



Embedding Data-Led Teacher Reflection into Professional Development

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Data-Led Teacher Reflection

Detailed **quantitative** analysis of classroom activities (FILL+)

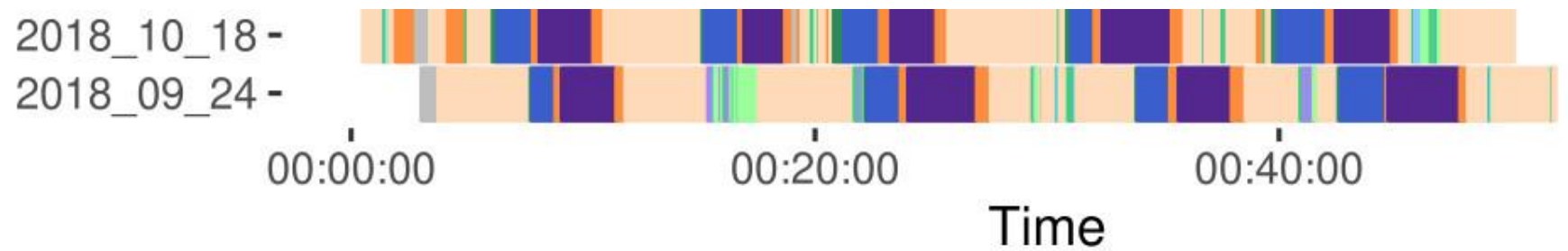


Discussion with a peer/mentor

Pilot study: A.K.Wood et al (2022) Using data about classroom practices to stimulate significant conversations and aid reflection, International Journal for Academic Development



Framework for Interactive Learning in Lectures (FILL+)





Method

Participants	Conversation Partner
PgCAP (8)	Peer on PgCAP
EdTa (5)	Mentor
Vet School (6)	Colleague (Susan Rhind)

- FILL+ coding - 4 student RAs
- Data Collection - Questionnaire (participants and mentors) and informal discussions (other stakeholders)



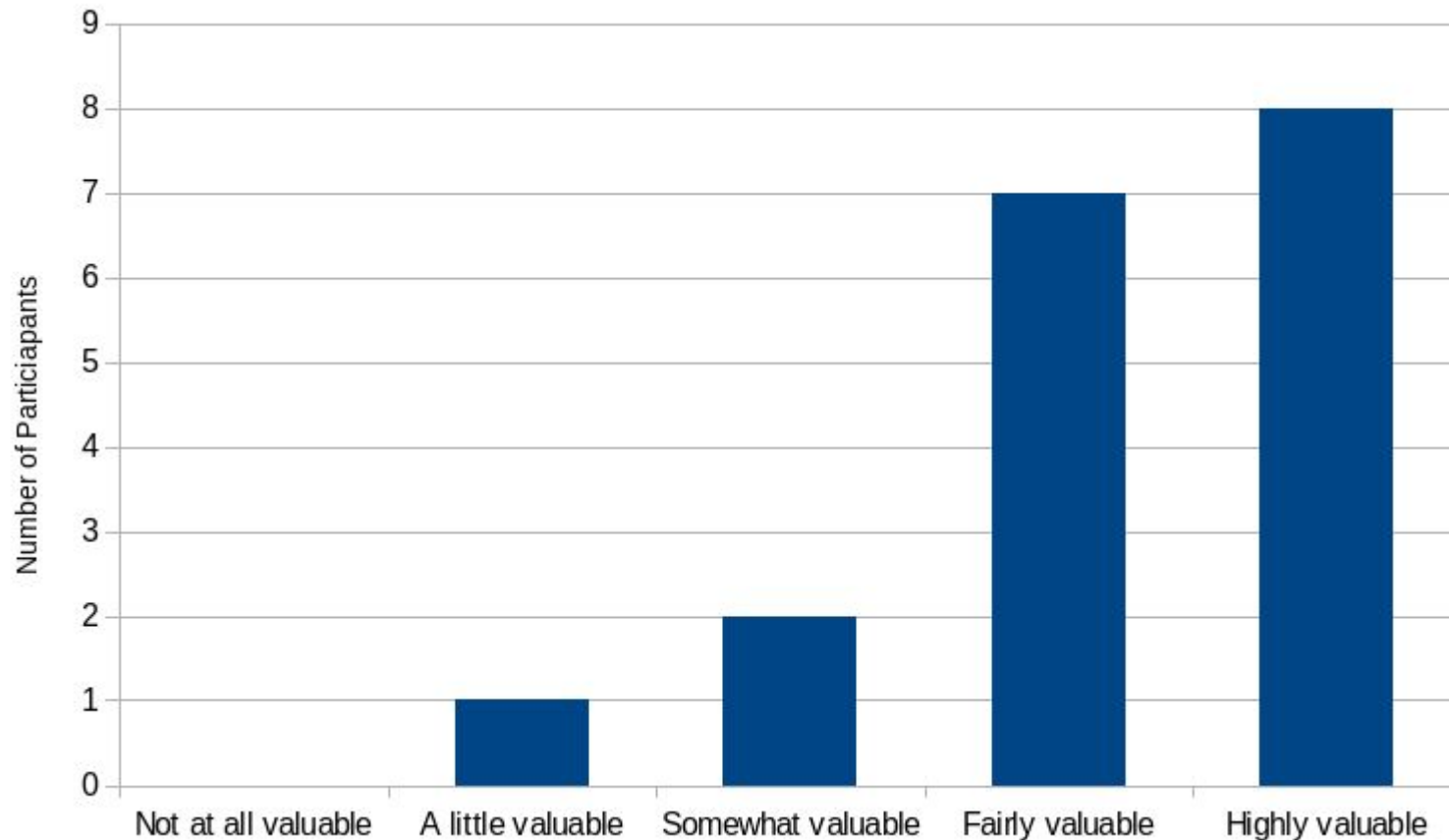
Initial Results - Questionnaire (participants)

