

MOOC in a school environment: ODL project

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"Today, young people need a broader set of competences to find fulfilling jobs and become independent, engaged citizens who contribute to society. Education and training have a crucial role in enabling young people to develop these competences, giving them the best possible start in life."

Tibor Navracsics

Commissioner for Education, Culture, Youth and Sport

DATA

70 million Europeans lack sufficient reading, writing and numeracy skills

40% of the EU population lack a sufficient level of digital skills

40% of European employers have difficulty in finding people with the right skills to foster growth and innovation



Students with 21 century skills

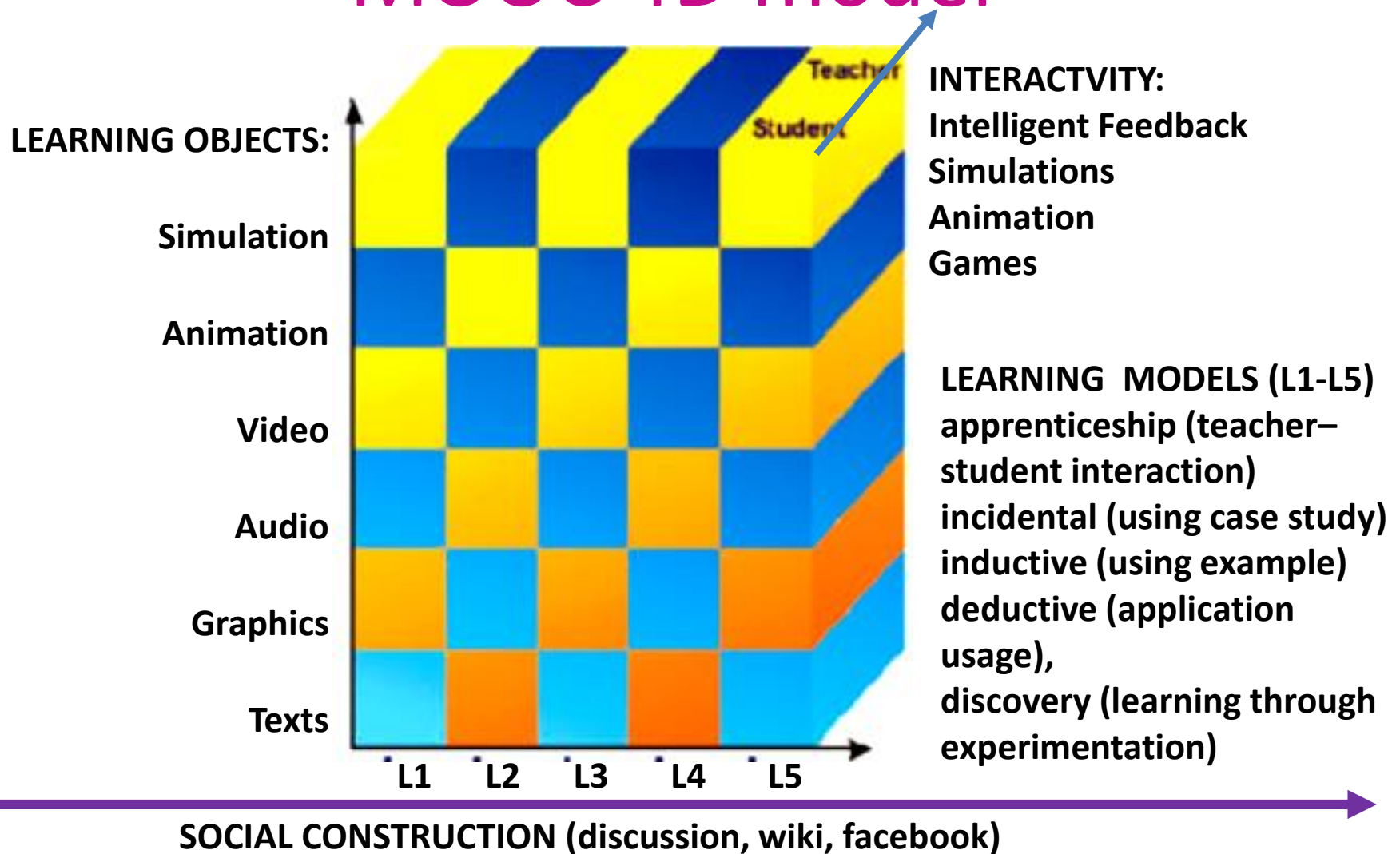
ODL project

Main task:

