



UNIVERSITY OF EDINBURGH
School of Mathematics

Lecture Recording in Mathematics and Physics: Initial Findings

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Project Goal

Investigate the impact of lecture recording on student learning in first-year Mathematics and Physics courses



Project Outcomes

Produce student guide to using lecture recordings effectively as part of their study routine

and

Inform staff of our findings to help inform their use of lecture recording



Overview

- How much do maths and physics students view lecture recordings?
- What is their typical mode of engagement with the lecture?
- Is there a link between mode of engagement and attainment?
- Is there a link between mode of engagement and attitude to learning?



Methodology

- Seven first-year courses: three in Mathematics and four in Physics
- 1000 students
- Active learning pedagogy in five courses



Methodology

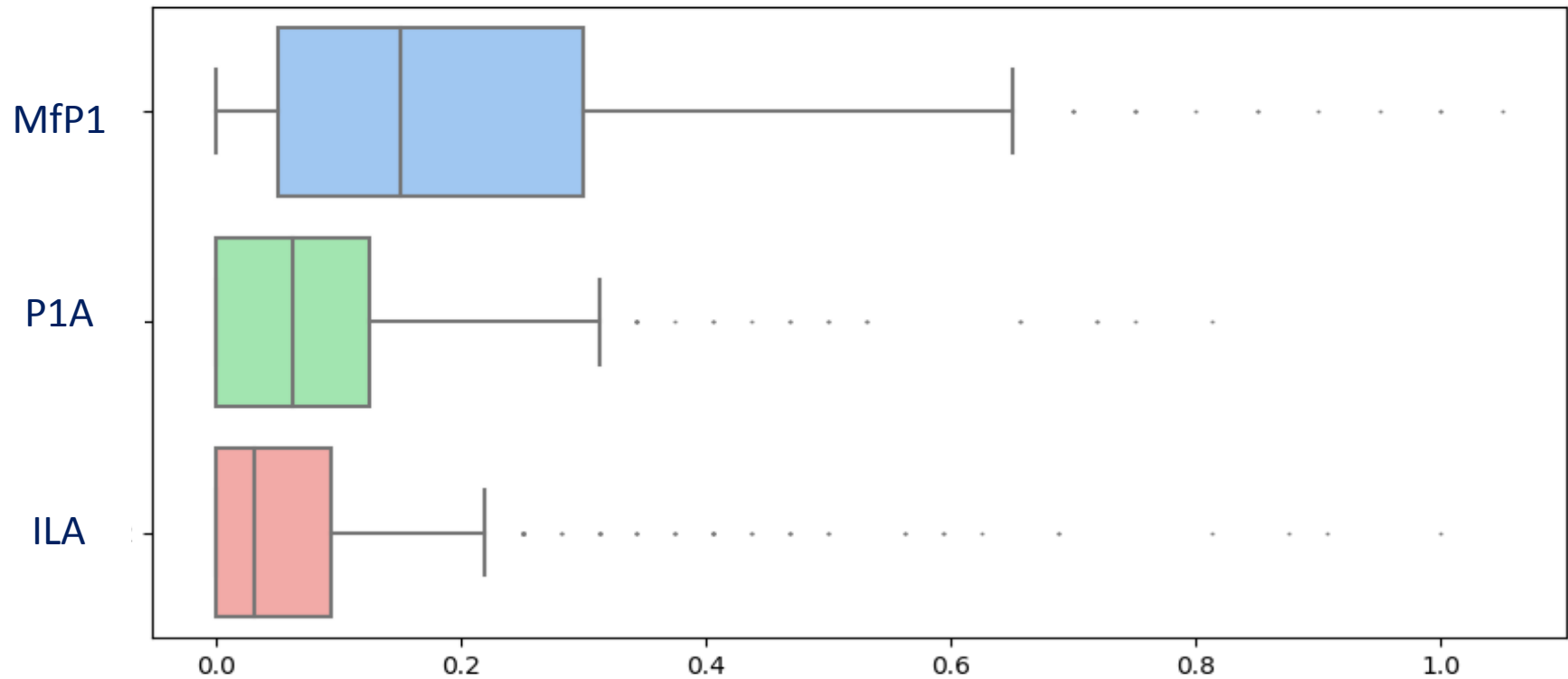
- Metadata on lecture recording viewings for each student
- Lecture attendance (for some courses)
- Diagnostic test, course results
- Attitudes to Learning (ASSIST) survey
- Interviews with students (10)



Questions

How much are maths and physics students viewing lecture recordings?

