



# Refresh Teaching 2015 Flipped Classroom

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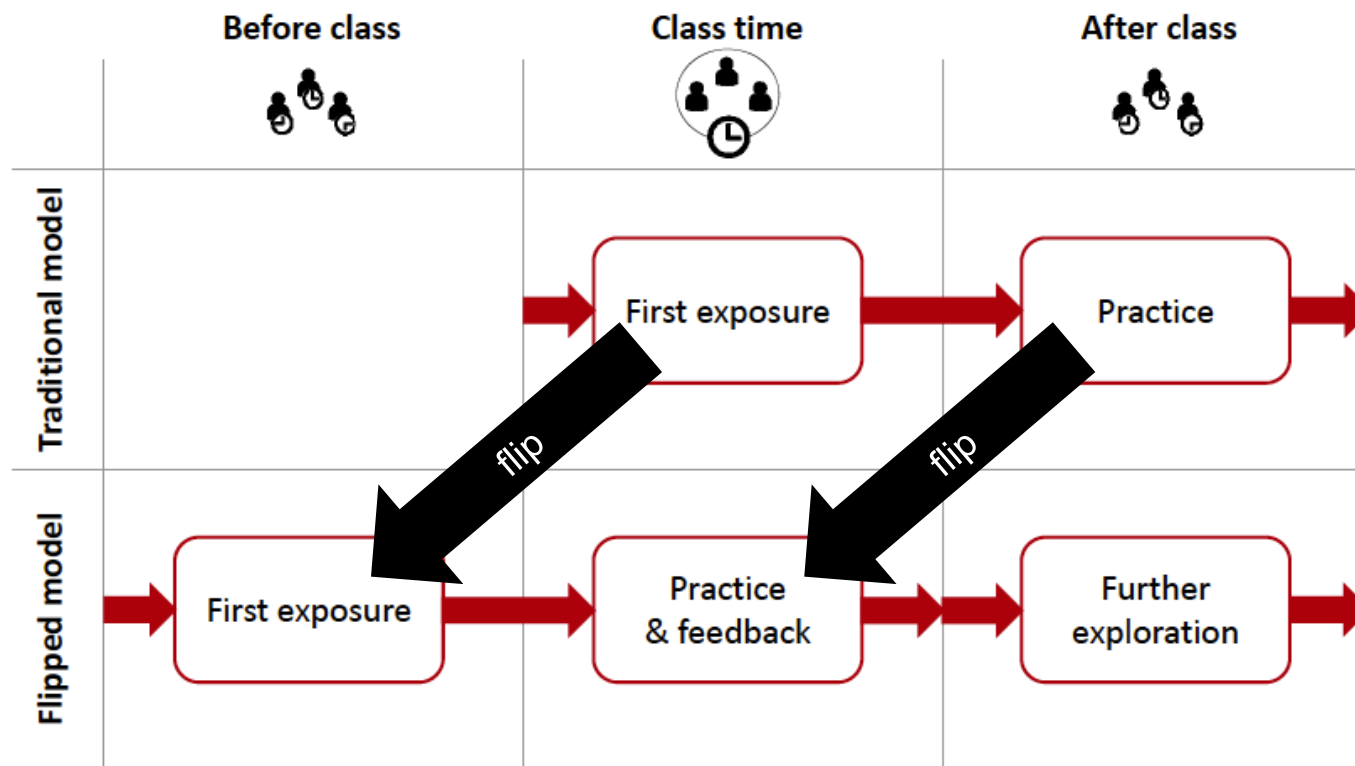
**Prof. Ulrike Lohmann (D-USYS)**

Hosts: Andreas Reinhardt & Benno Volk (LET)

