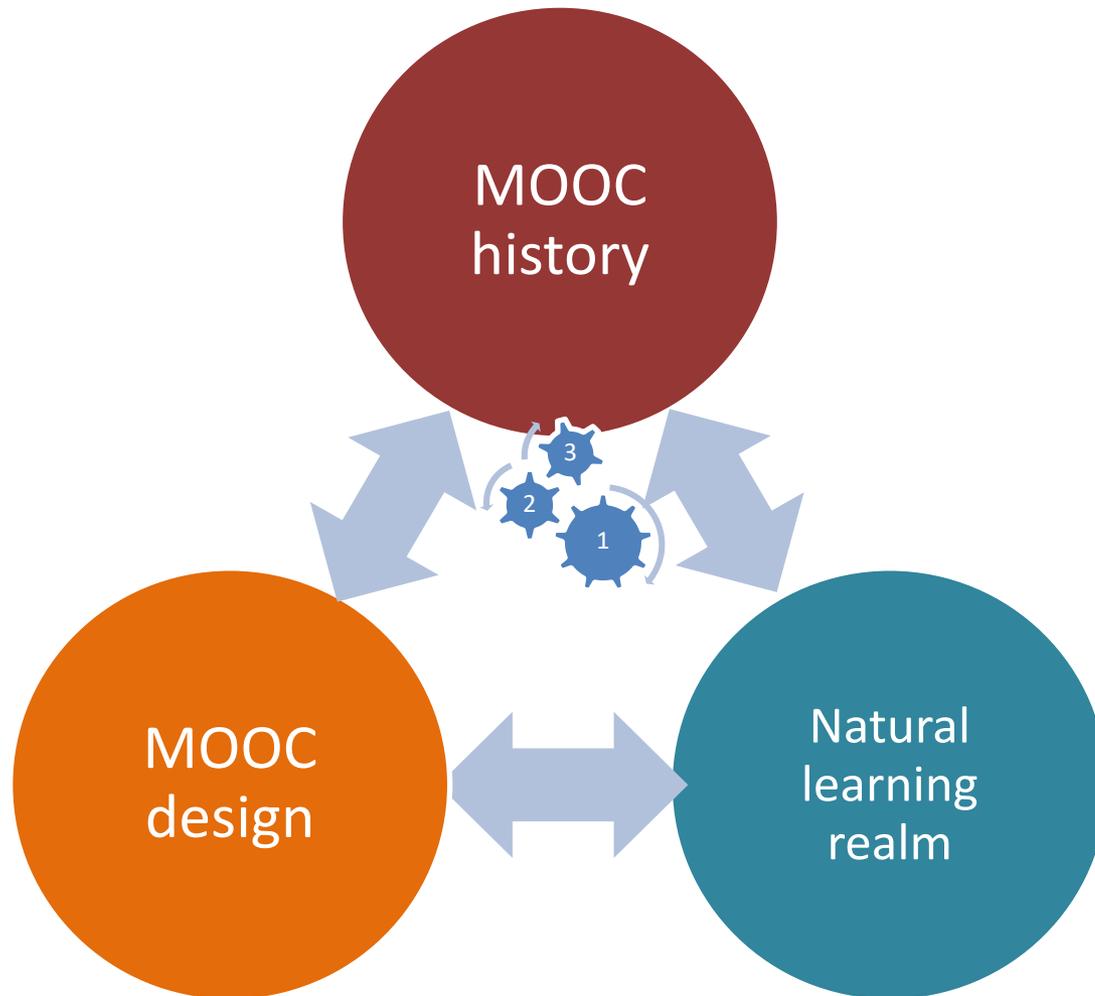
# MOOCs: Appropriateness & Affinity



# MOOCs: ubiquity through mobile



# MOOC history

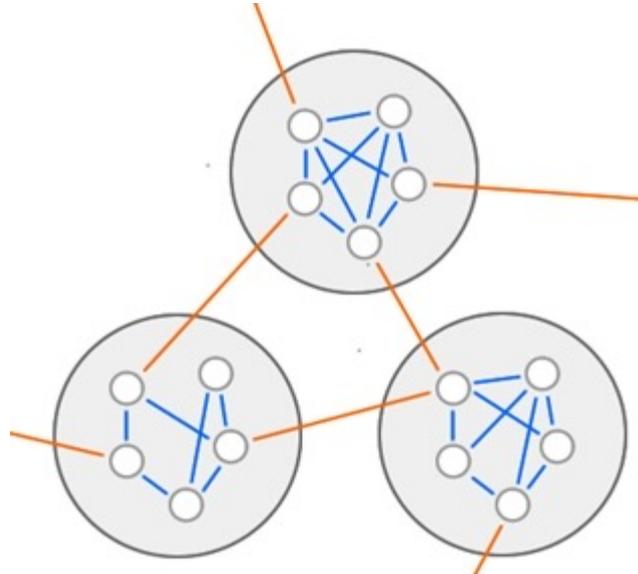


# Contemporary MOOCs: 2 main types

cMOOC	xMOOC
First MOOC format to be developed	MOOC format on the rise at Universities
More connectivist learning oriented: George Siemens	More behaviorist learning oriented: Burrhus Frederic Skinner
Based on dialogue	Based on student/content
More informal (participant input & content production), open badges	More formal (behaviorist approach: easier for assessment and accreditation)
Network building, trust in collaboration, .	Less networking, trust in content and institution
Ad Hoc learner space: Learning Quilt	Fixed LMS: <a href="#">Coursera</a> , <a href="#">Udacity</a> ...
Social media rich	Social media used
Expert learning, Community of Practitioners (CoP), lifelong learning for high knowledge workers	Personal accreditation, lifelong learning basics, personal knowledge increase, starting from basic information.
Room for emergence	More stick to the plan
High drop out, free in most cases	

What do you need? iMOOC?

# cMOOC



The connectivist MOOC and the format which lead to the name of Massive, Open, Online Course.

# History

2007 – the Wiley wiki

An Open Course based in a wiki

Participants from around the world contributed to the *creation* of the course

page discussion view source history

## Intro Open Ed Syllabus

Contents [hide]

- 1 INST 7150 Introduction to Open Education, Fall 2007
- 2 Participants
- 3 Goals of the Course
- 4 Expectations
- 5 Class Meetings
- 6 Assignments
  - 6.1 Weekly Reading and Blogging
  - 6.2 Elective Reading Synopses
  - 6.3 Late Work Policy
  - 6.4 Grading
- 7 Schedule
  - 7.1 Week 1 August 27: Why Open Education?
  - 7.2 Week 2: Background Readings in Open Education
  - 7.3 Week 3: Background Readings in Open Education
  - 7.4 Week 4: Background Readings in Open Education
  - 7.5 Week 5: Example Open Education Projects
  - 7.6 Week 6: Background Readings in Copyright and the Public Domain
  - 7.7 Week 7: Licensing Open Educational Resources
  - 7.8 Week 8: Economic Models of Open Education
  - 7.9 Week 9: Elective Reading Synopses
  - 7.10 Week 10: Reflecting on Week 9
  - 7.11 Week 11: Open Education and Learning Objects
  - 7.12 Week 12: Reflecting on Week 11
  - 7.13 Week 13: The Future of Open Education
  - 7.14 Week 14: Reflecting on Week 13
  - 7.15 Week 15: Wrap Up