- to introduce the use of MOOCs in school curricula
- in conjunction with the STEM laboratories (online and hands-on).

MOOC 4D model

Nish Sonwalkar (2013)

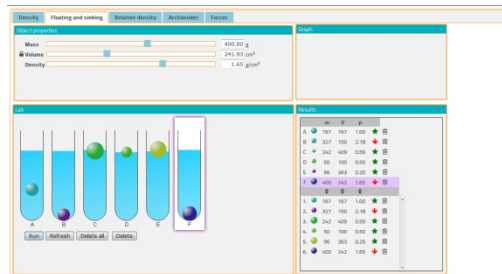


ODL: micro-MOOC

Content-load, time consuming and classroom activity



microMOOC
+



micro-MOOC: structure

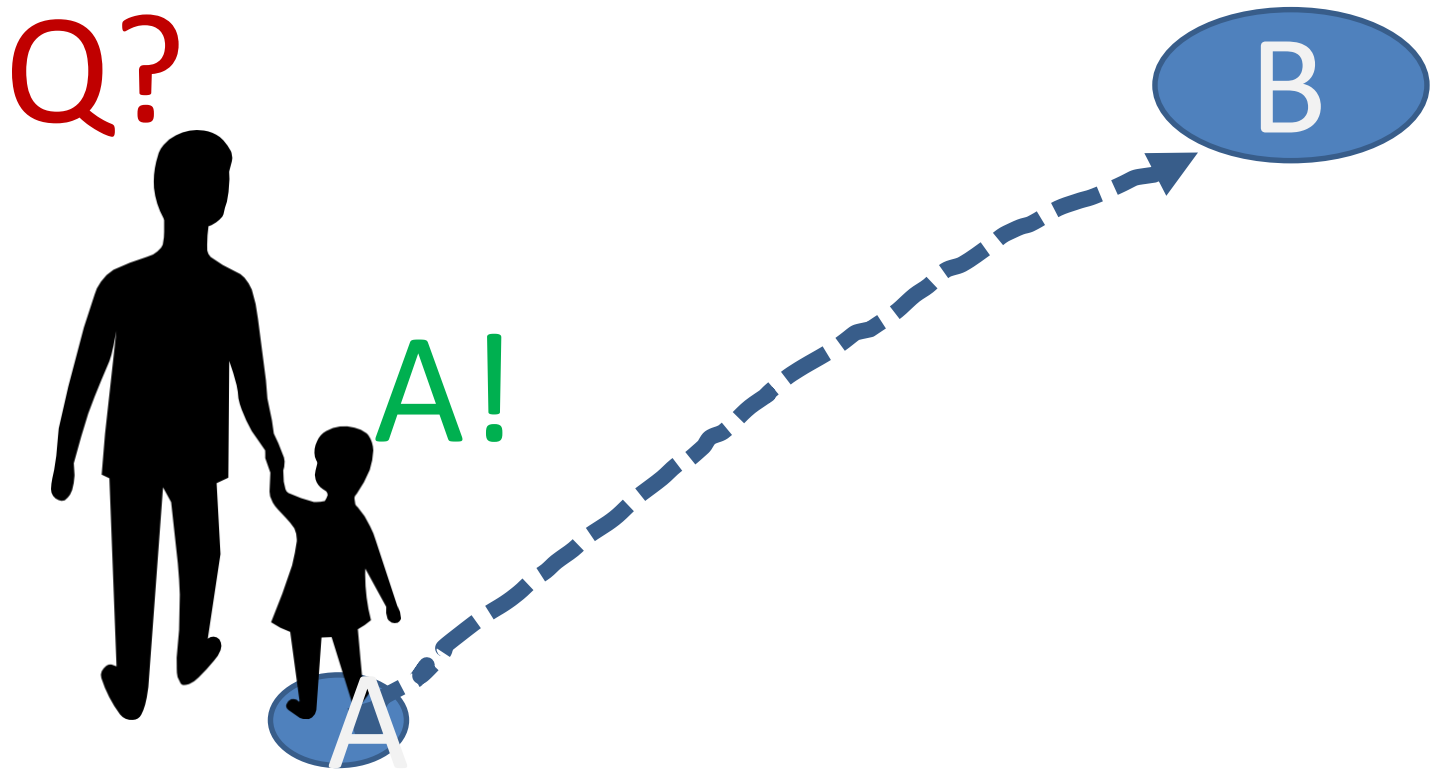
- Intro (text or short video) – info about the topic of the study, or discussion topic, what will be assignment
- Lectures (usually, set of videos)
- Readings (suggested literature, wikipedia, pages from study book, provided copies from other books)
- Assignment (could be video/audio instruction): work on the forum

