Integrating OER in formal education

Image CC BY girlingearstudio

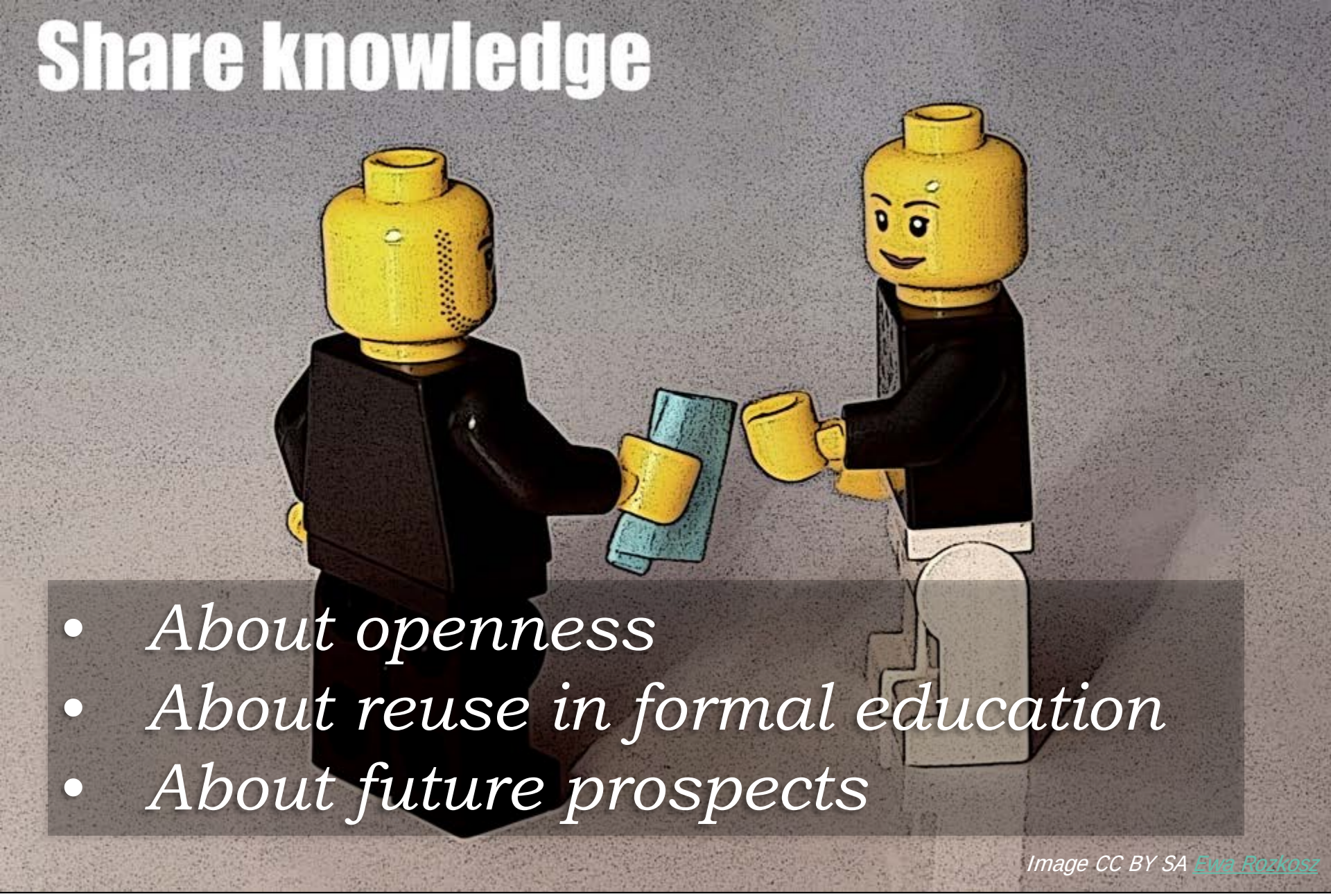
Welcome!

Martijn Ouwehand MSC

TU Delft

Open Education team

OpenCourseWare
Online Distance Education



- *About openness*
- *About reuse in formal education*
- *About future prospects*

