

# Experience Report on a Student-Organized AI Course

27th annual ACM conference on Innovation and Technology in  
Computer Science Education - Session 4C

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hhu.

Background

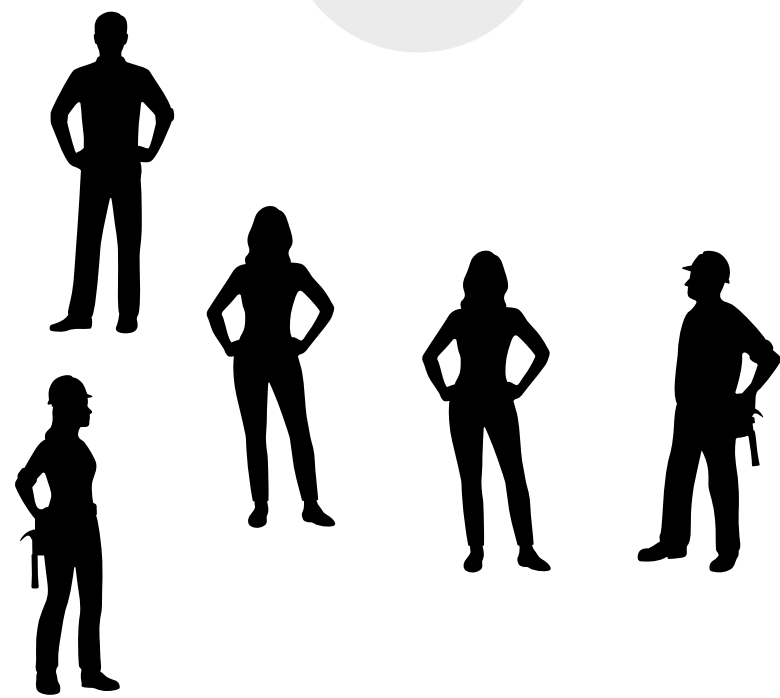


SICS<sup>4</sup>tus

They use Prolog  
Prolog is used to implement Als  
We want to learn about Als

...

Hey Sebastian, could you maybe realize a course on  
artificial intelligence?!



**AI was not really one of our research topics  
- but why should all courses be based on  
the specializations of faculty members?**

# Course on Artificial Intelligence

## Restrictions and Constraints

- Has to be created quite quickly
  - Practically no resources for teaching left
  - But there are well-designed books and requested topics
- ▶ Go for a classical seminar format  
with a common reading list, discussions and exercises

# Smooth sailing

**Until someone missed to set a limit on the number of students allowed to attend**





# Rescue Attempt

Seek strength in numbers!



# Attending Students

Some Statistics - over 100 students attending

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	first iteration	second iteration
bachelor	78.9%	100%
master	26.3%	27.3%

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	first iteration	second iteration
female	23.1%	11.1%
male	76.9%	88.9%

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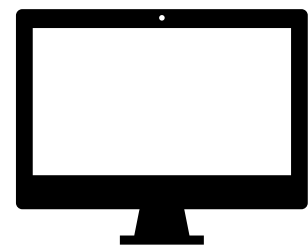
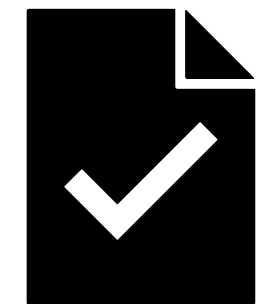
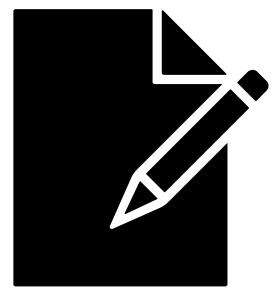
semester	first iteration	second iteration
4	26.3%	45.5%
5	5.3%	18.2%
6	36.8%	9.1%
7	0%	18.2%
8	10.5%	9.1%
9	5.3%	0%
10	10.5%	0%

