

Technological challenges for content modernization in HE

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CONTENT

1. ICT for innovation
2. Teacher's role
3. Technologies used in education
4. Educational innovations

THE BEGINNING OF ONLINE LEARNING

Start from distance-learning then e-Learning
not only technology, but a new conception of
teaching, training, learning...

Managing differently time and space

Internet and virtual environments

Individualization and collaboration

Interactivity: interactive content
interactive tutoring

ICT for learning is not only improving learning but has the potential to transform the learning and teaching processes

ICT-enabled social networks and improved connectivity, building bridges between learning, work and leisure

New innovative pedagogical and didactical approaches are needed

ICT provides the means to support personalization, where learners are also considered to be knowledge builders and creators and not just the recipients of transmitted knowledge

TECHNOLOGICAL INNOVATION (1)

Technological innovation implies a need for new models of production, distribution and access to digital resources, both in the public and private sectors.

The European Commission under the Research and Technological Development programmes has supported research on the educational use of digital content in projects that bring together the technological, pedagogical and organisational dimensions of the use of ICT.

TECHNOLOGICAL INNOVATION (2)

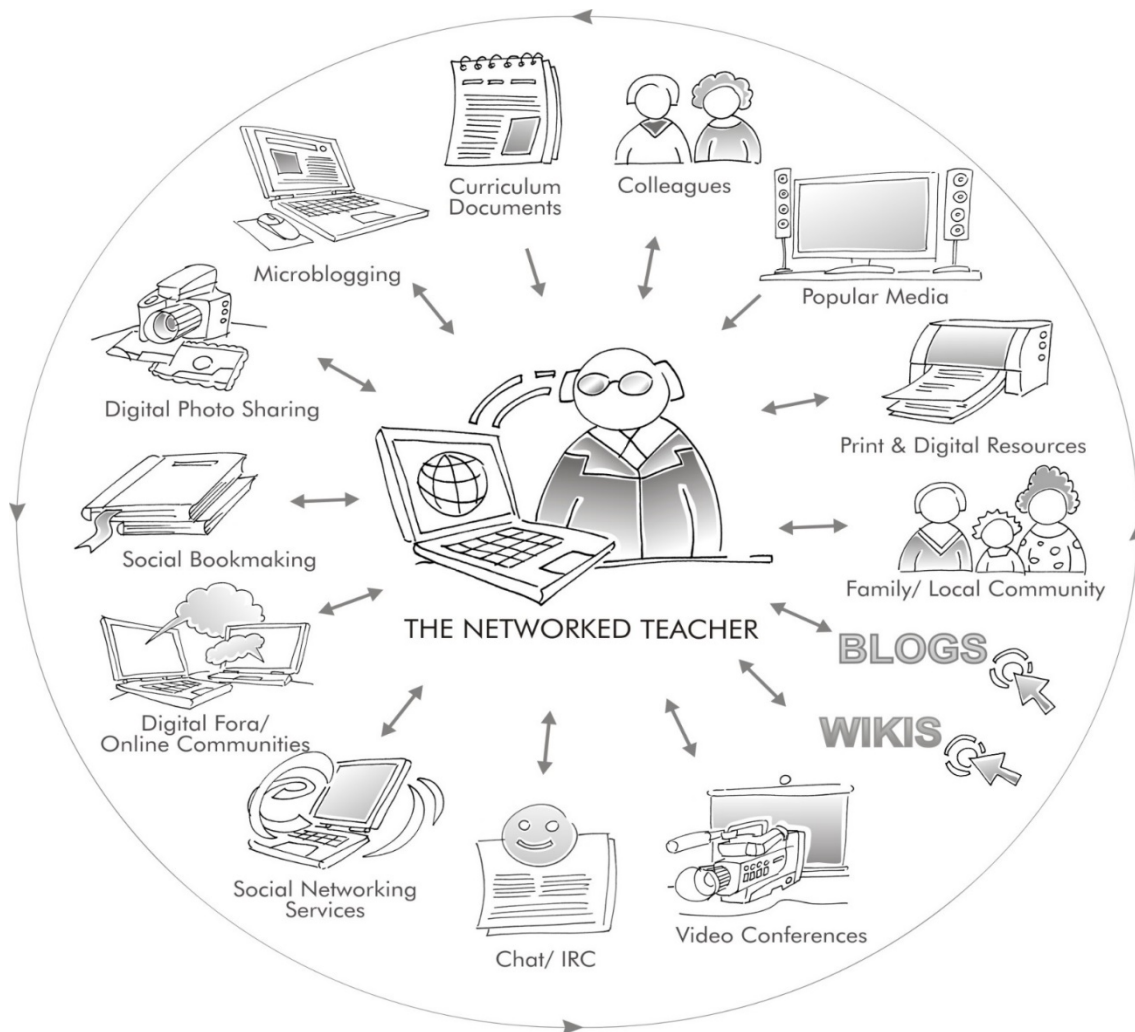
The emerging technologies with enhanced networking capabilities and personalization create opportunities for new mobile learning environments with phones, game consoles and MP3 players.