- 18 Questionnaire responses
- Overall very positive responses:
 - 'I will likely use this when reflecting for my SFHEA qualification'
 - 'I'll use the data to guide revision of my lectures'
 - 'I would quite like to change things for next year and repeat the process'



Initial Results - Participants

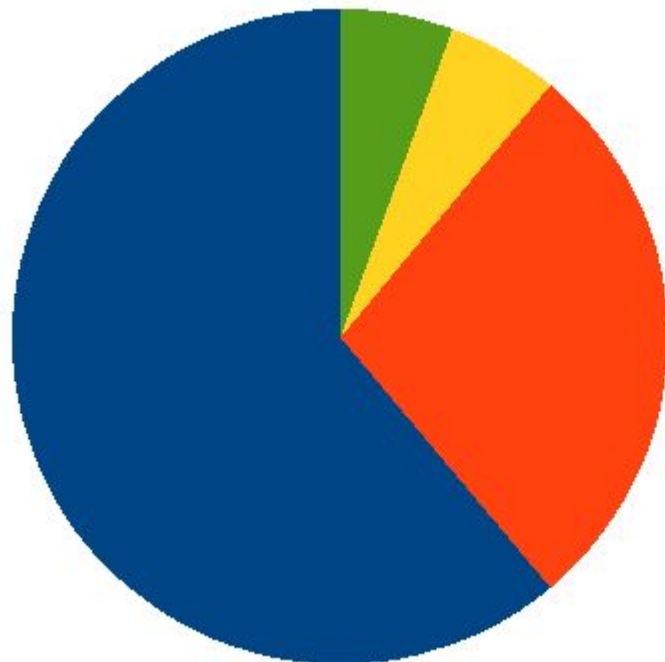
How valuable do participants find the process?