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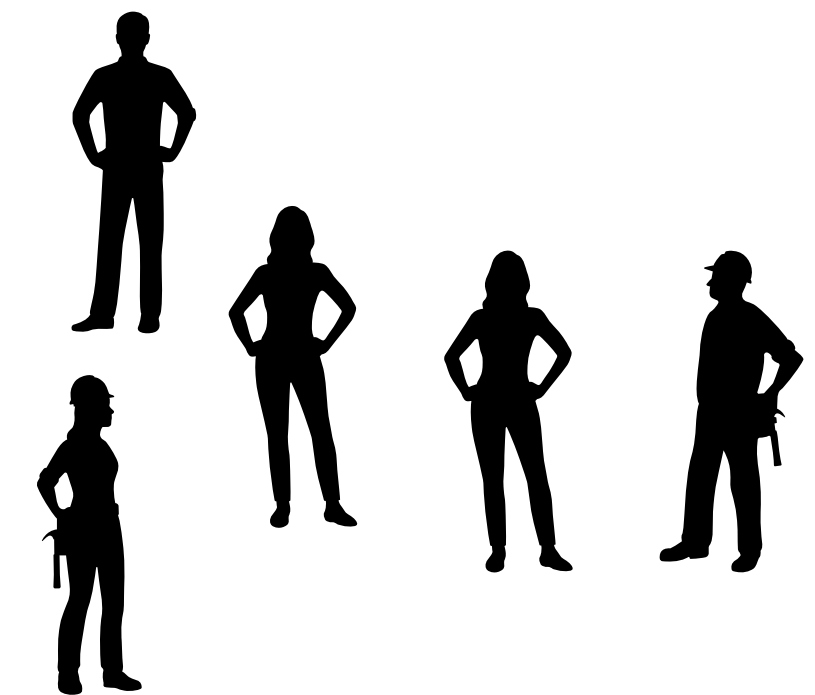


# Course Outline

How did we organize a crowdsourced course?

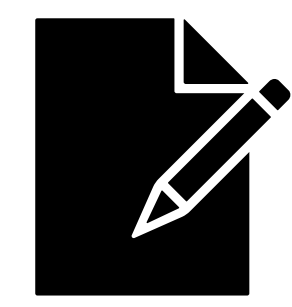
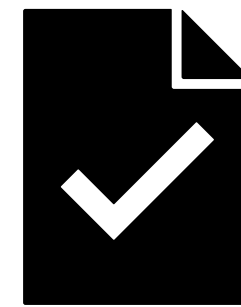
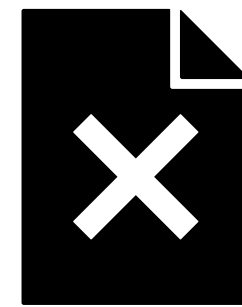
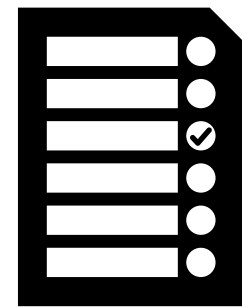
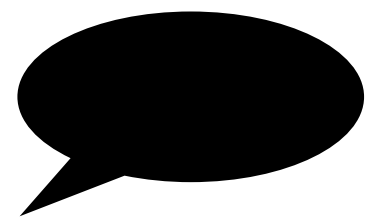
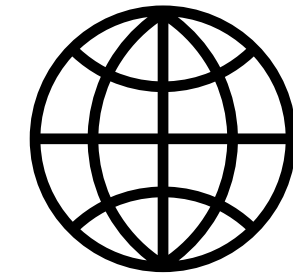
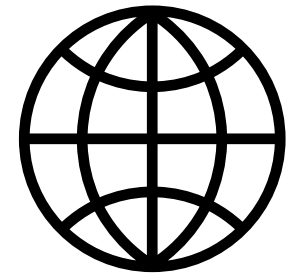


L<sup>A</sup>T<sub>E</sub>X



# eLearning and Supporting Applications

What did we use to facilitate course execution?

