

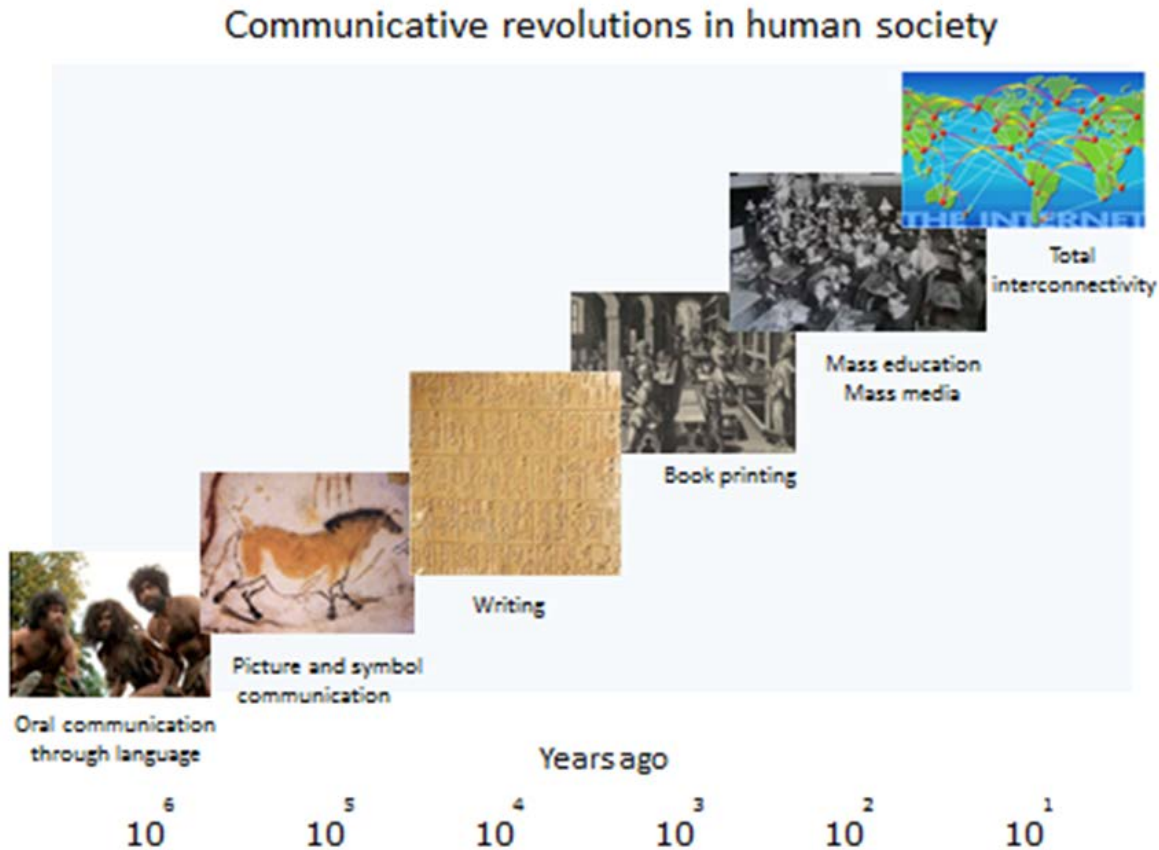
Who needs teachers in the 21st Century?

Are MOOCs taking over the institutional towers?

Victor van Rij

Conference New Challenges for Pedagogy and Quality Education:
MOOCs, Clouds and Mobiles
UNESCO, IITE 2014 , conference, Moscow 14-15 October 2014

ICT revolutionizes our Communication



The characteristics of the ICT revolution

- Speed and range of communication
- Global immediate communication and data transfer from many people to many people, Giga bytes per second
- Multimedia
- Written information but also symbolic, audio and visual (real recordings)
- Real mass communication
- Almost everyone can send and receive
- Storage an full communication over time
- Information including real audio-visual recording built up over time, communication to next generations, massive increase data, info and knowledge (in all domains,disiplines)
- Processing and Translation
- Programming gives continuously new ways to process and visualize data and information in useful ways (Ms office, Openoffice, Specialized programmes)
- Interconnectiveness of people (world wide), computer-systems, data collections , real time measurements and observation systems – and manufacturing systems - the internet of things