2007: Alec Couros  
Social Media and Open  
Education

An Open Course based in a wiki

Participants from around the world contributed to the *creation* of the course

## EC&I 831: Social Media & Open Education

Open, Connected, Social

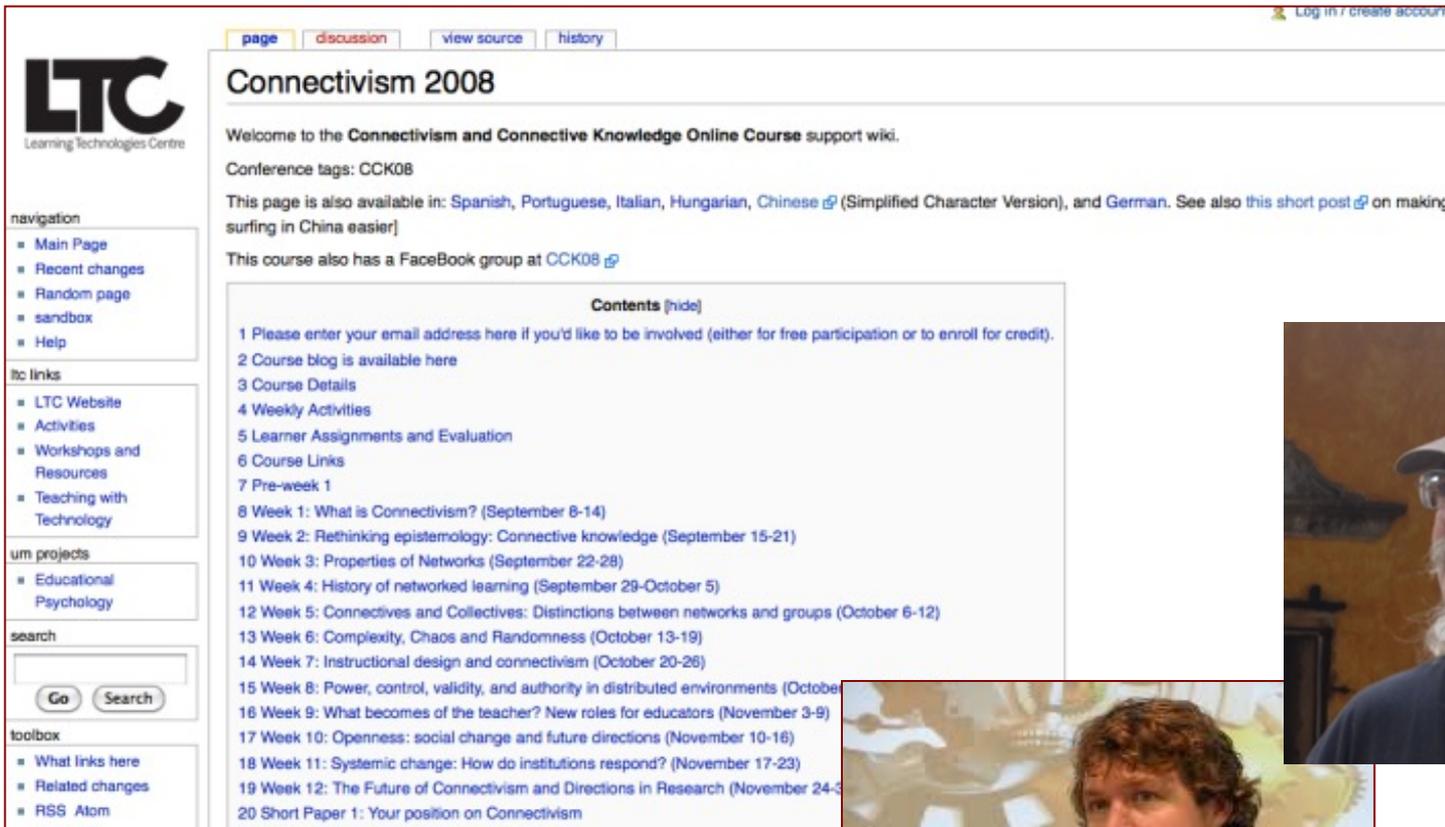
### Current & Archived Synchronous Sessions

CURRENT - Fall 2010:

- September 14, 2010 - [Introductions, Assessments, & Activities](#) (For-Credit Students Only)
- September 21, 2010 - [Social Tools & Personal Learning](#) (For-Credit Student Only)
- September 28, 2010 - [History of Educational Technology & Learning Communities](#) (Richardson)
- October 5, 2010 - [Learning Communities](#) - (Sheryl Nusbaum-Beach)
- October 12, 2010 - [Day in the Life of a Connected Teacher](#) (Zoe Branigan-Pipe)
- October 19, 2010 - [Midterm Breakthrough](#) - Deconstructing the Experience So Far
- October 26, 2010 - [Open & Networked Learning](#) (Alec Couros)
- November 2, 2010 - [\(Digital\) Identity](#) - (Dean Shareski)
- November 9, 2010 - [The UnSession](#) - (Various Topics by #ec831 Students)
- November 16, 2010 - [Role of Educator in a PLE World](#) (Stephen Downes)
- November 23, 2010 - [Learning Networks and 21st Century Literacy](#) - (Will Richardson)
- November 30, 2010 - [Final Conversations](#) (Part I)
- December 7, 2010 - [Final Conversations](#) (Part II)



# Downes & Siemens, CCK08



The screenshot shows the 'Connectivism 2008' support wiki page. At the top left is the LTC Learning Technologies Centre logo. The page title is 'Connectivism 2008'. Below the title, there are tabs for 'page', 'discussion', 'view source', and 'history'. The main content area includes a welcome message, conference tags (CCK08), and a list of contents. The contents list includes: 1 Please enter your email address here if you'd like to be involved (either for free participation or to enroll for credit), 2 Course blog is available here, 3 Course Details, 4 Weekly Activities, 5 Learner Assignments and Evaluation, 6 Course Links, 7 Pre-week 1, 8 Week 1: What is Connectivism? (September 8-14), 9 Week 2: Rethinking epistemology: Connective knowledge (September 15-21), 10 Week 3: Properties of Networks (September 22-28), 11 Week 4: History of networked learning (September 29-October 5), 12 Week 5: Connectives and Collectives: Distinctions between networks and groups (October 6-12), 13 Week 6: Complexity, Chaos and Randomness (October 13-19), 14 Week 7: Instructional design and connectivism (October 20-26), 15 Week 8: Power, control, validity, and authority in distributed environments (October 27-31), 16 Week 9: What becomes of the teacher? New roles for educators (November 3-9), 17 Week 10: Openness: social change and future directions (November 10-16), 18 Week 11: Systemic change: How do institutions respond? (November 17-23), 19 Week 12: The Future of Connectivism and Directions in Research (November 24-30), and 20 Short Paper 1: Your position on Connectivism.



# Connectivism as core theory



Principles of connectivism:

- Learning and knowledge rests in diversity of opinions.
- Learning is a process of connecting information sources.
- Learning may reside in non-human appliances.
- Capacity to know more is more critical than what is currently known
- Nurturing and maintaining connections is needed to facilitate continual learning.
- Ability to see connections between fields, ideas, and concepts is a core skill.
- Decision-making is itself a learning process.

George Siemens (2005 – [Connectivism - a learning theory for the digital age](#))

# xMOOC



STANFORD  
ENGINEERING

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.

The image is a promotional banner for an xMOOC course. It features a central image of a man's face wearing a futuristic, black, visor-like headset with glowing red lenses. The background is a light blue gradient. The text is arranged in a clean, modern layout with a mix of bold and regular fonts.

Started with the [Artificial Intelligence course](#) of Stanford: lots of student interest, as well as non-Stanford students => high enrollment

# [www.EdX.org](http://www.EdX.org)

https://www.edx.org

Most Visited TinyURL Keep It! https://mobimoc.wiki... Markup Connected-Inge harvester viewer cPanel X Scholarships & Award... Graduate Student Res...

edX FIND COURSES ABOUT BLOG JOBS LOG IN SIGN UP

The Future of Online Education  
*for anyone, anywhere, anytime*

EXPLORE FREE COURSES FROM edX UNIVERSITIES

MIT Massachusetts Institute of Technology HARVARD UNIVERSITY Berkeley UNIVERSITY OF CALIFORNIA

3.091x Introduction to Solid State Chemistry → CS50x Introduction to Computer Science I → CS169.1x Software as a Service →

- Came from MitX, open courseware
- Now: open, online courses for free
- Not-for Profit foundation.
- Goal: social agents and automated assessment editors to cater massive amounts of students

# [www.Udacity.com](http://www.udacity.com)

The image shows a screenshot of the Udacity website homepage. At the top, the URL [www.udacity.com](http://www.udacity.com) is displayed in a large blue font. Below the URL, the browser's address bar shows the website's name and several open tabs. The main content area features the Udacity logo in orange, followed by a paragraph describing the learning experience. A section titled "The Four Elements of Udacity" contains four numbered icons with corresponding text: 1. Lightbulb icon: "Take any of our 14 classes. 100% free!" with a "Course Catalog" button. 2. Group of people icon: "Join a community of 112,091 active students and instructors. 100% free!". 3. Document icon: "Optionally certify your skills online or in one of our 4,500 testing centers, for a fee.". 4. Resume icon: "Optionally let us hand your resume to one of our 20 partner companies. 100% free for students!". On the right side, there are three vertical boxes: "Check out what it's like to take a course: Watch a course now.", "Sign up to receive our monthly newsletter.", and "Udacity Blog" with three recent posts: "Udacious September Announcements", "Over 400 Global Meetups and looking forward to your next local study group!", and "Steve Blank's Lean LaunchPad Course is Live".

www.udacity.com

Sign Up | Sign In

## Udacity

Udacity is a totally new kind of learning experience. You learn by solving challenging problems and pursuing udacious projects with world-renowned university instructors (not by watching long, boring lectures). At Udacity, we put you, the student, at the center of the universe. [Keep Reading](#)

### The Four Elements of Udacity

- 

Take any of our 14 classes. 100% free!