Proportion of total captures viewed



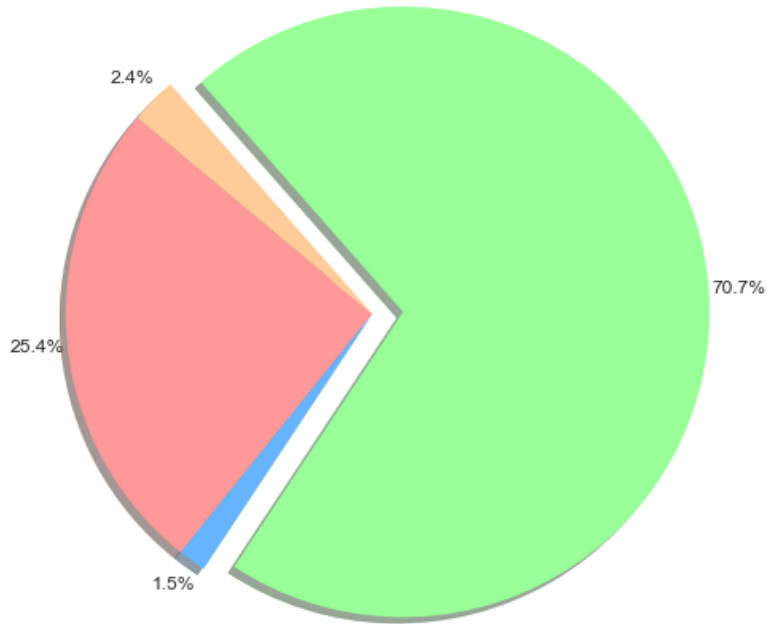
Question

What are students' typical mode of engagement?

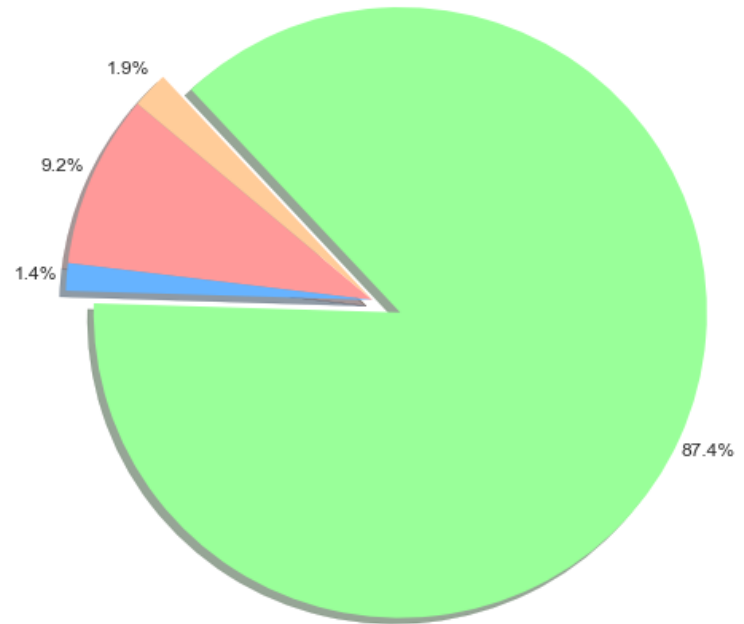


Typical Mode of Engagement (students)

P1A



ILA



- None
- Capture Only
- Lecture Only
- Both



Typical Mode of Engagement (across course)

Maths

- 71% of viewing is accounted for by students who also attended the lecture
- Only 9% of students who didn't attend went on to watch the recording

Physics

- 64% of viewing is accounted for by students who also attended the lecture
- Only 12% of students who didn't attend went on to watch the recording



Why?

