Training session on
Active learning and inverted classroom methods

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Teaching v.s. Learning?

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- Which adjectives would come to our mind if we observe a <u>typical</u> undergrad classroom in our university?

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- Which adjectives would come to our mind if we observe in a typical undergrad classroom in our university?

  - About what is going on in the classroom?

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- Which adjectives would come to our mind if we observe in a typical undergrad classroom in our university?

  - About what is going on in the classroom?

  - or in the minds of the « participating » students?

Teaching v.s. Learning?

- Does the classroom life look lively, animated?

Teaching v.s. Learning?

- Do the students look like they

  - Enjoy the course?

  - Are energetic?

  - Participate actively and voluntarily to its flow?

?

- Do the students look like they

    - Enjoy the course?

    - Are energetic?

    - Participate actively and voluntarily to its flow?

    - And, are they really learning something?

But who is in control of this situation?

- Who is in control of:

  - The content of the course?

  - The organisation of the course?

  - The animation of the course (who is active, and when)?

  - The competency validation and grading system?

But who is in control of this situation?

- Who is in control of:

  - The content of the course?

  - The organisation of the course?

  - The animation of the course (who is active, and when)?

  - The competency validation and grading system?

- WE, the teachers, and exclusively in many curriculum

But, this does not mean that we are guilty…

- Why are we put in front of this classroom, with such a total authority on all of its aspects?

But, this does not mean that we are guilty...

- Because we are competent on the « content » of the course, our area of scientific expertise

- So, our attention is focused on « covering » this content, and <u>we hope that students will « learn »</u> during this process

And we discover quickly that something is broken, learning does not take place

We discover quickly that learning is not taking place

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- When we start our second year micro/macro/math/stat… course, on the assumption that the first year's « content » is already operational in the minds of our students,

- We discover that not much is left from this course

- Content quickly learned as an obligation, has been quickly forgotten…

But we discover quickly that something is broken, learning is not taking place

- The feeling that we are trying to build a castle on sand fields..

- A frustrating and demotivating feeling...

But we discover quickly that something is broken, learning is not taking place

- The feeling that we are trying to build a castle on sand fields..

- A frustrating and demotivating feeling...

- That can also motivate us to reflect on what is happening in that classroom...

When do we learn best?

- Is it when

  - we MUST learn a content chosen by an authority,

  - who speaks to us for two hours,

  - and "threatens" us with a failing grade if we do not « learn »?

When do we learn best?

- OR

?

- OR?

- How can we advance in this direction?

- **By giving more autonomy and responsability to our students**

Accepting to let some control to students over their learning

- For now their only choice is between

  - skipping « learning » this course,

  - or trying to stuff enough elements to get a good grade

- Not a very motivating choice for them…

More freedom means more responsability and stronger motivation

- Given the list of elements controlled by the teacher, we need to share some of this control with the students,

- So they can get a control on their learning process,

- Feel responsible for it

- Be motivated during the class

- **Learn to learn**, in the best of cases…

Modal and gradual transfer of control

- Students need to learn this responsability, they are not prepared for it either

- We can start by giving motivated choices in a given set of alternatives, carefully selected by us

- Implement groupwork where they choose to participate to a specific group, and engage their responsability towards the group

- We can give them an active role in learning, converting it to learning-by-doing, when the topic is compatible with experimenting

- We can even discuss grade system and modalities with them, and give them a set of modalities in which they can choose several to validate their learning
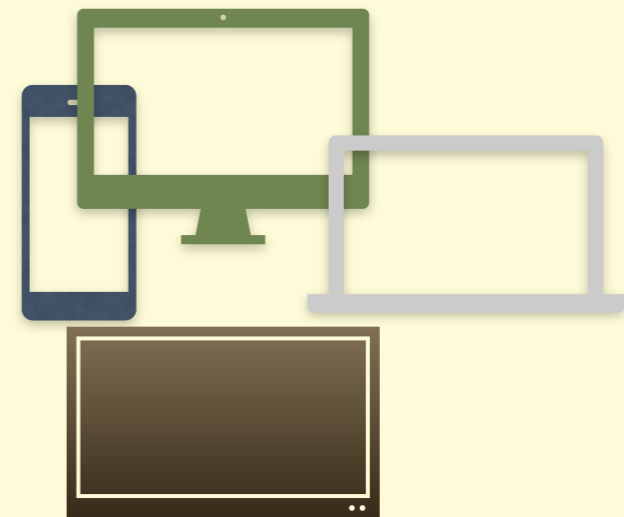
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- with **multiple screens**

With some paradoxes…

A new study shows that students learn way more effectively from print textbooks than screens

15/10/2017 9:31 PM

Patricia A. Alexander and Lauren M. Singer, The Conversation

A variety of modes of access to knowledge

Moocs

«FLIPPED CLASSROOM»

Workgroups

Support Material

Work on Real data

LEARNING BY DOING

Data Project

THEMATIC WORKSHOPS

INDIVIDUAL PROJECTS

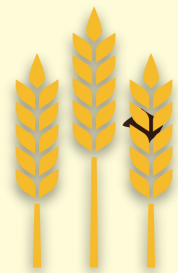Computational Modeling

Modeling Project

There is no best way...

- The actual strategy will depend on **us**, our objectives, and on the initial maturity of students

- The ideal configuration is of course when this strategy is shared by all our pairs

- But we cannot wait for it, one way of convincing them, is showing how well it works

- And how much we enjoy our new role **as a guide to students' learning**, rather than as the blanket that « covers » a program...

- We can start small, let the students learn to appreciate to being in charge (they will resist first)

Two low-cost examples of active learning tools

Session 1: Learning-by-exchanging, a small apple market

Session 2: The pleasure of groupwork. Exploring a new topic using the group intelligence.