The linear classroom society



1930

1960



2010



Knowledge society: 21st century skills

- Critical thinking, problem solving, reasoning, analysis, interpretation, synthesizing information
- Research skills and practices, interrogative questioning
- Creativity, artistry, curiosity, imagination, innovation, personal expression
- Perseverance, self-direction, planning, self-discipline, adaptability, initiative
- Oral and written communication, public speaking and presenting, listening
- Leadership, teamwork, collaboration, cooperation, virtual workspaces
- Information and communication technology (ICT) literacy, media and internet literacy, visual interpretation, data interpretation and analysis, computer programming
- Civic, ethical, and social-justice literacy
- Economic and financial literacy, entrepreneurialism
- Global awareness, multicultural literacy, humanitarianism
- Scientific literacy and reasoning, the scientific method
- Environmental and conservation literacy, ecosystems understanding
- Health and wellness literacy, including nutrition, diet, exercise, and public health and safe
- Capable of self learning through full use of most up to date (self learned) ICT, taking into account advices , knowledge and opinions of others (not necessarily bosses) as well as cooperating and cocreating with others (through ICT)

The connected knowledge society



2010



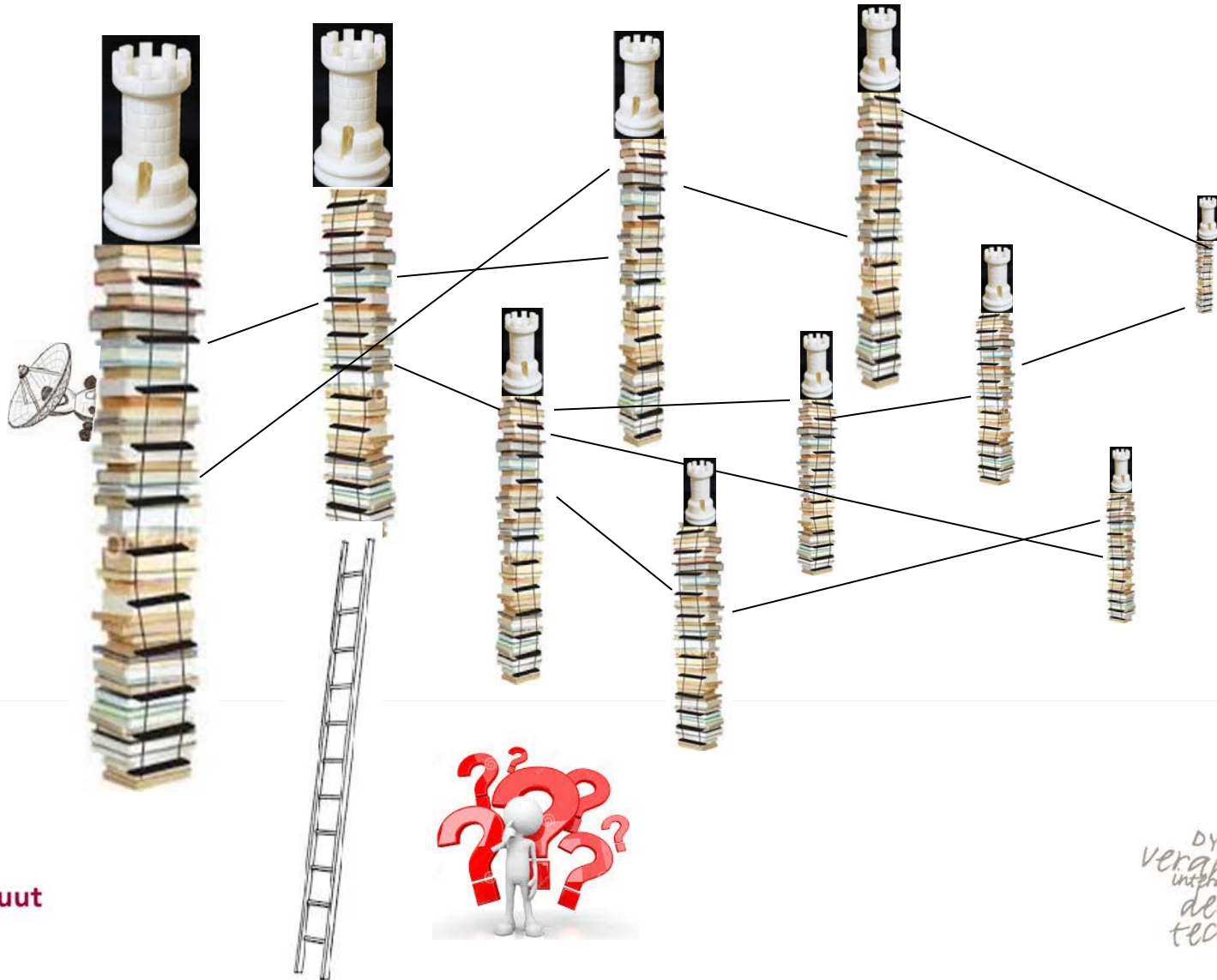
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The linear connected society