“The degree of **student interaction** in live lectures is a **key determining factor** of whether or not recorded lectures are regarded by students as competing or complementary resources to live lectures”

Yoon and Sneddon 2014

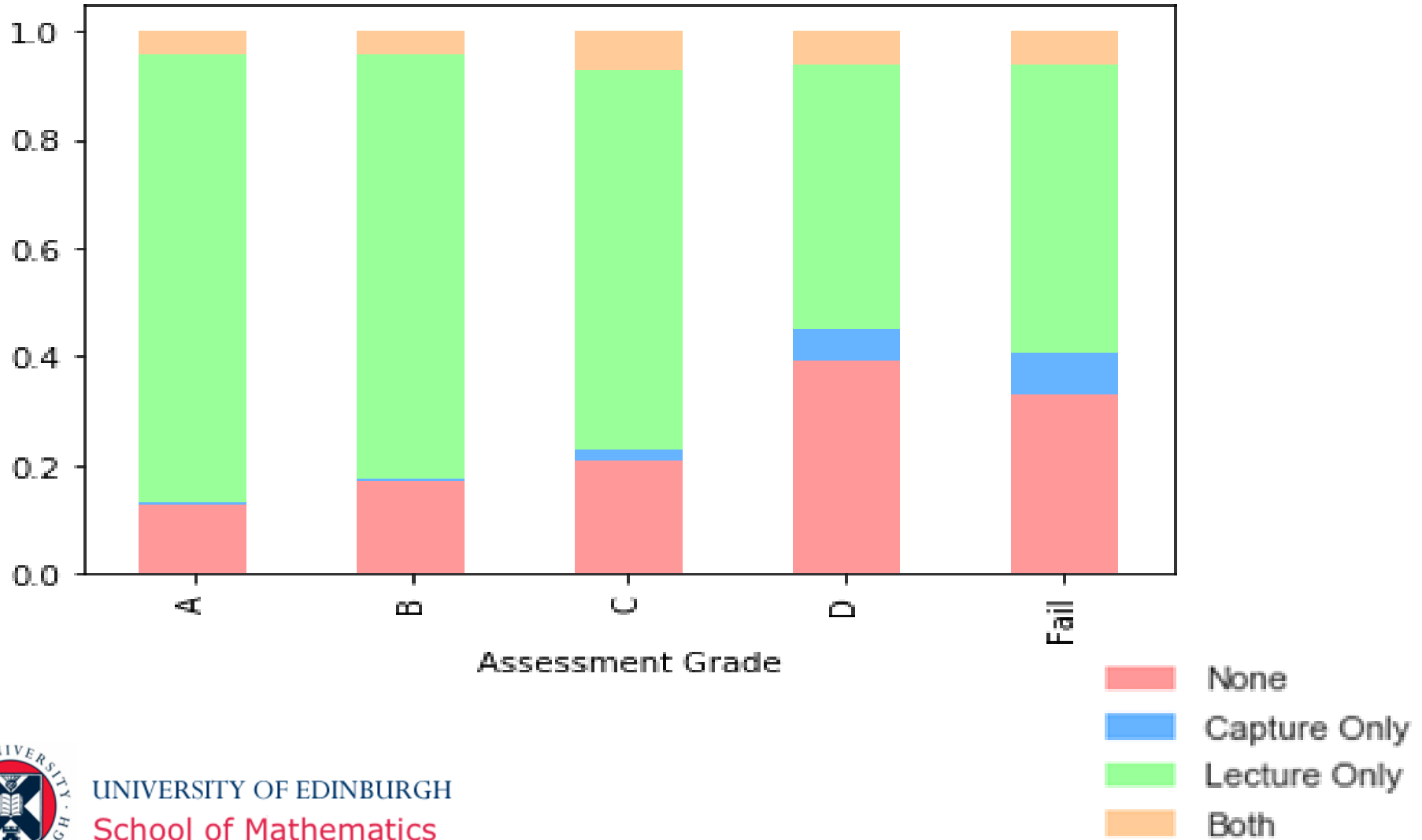


Question

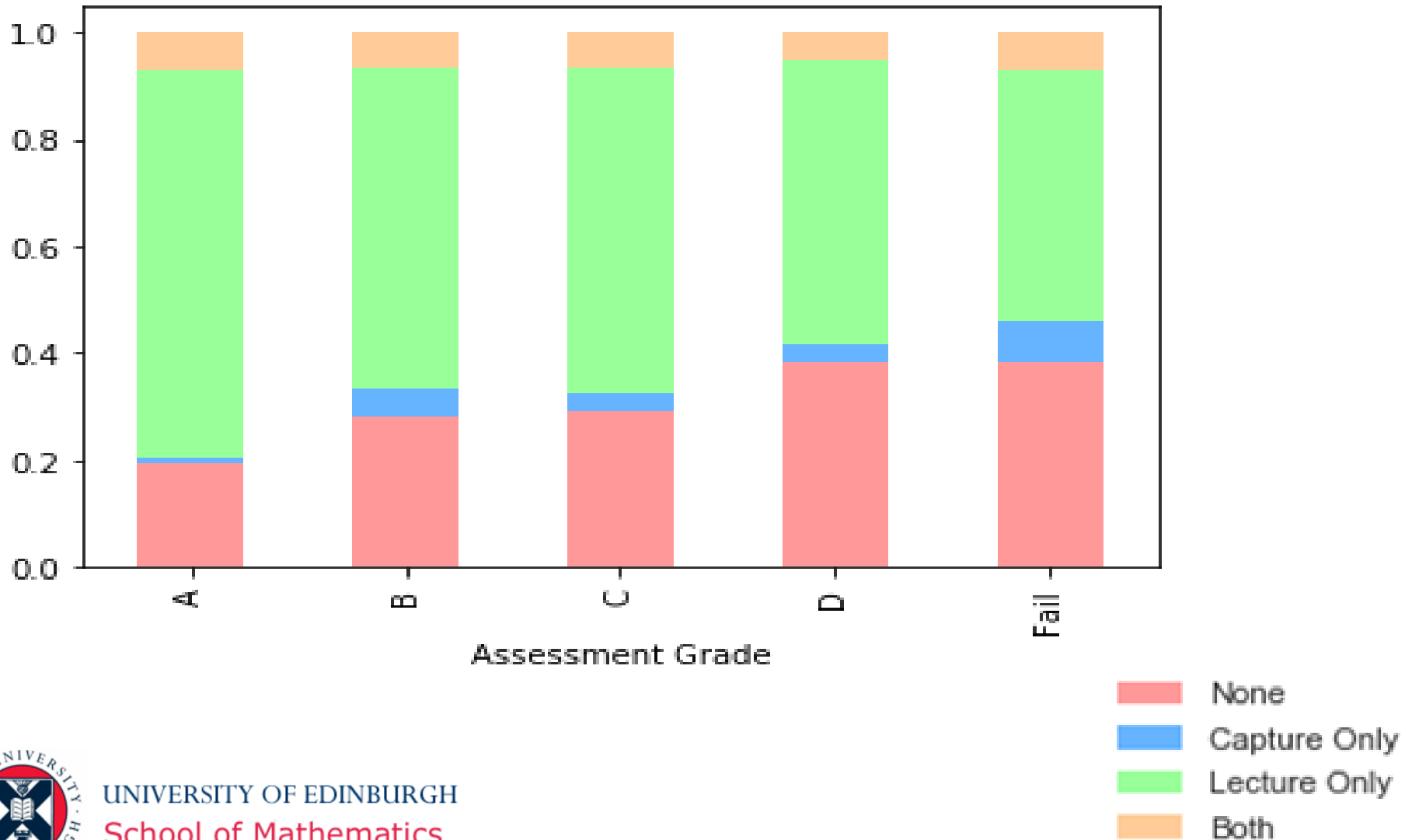
Is there a link between mode of engagement and attainment?



Mode of Engagement vs Grade (maths)



Mode of Engagement vs Grade (physics)



Further Question

Is there a link between students' lecture recording behaviour and their **attitude to learning?**



Attitudes to Learning (ASSIST)

Surface

“I tend to read very little beyond what is required to pass”

“Much of what I’m studying makes little sense: it’s like unrelated bits and pieces”

Strategic

“I organise my study time carefully to make the best use of it.”