Open Educational Resources

OCW CONSORTIUM

edX

5R

Retain **Reuse** **Revise**

Remix **Redistribute**

http://www.opencontent.org/definition/

Open Educational Resources

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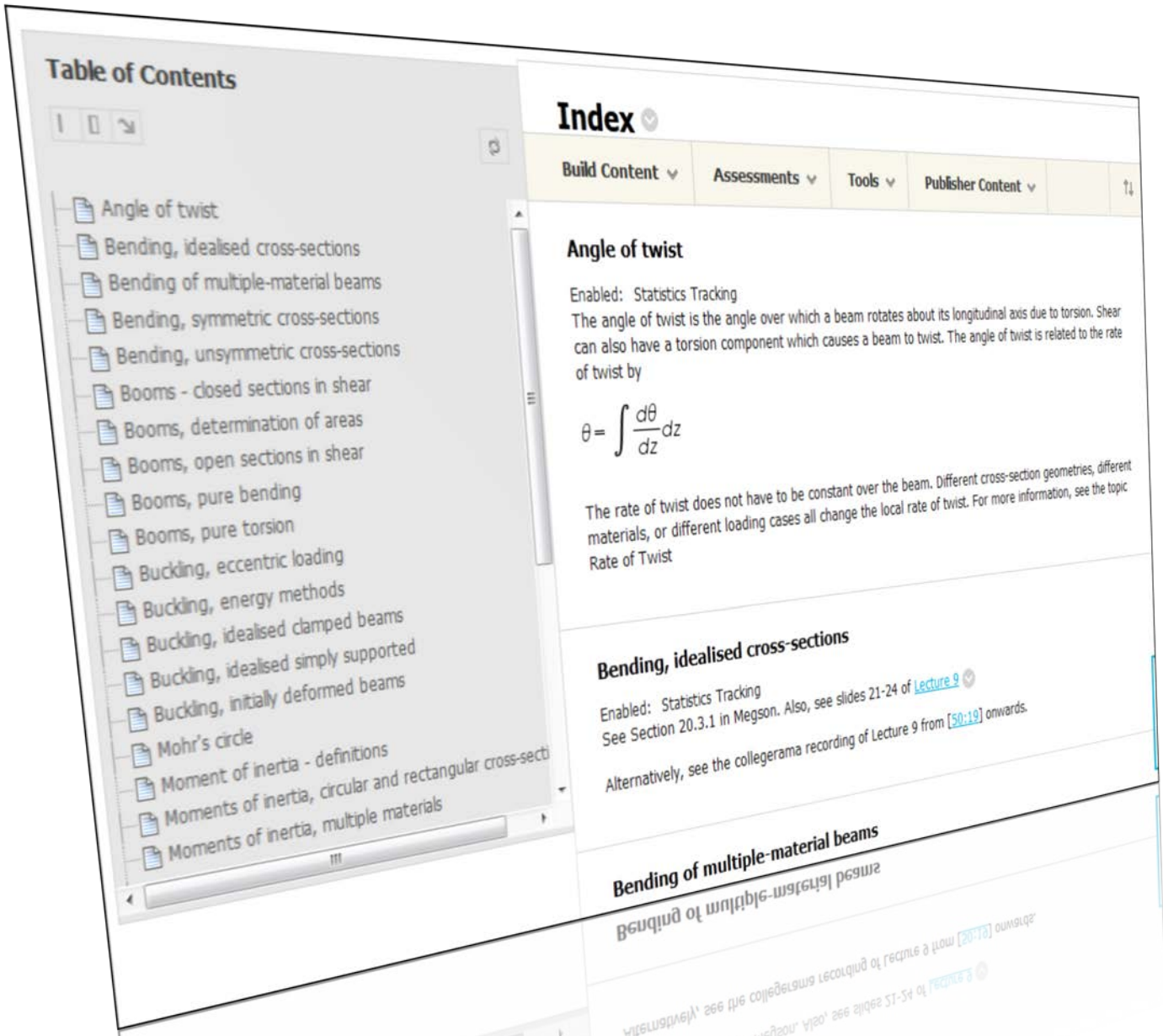
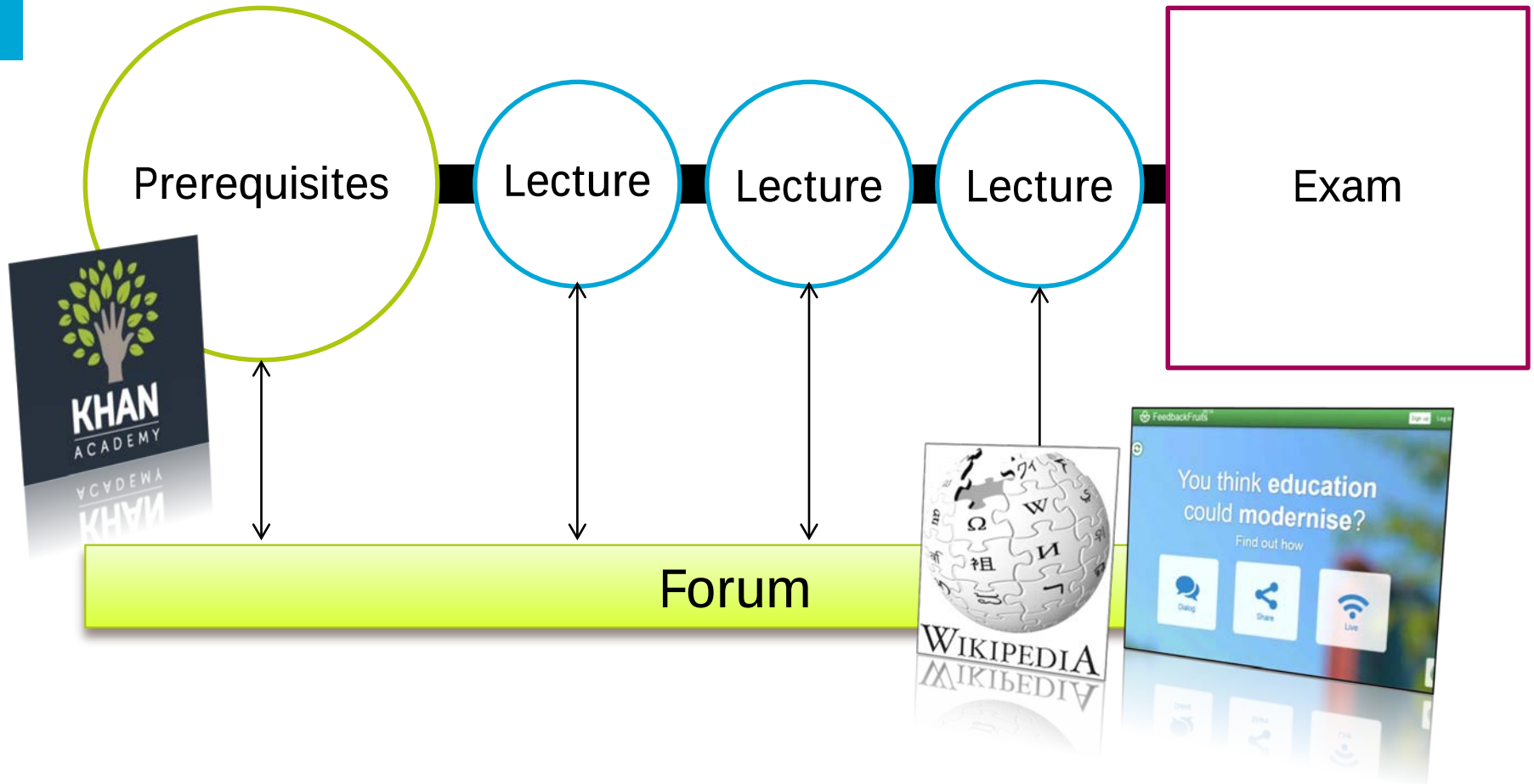
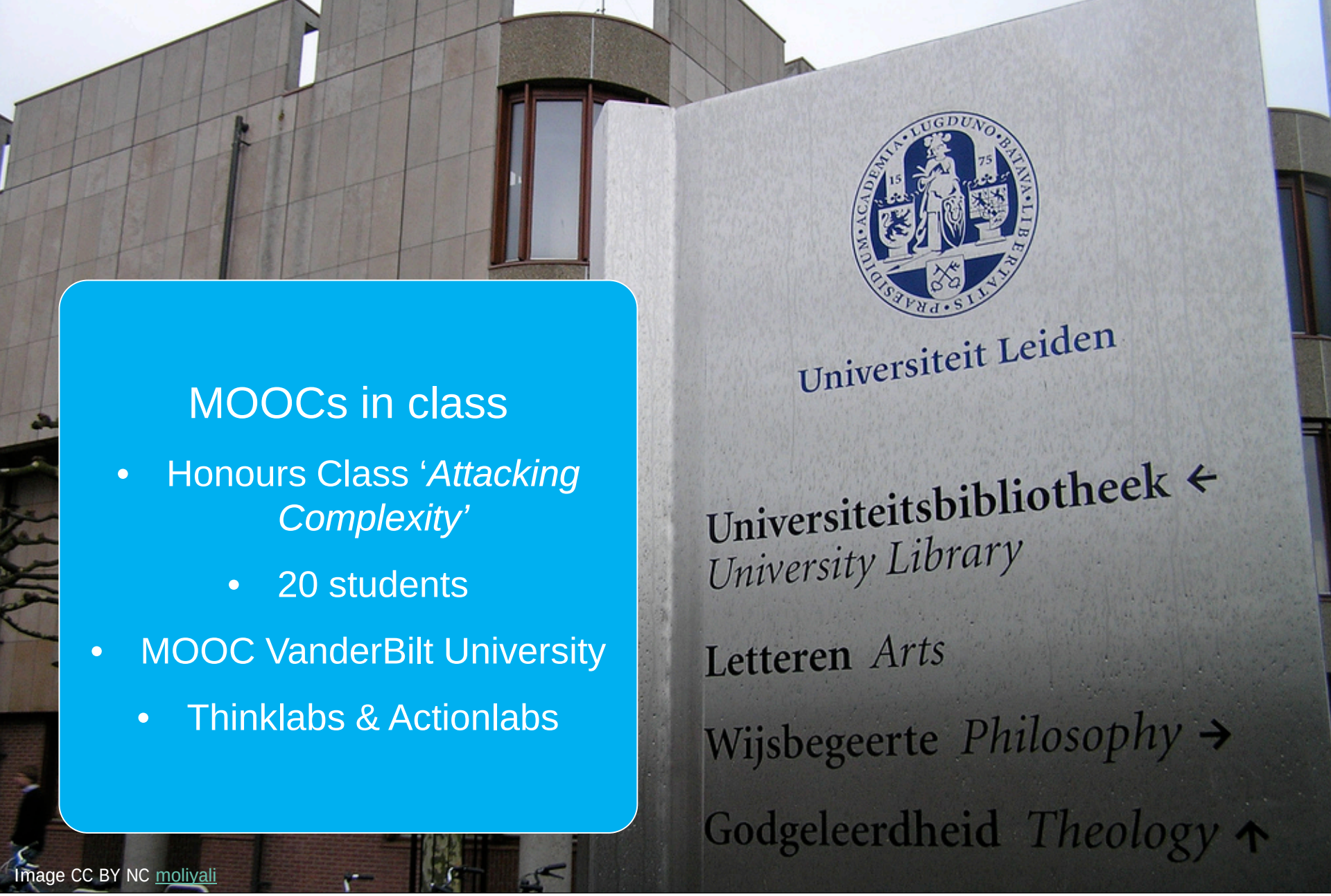
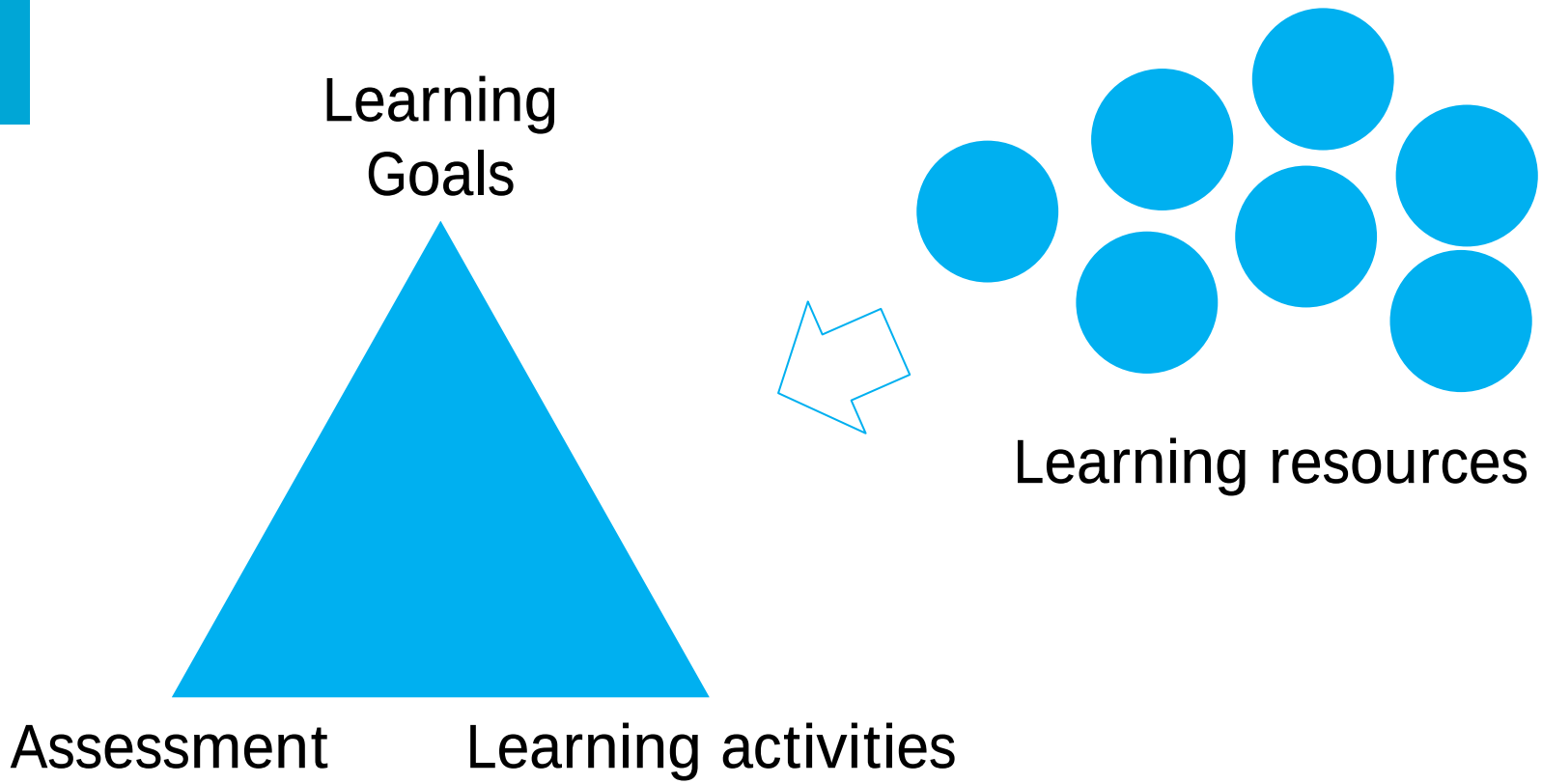