micro-MOOC: structure

- Evaluation:
 - Self-evaluation
 - Peer-evaluation
 - Teacher evaluation
 - Learning Analytics
- Usually self- and peer- evaluation uses

micro-MOOC: INQUIRY

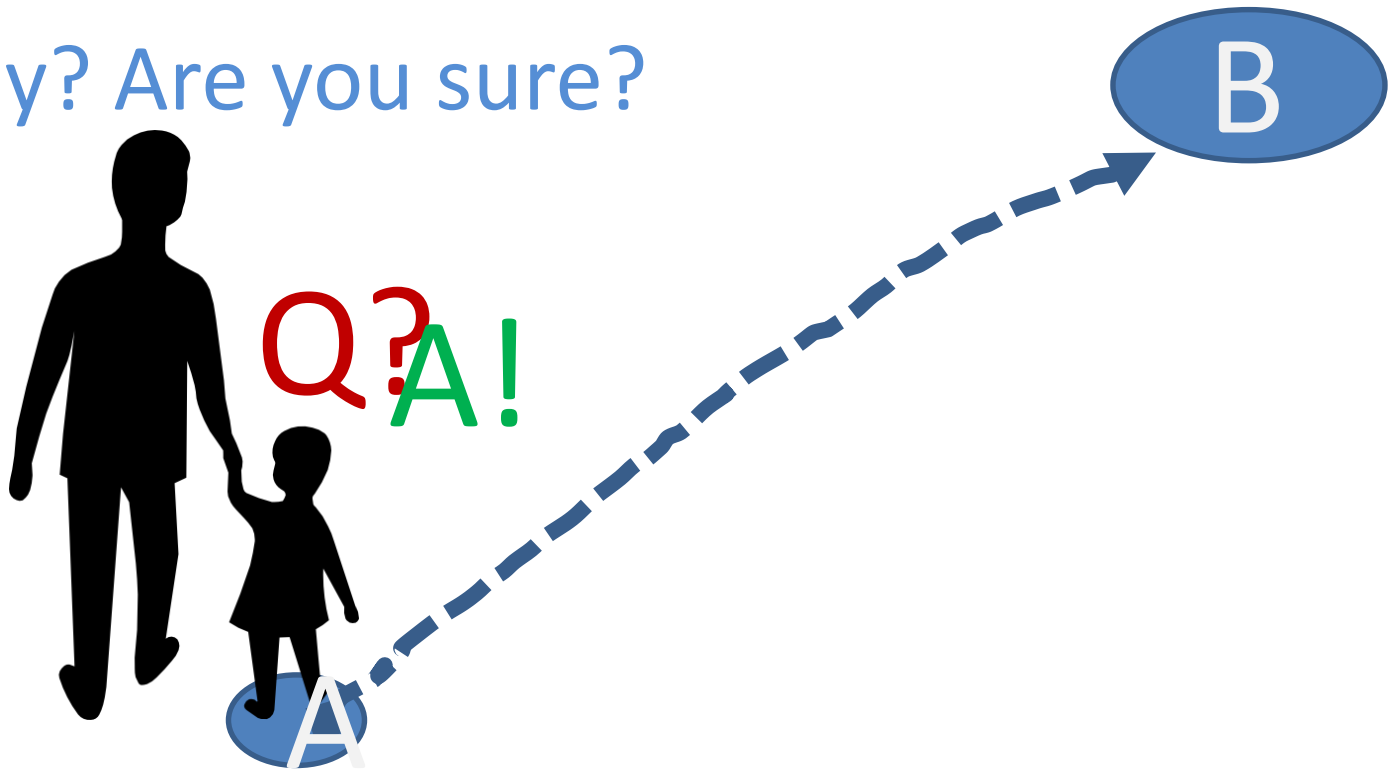
- Inquiry traditional



micro-MOOC: INQUIRY

- Structured or guided inquiry approach

Really? Are you sure?



micro-MOOC: INQUIRY

- Open inquiry approach



Inquiry method

Orientation
Conceptualization
Investigation
Conclusion
Discussion

ENGAGE
EXPLORE
EXPLAIN
EXTEND
EVALUATE



Ton de Jong *et al*

Rodger W. **Bybee**

Inquiry method

- Ton de Jong *at el*: <http://www.golabz.eu/>

GO-LAB

Search

Online Labs Apps Inquiry Spaces Big Ideas Support About Forum

GO-LAB

Experience Inquiry Learning with Go-Lab

Enrich your class with exciting scientific experiments.
Teach your students inquiry methods with online labs and apps.

Space

Lab

App

IF density

next lab



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International Conference on
Remote Engineering and Virtual Instrumentation
15-17 March 2017, Columbia University New York, USA

micro-MOOC: “Light Pollution”

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Help dziabe

Studio Home

+ New Course + New

Create a New Course

Course Name *

e.g. Introduction to Computer Science

The public display name for your course. This cannot be changed, but you can set a different display name in Advanced Settings later.

Organization *

e.g. UniversityX or OrganizationX

The name of the organization sponsoring the course. Note: This is part of your course URL, so no spaces or special characters are allowed. This cannot be changed, but you can set a different display name in Advanced Settings later.

Course Number *

e.g. CS101

The unique number that identifies your course within your organization. Note: This is part of your course URL, so no spaces or special characters are allowed and it cannot be changed.