[Course Catalog](#)
- 

Join a community of 112,091 active students and instructors. 100% free!
- 

Optionally certify your skills online or in one of our 4,500 testing centers, for a fee.
- 

Optionally let us hand your resume to one of our 20 partner companies. 100% free for students!

### Udacity Blog

**Udacious September Announcements**  
Thu, 20 Sep 2012

**Over 400 Global Meetups and looking forward to your next local study group!**  
Wed, 19 Sep 2012

**Steve Blank's Lean LaunchPad Course is Live**  
Thu, 18 Sep 2012

# [www.Coursera.org](http://www.Coursera.org)

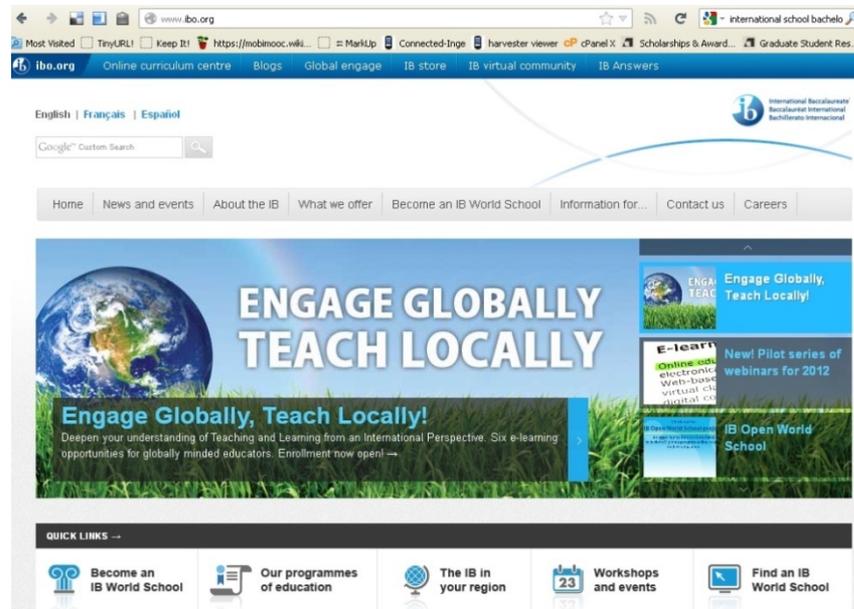
The screenshot shows the Coursera website homepage. At the top, the Coursera logo is on the left, and navigation links for COURSES, UNIVERSITIES, ABOUT, and LOGIN are on the right. The main headline reads "Take the World's Best Courses, Online, For Free." Below this, a blue banner states "Join 1,447,094 Courserians" and features a quote: "Higher education that overcomes the boundaries of geography, time and money!" attributed to Gerald Dizen. Three icons with text describe the learning experience: "Learn with videos, quizzes, and assignments", "Interact with thousands of other students", and "Advance your knowledge and career". The "COURSES (195)" section displays four course cards:

- Computer Architecture** by Princeton University, started today (10 weeks long).
- Heterogeneous Parallel Programming** by University of Illinois at Urbana-Champaign, starts in 7 days (8 weeks long).
- Introduction to Mathematical Thinking** by Stanford University, started 7 days ago (7 weeks long).
- A History of the World since 1300** by Princeton University, started 7 days ago (12 weeks long).

A "See all Courses" button is located at the bottom of the course grid.

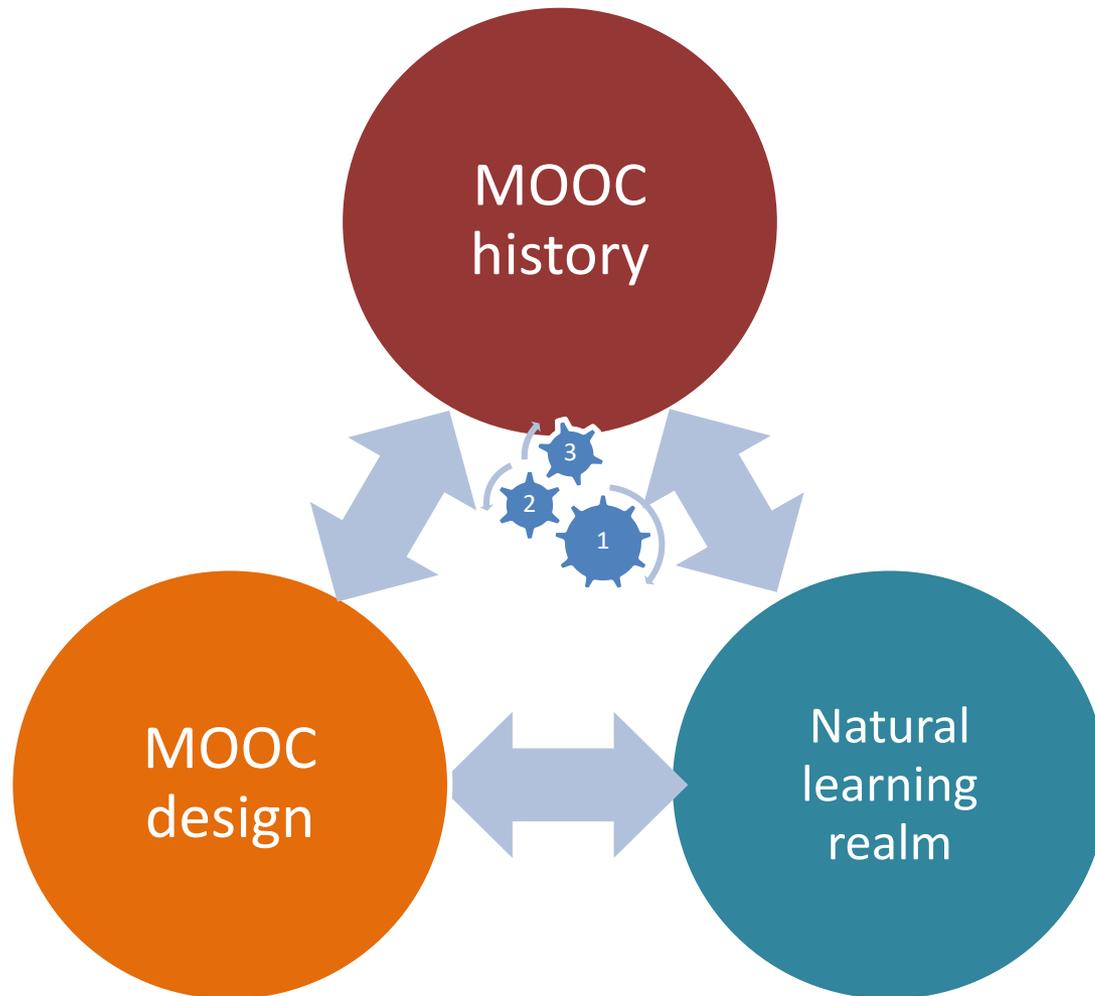
Gaining momentum as more Universities and colleges enter. But all of xMOOC more student-content centered.

# Focus of this presentation: cMOOC



- Expert learning: people joining have their own interest
- International openness, language sensitive and tolerant
- Socio-constructivist
- Connectivist: professional learning networks / community
- Corporate CoP oriented

# Natural learning environment:

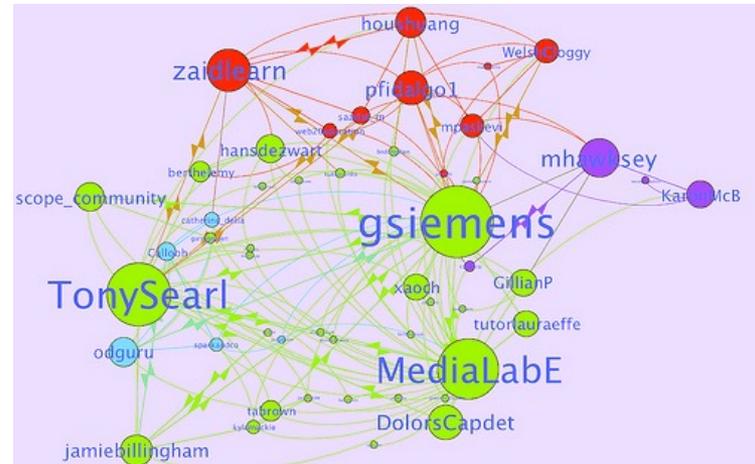


# Dialogue and networking

Around the campfire –  
dialogues and narratives



One person is not enough, the team  
= network makes the genius  
= strength



By following discussions, key  
thinkers become visible

# Biggest shift => human teaching factor



## Challenges for

- Overall coordinators
- Helpdesk and architecture
- Topic specific facilitators / guides-on-the-side
- Learners

=> More interactions, more emergence!