The convergence of digital media will enable developments such as pod-casts, digital TV and radio and interoperability across platforms.

New creative approaches, such as simulations, gaming, virtual reality and immersive environments, provide many opportunities for innovative tool and content developers

NETWORKED TEACHER

EACH DISCIPLINE,
CONCEPTS,
PROCESSES,
METHODS,
RESOURCES
AVAILABLE
ONLINE...



ICT CONFIRM THE ESSENTIAL AND CORE ROLE OF THE TEACHER:

to be the MEDIATOR between knowledge and the student

the human dimension of teaching supported and enhanced by technology

- to support,
- to assist,
- to encourage,
- to assess,
- to stimulate.

NEW CHALLENGES FOR TEACHERS

New competences for Teachers are necessary:

- 1) new pedagogical possibilities
- 2) new management of time and space
- 3) new knowledge
- 4) new networked form of knowledge

Common Principles:

- 1) a well-qualified profession
- 2) a profession placed within the context of LLL
- 3) a mobile profession
- 4) a profession based on partnerships

CHALLENGES TO NOWADAYS STUDENTS

Students require 16 skills for the 21st century

21st-Century Skills

Foundational Literacies

How students apply core skills to everyday tasks



1. Literacy



2. Numeracy



3. Scientific literacy



4. ICT literacy



5. Financial literacy



6. Cultural and civic literacy

Competencies

How students approach complex challenges



7. Critical thinking/ problem-solving



8. Creativity



9. Communication



10. Collaboration

Character Qualities

How students approach their changing environment



11. Curiosity



12. Initiative



13. Persistence/ grit



14. Adaptability



15. Leadership



16. Social and cultural awareness

Lifelong Learning

(2016) http://www3.weforum.org/docs/WEF_New_Vision_for_Education.pdf

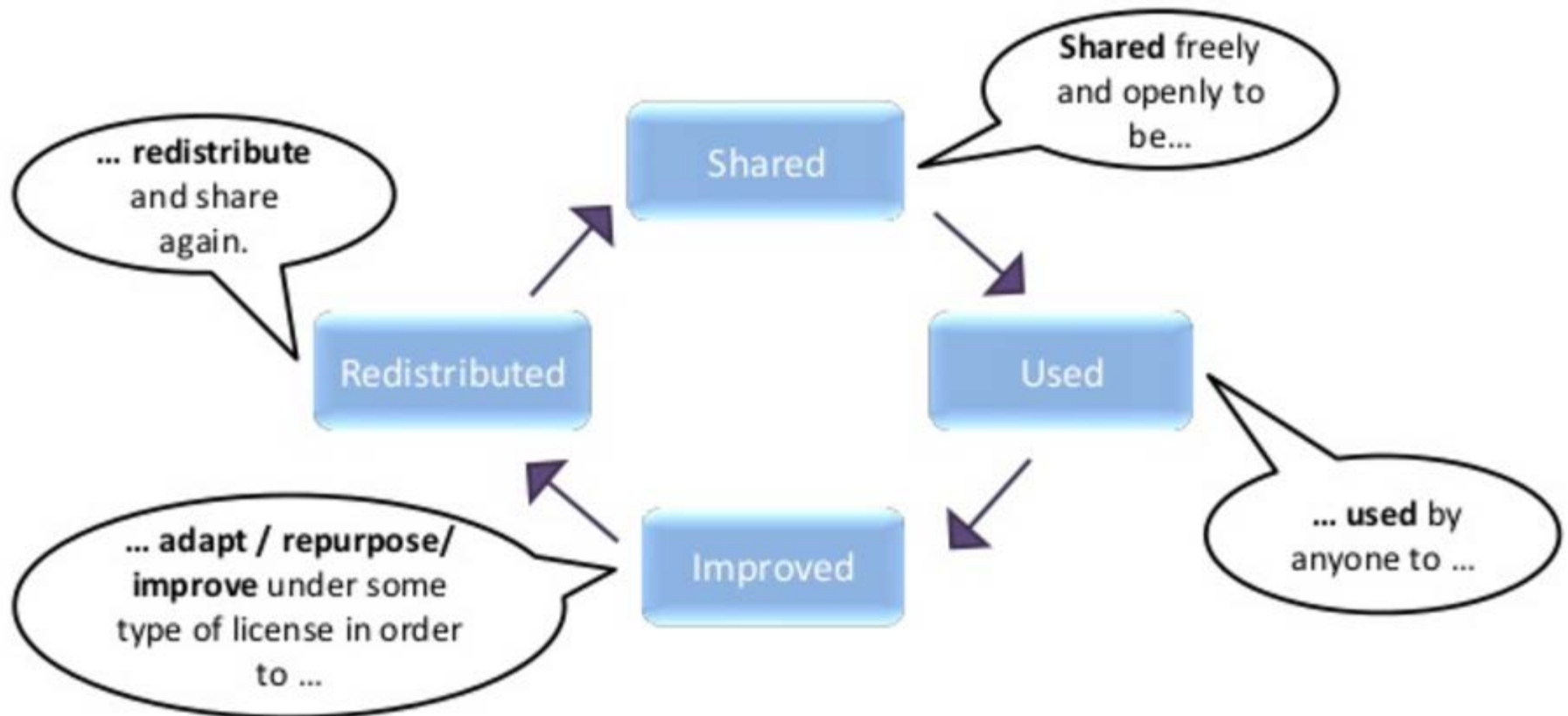
OPEN EDUCATION

OPEN AND ONLINE EDUCATION ARE SEEN AS INNOVATION DRIVERS HELPING TO IMPROVE EDUCATION AND/OR SEEN AS THE BASE FOR TRANSFORMATION OF OUR EDUCATIONAL SYSTEM.