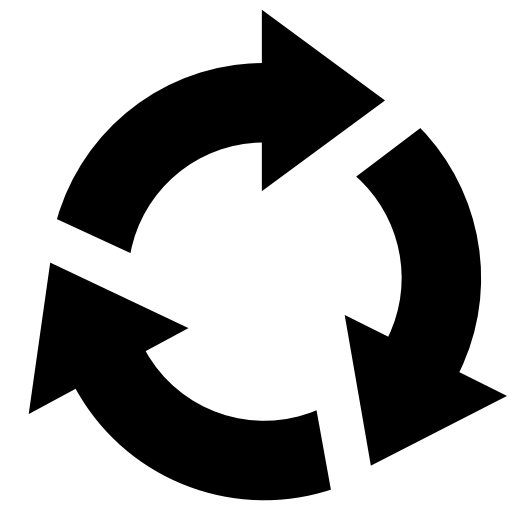
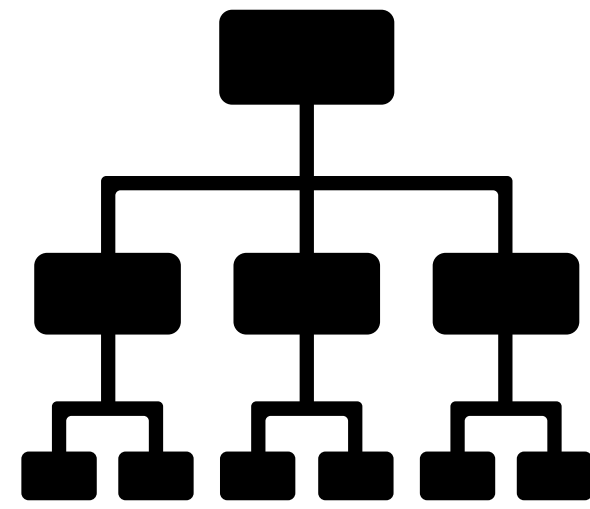


# Reliance on CS Background

Can our approach be reused in non-CS courses?



L<sup>A</sup>T<sub>E</sub>X



# Assuring Learning Outcomes

## Does the crowdsourcing approach diminish outcomes?

- Peer tutoring and feedback not diminishing outcomes in general, can be as effective as tutor feedback  
(see, e.g., Pirttinen et al., Hamer et al.)
- Creating questionnaires is beneficial for both sides  
(see, e.g., Denny et al.)
- Not really a representative study, but we were quite happy :-)

**The lecturer's knowledge remains the foundation of a successful course. The overall question is to what extent we have to use it for direct teaching rather than supporting tasks.**