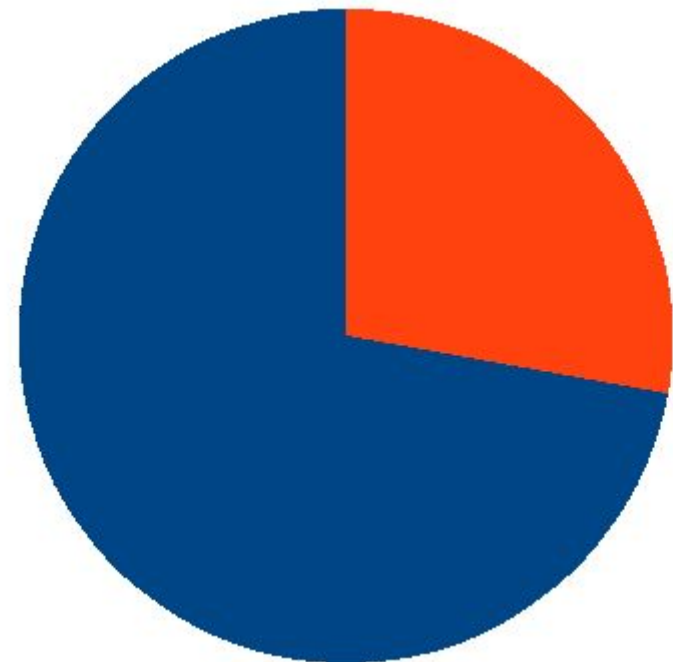


As a result of this experience will you change anything in.....

This course?



Future teaching?

