National Teaching Fellow 2012

EDEN fellow 2013

Ascilite fellow 2012

Adopting more open practices for learning, teaching and research

Gráinne Conole

Innovate in university teaching thanks to Open Educational Resources

Geneva, 11th May 2017

E-learning innovation: research, evaluation, practice and policy…

Outline

- Transformative technologies
- Learning theories
- Peering into the future
- Examples
  - The flipped classroom
  - Open practices
- Learning Design

Transformative technologies

Multimedia resources

The Web

Learning objects

Learning Management Systems

Mobile devices

Learning Design

Gaming technologies

Open Educational Resources

Social and participatory media

Virtual worlds

E-books and smart devices

Massive Open Online Courses

Learning Analytics

| 80s | 93 | 94 | 95 | 98 | 99 | 00 | 01 | 04 | 05 | 07 | 08 | 10 |

Disruptive innovation

- Challenging the established
  - Practices
  - Business models
  - Pedagogies
- Resulting in new practices

Disruptive innovation	Replacing
Wikipedia	Encyclopedias
Google Drive	Office software
Word processing	Typewriters
Mobile phones	Land lines
OER/MOOCs	Course resources and courses

Christensen

5 transformative technologies

- The web/WiFi
- Learning Management Systems (LMSs)
- Mobile devices
- OER/MOOCs
- Social media

Transformative characteristics

- Access to rich interactive resources
- Many ways to communicate and collaborate
- Instant access to knowledge
- Enable open practices
- Portable across devices and locations

Challenges

- Web/Wifi
  - Lack of connectivity
  - Online 24/7
- LMS
  - Institutionally focused
  - Not transferable post course
- Mobile devices
  - Battery life
  - Fragile
  - Web pages not rendered properly

Challenges

- OER/MOOCs
  - Finding relevant resources
  - Evaluating quality and relevance
  - Lack of support
  - High drop out rates
  - No formal recognition
- Social media
  - Confusing
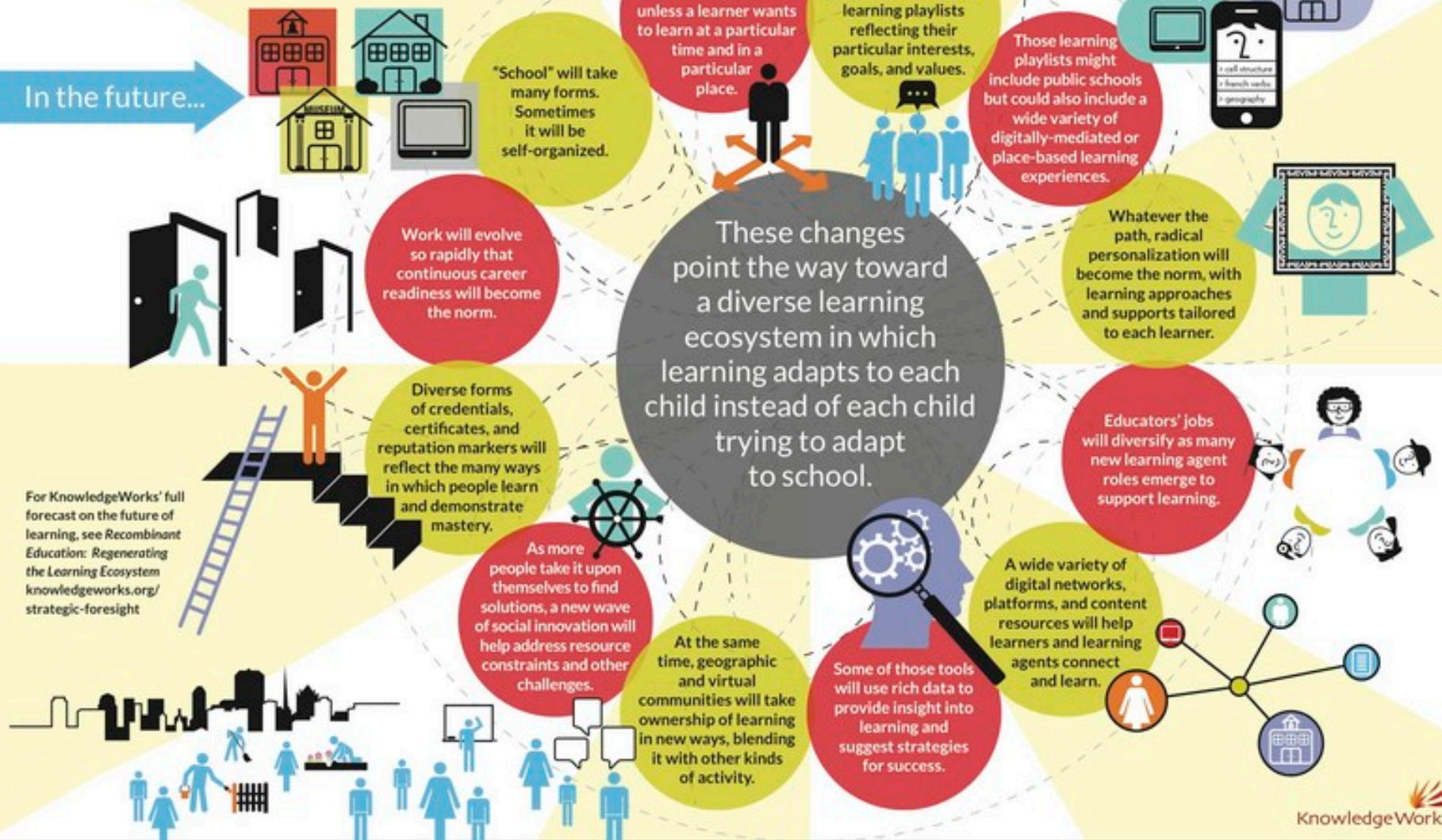 - Balance between white noise/relevance

Peering into the future….