# „Students as 'co-producers' of education“

Kotzé and du Plessis

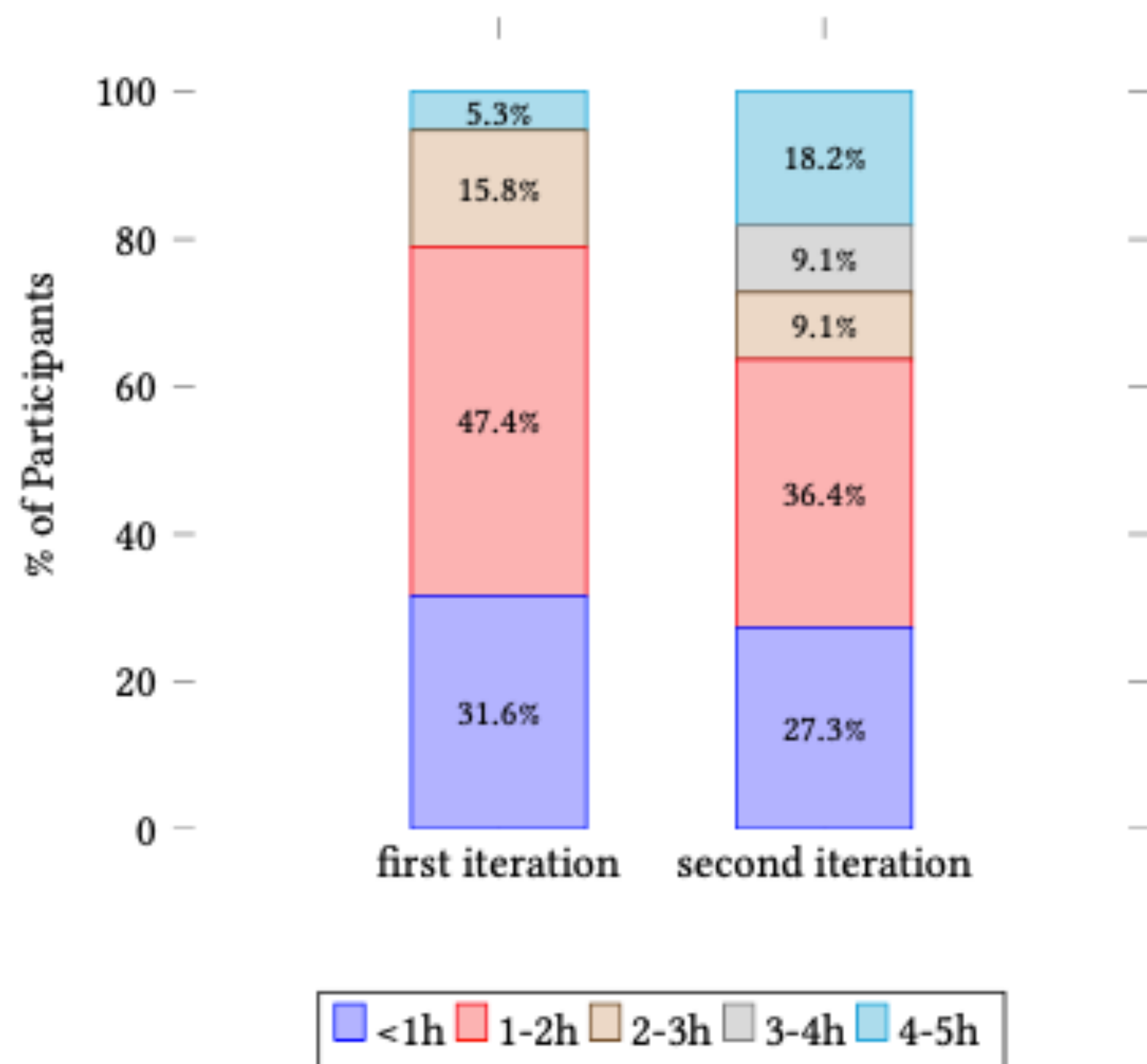
# Student Feedback

## Ways of Evaluation and Results

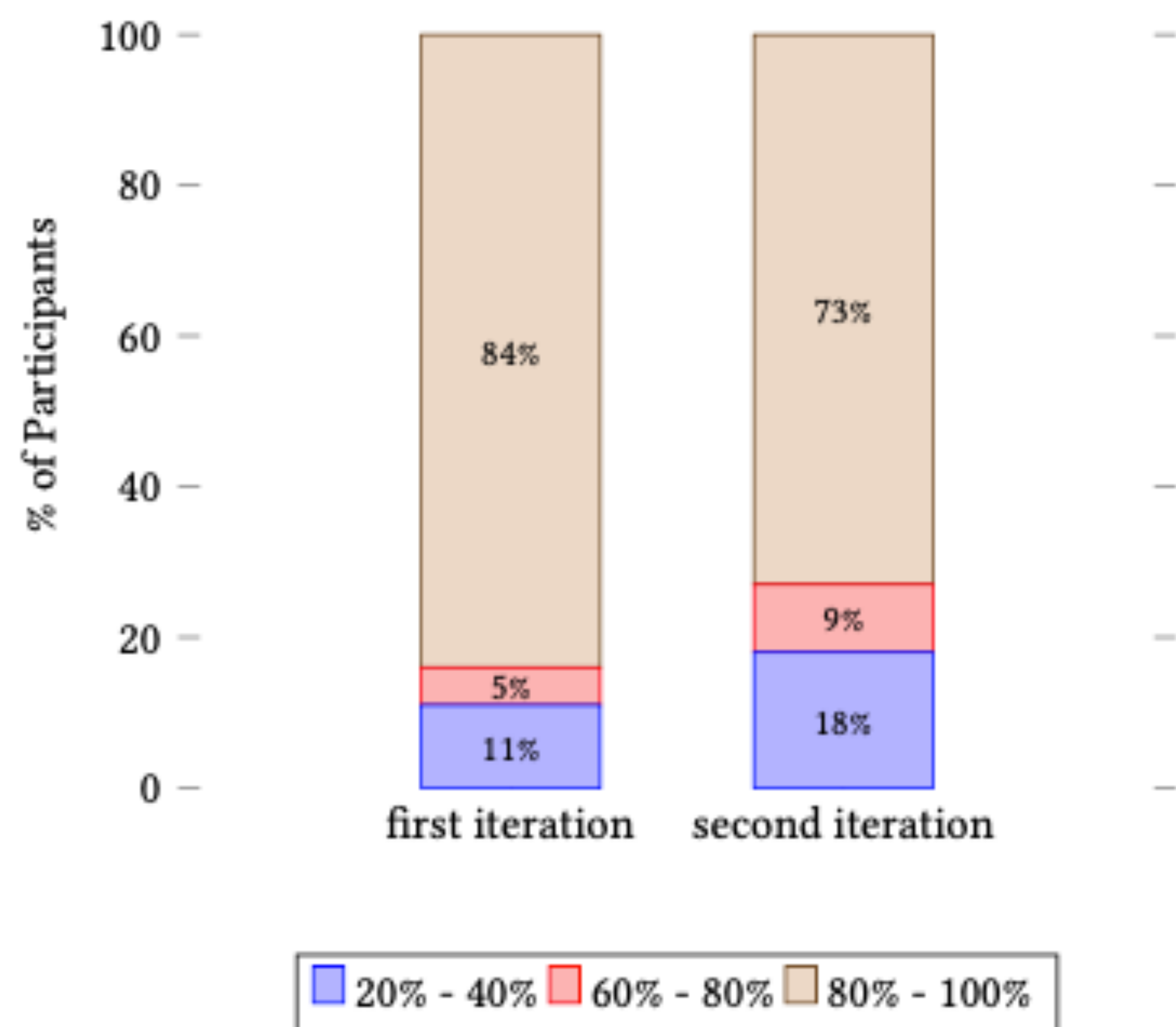
- Official evaluation performed by the university
  - No influence on question
  - Rather bad timing
- Intermediate evaluations through LMS

**Table 4: Course Evaluation, mean ( $\bar{a}$ ) and median ( $\tilde{m}$ ), scale from 1 (= total agreement) to 5 (= total disagreement)**

	first iteration		second iteration	
	$\bar{a}$	$\tilde{m}$	$\bar{a}$	$\tilde{m}$
course is well-structured	2.3	2	1.5	2
course material is helpful	2.6	2	1.8	2
lecturer explains well	2.2	2	1.6	1
lecturer addresses questions	1.5	1	1.2	1
lecturer is motivated	1.6	1	1.2	1
satisfied with the course	2.5	2	2	2
was interested in topic before	1.3	1	1.3	2
learning outcome was high	3	3	2.1	2
lecturer support is helpful	1.6	1	1.5	1
course gives a good overview	2.2	2	1.6	2
good mixture of knowledge transfer and discussion	2.5	2	1.7	2