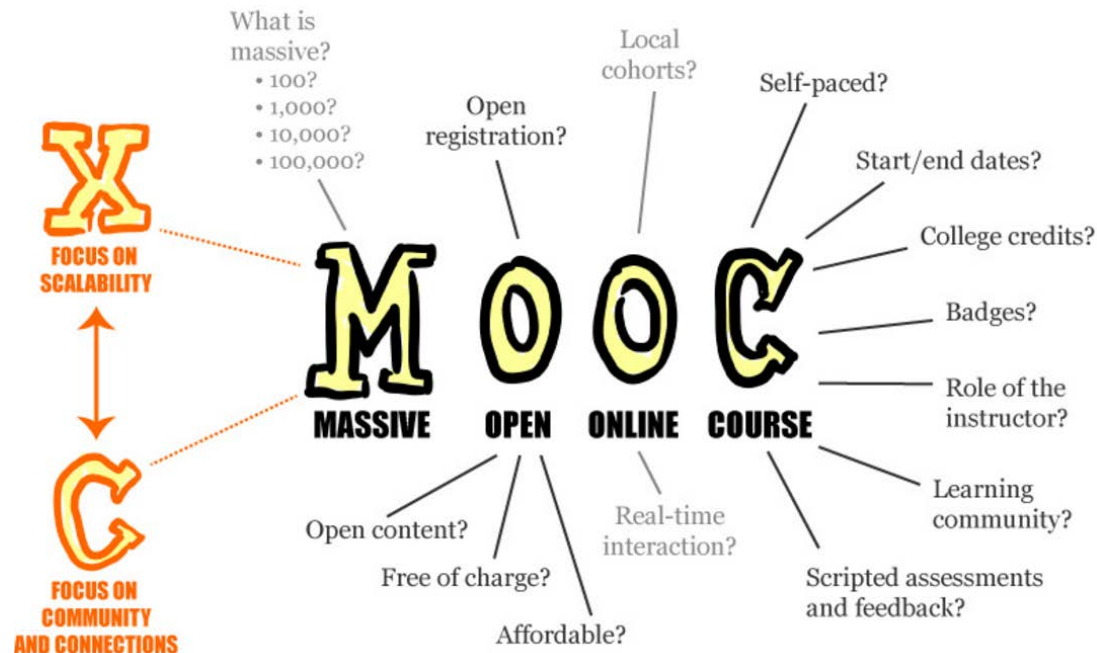
Open Educational Resources

Open Content / Open educational resources (OER) / Open Courseware are educational materials which are **discoverable** online and **openly licensed** that can be:



MOOCS GENERATION

MOOCS ARE ONLINE COURSES DESIGNED FOR **LARGE NUMBERS OF PARTICIPANTS**, THAT CAN BE **ACCESSED BY ANYONE ANYWHERE** AS LONG AS THEY HAVE AN INTERNET CONNECTION, ARE OPEN TO EVERYONE WITHOUT ENTRY QUALIFICATIONS, AND OFFER **A FULL/ COMPLETE COURSE EXPERIENCE ONLINE FOR FREE** (EADTU).