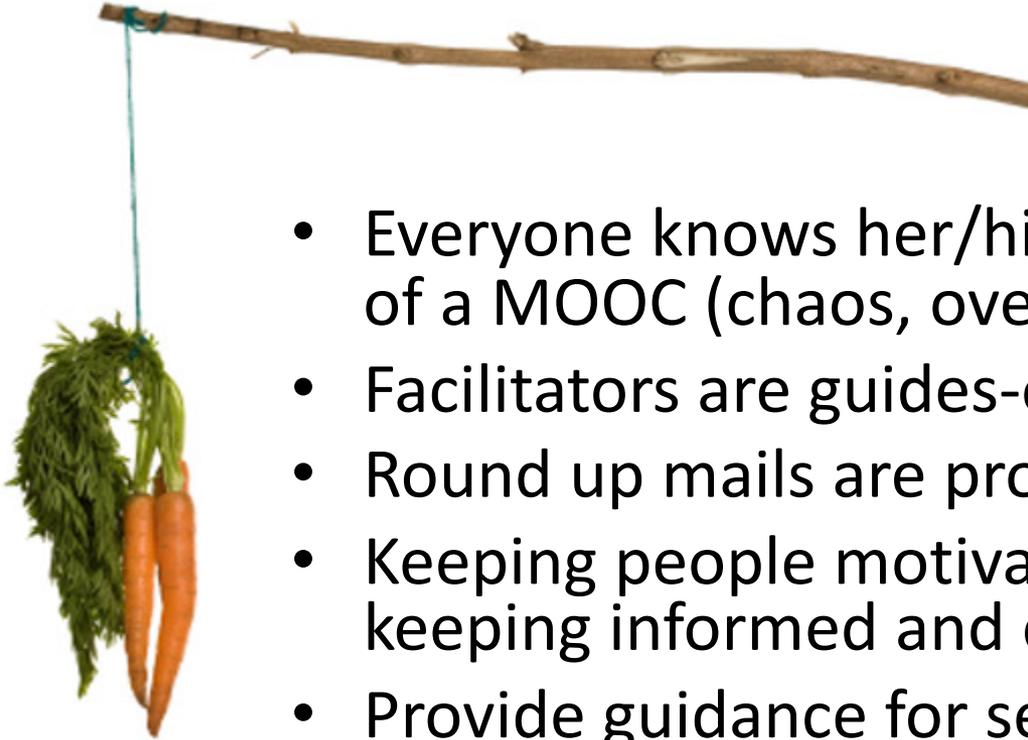
# Digital literacy is essential for all



Raising digital literacy with emerging tools increases the learners capacity to function in todays connected world

Most people use it, but ... does it work for learning?

# The coordinator & facilitators keep everyone extra motivated



- Everyone knows her/his role and the challenges of a MOOC (chaos, overload)
- Facilitators are guides-on-the-side
- Round up mails are provided per week
- Keeping people motivated by connecting and keeping informed and course oriented
- Provide guidance for self-regulated learning
- Get in touch with potential drop-outs

=> interactions are stimulated

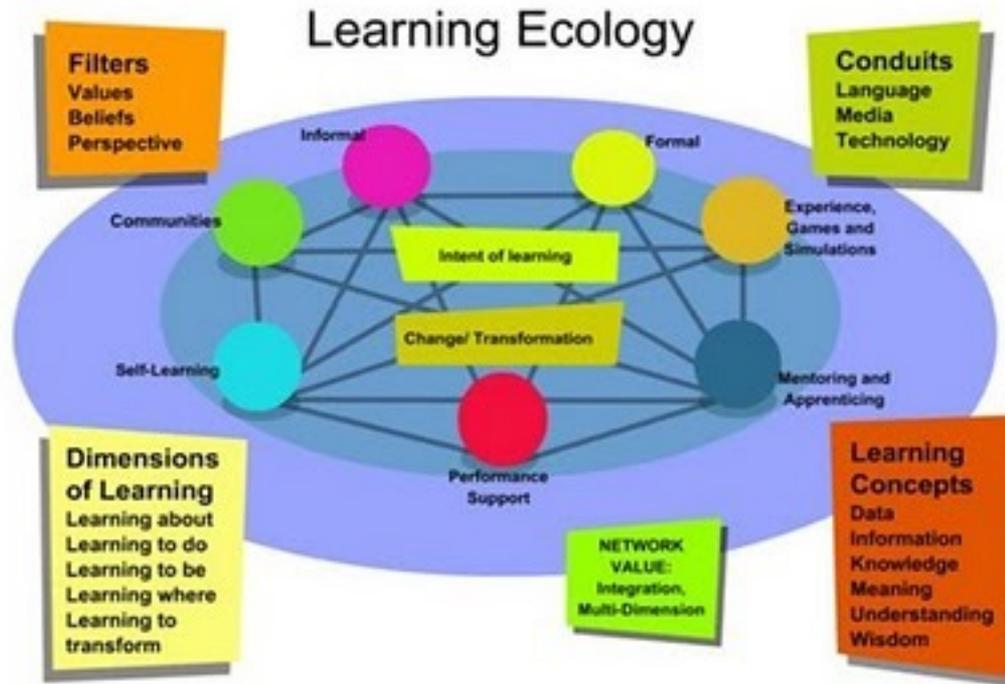
# Overall coordinator actions



Building trust and communicate important actions:

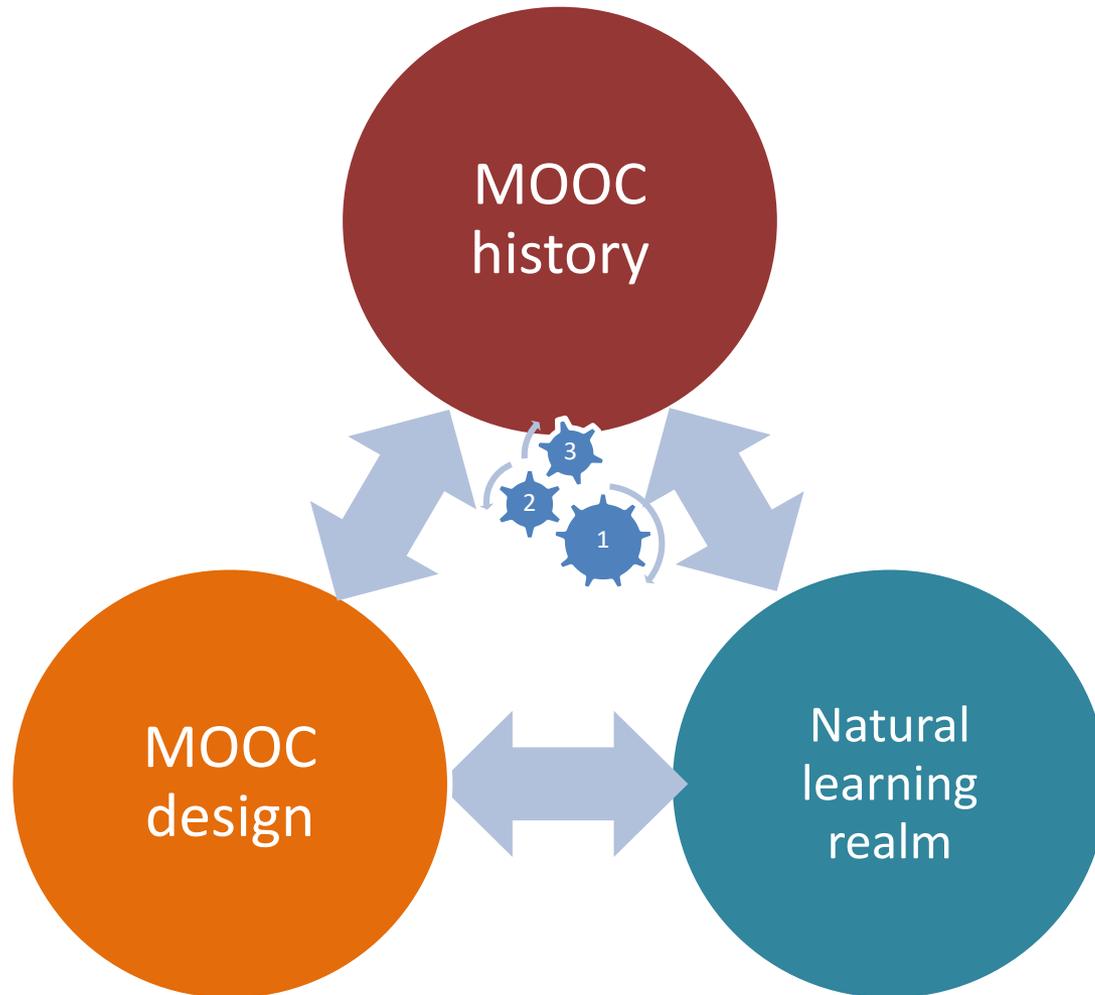
- Mail/tweet/G+/Facebook overview
- Mail/tweet/G+/Facebook upcoming seminars
- Mail/tweet/G+/Facebook important discussions