- Artificial intelligence
- Cloud computing
- Augmented and virtual reality
- Learning Analytics and adaptive learning
- Affective computing Learning through social media
- Productive failure
- Learning from the crowd
- Learning through video games
- Formative analytics
- Learning for the future

NMC **Horizon Report** > 2016 Higher Education Edition

Innovating Pedagogy 2016

Exploring new forms of teaching, learning and assessment, to guide educators and policy makers

Mike Sharples, Roberto de Roock, Rebecca Ferguson, Mark Gaved, Christothea Herodotou, Elizabeth Koh, Agnes Kukulska-Hulme, Chee-Kit Looi, Patrick McAndrew, Bart Rienties, Martin Weller, Lung Hsiang Wong

Open University Innovation Report 5

KnowledgeWorks Forecast 3.0

A Glimpse into the Future of Learning

In the future...

These changes point the way toward a diverse learning ecosystem in which learning adapts to each child instead of each child trying to adapt to school.

Learning will no longer be defined by time and place — unless a learner wants to learn at a particular time and in a particular place.

Learners and their families will create individualized learning playlists reflecting their particular interests, goals, and values.

Those learning playlists might include public schools but could also include a wide variety of digitally-mediated or place-based learning experiences.

"School" will take many forms. Sometimes it will be self-organized.

Whatever the path, radical personalization will become the norm, with learning approaches and supports tailored to each learner.

Work will evolve so rapidly that continuous career readiness will become the norm.

Educators' jobs will diversify as many new learning agent roles emerge to support learning.

Diverse forms of credentials, certificates, and reputation markers will reflect the many ways in which people learn and demonstrate mastery.

As more people take it upon themselves to find solutions, a new wave of social innovation will help address resource constraints and other challenges.

At the same time, geographic and virtual communities will take ownership of learning in new ways, blending it with other kinds of activity.

Some of those tools will use rich data to provide insight into learning and suggest strategies for success.

A wide variety of digital networks, platforms, and content resources will help learners and learning agents connect and learn.

For KnowledgeWorks' full forecast on the future of learning, see *Recombinant Education: Regenerating the Learning Ecosystem* knowledgeworks.org/strategic-foresight

KnowledgeWorks

https://storify.com/ProfKarim/new-culture-of-learning

Education 2020

An overview of learning theories

- Learning theories can be grouped into:
  - Associative (learning as activity via structured tasks)
  - Cognitive (learning through understanding)
  - Situative (learning as social practice)
  - Connectivist (learning in a networked context)

Mayes and de Freitas, 2004
Siemens, 2004
Conole, 2010

So what is learning?

Thought by itself, however, moves nothing; what moves us is thought aiming at some goal and concerned with action (Aristotle)

Human learning… whole persons construct experiences of situation and transform them into knowledge, skills attitudes, values, emotions and the senses, and integrate the outcomes into their own biographies (Jarvis, 2004)
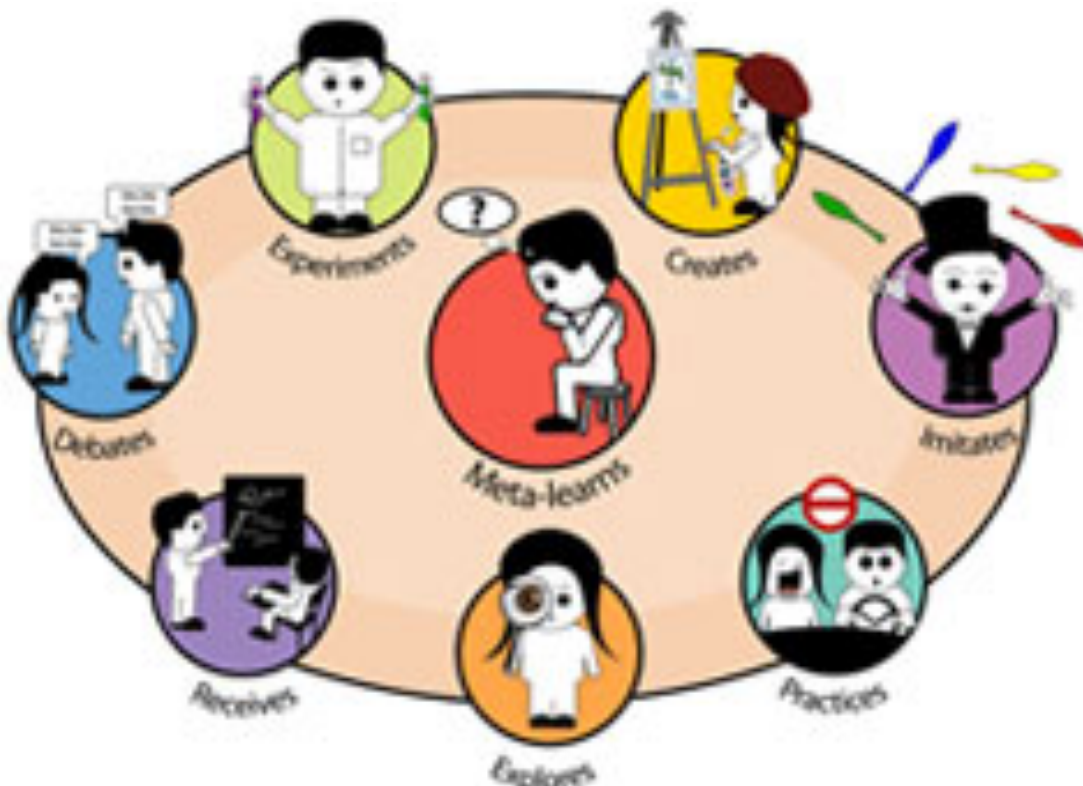
Knowledge is information already transformed: selected, analyzed, interpreted, integrated, articulated, tested evaluated' (Laurillard, 1993)