**Figure 1: Weekly Time Spend for Preparation and Post-processing**

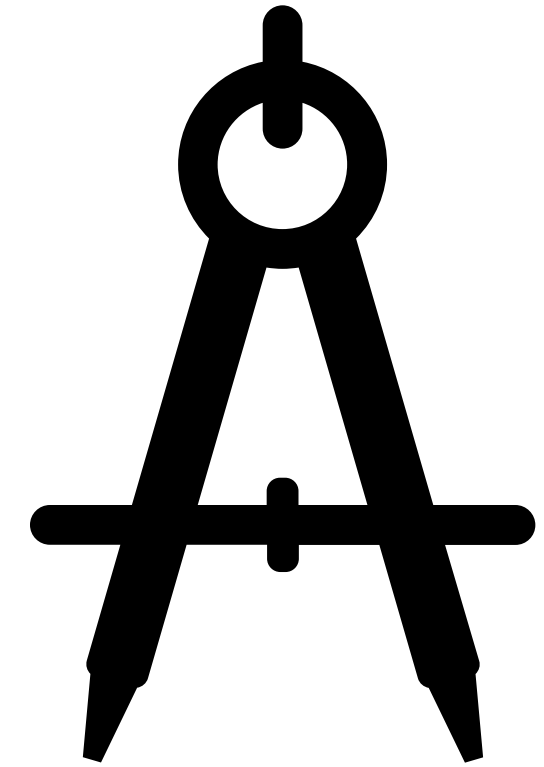
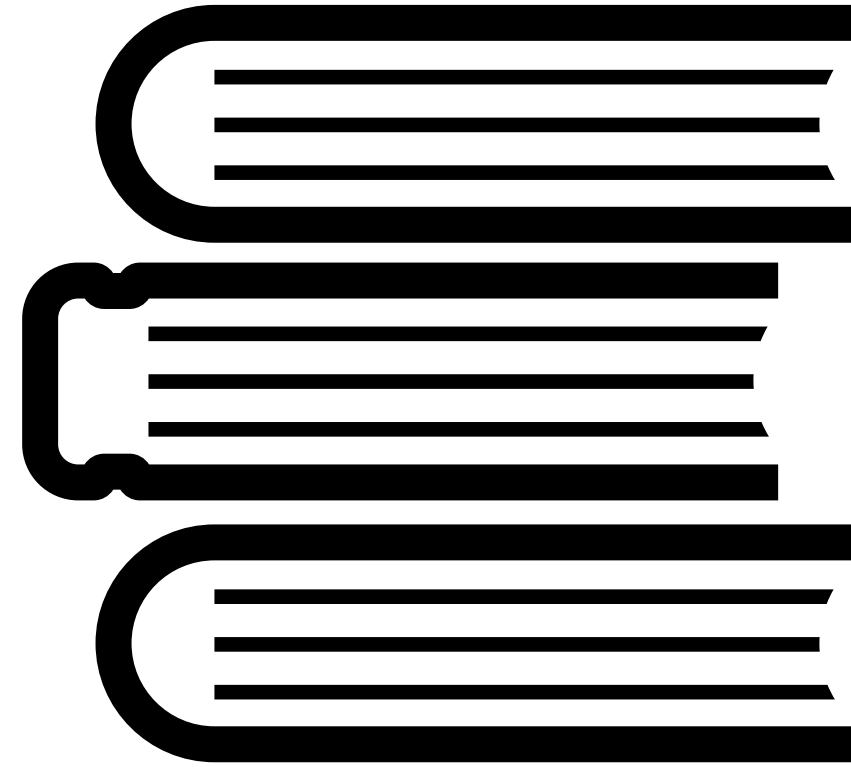
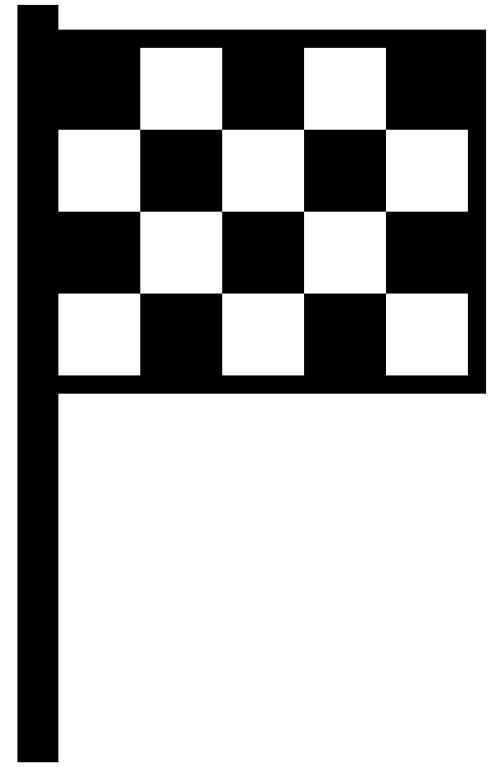


**Figure 2: Percentage of Lectures Attended**



# Conclusions

## Our Main Takeaways



**Thank you!**

**Any Questions?**