# It is all about connecting about learner interactions

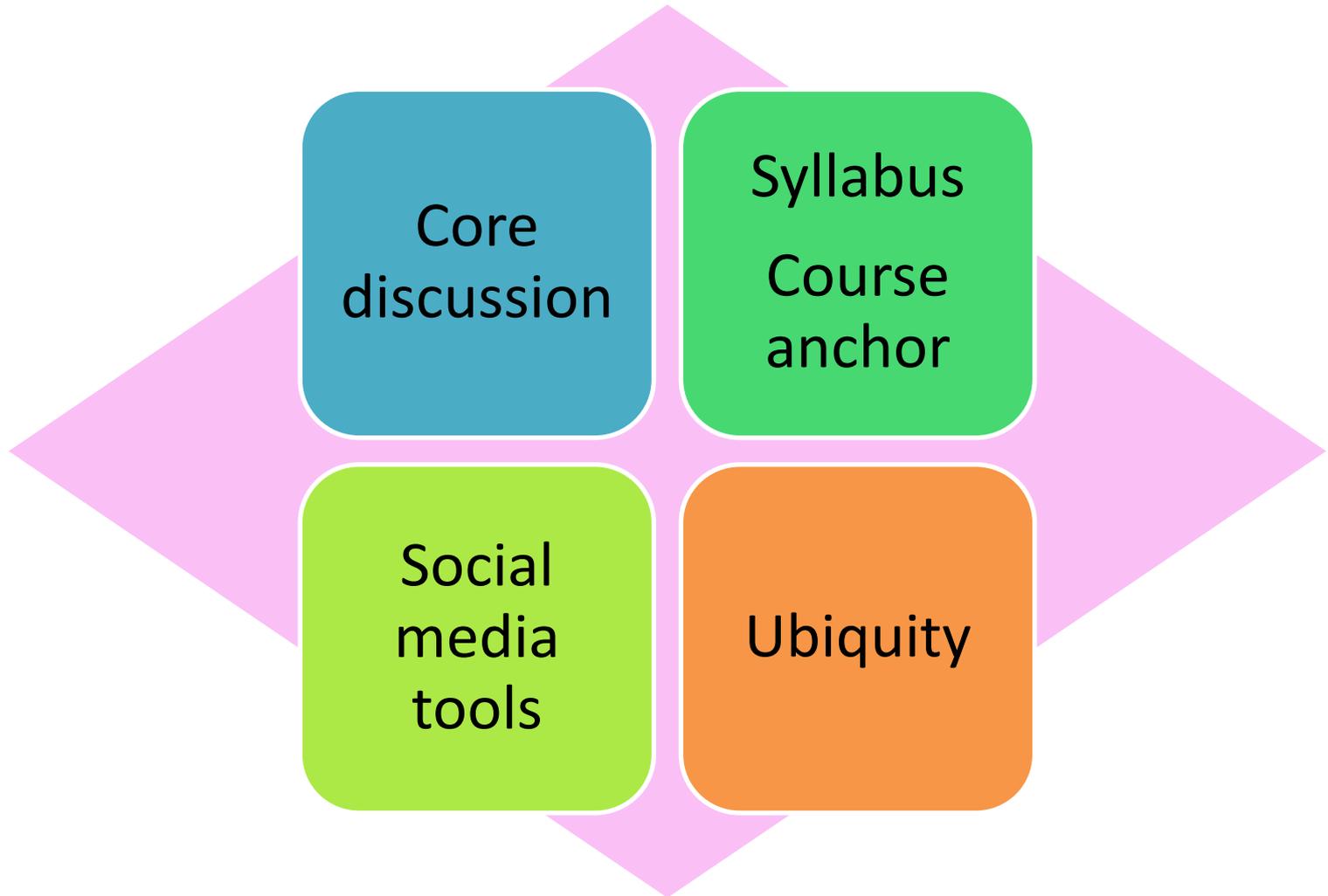


**Connectivism: Process of creating network**

# MOOC Design



# MOOC Design



# The core of the course

Course outline and expectations

Central discussion starting and meeting point

**Welcome to the MobiMOOC course wiki!**  
If you visit this wiki, you probably want to register for the free, open and online MobiMOOC course which will run f mobile learning (mLearning).

**Register for the course to keep up-to-date**  
In order to get into the course and be kept up-to-date, please join the [MobiMOOC google-group here](#). In order to j account.

**Important:** once you have joined the google-group, make sure you choose how you want to be kept up to date: r (= you get a summary of the new activities each day) or digest e-mail (you get all the new messages bundled into like a [listserve](#), so you can reply to a message send from the group via your e-mail (the google group mail: mobir After joining the group, please add a bit of information about yourself via the profile of your account, that way we g If you do not like e-mail much, you can opt for the [RSS feed option](#) and follow the threads with your feedreader e

**This wiki is one of the central places of the MobiMOOC, together with the MobiMOOC google-group.**  
**In this wiki you will find links to:**  
[Learning actions - plan your learning](#)  
[Examples of mLearning projects compiled by ALL of US](#)  
[General information on the course](#)  
[The facilitator profiles](#)  
week per week syllabus (click on each week to get an idea),  
[the history of MOOC](#)  
[all of the links to the MobiMOOC places](#)  
[and a page where we can all add a short description of our mLe](#)  
You can shift in between the pages by using the menu-bar on t

**How do you want to read this group?**

- No Email  
I will read this group on the web
- Abridged Email (*No more than 1 email per day*)  
Get a summary of new activity each day
- Digest Email (*Approximately 1 email per day*)  
Get up to 25 full new messages bundled into a single email
- Email (*Approximately 1 email per day*)  
Send each message to me as it arrives

**What nickname do you want people in this group to see?**

**About this group**  
members can post, anyone can join, anyone can read

Description: the Mobile Massive Open Online Course group

Group email:  
[mobimoooc@googlegroups.com](mailto:mobimoooc@googlegroups.com)

# Social Media Landscape



Select relevant tools with the right educational benefits and extra's.

Mobile enabled social media tool	Why use it	Knowledge Age Challenge Addressed
<p>Blogs</p> <p>(Examples: wordpress, blogger, posterous)</p>	<p>To reflect on what is learned, or what the learner thinks is of importance.</p> <p>Keeping a learning archive.</p> <p>Reflecting on the learning itself.</p> <p>Commenting on content.</p>	<p>Self-regulated learning.</p> <p>Lifelong Learning.</p> <p>Becoming active, critical content producer.</p> <p>.</p>
<p>Discussion enabler: Listserv</p> <p>(Examples: google groups, yahoo groups)</p>	<p>This type of online tool uses e-mail to keep everyone informed. With many of the listserve's you can choose how you want your mails to be delivered (e-mail digest: e.g. immediate, once a day, once a week), which adds to self-regulated learning.</p> <p>Generating and maintaining discussions.</p> <p>Getting a group feeling going via dialogue.</p>	<p>Enabling dialogue.</p> <p>Collaboration.</p> <p>Self-regulated learning.</p> <p>Informal learning.</p>
<p>Social Networking</p> <p>(examples: Facebook, Google+, LinkedIn)</p>	<p>Building a network of people that can add to the knowledge creation of the learner.</p>	<p>Enables networking.</p> <p>Collaboration.</p> <p>Enabling dialogue.</p> <p>Informal learning.</p> <p>Becoming active, critical content producer.</p>