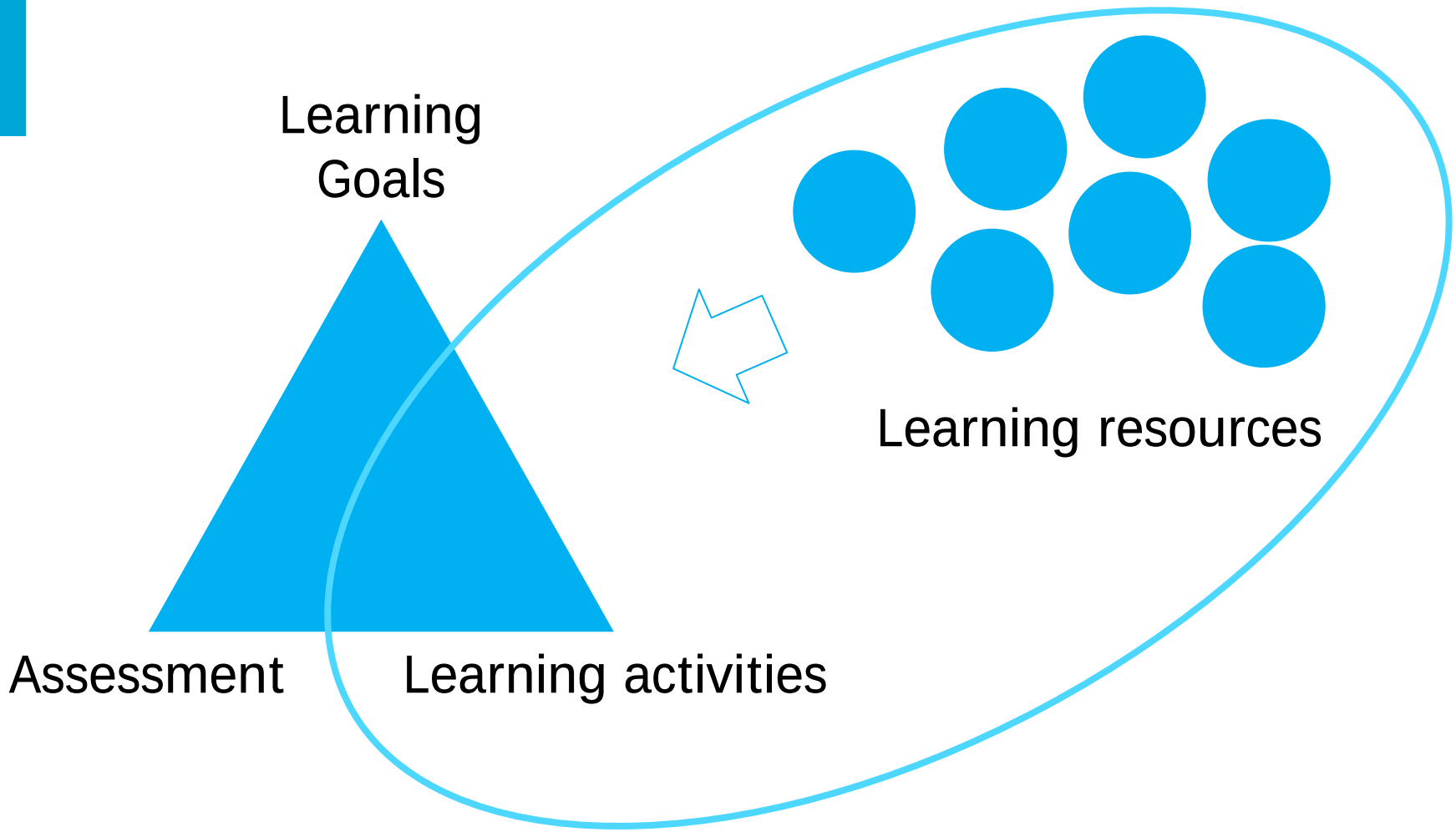

Prerequisites
Lecture
Lecture
Lecture
Exam
KHAN ACADEMY
Forum
WIKIPEDIA
You think education could modernise?
Find out how



MOOCs in class

- Honours Class '*Attacking Complexity*'
  - 20 students
- MOOC VanderBilt University
  - Thinklabs & Actionlabs


Learning
Goals
Assessment
Learning activities
Learning resources


Learning
Goals
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Assessment
Learning activities

Flip/blend/reverse/…

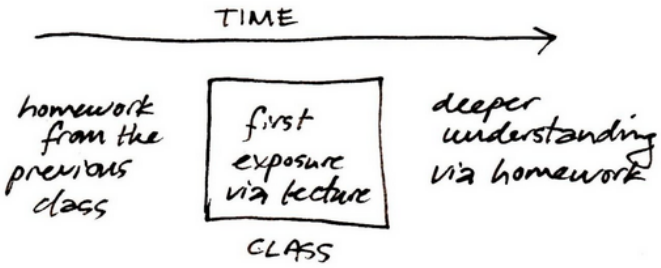
Reversed Teaching
Prof. Mr. Dr. Ir. Sicco Santema
TU Delft

Youtube Fridays
Prof. Matthew W. Liberatore, Prof. Charles Vestal
Colorado School of Mines

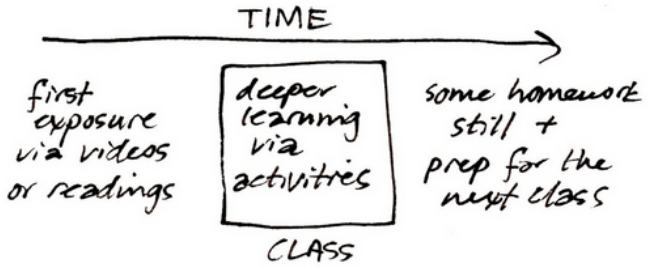
Peer Instruction
Prof. Eric Mazur
Harvard