Pedagogies of e-learning

E-training
Drill & practice

Inquiry learning
Resource-based

Associative
Focus on individual
Learning through
association and
reinforcement

Constructivist
Building on prior
knowledge
Task-orientated

Situative
Learning through
social interaction
Learning in context

Connectivist
Learning in a
networked
environment

Experiential,
problem-based,
role play

Reflective & dialogic
learning,
Personalised learning

Learning Theory

Key concepts

Learning paradigms or 'world views'

Learning theorists

Scientific disciplines
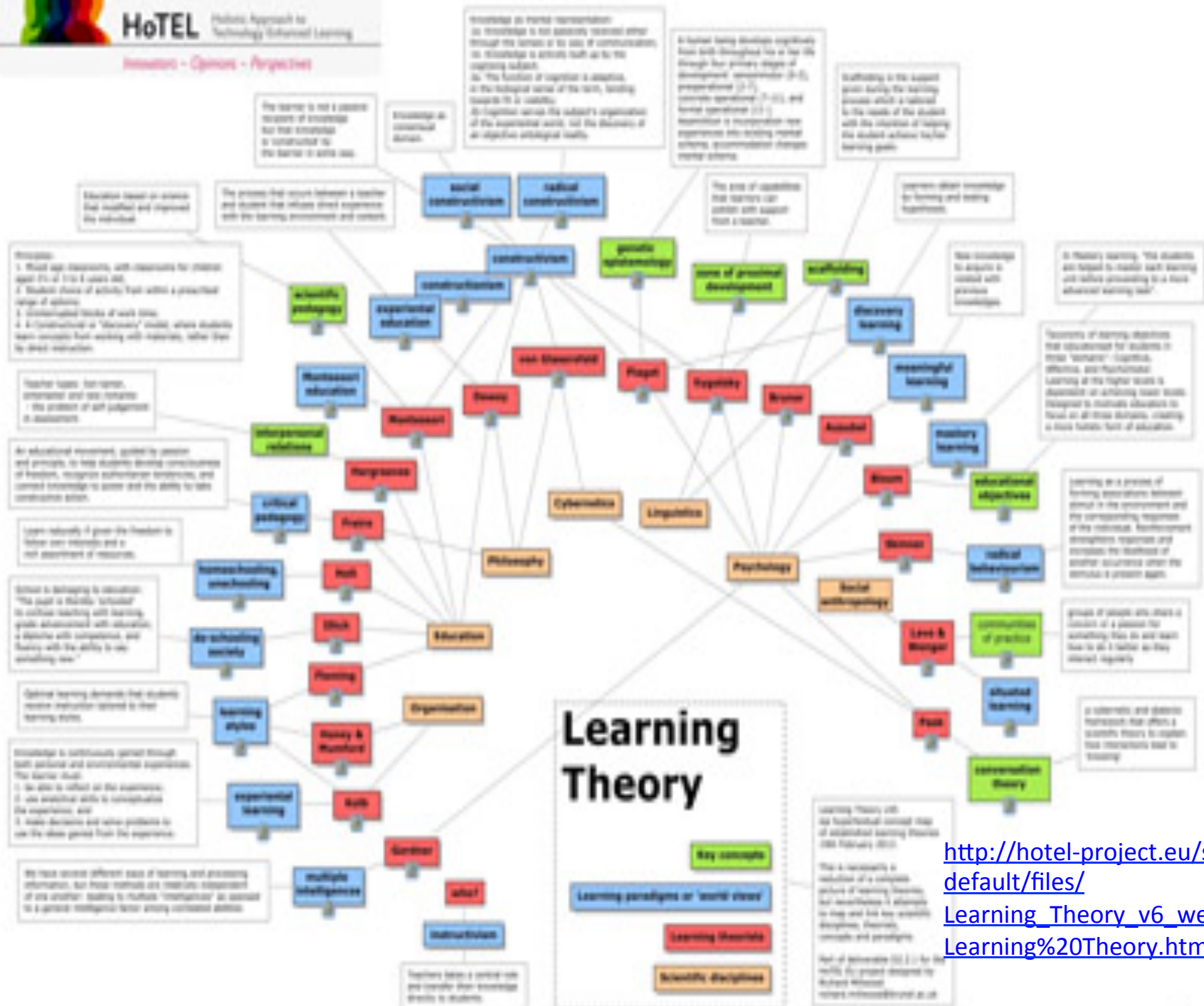
http://hotel-project.eu/sites/default/files/Learning_Theory_v6_web/Learning%20Theory.html

Illustrative examples

- Two examples of how digital technologies can impact on practice:
  - The flipped classroom
  - Open practice
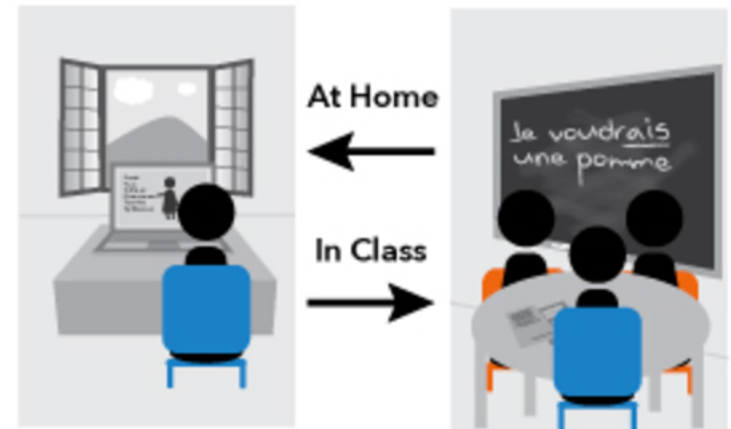
The flipped classroom

- Students engage with content before the class
  - Video, podcasts etc.
- Teacher poses questions about the content
- Classroom is student-centred and active

https://www.youtube.com/watch?v=26pxh_qMppE&feature=youtu.be

Why flip?