[Link to Google document](#) with more social media tools

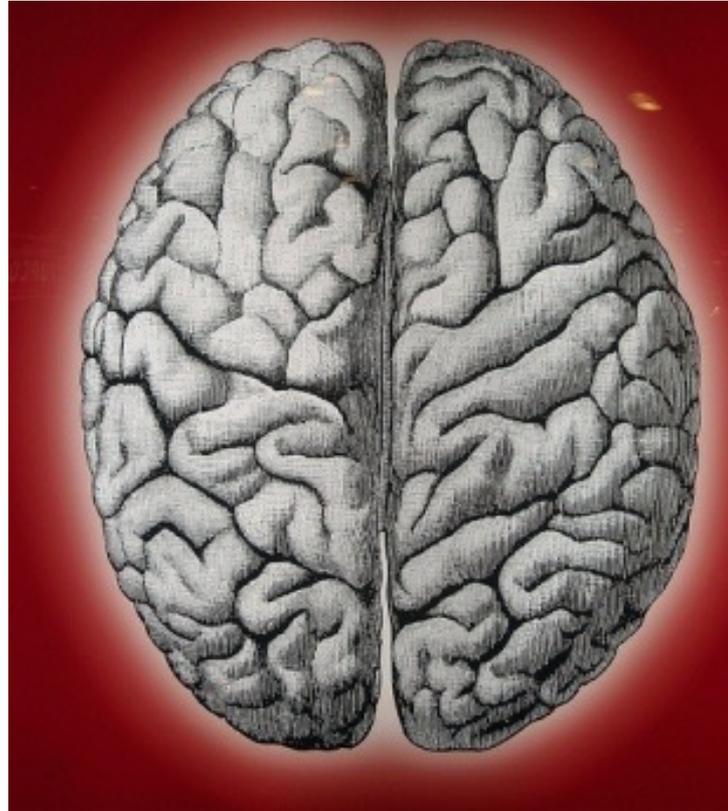


# The research: learner interactions in a ubiquitous MOOC course



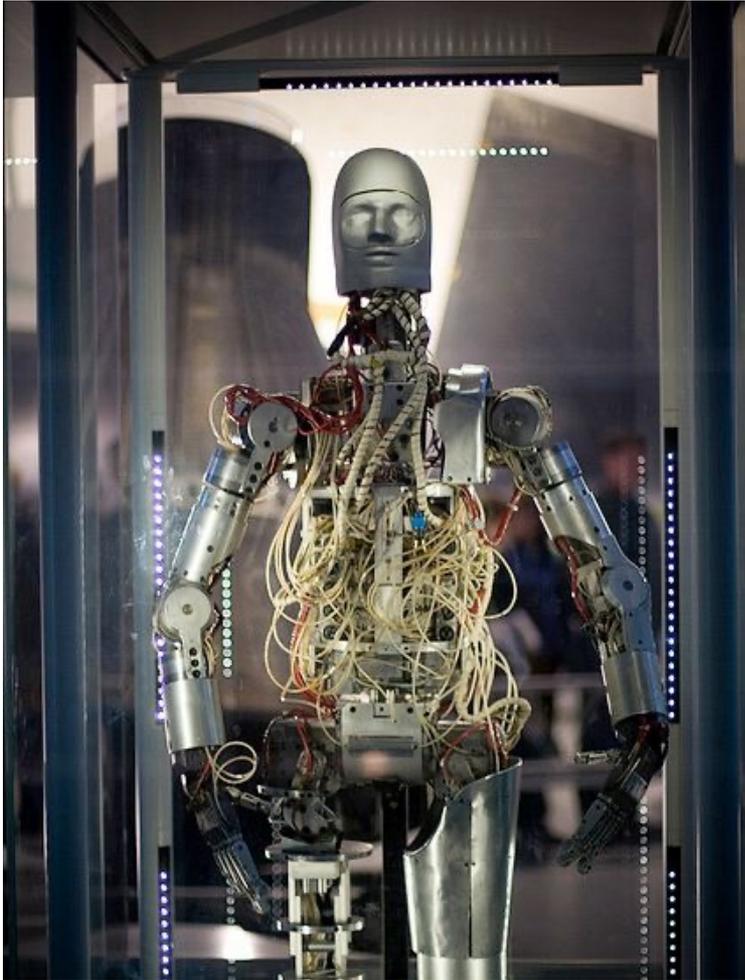
“how does mobile accessibility impact the social learner interactions of adult learners in an informal, open, online course?”

# Personal research interest: 2 areas



Mobile learning & Massive Open Online Courses  
(connectivist type)

# A new research frontier!



Where mLearning is traditionally seen as independent of time/location, contextualized and personal... the same can be said of MOOCs.

Recent research hints on several similarities: the community that is built, the impact of social media and the surplus for informal and continuous learning...

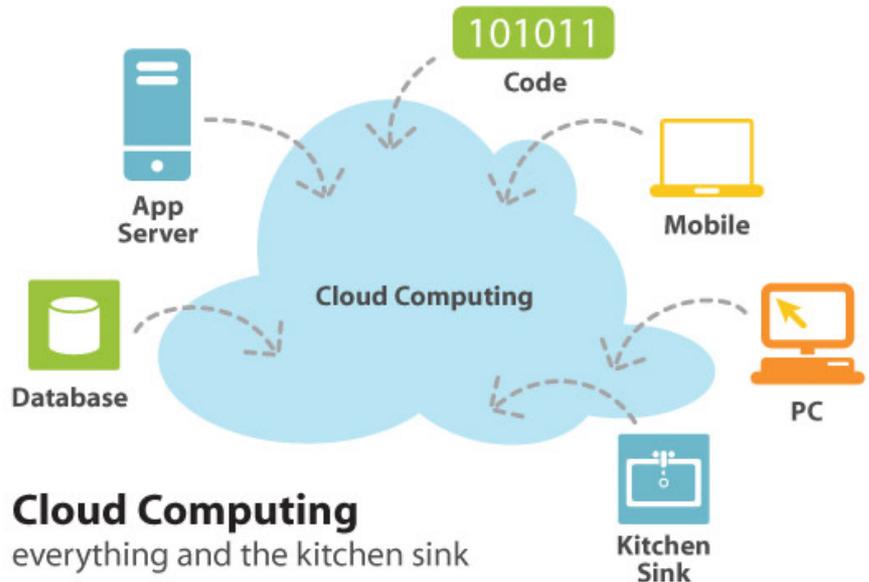
# Where can I find my research hook?

## mLearning literature => challenges

- Frohberg et al. (2009) screened 1469 publications and categorized 102 mobile projects => “communication and collaboration play a surprisingly small role in Mobile Learning projects” (p. 1)
- Researchers did/do mention social interactions: e.g. Looi et al. (2010) and Kukulska-Hulme (2009) mentioned the importance of moving the focus away from the mobile technology and towards the social practice it enables.
- There is also a proposal to extend the social spaces in which learners interact with each other, embracing both formal and informal learning.

# How to define mobile learning?

- "learning across multiple contexts, through social and content interactions, using personal electronic devices" (Helen Crompton, 2012).





# Bigger picture for all of us: why is this research needed?

**We must optimize open, online course learning.**

Building a strategy for educational quality in an increasing competitive world:

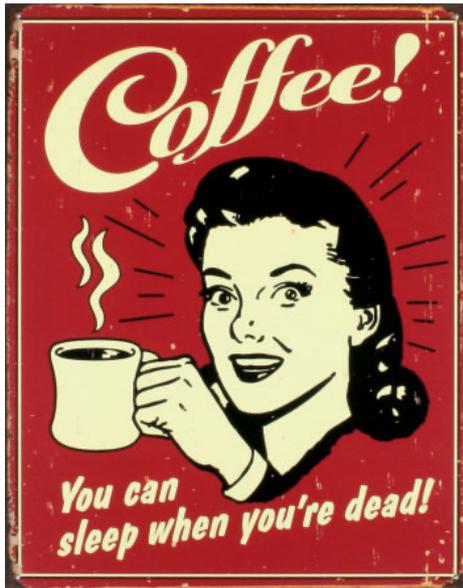
Udacity, Coursera, EdX ... all free, open, online courses by big universities => they corner a potential global learner market (marketing, profiling).

(xMOOC = more behaviorist, student-content oriented)

We (academic, learner-centered teachers...) need to put something of high quality to the learners in order to attract global learners.

# A research idea is born

“how does mobile accessibility impact the social learner interactions of adult learners in an informal, open, online course?”



..... first hurdles

# How to define learner interactions?

The term 'learner interaction' refers to all interactions that are undertaken by (adult) learners. These interactions can cover any content:

social presence (social/personal) ↔  
cognitive presence (intellectual/academic)

These interactions are reflected in written dialogues and or discussions, connecting to other participants via social media commenting, engaging in informal information exchange, or simply communicating.

- Seems easy enough ....

# Aim of the research



Short run: to see whether there is an impact or a difference in learner interactions.

Long run: improved ubiquitous learning environment, where depending on a set of factors the learning environment is optimized to support optimal learner interactions.

# Community of Inquiry framework for analyzing learner interactions



- It assumes that effective online learning requires the development of a community (Rovai, 2002; Thompson & MacDonald, 2005; Shea, 2006) that supports meaningful inquiry and deep learning.
- The learner interactions under investigation: social presence (personal interactions between course participants) and cognitive presence (cognitive, academic or intellectual interactions between participants).