Course Run *

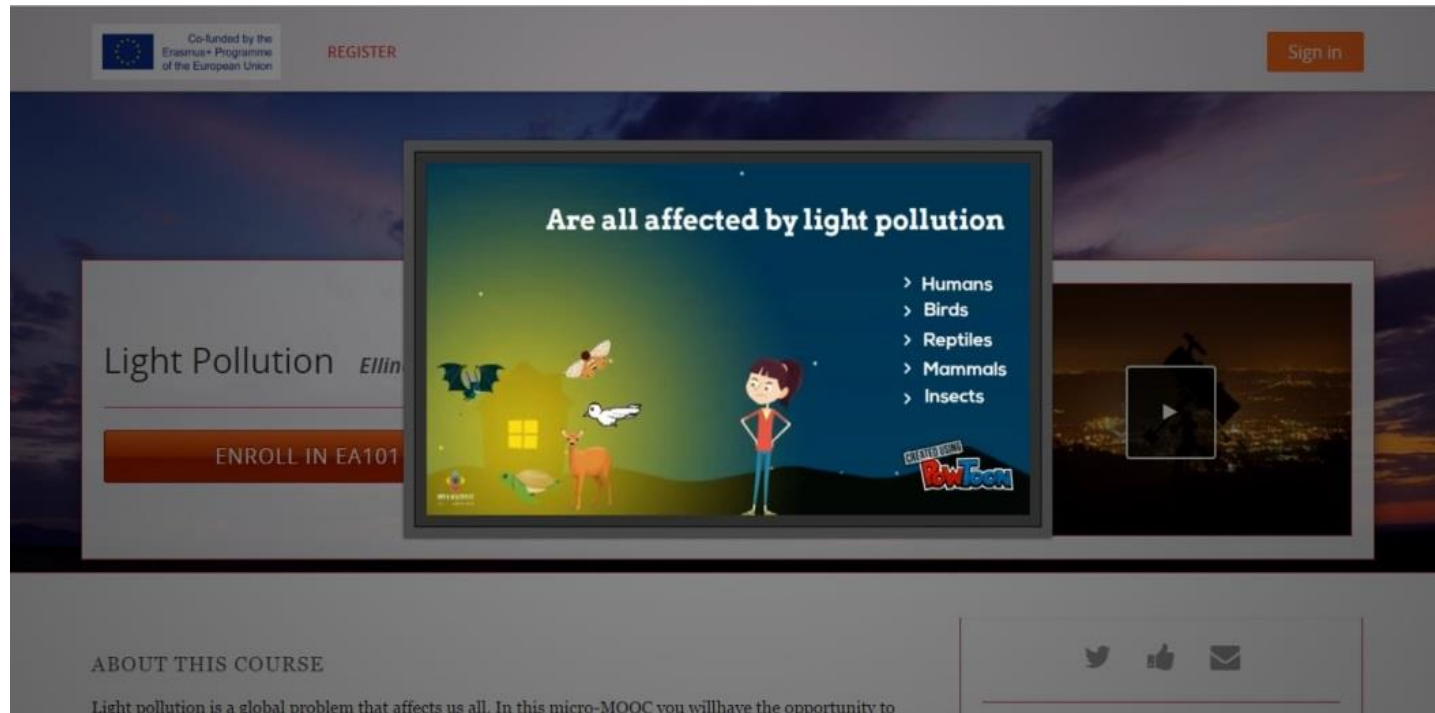
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<http://moospace.odl.deusto.es/>

micro-MOOC: “Light Pollution”



“Light pollution is a global problem that affects us all. In this micro-MOOC you will have the opportunity to learn more about light pollution and its impact on the planet”

micro-MOOC: “Light Pollution”

The screenshot shows a web interface for a micro-MOOC. At the top, there is a navigation bar with links: Home, Course, Discussion, Wiki, Progress, and Instructor. Below this, a sidebar on the left contains a 'Bookmarks' section and a list of topics: Introduction, ENGAGE, The Earth from the sky, The sky from the Earth (highlighted), Light Pollution in the cities, Sources of light pollution, and Examples of light pollution. Below the sidebar, there are sections for EXPLORE, EXPLAIN, EXTEND, and EVALUATE. The main content area on the right shows the breadcrumb 'ENGAGE > The sky from the Earth > The sky from the Earth'. It includes a 'VIEW UNIT IN STUDIO' button and a 'Bookmark' button. The text reads: 'When looking at the Earth from space, we can see all the continents, the oceans, clouds, storms and many more things. One of the most impressive ones is the light coming from the cities. Coming down to Earth now and looking at the night sky, what do we see?'. Below the text is a large image of a city at night with a 'needless' logo in the bottom right corner.

micro-MOOC: basic requirements

- affective engagement of the students;
- harmonize learning process for students with different knowledge and interest;
- generating curiosity and leading to questions;
- a cognitive conflict;
- scientific investigation and explanation within the competence of the students involved;
- creating scientific knowledge;
- requiring the students to use inquiry skills to explain the involved phenomena;
- limiting time of use (1–2 lessons for the presentation and applying of remote/virtual labs

Future action

- Impact of the methodology in the classroom:



THANK YOU!



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