- Information transfer is not enough
  - Lack of student engagement
  - Not meeting future needs
  - Need to go beyond knowledge recall
  - Fosters active learning

The traditional classroom

- Teacher as gatekeeper, giving information, deciding what is important
- Content delivered during class
- Students assimilate the learning outside of the class
- Students as content consumers

The flipped classroom

- Students view content before class
- Focus in class on active learning
- More student centred
- Teacher as facilitator
- Fosters student engagement
- Independent study plus face-to-face interaction

Benefits for the teacher

- Can see students at work interacting with others

- Frees time to help students during class

- Identify struggling students

- Provide more personalised attention

Benefits for the students

- Shift from passive consumer of information to active learning
- Can work at their own pace
- Have more control of learning whilst watch videos, can stop and re-watch or skim through
- More peer interaction
- More engaging and motivating

Pros and cons

Pros

- Students have more control

- Promotes student-centered learning and collaboration

- Content more accessible

- Easier for parents to see what's going on

- More efficient

Cons

- Can create or exacerbate a digital divide

- Relies on preparation and trust

- Significant work on the front end

- Not teaching to improve standardised test scores

- Time in front of screens instead of people and places is increased

Open practices

- Digital technologies enable more open practices
- Increase of free resources and expertise - via Webinars, blogs, open repositories and journals, and social media
- Increasing importance of OER and MOOCs

MOOCs and Open Education AROUND THE WORLD

EDITED BY
CURTIS J. BONK, MIMI M. LEE,
THOMAS C. REEVES
& THOMAS H. REYNOLDS
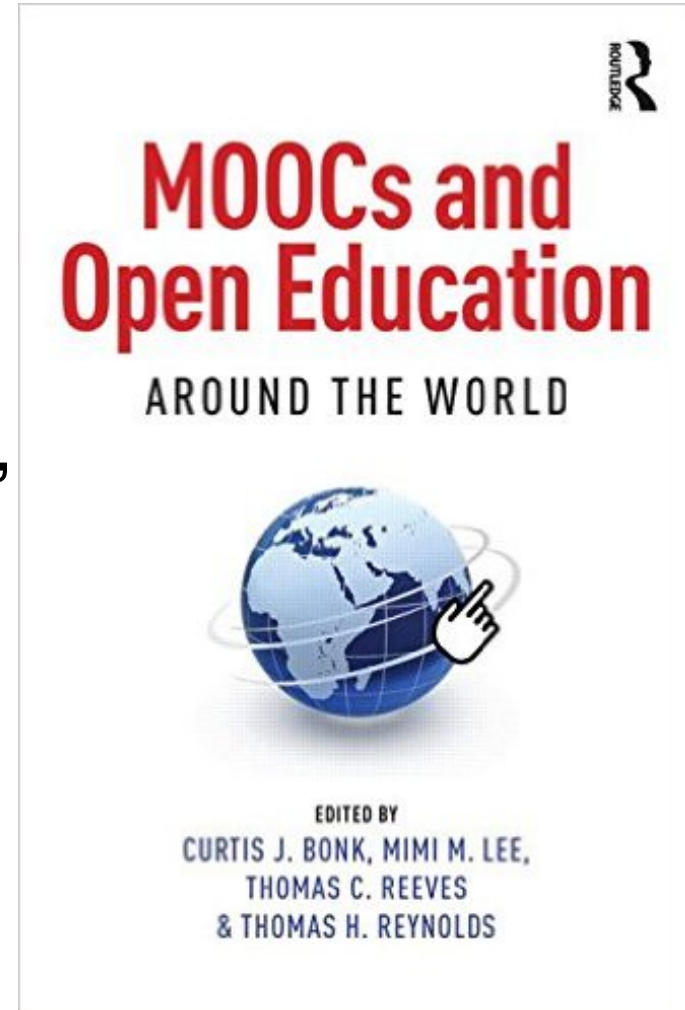
OER

Teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use or re-purposing by others (UNESCO)

- Hundreds of high quality OER repositories
- Education as a fundamental human right
- Challenging formal education
- New business models emerging
- New ways to accredit informal and non-formal learning
- Useful links
    - IPTS report on open education
    - EFQUEL MOOC blogs
    - MOOC-IT
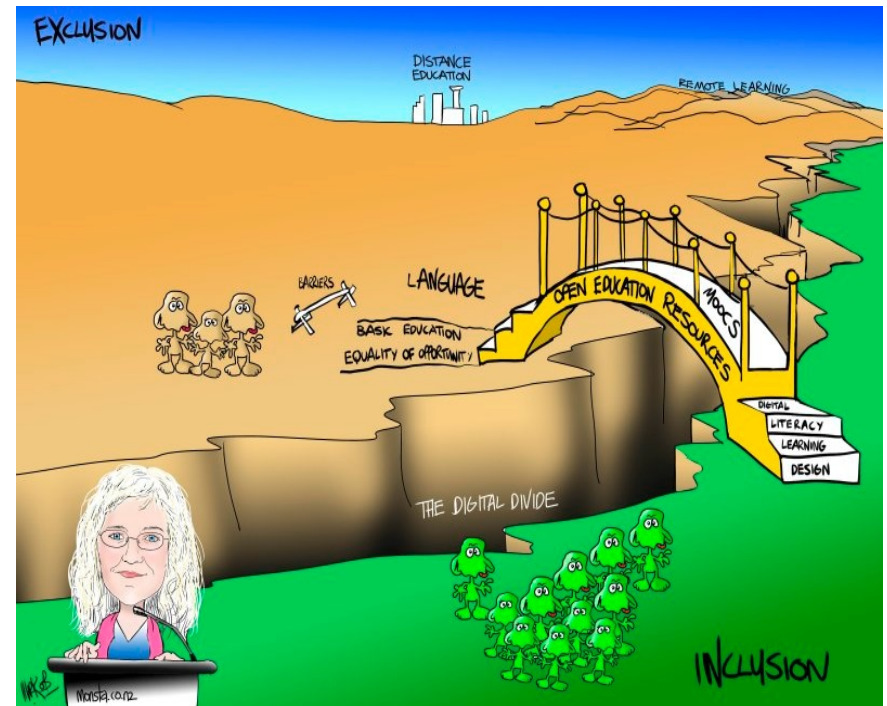
Integrating OER