“When working on an assignment, I’m keeping in mind how best to impress the marker”

Deep

“When I’m working on a new topic, I try to see in my own mind how all the ideas fit together.”

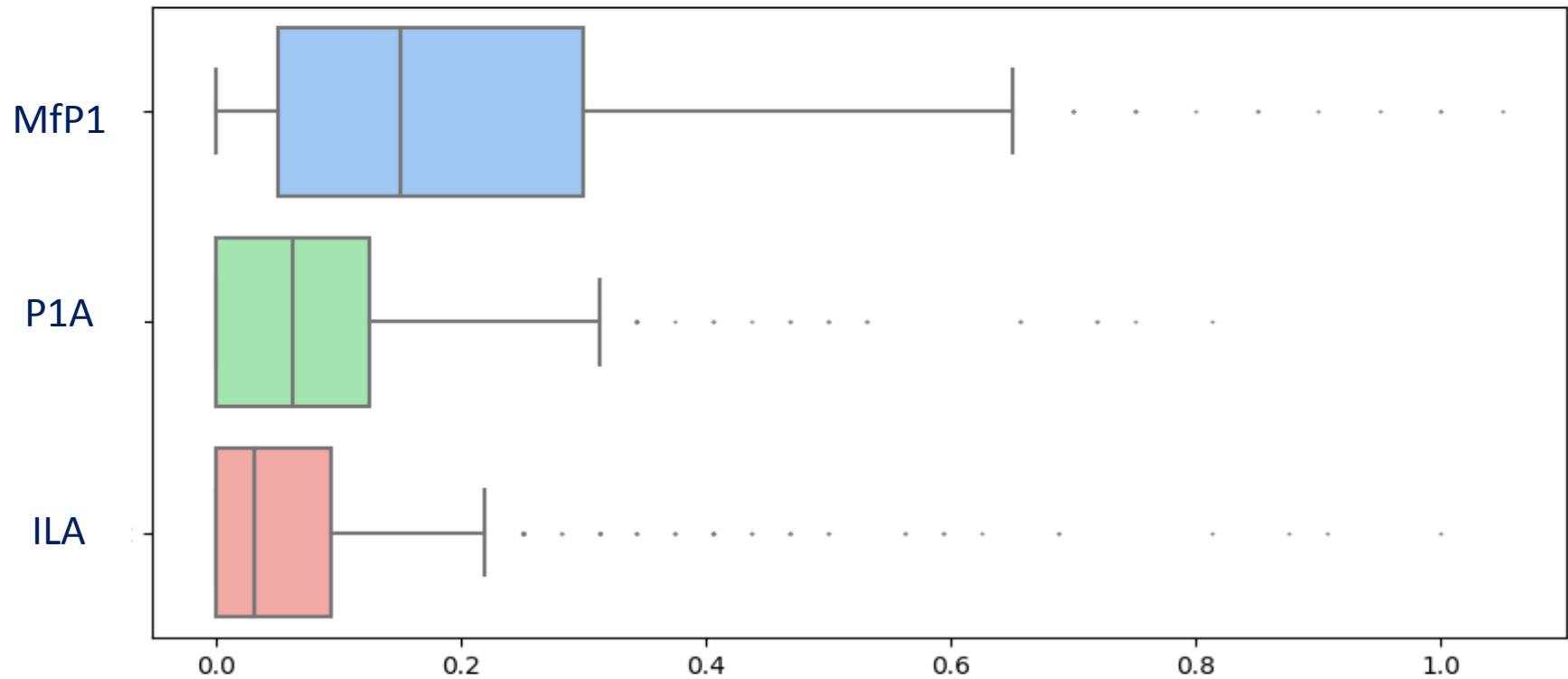
“Before tackling a problem or assignment, I first try to work out what lies behind it.”

Question

Does level of interaction in live lectures affect lecture recording usage?



Proportion of total captures viewed



Related Question

Where do students think the **value** of a lecture is located?



- In what is written down?
- In what is said by the lecturer?
 - In the peer instruction?



Questions + Discussion

- How can we help students make use of digital resources effectively?
- Do we do enough to help students understand how to make use of lectures effectively?



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