WHAT IS THE DIFFERENCE?

- Distance learning course?
 - MOOC?
1. Methods of delivery
 2. Activities
 3. Delivery process and support
 4. Massiveness

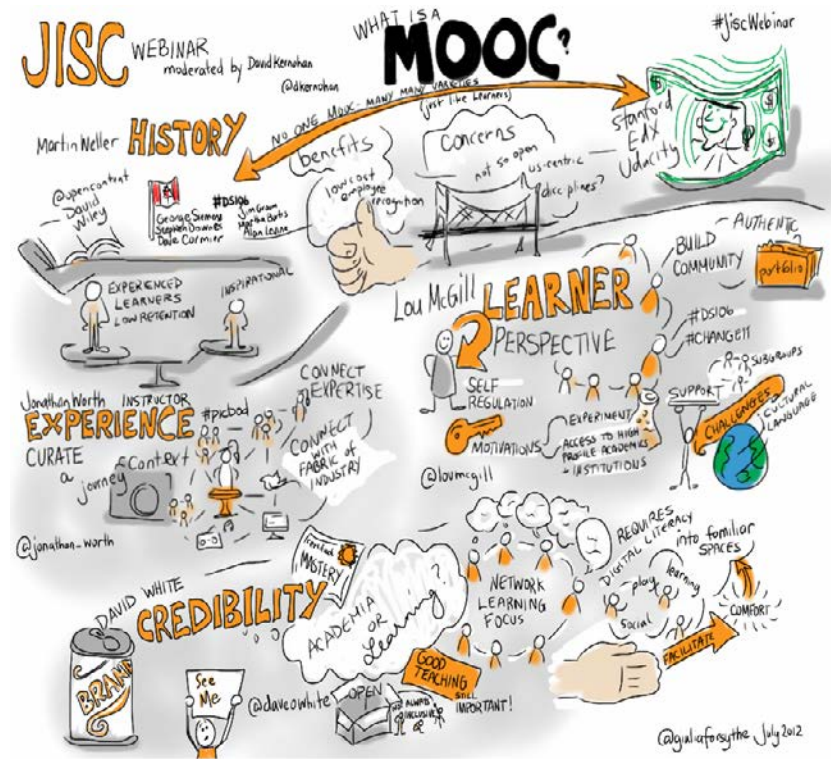


MOOCS FEATURES

1. 'Open': accessible by anyone anywhere, having an internet connection and free of charge
2. Online available
3. Course: unity with a duration of 5-10 weeks
4. Using a mix of media and offering a free learning community
5. cMOOCs: Learner centered (connectivism)
6. xMOOCs: Teacher centered
7. mMOOCs: mechanical MOOC or combination (no instructor)