- Assess the validity and reliability
- Determine placement in curriculum
- Check licensing
- Eliminate extraneous content
- Adapt to your context
- Remix with other educational materials
- Clear instructions on how the OER will be used
- Make pedagogy explicit
- Consider getting students to find and collate relevant OER

Integrating OER in Educational Practice: Practitioner Stories

Editors
Shironica Karunanayaka
Som Naidu
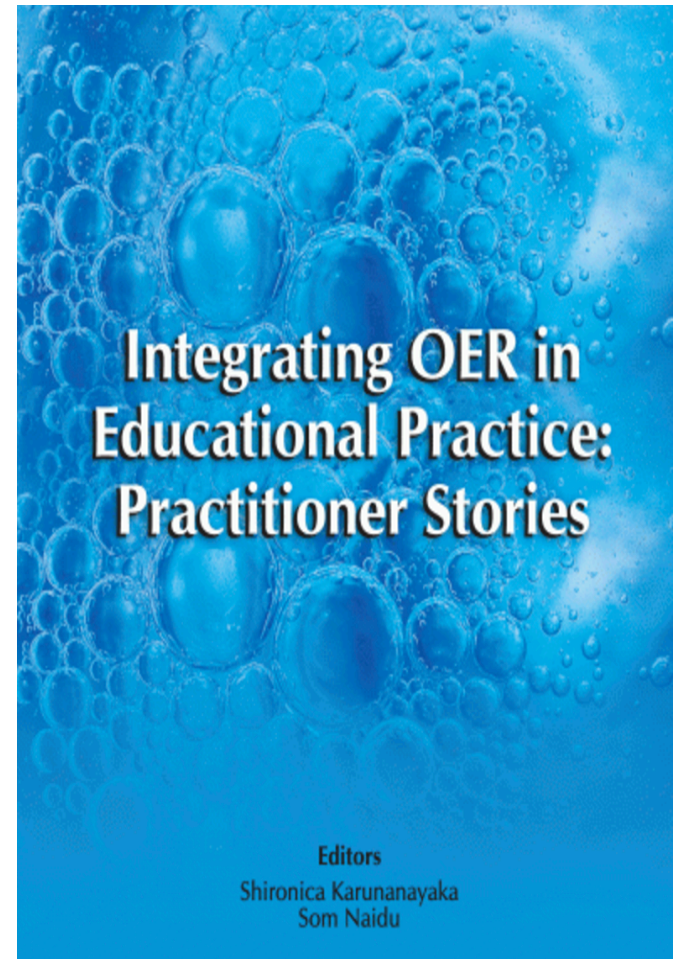
OER Case Study

- OER at the Open University UK
  - Research
    - OER hub conducts research on the impact of OER
  - Community
    - GO-GN develops a global community of OER PhD students
  - Content
    - OpenLearn releases thousands of hours of open licensed materials
  - International
    - TESSA and TESS-India use locally developed OER to aid teacher education

Open practices

- Enabled through digital technologies
- Educational practices that are concerned with and promote equity and openness
- Range of practices around create, use and management of OER
- Results in a change in practice
- Connectedness, trust and innovation
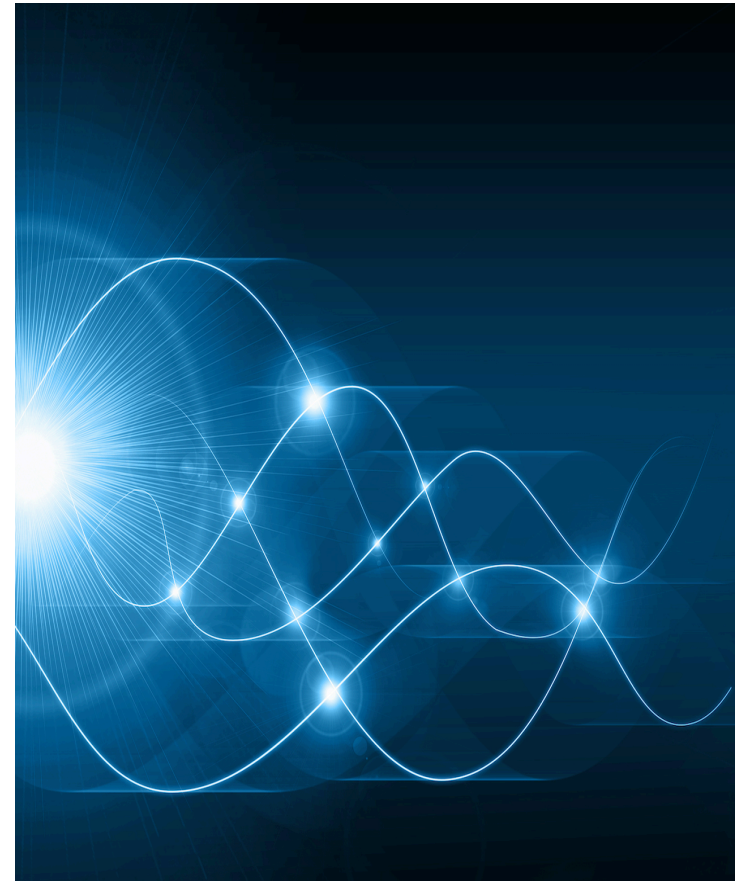
Pros and cons

Pros

- Reusing existing resources
- More efficient
- Recycling good practice
- Get students to find and collate resources
- Sharing of good practice
- Education for all