# Methodology



- This study will use a sequential explanatory mixed methods design, which is a procedure for collecting, analyzing and “mixing” both quantitative and qualitative data:
  - Step 1: data from online survey
  - Step 2: 1o1 interviews qualitative data (not fully analyzed yet, coming soon)
- how are the learner dynamics different for mobile and non-mobile learners? (*the use’s and the use not’s*)

# MobiMOOC 2012

Research environment

3 week MOOC on mobile learning (mLearning), Sept. 2012

**12 topics:** introduction to mLearning, planning mLearning, mHealth, corporate mLearning, train-the-trainer, mobile learning curriculum framework, global impact of mLearning, augmented mLearning, mobiles for development (m4D), mobile gaming, mobile activism for education, bridging mLearning theory and practice.

MobiMOOC course wiki: <http://mobimooc.wikispaces.com>

Group:

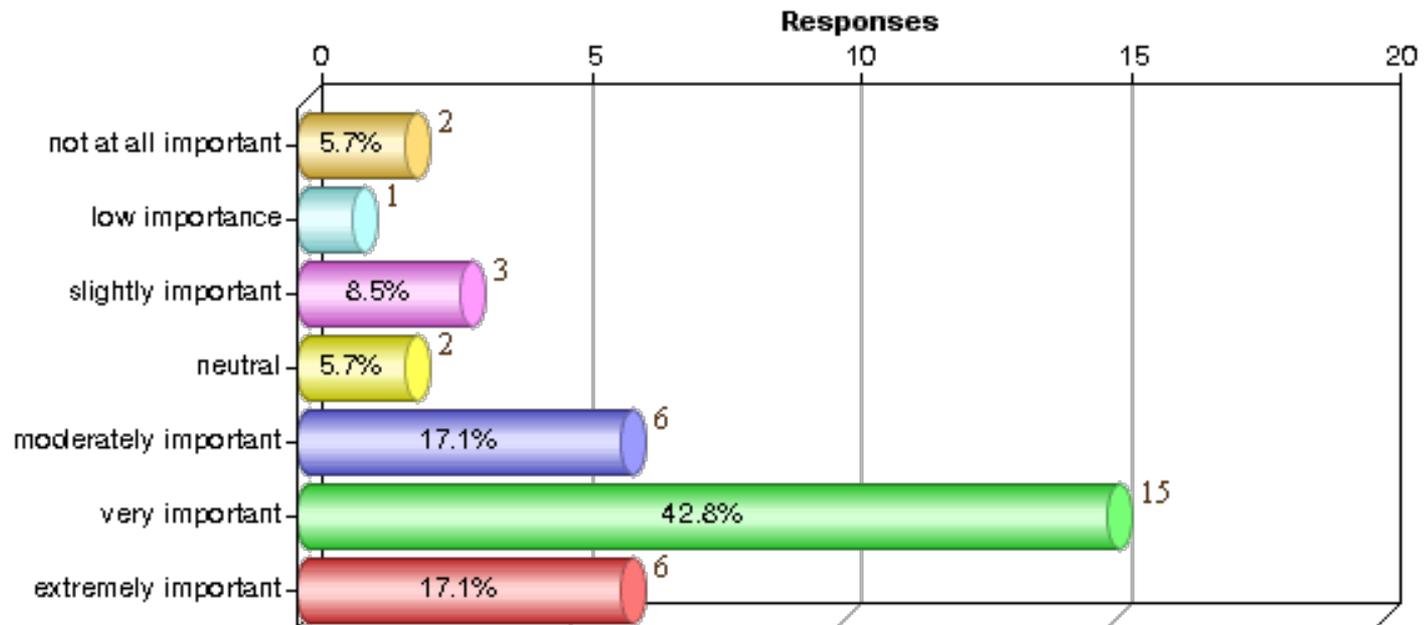
<https://groups.google.com/forum/#!forum/mobimooc2012>

# Data from online survey

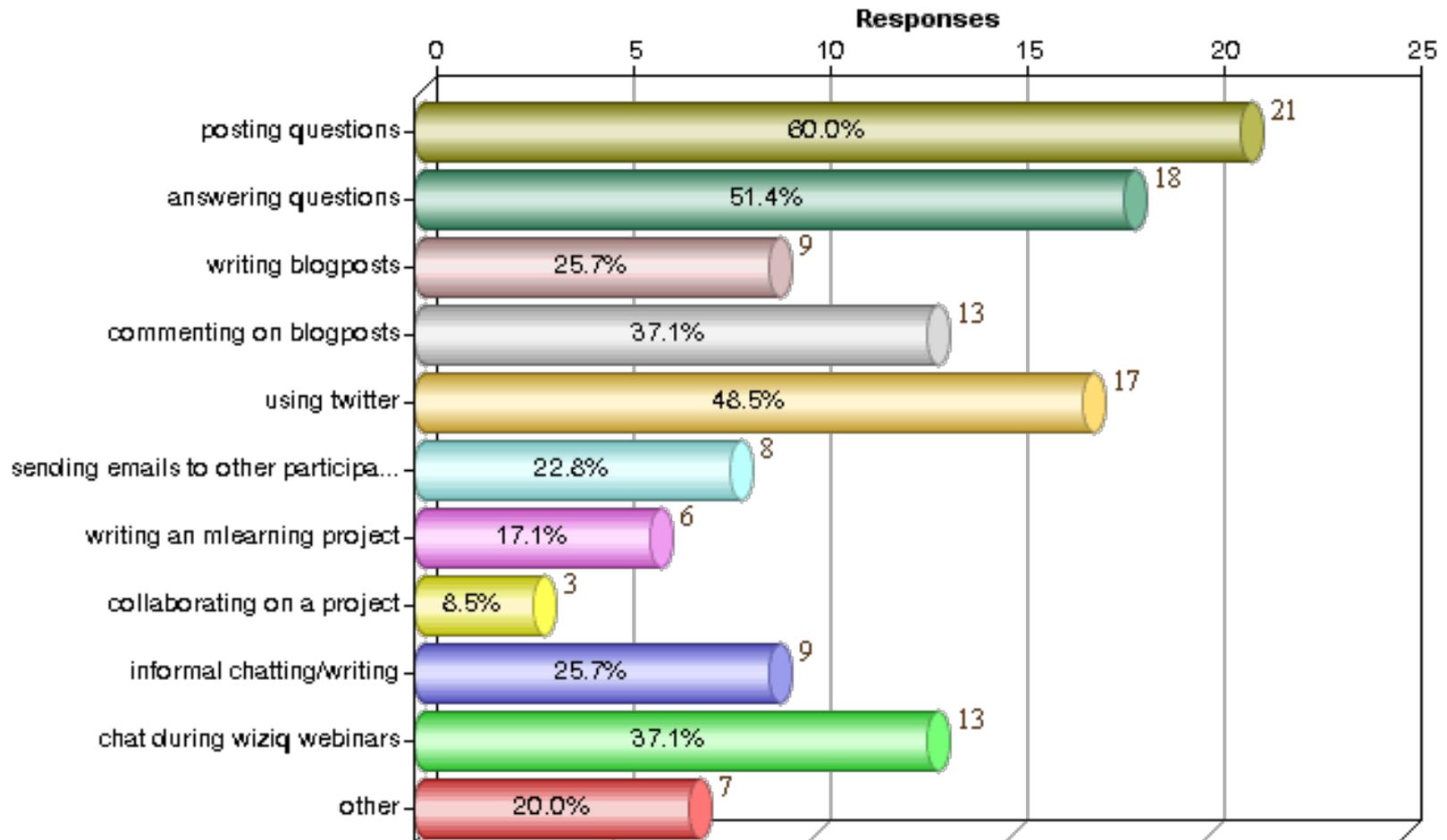


- 36 respondents
- 18 participants used a mobile device to access MobiMOOC
- Sections: general information, mobile and social media use, types of learner interactions, mobile use during MobiMOOC.