Flipped Classroom Field Guide

Traditional Classroom:



Flipped Classroom:



Maya Adam flipped report

University: Stanford
Class: Child health and nutrition
Strategies: Applications, Extensions, Experiential learning
Size: 85 students

Dan Boneh's flipped report

University: Stanford
Class: Cryptography
Strategies: Sequence of questions, Applications
Size: 150 students

Doug Fisher's flipped report

University: Vanderbilt
Class: Machine Learning, Databases
Strategies: Student-generated content, Small group problem solving, Applications
Size: 10 students, 30 students

Scott Klemmer flipped report

Name: Scott Klemmer
University: Stanford
Class: Human-Computer Interaction
Strategies: Small group problem solving, Experiential learning
Size: 250 students

Dan McFarland flipped report

University: Stanford
Class: Organizational Theory
Strategies: Experiential learning, Applications
Size: 44 students

Mohamed Noor flipped report

University: Duke
Class: Genetics and Evolution
Strategies: Just-in-time teaching, Packet of problems, Sequence of questions, Small group problem solving
Size: 450 students

Scott Rixner/Joe Warren flipped report

University: Stanford
Class: Introduction to Python
Strategies: Extensions, Small group problem solving, Peer feedback, Applications
Size: 70 students

Kristin Sainani flipped report

University: Stanford
Class: Writing in the Sciences
Strategies: Collaborative Learning Activities Peer feedback, Discussion activities
Size: 12 students

Adrienne Williams flipped report

University: UCI
Class: Introductory Biology
Strategies: Applications, Extensions, Just-in-time teaching, Small group problem solving
Size: 75 students

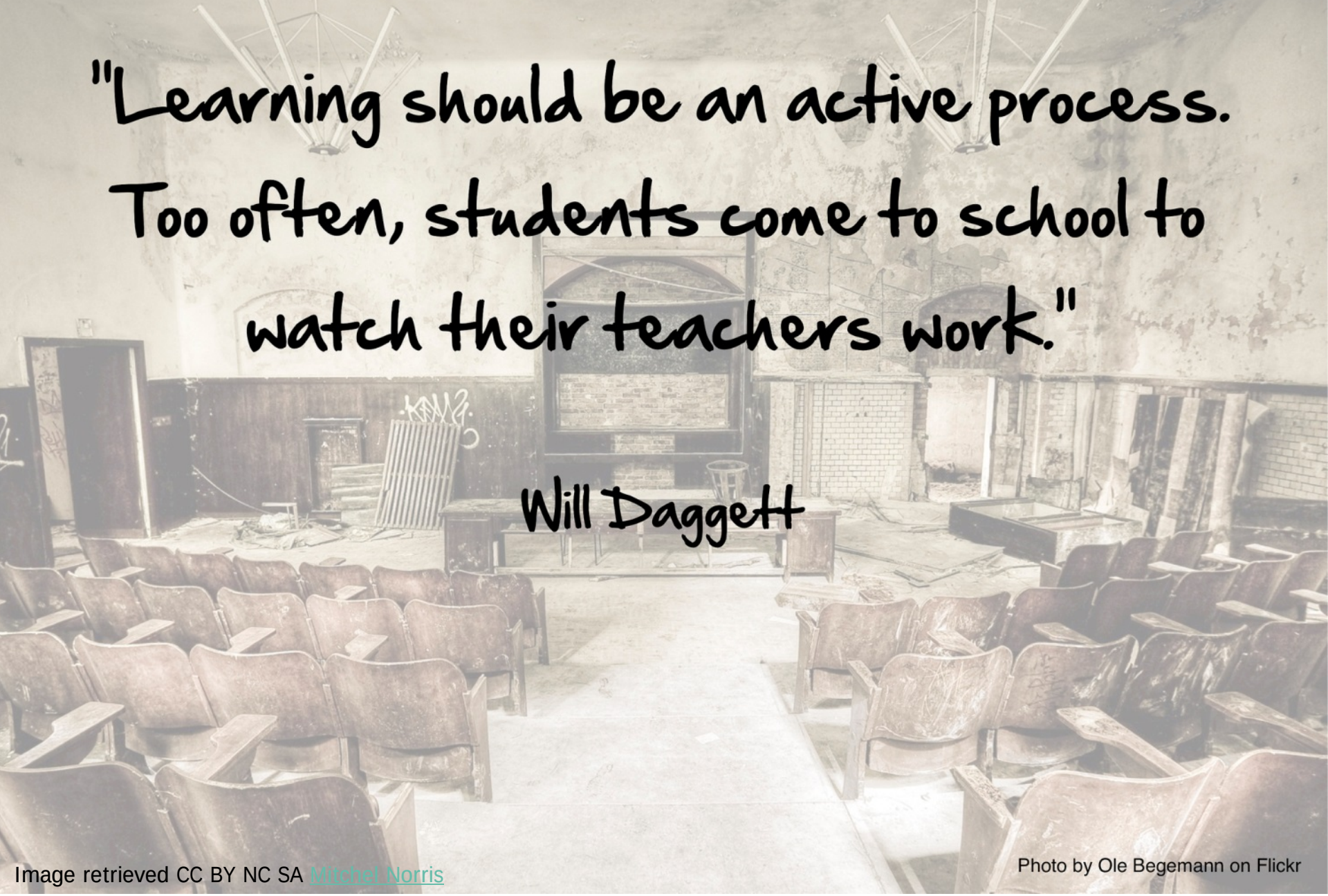
Philip Zelikow flipped report

University: UVA
Class: Global History
Strategies: Applications, Discussion activities
Size: 76 students

Steve Everett flipped report

Larry Diamond flipped report

Flipped Classroom Field Guide



"What if we treat content as a byproduct of learning" and focus instead on the experience - @Gsiemens #opened13

@Audrey Watters, 06-1-13 17:51

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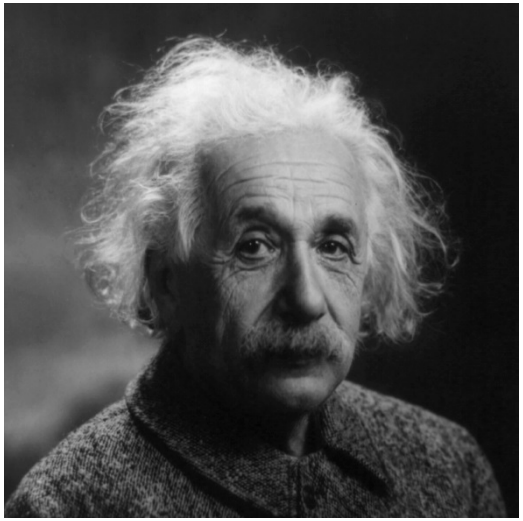
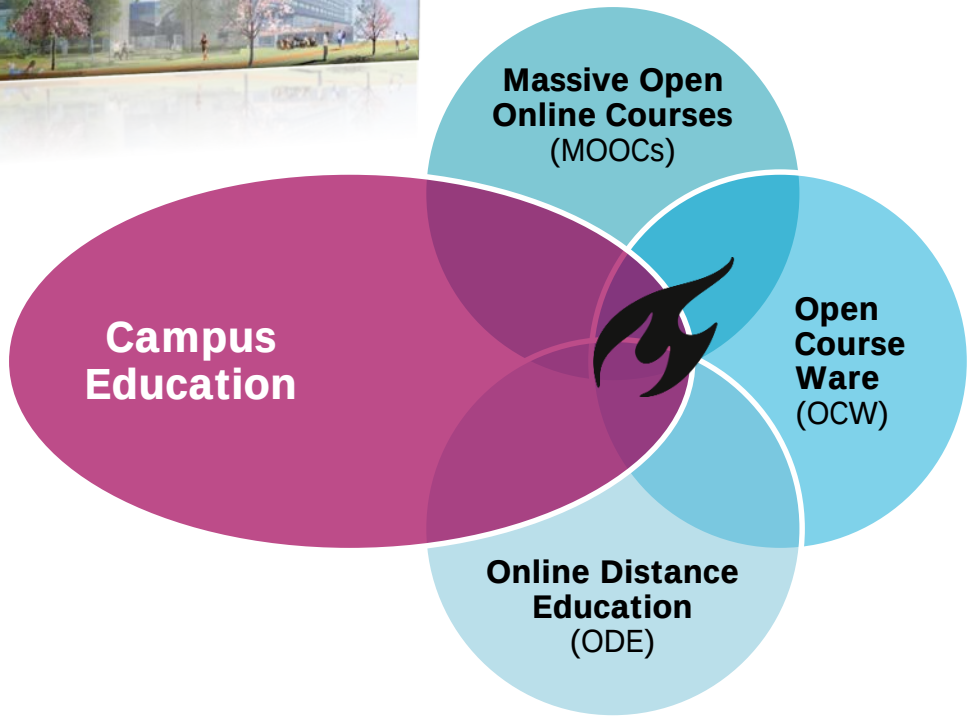