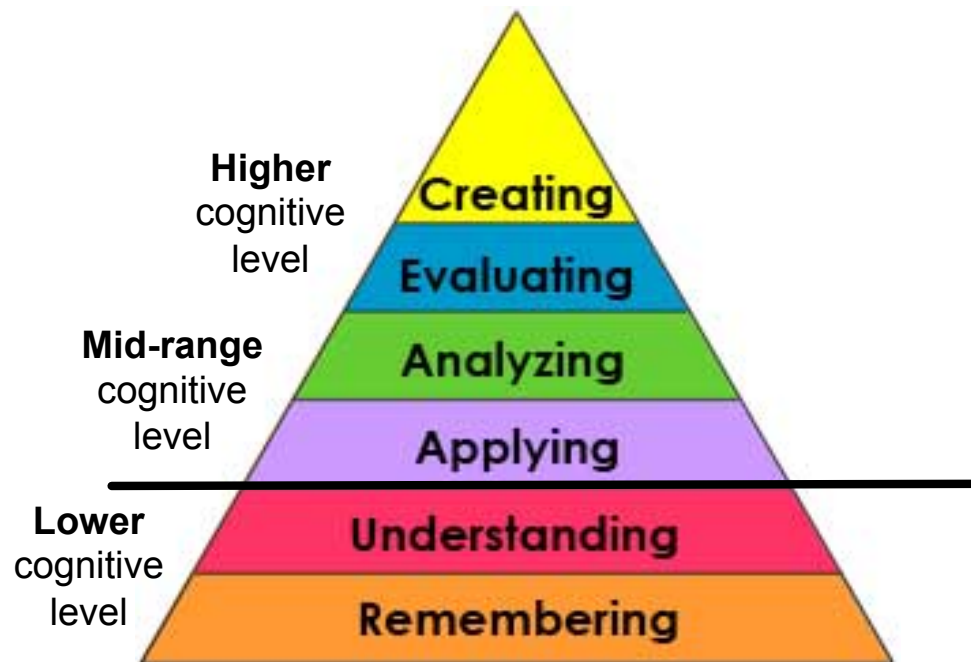
## Programme of this event

- **12:15-12:20h:** Short introduction (What is Flipped Classroom?)
- **12:20-12:50h:** 3 examples for flipping the class (Experiences at ETH)
- **12:50-13:10h:** Transfer phase (Thinking about YOUR class/lecture)
- **13:10-13:15h:** Conclusion, Lunch

## Traditional lecture vs. flipped classroom approach



## FC expands the possibilities concerning the learning objectives



Taxonomy of Learning Objectives  
Anderson & Krathwohl (2001)

### During class (lecturer/TAs as guides):

- Solving complex problems (research projects)
- Students create content, develop products etc.