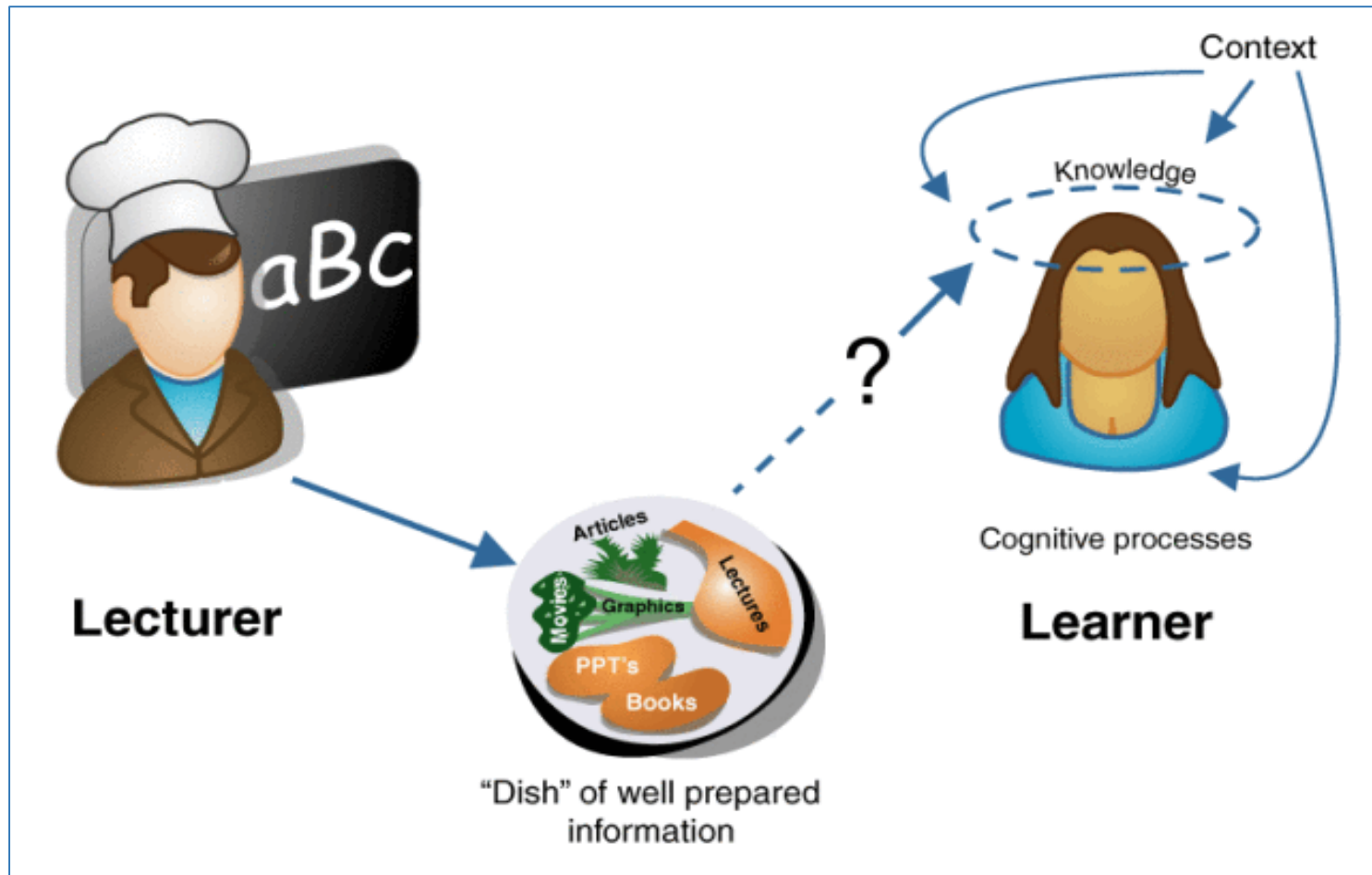
CHALLENGES FOR HE INSTITUTIONS

1. Increase of online education
2. Digital Openness
3. Open Educational Resources
4. Open Learning Services and MOOCs



TEACHER'S ROLE IN MOOCS?