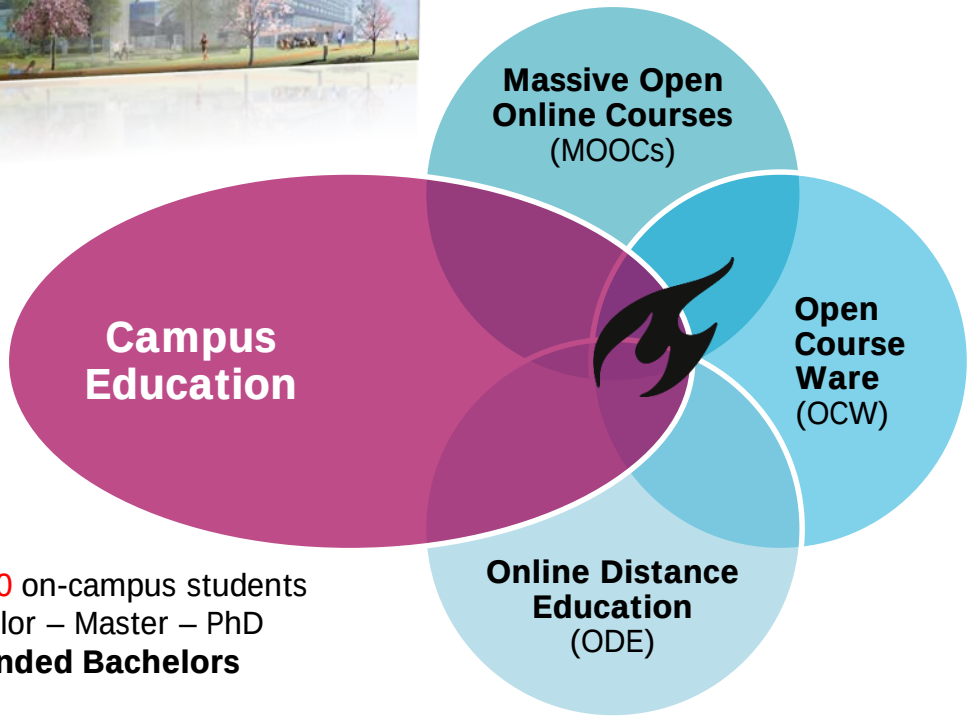
"Education is not the learning of facts, but the training of the mind to think"

Albert Einstein

Open & Online portfolio

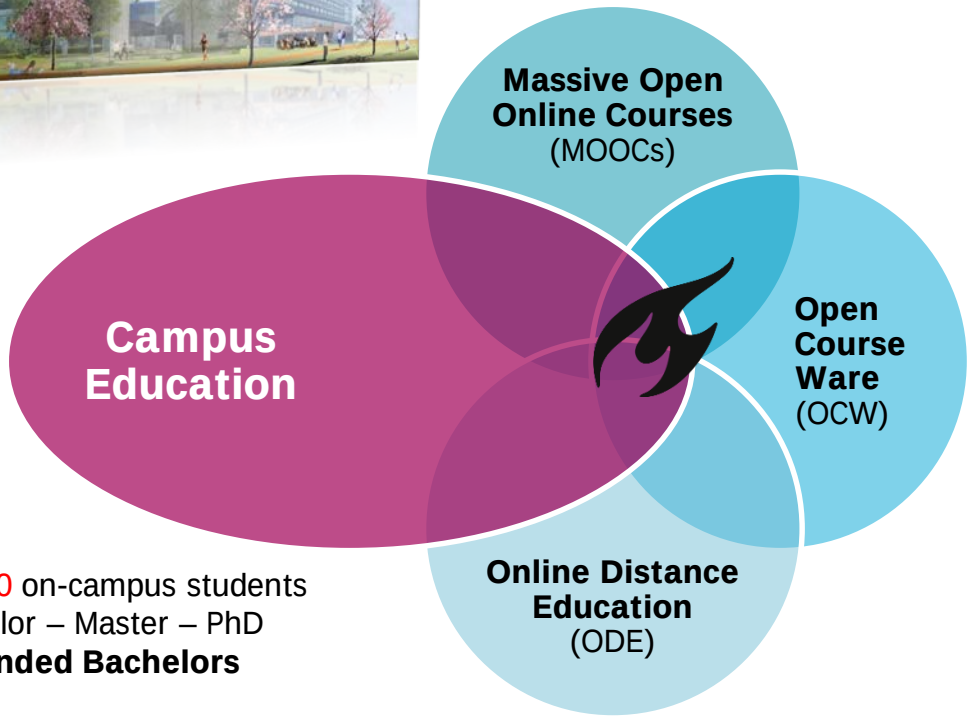


Open & Online portfolio



- 19.000 on-campus students
- Bachelor – Master – PhD
- **2 blended Bachelors**

Open & Online portfolio



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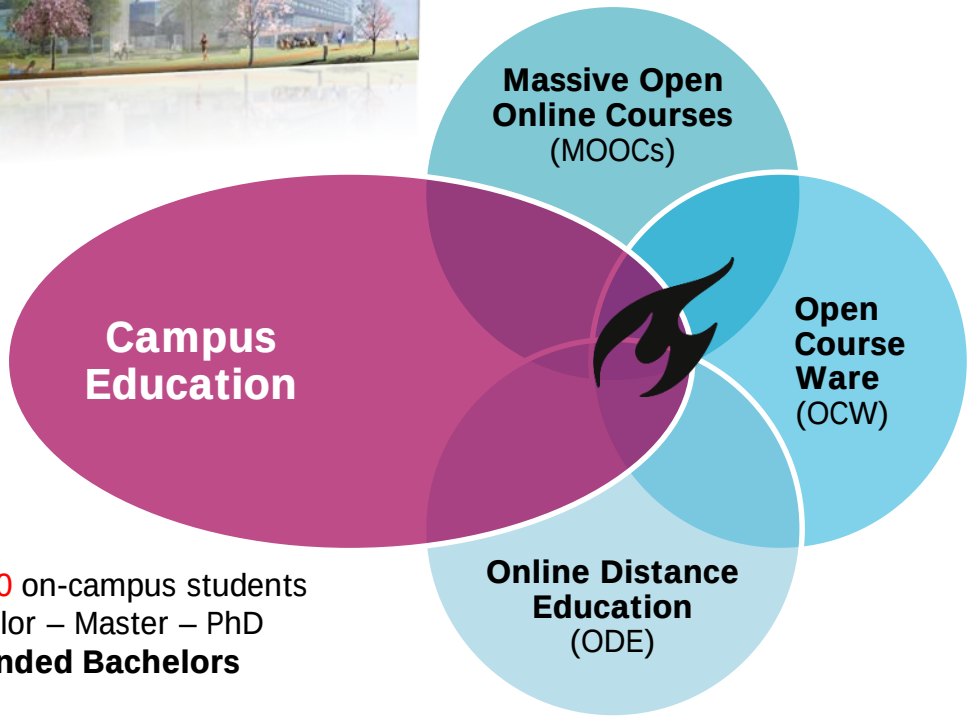
- **More than 120 courses online & 10.000 weblectures recorded**
- Unique visitors > 800 /day
- *No interaction with faculty*
- *No accredited certificate*

Open & Online portfolio

- **2 MOOCs** (> 80.000 enrollments)
- **≈ 5.000 Certificates of Completion**
- **3 MOOCs starting**
- *No Credits*