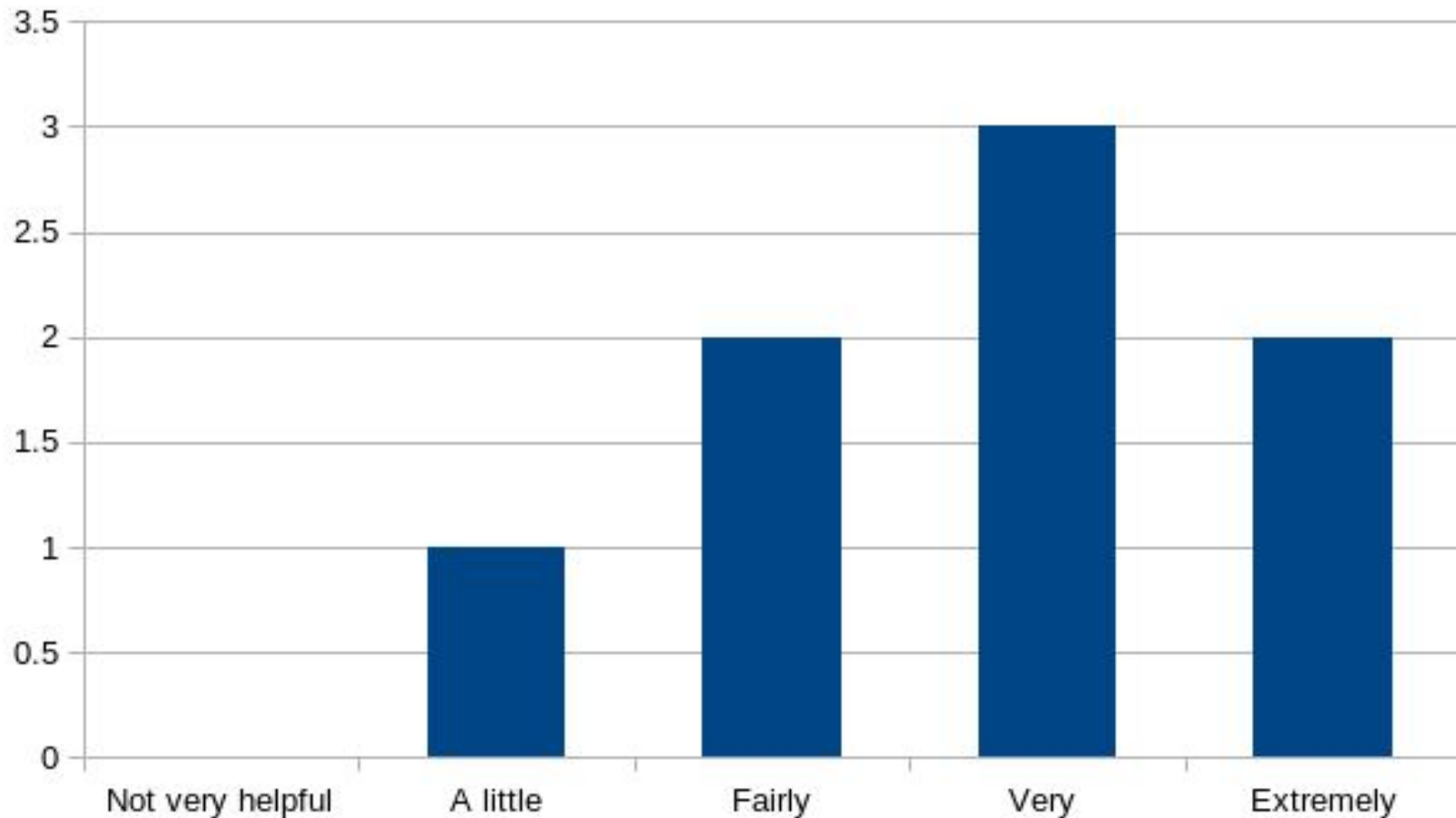


- Yes
- Maybe
- No
- NA



Initial Results - Mentors

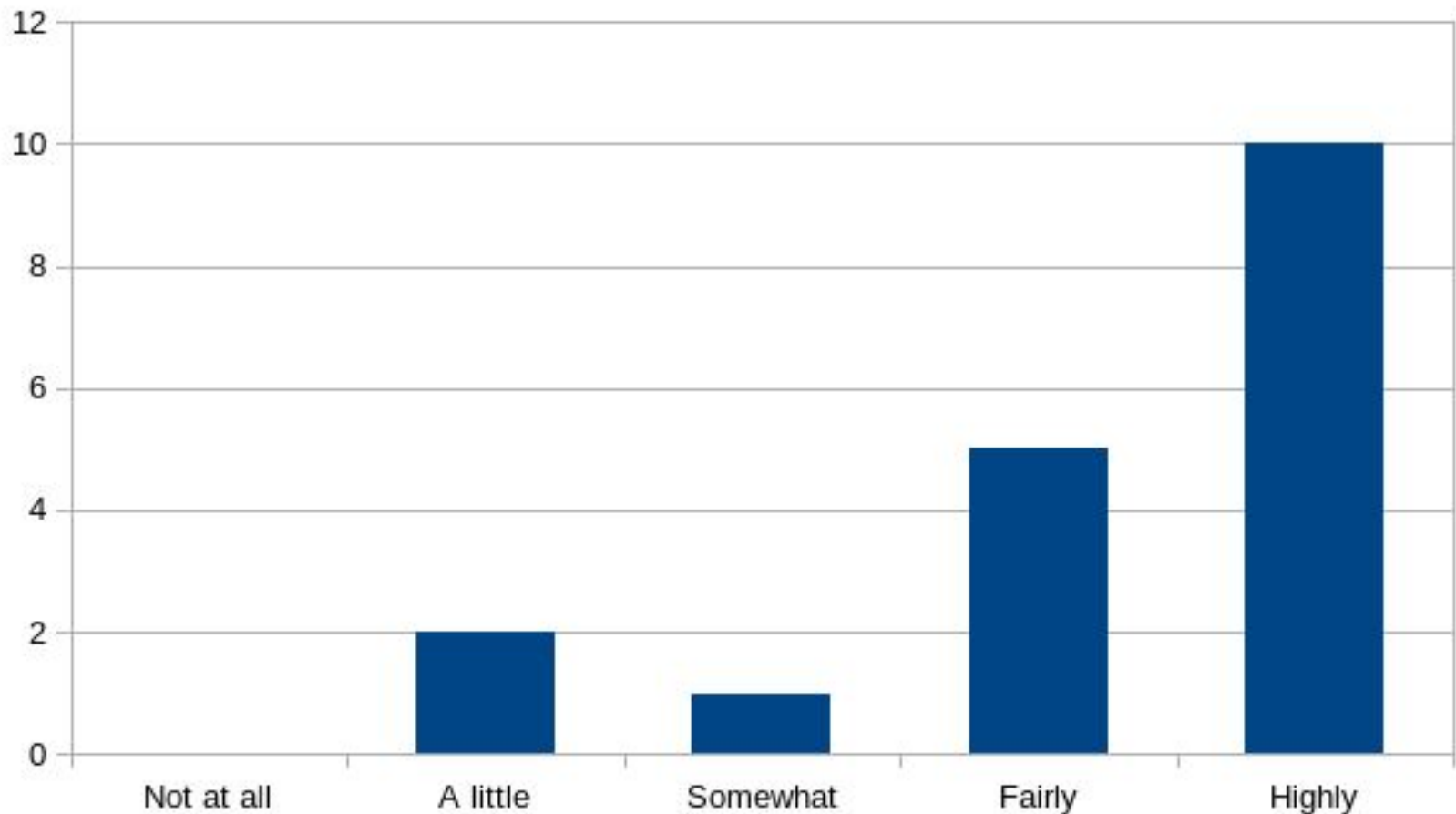
How helpful was having the data for conducting a conversation about reflecting on teaching?