Cons

- Hard to find
- Pedagogy not explicit
- Lack of understanding of licensing
- Reluctant to use OER
- Teachers aren't using and repurposing OER much
- Accreditation issues

MOOCs

- Massive Open Online Courses
- First CCK2008
- Rise of Udacity, EdX, Coursera etc.
- High drop out rates
- Issues around accreditation
- Challenging traditional educational offerings

Beyond cMOOCs or xMOOCs

cMOOCs

- Weekly centred
- Participant reflective spaces
- Social and networked participation
- Hashtag: #etmooc
- Use of a range of social media

xMOOCs

- Linear learning pathway
- Mainly text and video
- Formative feedback through MCQs
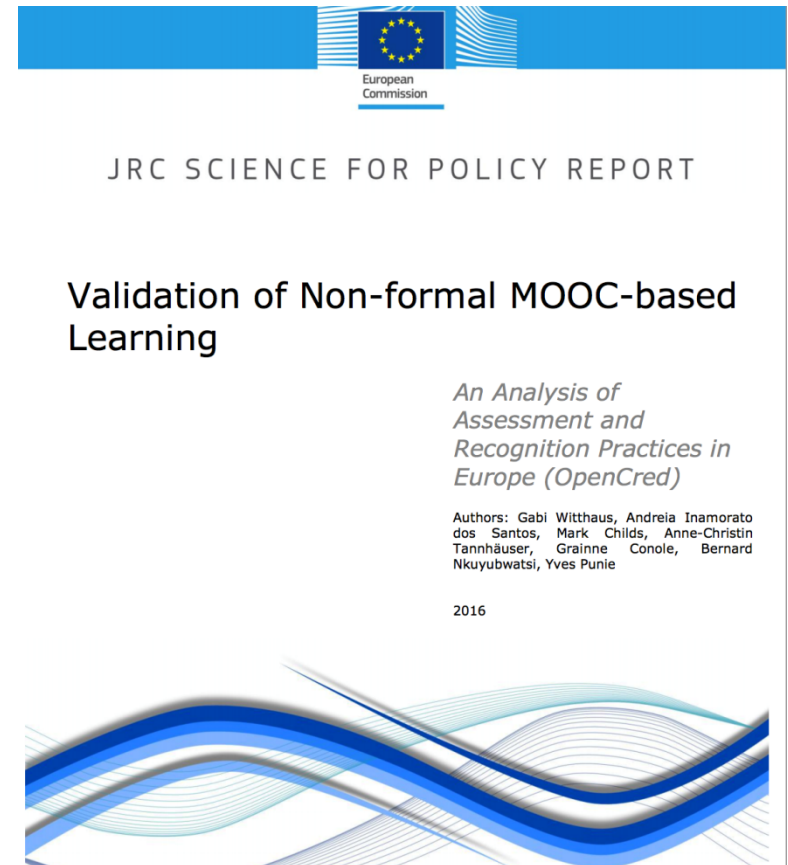- Individually focused

A taxonomy of MOOCs

Dimension	Characteristics
Context	
Open	Degree to which the MOOC is open
Massive	How large the MOOC is
Diversity	The diversity of the learners
Learning	
Use of multimedia	Extent of use of rich multimedia
Degree of communication	Amount of communication incorporated
Degree of collaboration	Amount of collaboration incorporated
Amount of reflection	Ways in which reflection is encouraged
Learning pathway	Degree to which the learning pathway is supported
Quality assurance	Degree of quality assurance
Certification	Mechanisms for accreditation
Formal learning	Feed into formal learning offerings
Autonomy	Degree of learner autonomy

http://e4innovation.com/?p=727

Recognising non-formal learning

- Analysed practices for assessment and recognition of non-formal learning
- Barriers:
  - Online seen as lower value
  - Lack of guidance on recognition options
  - Cost of recognition
  - Need to unbundle learning provision

JRC SCIENCE FOR POLICY REPORT

Validation of Non-formal MOOC-based Learning

An Analysis of Assessment and Recognition Practices in Europe (OpenCred)

Authors: Gabi Witthaus, Andreia Inamorato dos Santos, Mark Childs, Anne-Christin Tannhäuser, Grainne Conole, Bernard Nkuyubwatsi, Yves Punie

2016

Promise and reality

Social media offer new ways to communicate and collaborate. Wealth of free resources and tools