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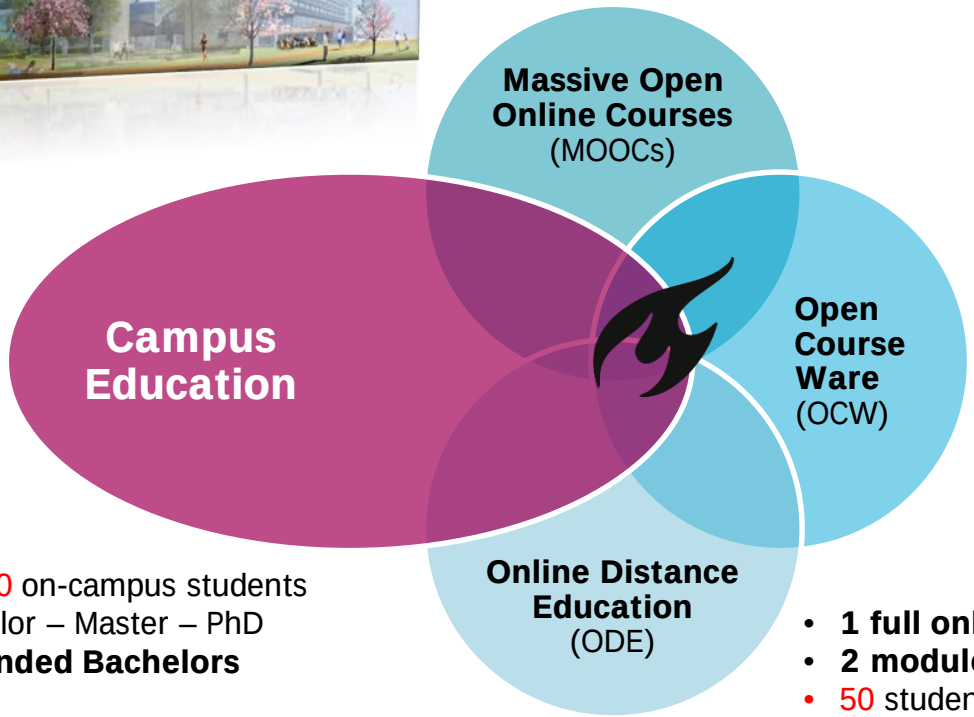

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- Bachelor – Master – PhD
- **2 blended Bachelors**

- **1 full online master (25 courses)**
- **2 modules, 1 minor, 1 master (6 courses)**
- 50 students (30 on-campus)
- Full Master Degree / Accredited Course Certificate

MOOC

- Open Access
- Bachelor level
- Single course
- No EC
- Certificate of Completion

Course

- Pay per course
- Bachelor and master
- Single Course
- <10 EC
- Course Certificate

Serie

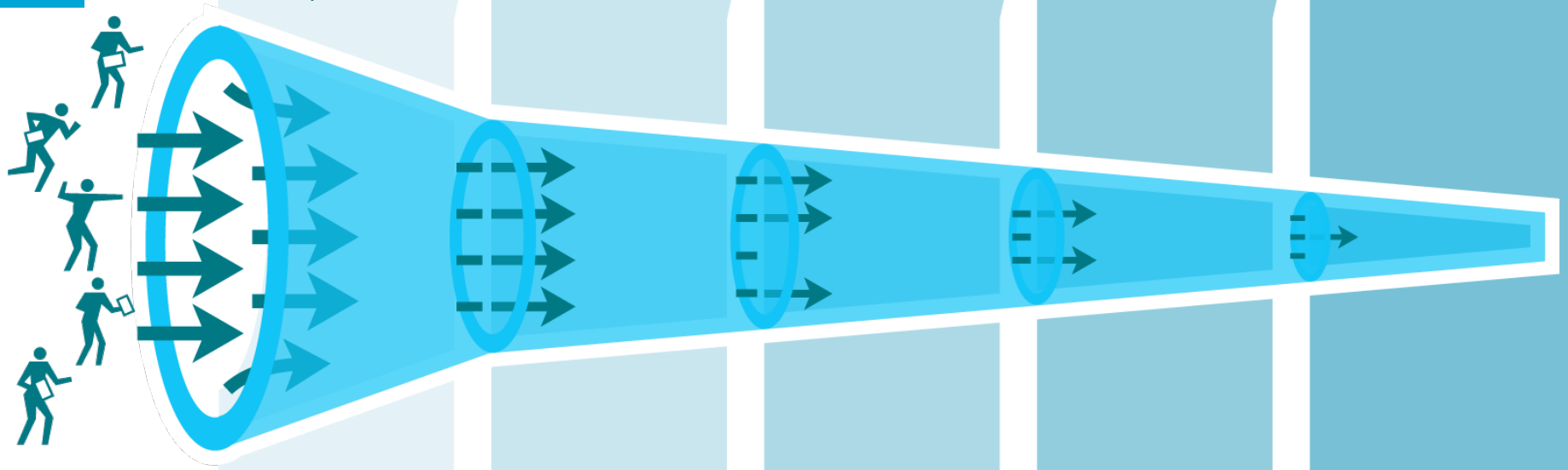
- Pay per course
- Bachelor and Master
- Couple of courses
- 10 -15 EC
- Formal Certificate

Module

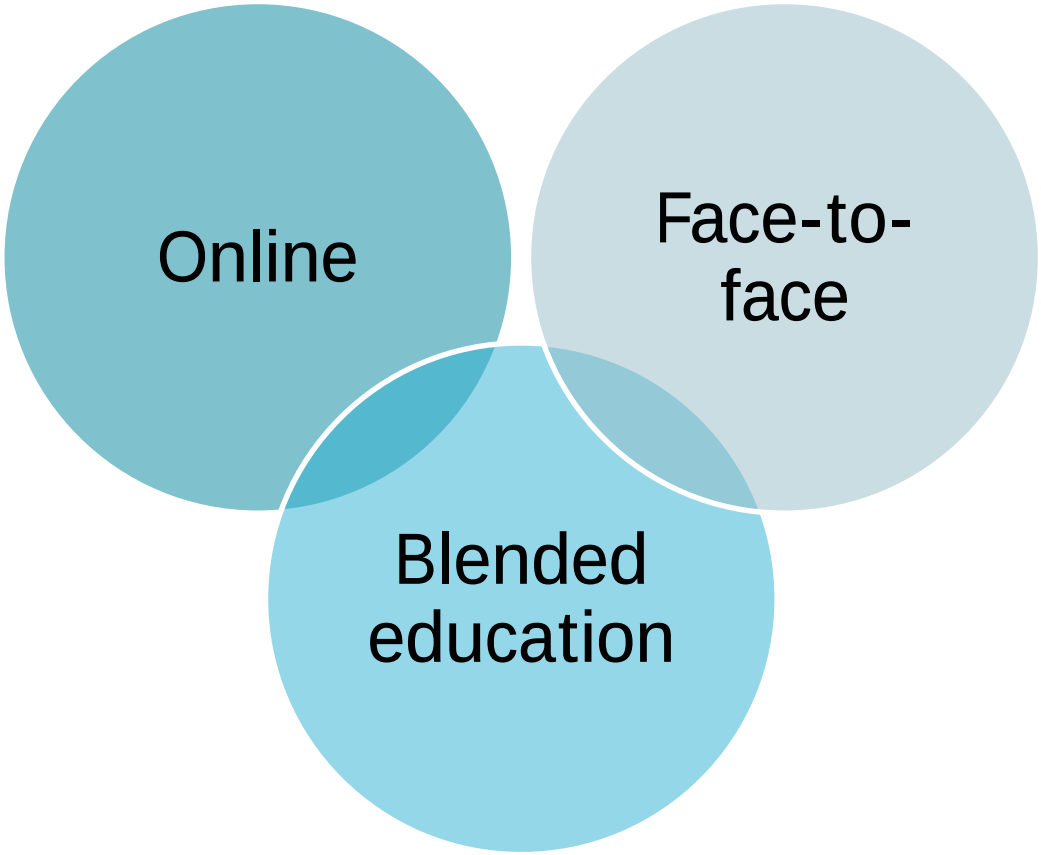
- Pay per course
- Bachelor & Master
- Couple of courses/series
- 30 EC
- Formal Diploma

