

Aligning teaching methods and students learning need

Active learning vs. traditional classrooms

Armin Schikorra



dB-SERC lunch discussion, 08/06/2018

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- ▶ “personalizing undergraduate education”

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Teaching Design

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current layout

Mo/We/Fr	Tuesday	Thursday
75 students	3x 25 students	75 students
Frontal lecture	Recitation (Quiz, Q&A)	(online homework)
	1 TA/25 ppl.	1 TA/25 ppl.

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active-learning layout

Mo/We	Fr	Tu	Th
75 stud.	75 stud.	(unchanged)	75 stds
mini-lect. (10 min)	summarizing lect.		videos
group work (40 min)			
1 TA 1 UTA	0 TA 0 UTA	1TA/25ppl.	1 TA/75 ppl

Assessment

current assessment

Ca. 10 Quizzes	online hw	Midterm 1, 2	Final
10%	10%	25%	30%
instructor	departmental	instructor	departmental cumulative letter grade ± 1

Material

- ▶ All material available to both (active learning and traditional learning)

videos

- ▶ Lightboard-solution preferable
- ▶ use also of available online videos

Main Challenges

dangers/challenges

- ▶ working sheets to keep students engaged
- ▶ making groups work
- ▶ moving between groups (8 groups per instructor, moving rapidly, only 80 minutes of group work)

in progress:

- ▶ preparation of working sheets
- ▶ preparation of videos