Not fully exploited
Replicating bad pedagogy
Lack the time and skills

Learning Design

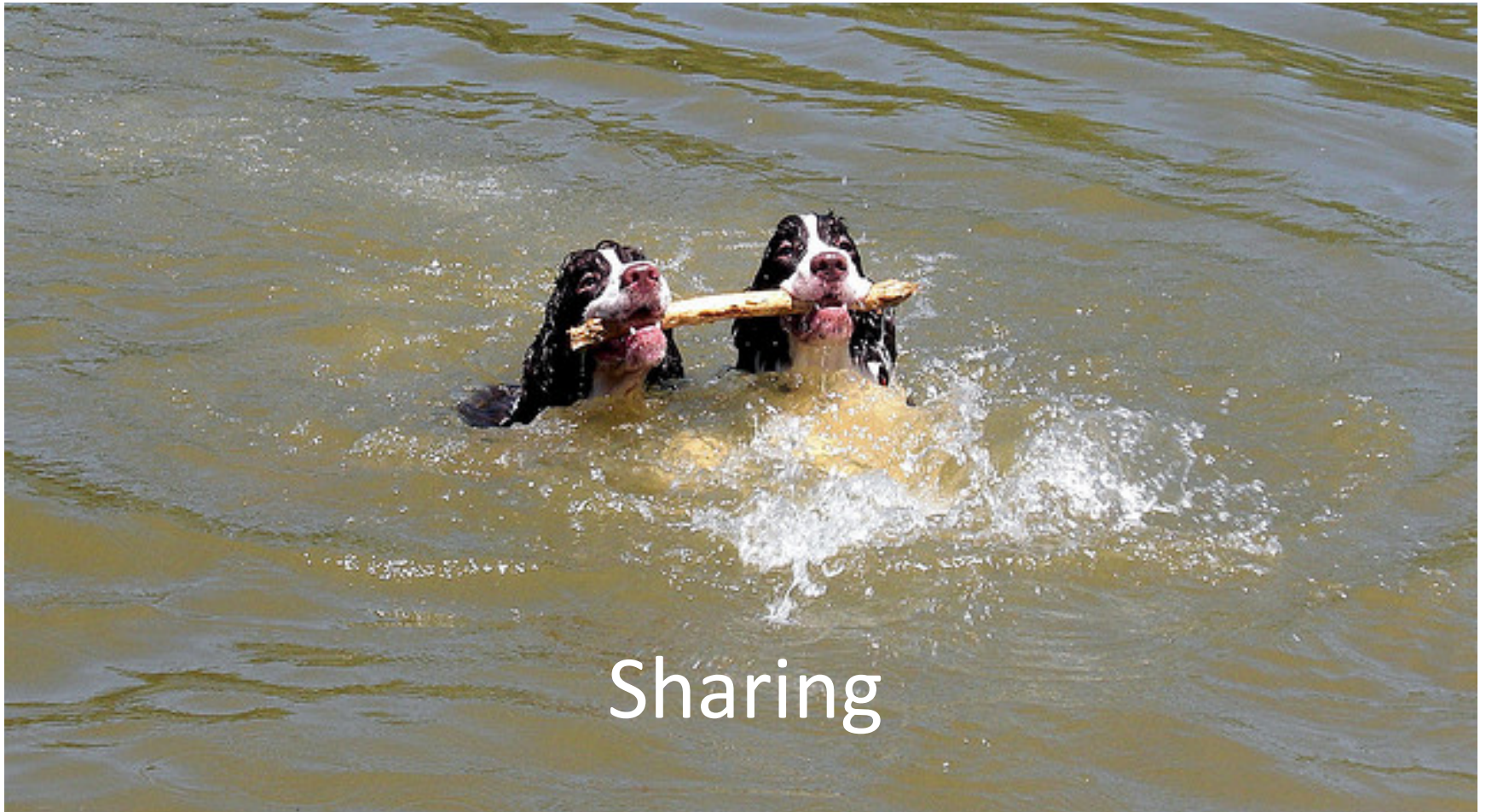- A pedagogically informed approach to design that makes appropriate use of technologies
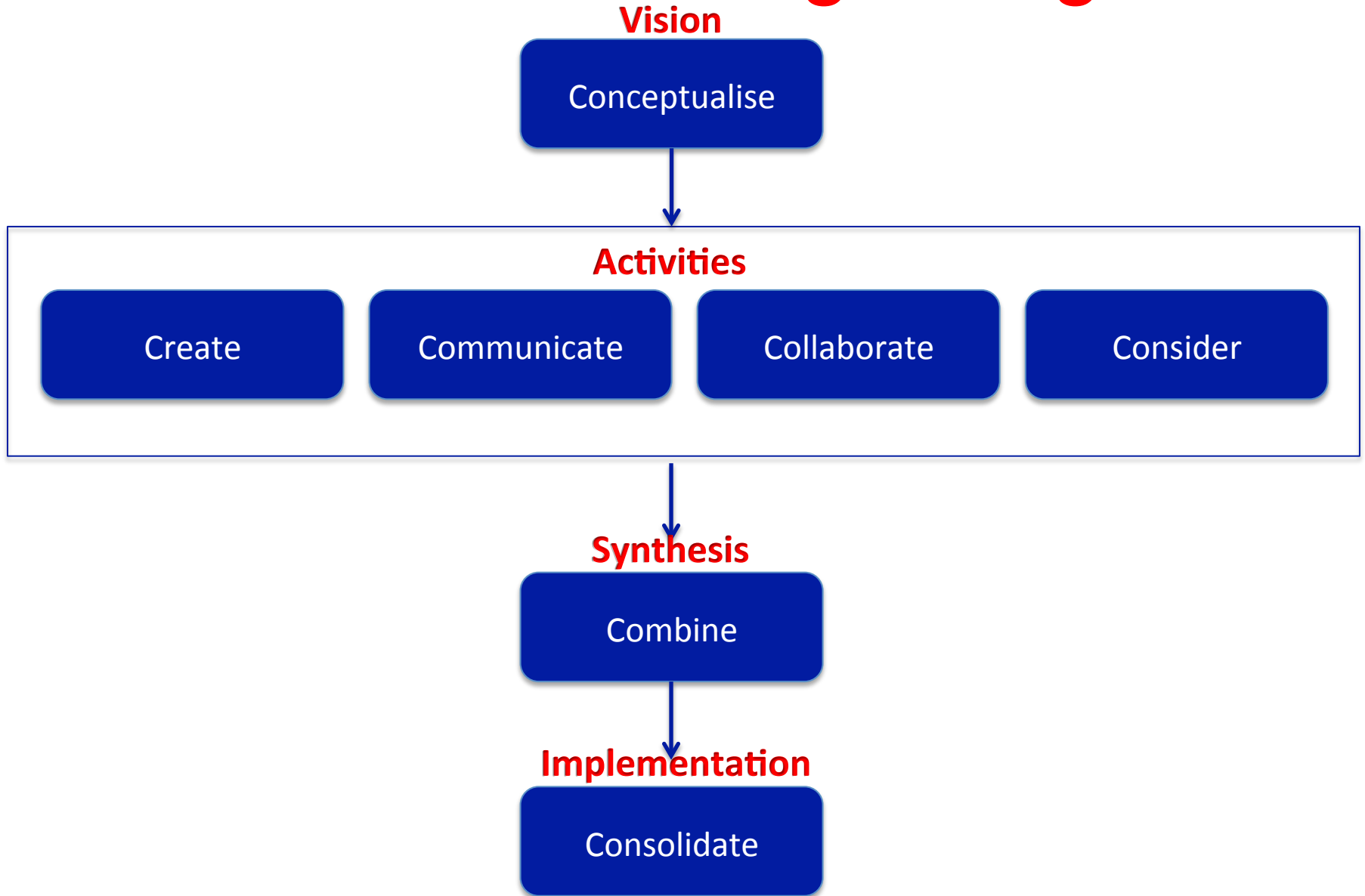
What is learning design? (1)