The linear university a century ago



Connected education MOOC lists

The screenshot shows the MOOC List website interface. At the top, there is a navigation bar with the MOOC List logo and links for Home, Browse MOOCs By, Search, About / FAQs, and Contact Us. The main heading is "Browse MOOC's By University / Entity". Below this, there is a feedback message: "Thanks for the feedback! Back. We'll review this ad to improve your experience in the future. Help us show you better ads by updating your ads settings." A Google logo is also visible. The main content area features a grid of blue buttons, each representing a university or institution with its associated MOOCs. The buttons are arranged in five rows and four columns. The first row includes: Environmental Education Media Project (EEMP), EPFLx, ESSEC Business School, and ETHx. The second row includes: European Energy Centre, European Journalism Centre, and Excelsior College. The third row includes: Exploratorium, Fab Lab Polytech, Fachhochschule Lübeck, and Fachhochschule Potsdam. The fourth row includes: FH JOANNEUM, University of Applied Sciences, Flat World Knowledge, and Flinders University. The fifth row includes: Florida Institute of Technology, Florida State University, and Fort Hays State University. On the right side of the page, there is an advertisement for "MOOC Online Classes" from canvas.net, with the text "Connect With Students, Teachers And Institutions Openly and Online." and a large blue arrow button. Below the advertisement, there is a section titled "BROWSE MOOC'S BY" with a list of criteria: Multiple Criteria, Initiatives and Categories, University / Entity, Instructor, and Country.

MOOC University of University of MOOC's

The screenshot shows the Mooc List website interface. At the top, there is a navigation bar with the Mooc List logo, a search bar, and links for Home, Browse MOOCs By, About / FAQs, and Contact Us. Below the navigation bar is a 'Cloud of tags' section, which is a grid of blue buttons representing various subjects and topics. The tags include: Evolution, Healthcare, Python, Education, Computer, Software Training, Sustainability, Social Sciences, Globalization, Robotics, Strategy, Media, Algorithms, Europe, History, Design, Tech Skills, Management, Java, HTML, Math, Programming, Nutrition, Javascript, China, DNA, Medicine, Macroeconomics, Literature, Entrepreneur, Poetry, Tutorial, Climate Change, Teaching, Writing, Computing, United States, Computer Science, Android, Career, Universe, Learning, Innovation, Health, Data Structures, C++, Graphic Design, Game, Neuroscience, Economics, Internet, Astronomy, Finance, Network, Psychology, Web, Databases, Marketing, Markets, Politics, Biology, Teacher, Trade, Archaeology, War, Language, Culture, Enterprise, Entrepreneurship, English, Law, Physics, Art, Economic, Food, Science, Social, Communication, Software, Analysis, Behavior.

On the right side of the page, there are several sections: 'ONLINE SELF-STUDY SUGGESTIONS' with a graduation cap icon, 'TOP LISTS THAT WILL ENRICH YOUR KNOWLEDGE!' with a red 'TOPLST' seal icon, and 'ONLINE SECURE PASSWORD GENERATOR' with a warning sign icon.

Open educational resources

OER COMMONS
OPEN EDUCATIONAL RESOURCES

[Home](#) / [Browse All](#) / [My OER](#) / [Connect](#) / [Contribute](#)

[Register Now!](#) | [Log In](#) | [Help](#)

Search

[Use Advanced Search](#)

Your Commons, Their Future

We are a dynamic digital content hub offering a suite of OER supports. From roadmaps to training to tools, we'll get the right OER to your students.