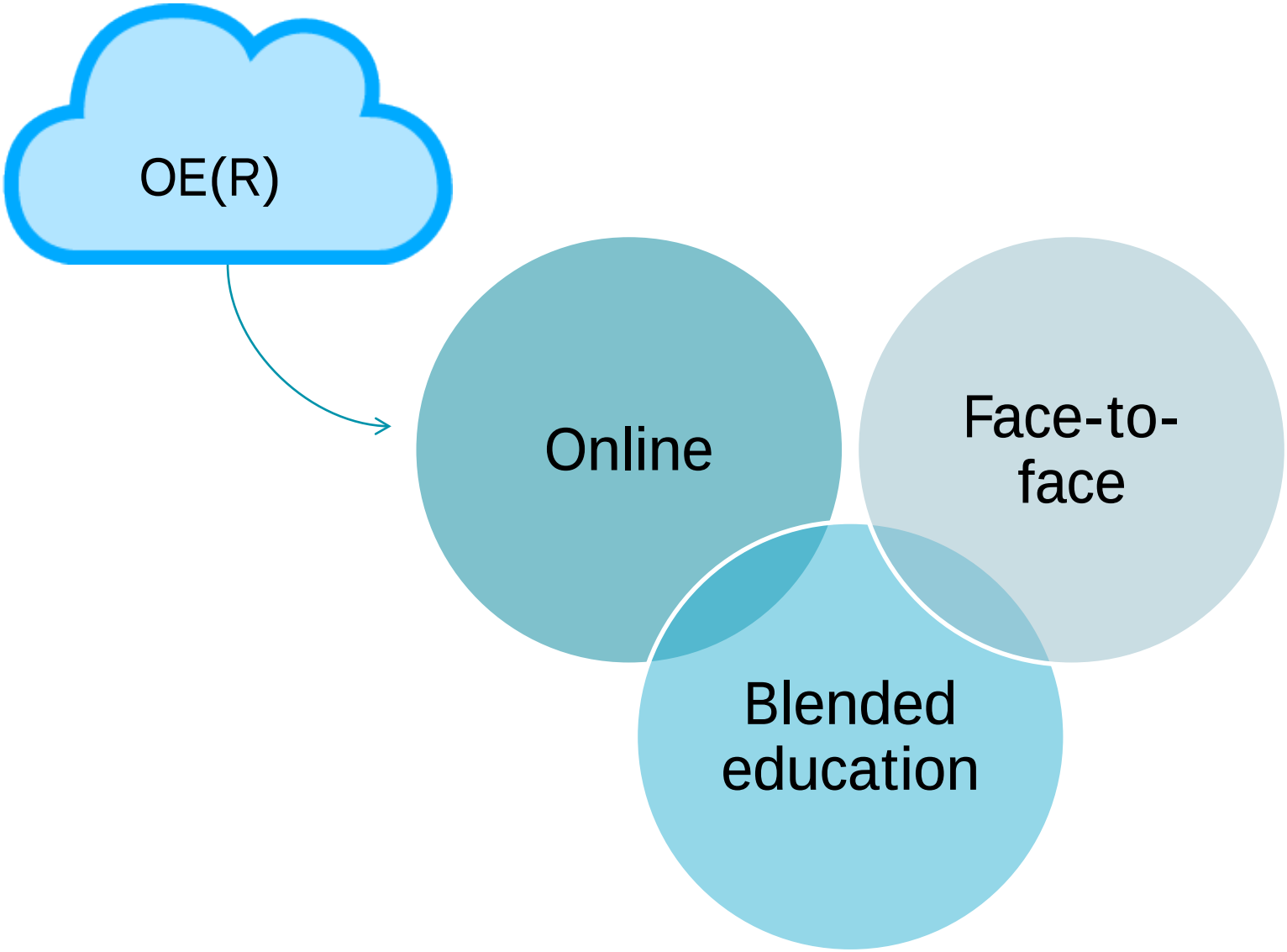
Programme

- Pay per course
- Master
- Couple of courses/series/modules
- > 60 EC
- Formal Master

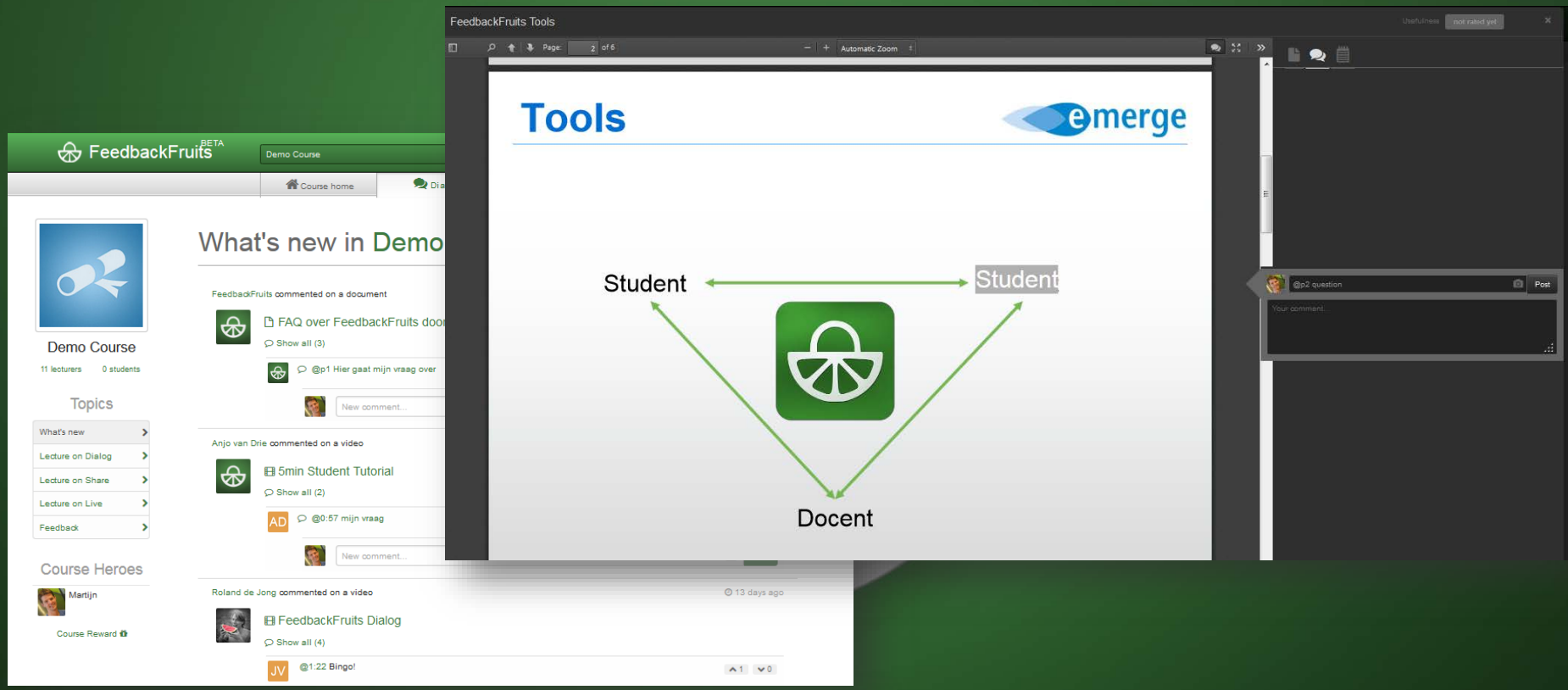


BLENDED





FeedbackFruits



FeedbackFruits

Openness in formal education

Activate students

What I'm thinking…

OER enable new ways of teaching and learning.