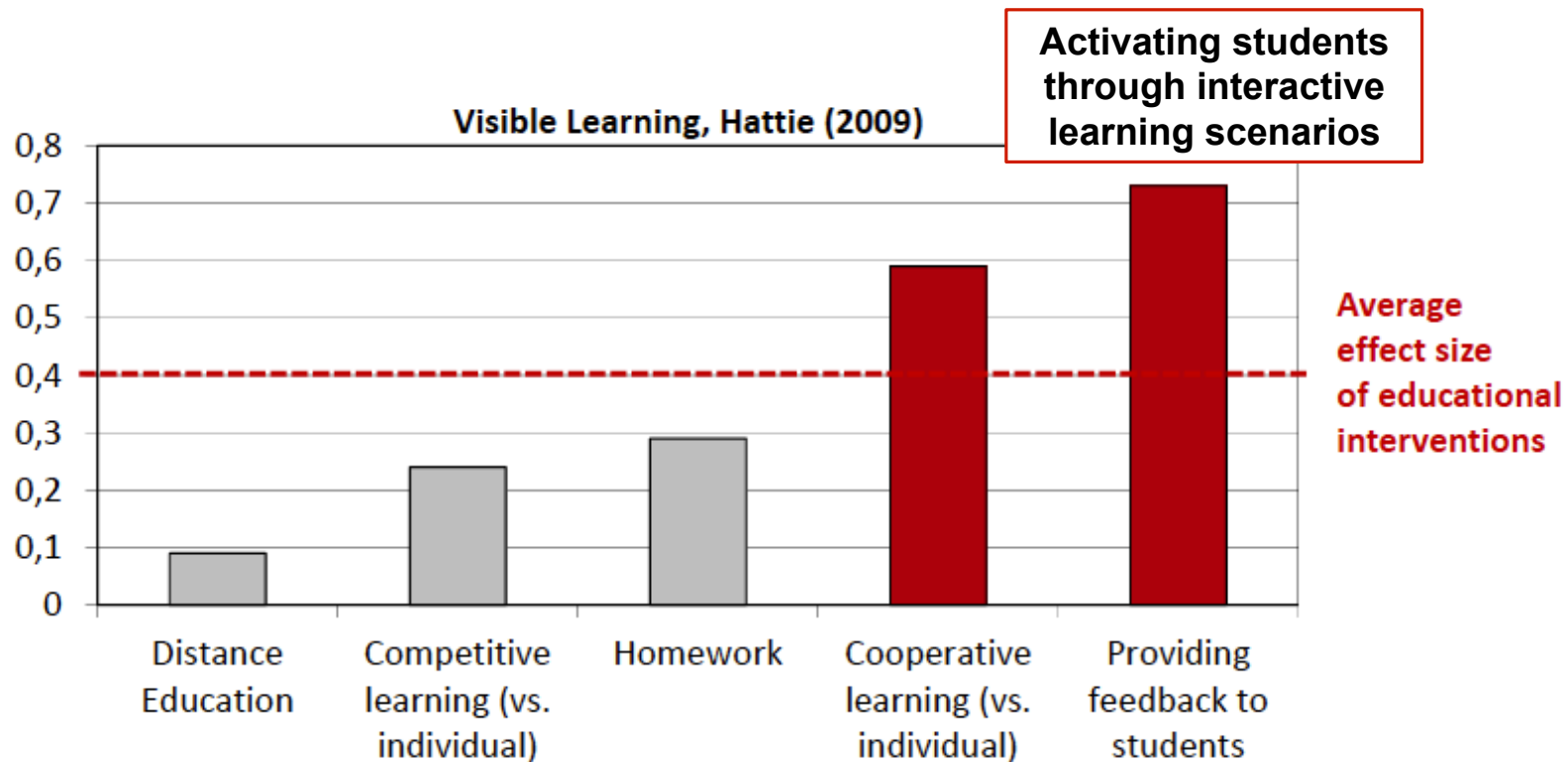
### Applied exercises (synchronously to lecture) for

- Solving equations, programming etc.

### Online self-studies phases with

- Videos, texts (script, slides), podcasts etc.
- Tests / quizzes and exercises

## FC supports student learning based on well-known principles



## Shift from Teaching to Learning

- **Student-centered** approach (main focus on learning not teaching)
- **Competence-oriented** teaching and learning (use class-time for active learning)
- **Role of lecturer: facilitator, guide** (monitoring the learning processes)

"There is **no single way to flip** your classroom ... There is **no specific methodology** to be replicated, **no checklist to follow** that leads to guaranteed results.

Flipping the classroom is more about a **mind-set**: redirecting attention away from the teacher and **putting attention on the learner and the learning.**"

(Bergmann, J., & Sams, A. (2012). Flip your classroom: Reach every student in every class every day. International Society for Technology in Education - ISTE).

## (Re-)designing your course/lecture into a Flipped Classroom

1. Define if you want to **flip parts of the class** or the **entire class**.
2. Begin with the **end in mind** (defining **learning objectives**).
3. Create (or collect) **quality learning resources** for online self-study phases.
4. Write **clear and detailed instructions**, help students by giving advice for **time management** and **task scheduling**.
5. Develop and conduct **group or project work in-class**.
6. **Monitoring** the learning processes (giving/getting feedback).

## 3 Examples: Flipped Classroom at ETH

- **Prof. Renate Schubert**, Institute for Environmental Decisions und **Dr. Urs Brändle**, Educational Developer at D-USYS
- **Prof. Ulrike Lohmann**, Institute for Atmospheric and Climate Science
- **Dr. Andreas Haselbacher**, Institute of Energy Technology



## Transfer phase: Thinking about YOUR class/lecture

- Think about flipping your teaching (handout)
- Discuss it with your peers at the table
- Post your ideas and thoughts on the poster