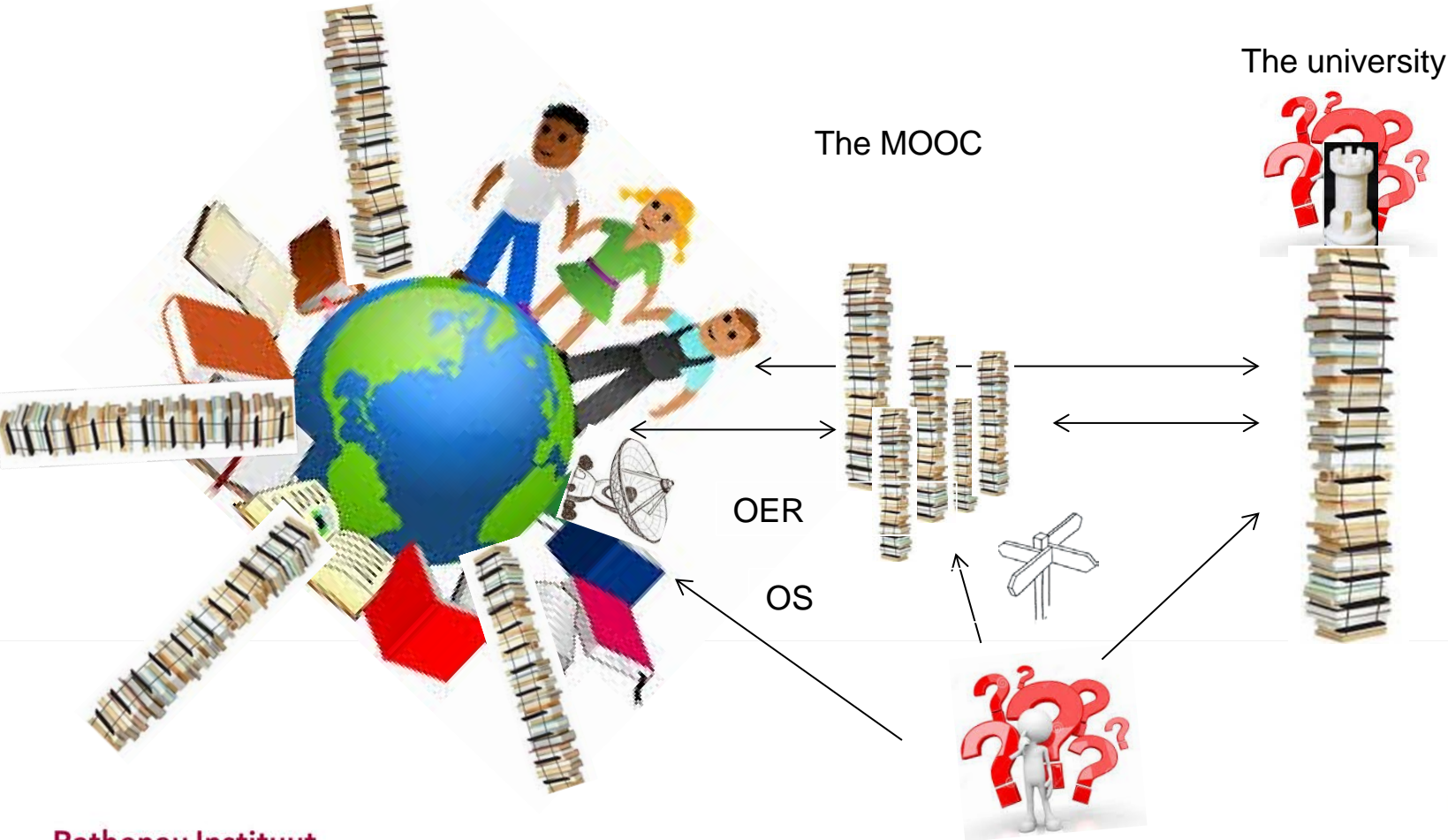
OUR SOLUTION

Open sources , measuring networks

- The internet, Google Search itself, special variants (earth,analytics etc), special rich sources, Wikipedia, news papers, open libraries, musea , measurement devices, networks (NASA,
- http://www.thesis.lebedev.ru/en/sun_flares.html?m=6&d=9&y=2014
- <http://earthquake.usgs.gov/>
- <http://www.who.int/csr/don/archive/disease/ebola/en/>

21st Century University

WWW of knowledge, data and observations



ICT in education may revolutionize Institutions

- MOOCs and OER, if shared with other universities can be used to enlighten the burden of HE teachers. The offer of courses in each institution can be considerable extended and individualised
- Institutions may be tempted to source out more of the teaching topics, provided that you can save teachers costs , so they can specialize to education which is connected to their specialisation (perhaps in MOOC shape to attract students)
- For theoretical subjects it is not clear what the position of the standing institutions is (why not the MOOC of MOOCs)
- Portfolio's of the external courses could be assessed by students and clients, withdrawing a course has no personal consequences

Does the institutions still need a teacher

- If Institutions are tempted to use OER/OS and MOOCs of other universities in large scale, most teachers will get different tasks than providing the courses
- From the institution perspective they are needed to assess student achievements in the incorporated MOOC /OER courses (accredit, fee reason)
- Some HE teachers should however develop and update the course (usually connected to the research strength),

MOOCS /OER and OS has its limits

- MOOCS and OER and OS guided education, facilitate access to the best sources available on internet , and guide students how to learn from these sources. Gradually by the connecting to things (internet of things) the physical world (3 D printing, automatised measurements (environment,flows of materials) can come in reach of MOOCs and OER
- Although MOOCS cannot (yet) surpass the need in many areas to feel smell and touch the object , to handle equipment to analytically observe and experiment objects in the real world: materials, ecosystem, animals, and to work or treat people. But the border is not a fixed border due to further automation of science

Students perspective choices

- A full MOOC may be seen as something with a lower status. But if institutions use them themselves this may alter ,
- A MOOC of MOOC institution for theoretical topics may be competitive with vested institutions.
- Vested institutions have the advantage that they provide the Physical aspects of higher education , which MOOCs cannot
- MOOCS cannot (yet) surpass the need in many areas to feel smell and touch the object , to handle equipment to analytically observe and experiment in the real world: ecosystem, animals, people etc,

What the MOOC cannot provide



What the MOOC cannot provide