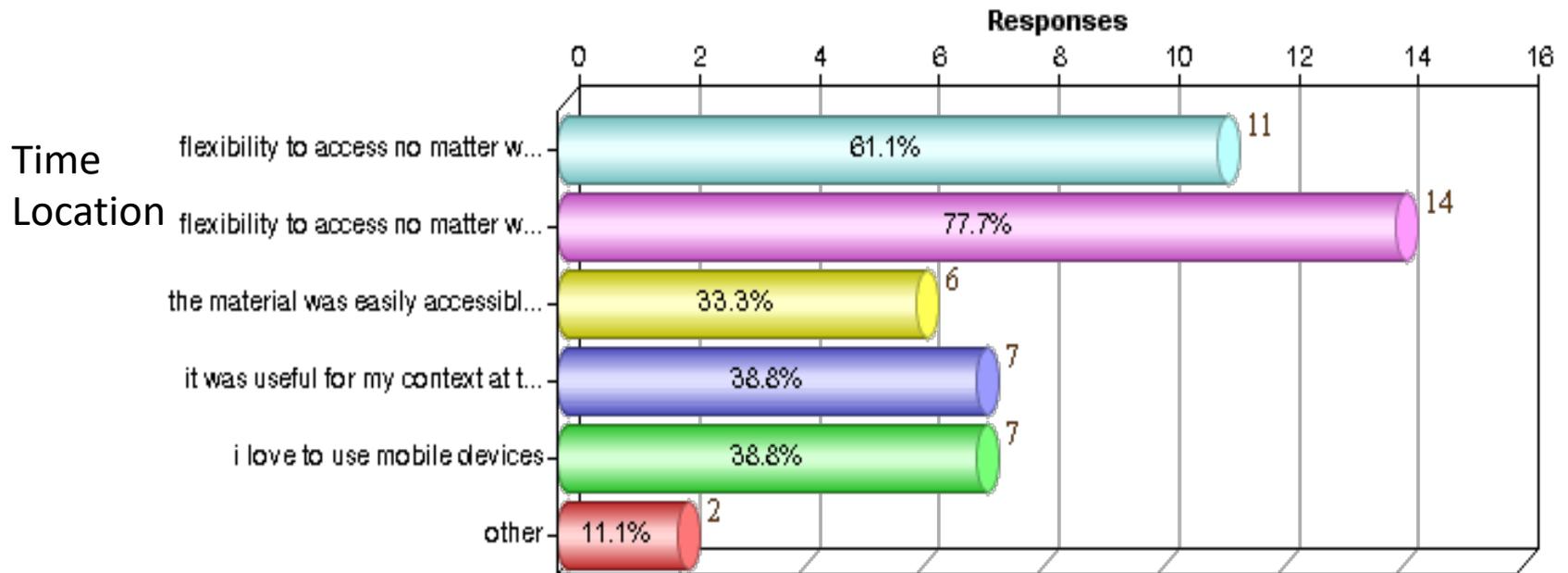
# How important is it for your personal learning to engage in learner interaction? (n=35)



# Which type of learner interactions did you engage in during the course? (n=36)



# For what reason did you access the material with a mobile device ? (n=18)



# Benefits of engaging in (n=34)

Social presence (personal/social)	Cognitive presence (academic/intellectual)
Enriching ideas	Learning from other disciplinary fields
Increasing my friends in a network based on mutual interest	Getting to know different perspectives on similar topics to increase knowledge
Having fun	Enhancing my knowledge base
Informal chat leads to ideas you are looking for	It links up more with a learning strategy, easier to keep focused
Addresses the urge for self-fulfillment	Feeling part of a professional community
Active Personal Learning Network (PLE)	Contacts for potential projects
Learned more from informal than formal	Opens lifelong learning options
Active English language use	Getting and offering help and ideas

# Why enter into (n=34)

Social presence (social/personal)	Cognitive presence (academic/intellectual)
Getting to know people with similar interests	Work at the university/company/institute
Similarities of situations, see what we share	Quality of the discussions
Learning is a social experience, the more you engage in it, the more you learn	Formal accreditation or obtaining a title
The environment lends itself to it, more open	Getting a thesis/project/plan on the rails
Content of the interaction will draw me in	Sharing expertise
Observing the world and be part of it	Increasing my knowledge
Informal interaction is engaging in itself	Keep on top of challenges in a changing world

# Challenges realized afterwards

Looking at it in hind side:

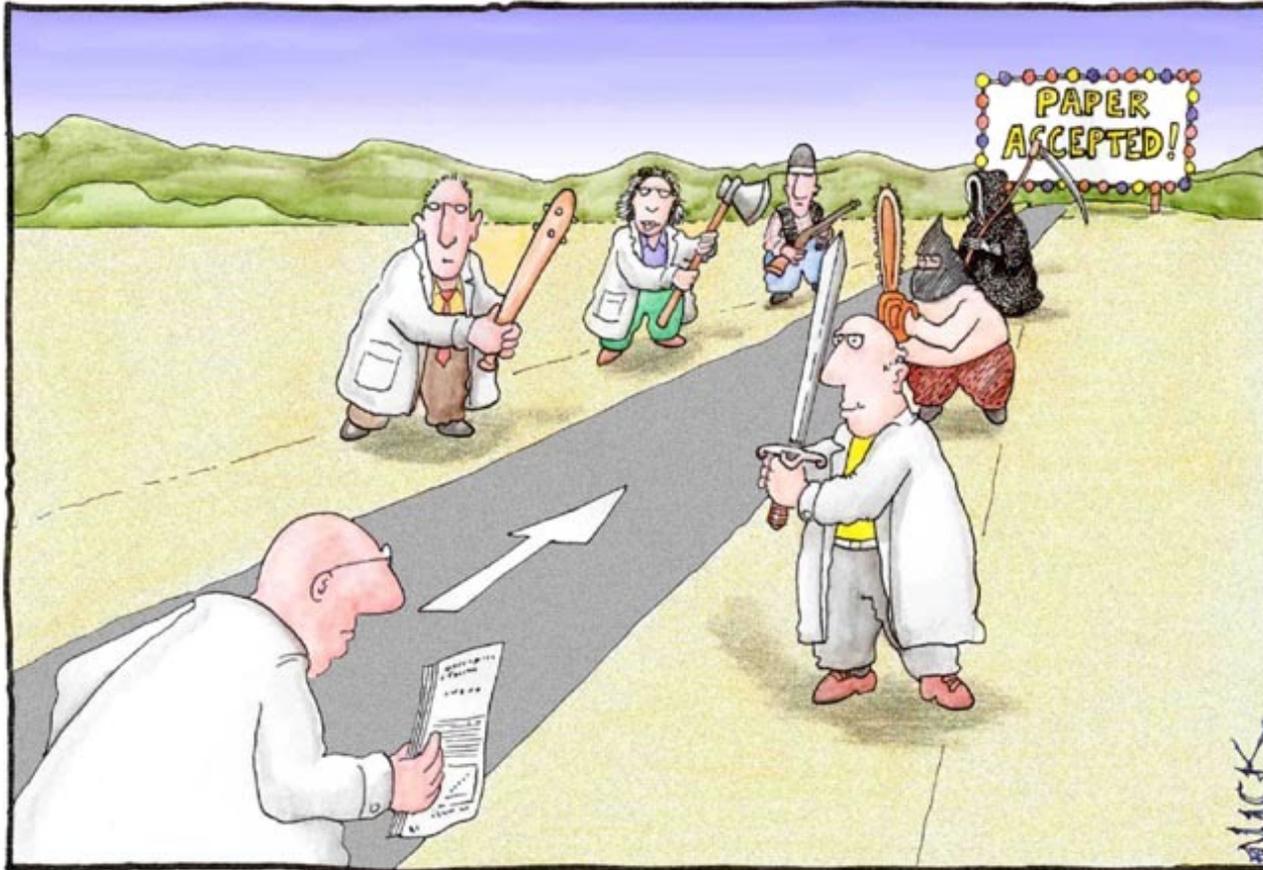
- Need for sharper learner analytics software, details on all actions: timing, itinerary to action...
- Definitions into what personal ↔ professional is decreases as informal learning increases... definitions are subject to multiple, personal interpretations.
- Wide diversity in mobile devices should be analyzed per type for their learner interactions => different usage, due to different affordances and personal preferences.
- Improving questions! (e.g. which factors influenced you to use mobile or not => should have follow-up question, ranking media was not linked to reasons...)
- In a MOOC it is tough to decide what is a personal/social interaction and what consists of an academic/intellectual interaction: they are intertwined in many cases.

Getting some of these challenges cleared with the 101 interviews.

# First wild ideas

- Need for **improved learner analytics**: smartphone, tablets, computers (time, location...)
- Based on learner analytics **create social agents** (immediate location of potential drop-outs, addressing in automated personal messages those learners with less activity, mapping networks, picking up learner preferences)
- **Based on social agents**: planning learner centered actions (delivering content in a different way, engaging them with others...)
- **Data mining** software would be great!

# Please, show us the literature!



Most scientists regarded the new streamlined peer-review process as "quite an improvement."

Here is a [link to the current literature review](#)

(draft leading towards thesis).

# A warm-hearted thank you!

- A big thank you to [Prof. Mohamed Ally](#) and [Prof. Marti Cleveland-Innes](#) for their feedback on my thesis proposal, pushing me towards research.
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- Athabasca University Rocks! You Rock!

# Contact me: questions, networking...



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And feel free to talk to me right here, right now!