Guidance

What is learning design? (2)

Visualisation

What is learning design? (3)

Sharing

The 7Cs of Learning Design

Vision

Conceptualise

Activities

Create	Communicate	Collaborate	Consider

Synthesis

Combine

Implementation

Consolidate

http://www2.le.ac.uk/projects/oer/oers/beyond-distance-research-alliance/7Cs-toolkit
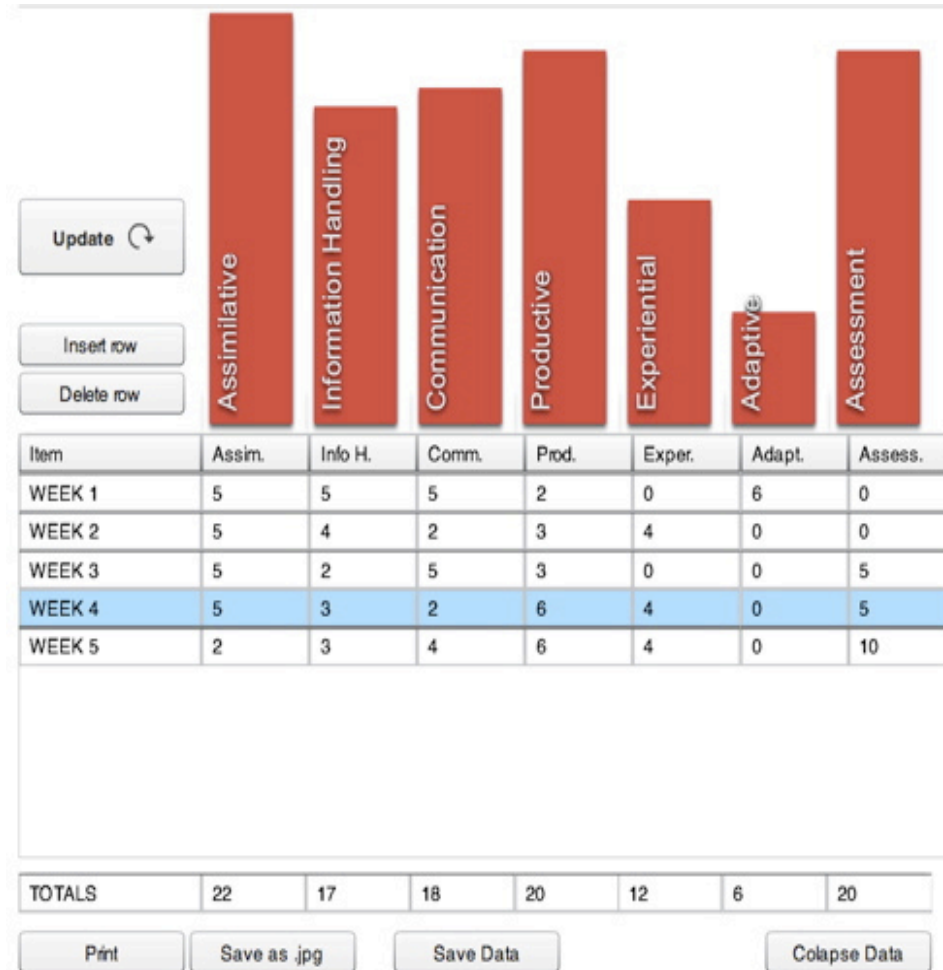
Course features

- Pedagogical approaches

- Principles

- Guidance and support

- Content and activities

- Reflection and demonstration

- Communication and collaboration

Activity profile

- Assimilative
- Information handling
- Communication
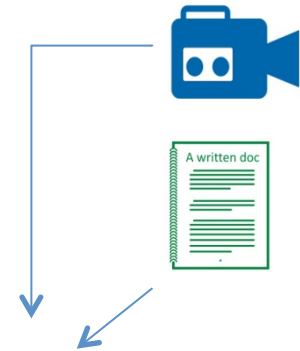- Productive
- Experiential
- Adaptive
- Assessment

Update ↻

Insert row

Delete row

Item	Assim.	Info H.	Comm.	Prod.	Exper.	Adapt.	Assess.
WEEK 1	5	5	5	2	0	6	0
WEEK 2	5	4	2	3	4	0	0
WEEK 3	5	2	5	3	0	0	5
WEEK 4	5	3	2	6	4	0	5
WEEK 5	2	3	4	6	4	0	10
TOTALS	22	17	18	20	12	6	20

Print | Save as .jpg | Save Data | Colapse Data

Week 1
Topic 1

Week 2
Topic 2

Week 3
Topic 3

Week 4
Topic 4

Learning
Outcomes
LO1
LO2
LO3
LO4

A written doc

A written doc

A written doc

e-tivity

e-tivity

e-tivity

Start

End

A written doc

LO1
LO2

LO3

LO4

Assessment

e4innovation

E-learning innovation: research, evaluation, practice and policy…

CLICK HERE TO FIND OUT MORE

Welcome to e4innovation

Gráinne Conole is an e-learning expert and consultant with a range of research interests in the use of digital technologies for learning, teaching and research. She can undertake commissioned reviews and reports, run workshops, and provide tailored e-learning support and advice.

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http://www.slideshare.net/GrainneConole