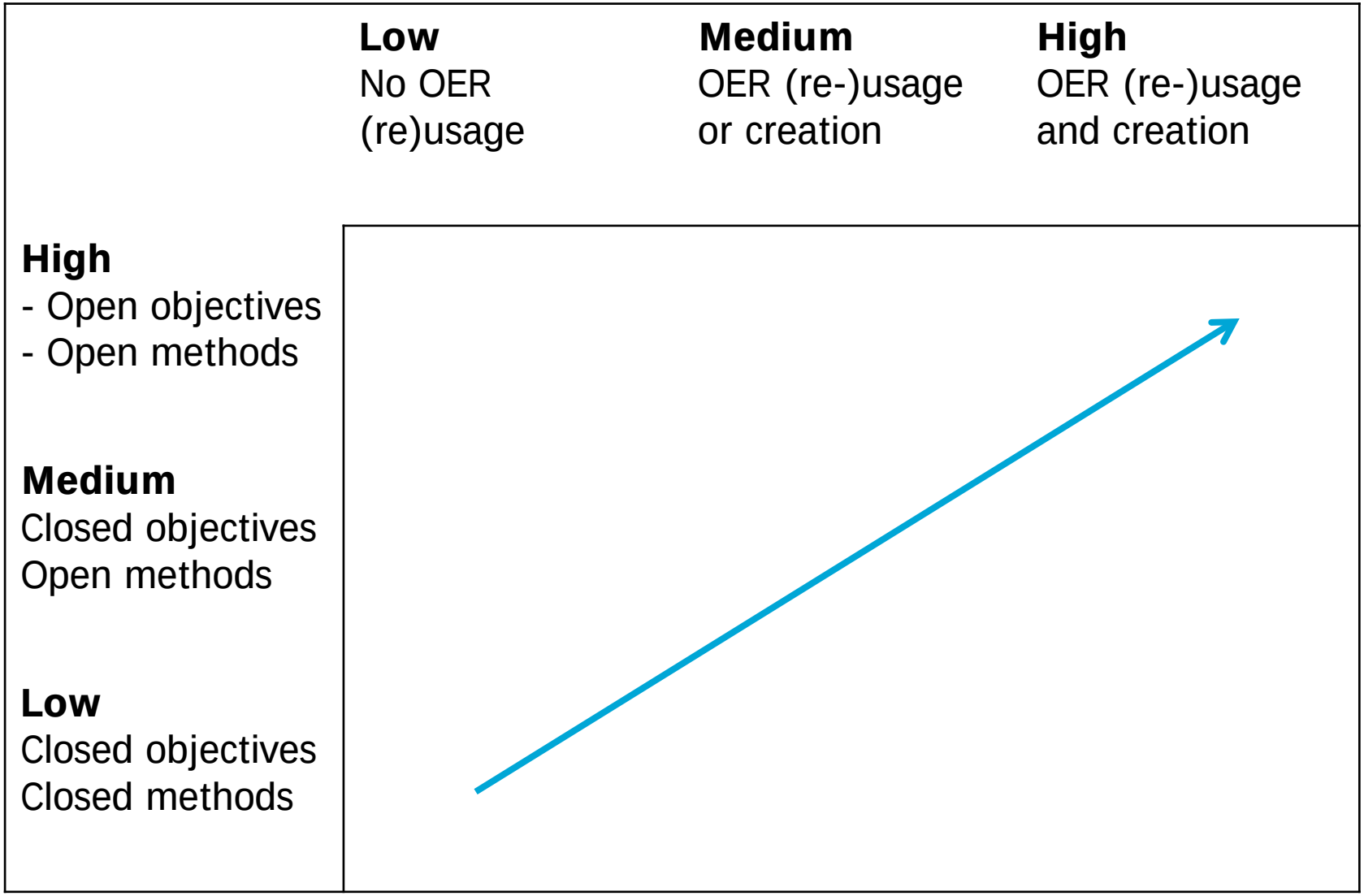
Success in flipped learning is measured in terms of student engagement and motivation.

Teachers' open practices can help student engagement and motivation.

Using OER the same way we used commercial textbooks misses the point. It's like driving an airplane down the road. Yes, the airplane has wheels and is capable of driving down on the road (provided the road is wide enough). But the point of an airplane is to fly at hundreds of miles per hour – not to drive.

David Wiley, October 21, 2013

OER Usage



How

What

Christine Redecker, Jonatan Castaño Muñoz, Riina Vuorikari, Yves Punie Open Education 2013 scenario Synthesis (in review)

Where

When

How

What

Christine Redecker, Jonatan Castaño Muñoz, Riina Vuorikari, Yves Punie Open Education 2013 scenario Synthesis (in review)

Characteristics:

- Intrinsically motivated
- Self steering
- **Willing** and **Able** to learn like this

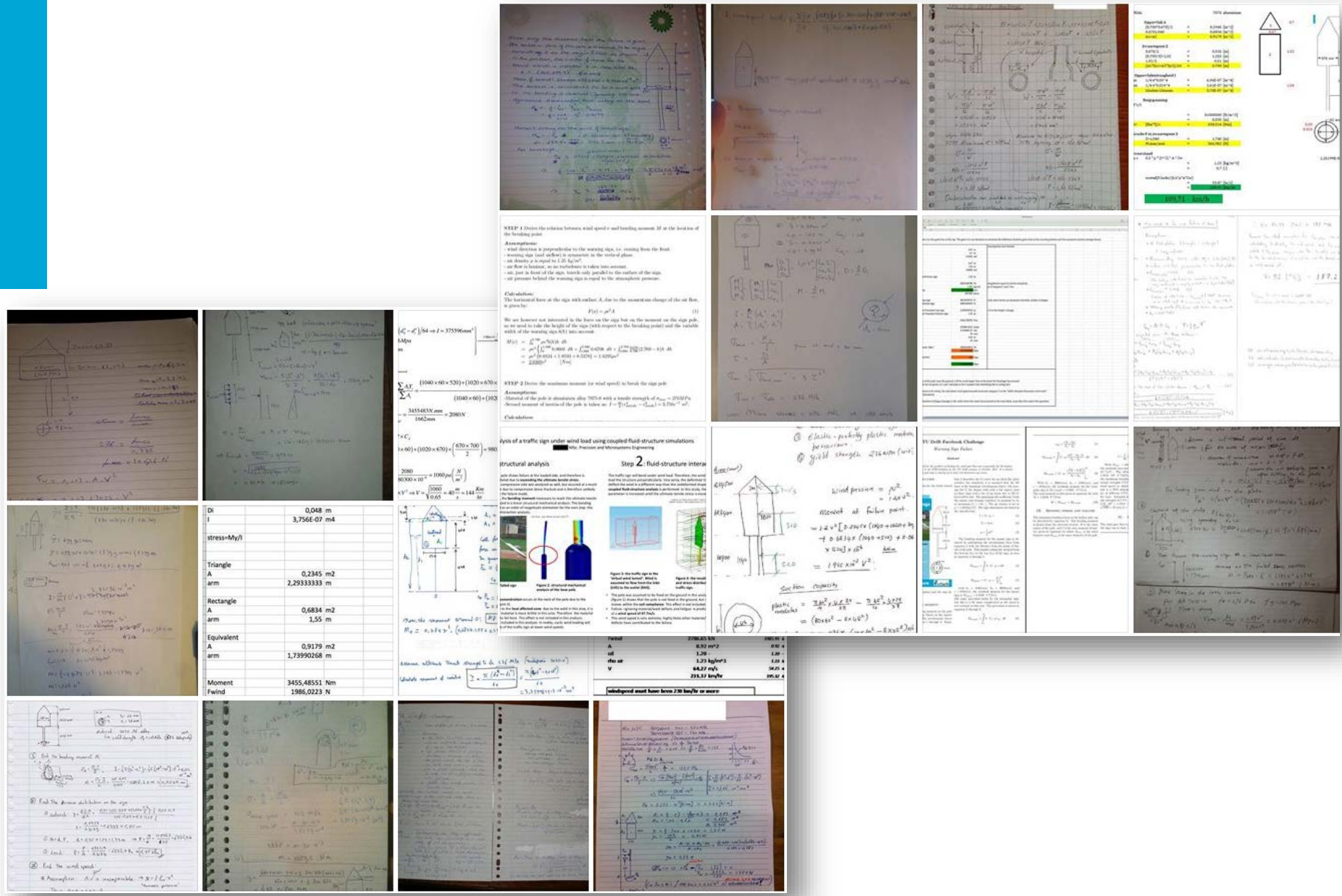
Campus Party Brasil - 07/02/2012 - Foto: Flávia de Quadros/indicefoto.com

TU Delft Challenge

TU Delft

Images taken from Weblog Karlijn de Wit

Image taken from Weblog Karlijn de Wit



Di	0,048	m
I	3,756E-07	m4
stress=My/I		
Triangle		
A	0,2345	m2
arm	2,29333333	m
Rectangle		
A	0,6834	m2
arm	1,55	m
Equivalent		
A	0,9179	m2
arm	1,73990268	m
Moment	3455,48551	Nm
Fwind	1986,0223	N

"I Expect a question about this on my fatigue of structures and materials exam coming Wednesday"

D:DREAM


3
NUON
Part of VATTENFALL
DSM
LeasePlan
BRIDGESTONE
Nuon Solar Team
The Netherlands


TU Delft


postnl
DOEKO
DSM
sikkens


2
TU Delft
AMK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