- TO PREPARE AND TO SERVE THE INFORMATION FOR THE STUDENT BY USING DIFFERENT METHODS AND TECHNOLOGIES



Bloom's Digital Taxonomy

└ Key Terms

└ Creating

Designing, Constructing, Planning, Producing Inventing, Devising, Making, Programming, Filming, Animating, Blogging, Videoblogging, Mixing, Re-mixing, Wiki-ing, Publishing, Videocasting, Podcasting, Directing, Broadcasting

└ Evaluating

Checking, Hypothesising, Critiquing, Experimenting, Judging, Testing, Detecting, Monitoring, Blog commenting, Reviewing, Posting, Moderating, Collaborating, Networking, Refactoring, Testing

└ Analysing

Comparing, Organising, Deconstructing, Attributing, Outlining, Finding, Structuring, Integrating, Mashing, Linking, Validating, Reverse engineering, Cracking, Media clipping

└ Applying

Implementing, Carrying out, Using, Executing, Running, Loading, Playing, Operating, Hacking, Uploading, Sharing, Editing

└ Understanding

Interpreting, Summarising, Inferring, Paraphrasing, Classifying, Comparing, Explaining, Exemplifying, Advanced searches, Boolean searches, Blog journaling, Twittering, Categorising, Tagging, Commenting, Annotating, Subscribing

└ Remembering

Recognising, Listing, Describing, Identifying, Retrieving, Naming, Locating, Finding, Bullet pointing, Highlighting, Bookmarking, Social networking, Social bookmarking, Favouriting / local bookmarking, Searching, Googling

HOTS
higher order
thinkinhg skill

Communication Spectrum

Collaborating

Moderating

Negotiating

Debating

Commenting

Net meeting

Skyping video conferencing

Reviewing

Questioning

Replying

Posting & Blogging

Networking

Contributing

Chatting

E-mailing

Twittering / Microblogging

Instant

Messaging

Texting

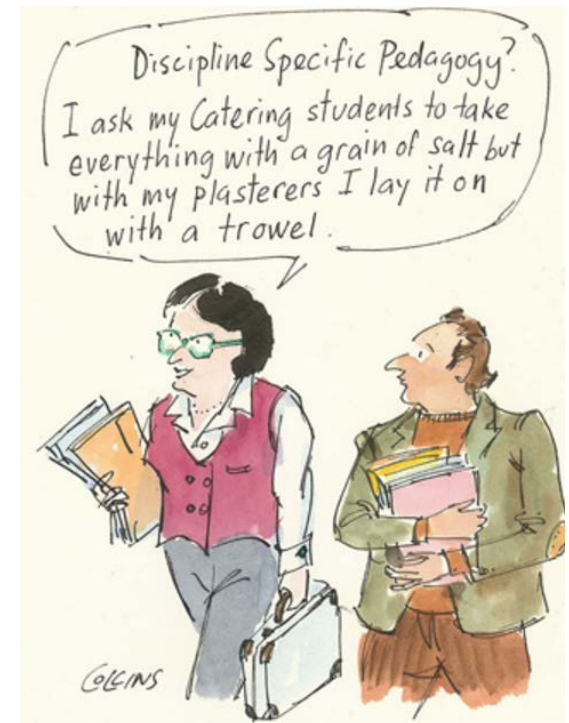
LOTS
lower order
thinkinhg skill

Bloom's Digital Taxonomy

<http://is.jrc.ec.europa.eu/pages/EAP/documents/201405JRC88304.pdf>

THE PEDAGOGICAL CHALLENGE

1. Do my students really learn, i.e. understand what I teach them?
2. Do they just learn things by heart, forgetting them the day after the test?
3. Do they use words they think I like to hear, even if they don't understand them?
4. What if I ask the test questions in half a year, will they be able to answer then?
5. Is the knowledge they gain of any use in real life outside the classroom?



WHAT IS THE ROLE OF TECHNOLOGIES?

Technologies offer many ways through **interaction with multimedia**, and through **communication and collaboration** with peers

Technologies can be used to **foster different pedagogical approaches**, which can be characterized as: associative, constructivist, situative and connectivist



CHALLENGES FOR TECHNOLOGIES

1. Selection of platform
2. Openness and reusability
3. The ways of modeling learning objects
4. Semantical possibilities for LO reusability and accessibility



LO ROLE IN ICT BASED CONTENT MODERNIZATION

Learning Objects (LOs) have become an important resource for boosting the restructuring of pedagogical practices, including the use of communication, information and interaction in educational settings

Learning is effectively supported when students are given the essential tools in an open-ended environment and required to personally and collaboratively construct understanding and knowledge

THANK YOU FOR ATTENTION

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