Initial Results - Participants

How likely are participants to recommend to colleagues?





Initial Results - Mentors

- **Data used as starting point for in-depth conversation about teaching and learning**
 - “We used the data to start a more in-depth conversation about what happens during a lecture, what we intend to happen, and how that can sometimes differ to the result.”
 - “It was certainly helpful as a prompt for various conversation topics.”



Initial Results - Questionnaire (Mentors)

- **Helped mentors think about their own teaching**
 - “Discussing barriers to change also reassured me that I'm not the only one who feels like an imposter”
 - “It also gave me inspiration for how should I improve my teaching.”



Initial Results - Questionnaire (Mentors)

- **Disciplinary Differences**
 - “A sense of frustration, especially when looking at the comparative data from other disciplines which may have more 'freedom' than a content heavy, tightly regulated programme”



Initial Results - Challenges

- **Resources - RAs for coding**
 - Training: £90 (£15 per hour, 6 hours)
 - Per Lecture: £20 to code
 - Per course: £80 (4 lectures)
- **Organisational Challenges:**
 - Recruitment
 - Getting access to lectures
 - Time-commitment for participants



Conclusions

- Participants find the process valuable.
- Encourages reflection and supported change.
- Potentially has a large impact on teaching and learning in STEMM courses.
- Cost needs to be considered.
- Admin and organisation is non-trivial.



Thank you!

- Contact: anna.wood@ed.ac.uk
- Website: <https://blogs.ed.ac.uk/fill/>
- Videos 4 Min Intro: <https://tinyurl.com/2er75zjm>

Papers:

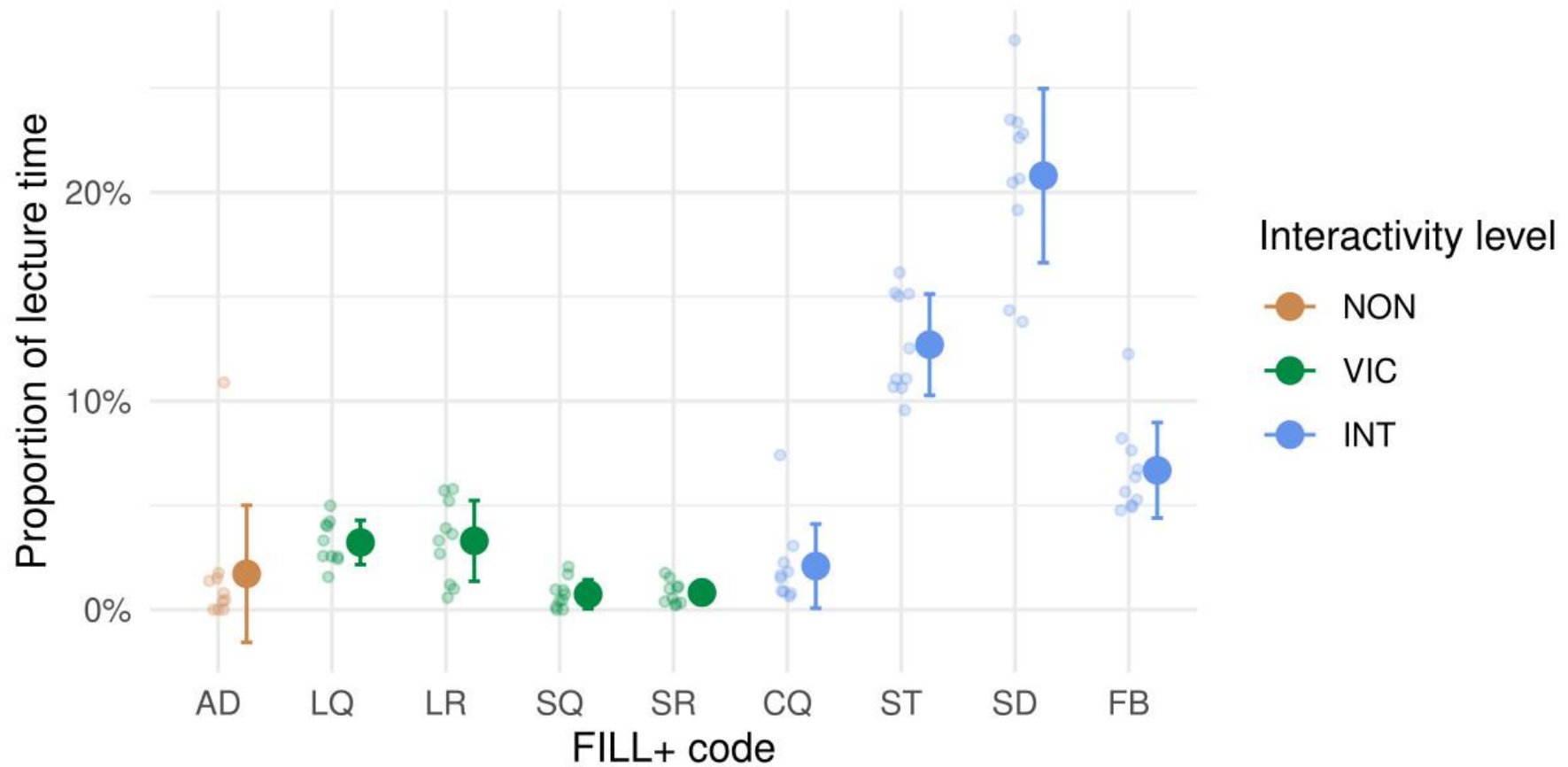
Wood, Anna K., et al. "Characterizing interactive engagement activities in a flipped introductory physics class." *Physical Review Physics Education Research* 12.1 (2016): 010140

Kinnear, George, et al. "Developing the FILL+ tool to reliably classify classroom practices using lecture recordings." *Journal for STEM Education Research* (2021): 1-22



Data Presented to Lecturers

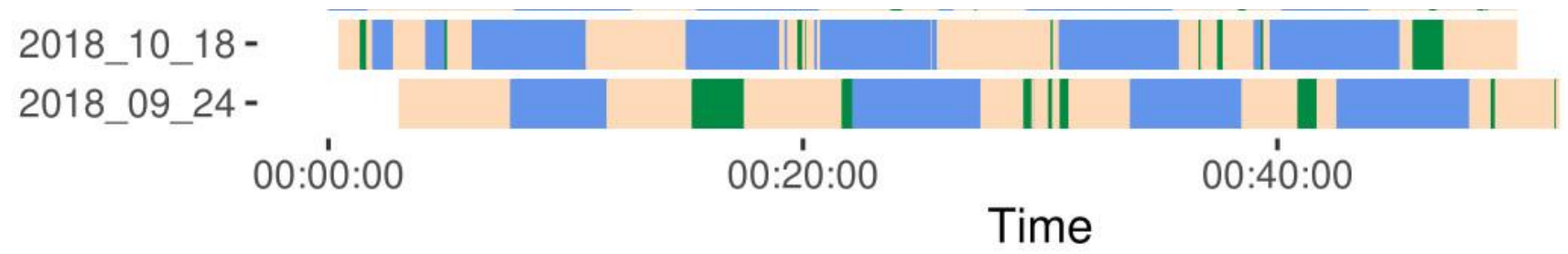
Proportionality Graph





Data Presented to Lecturers

Simplified Timelines



Interactivity code ■ Non-interactive ■ Vicarious interactive ■ Interactive



Future Work

- **This project:**
 - Interviews with mentors
 - Focus group with participants
- **Future projects**
 - Formally incorporate into PgCAP/EdTA
 - Investigate guided self-reflection
 - Extend to Universities outwith Edinburgh
 - Apply to small group classes



Research Questions

1. In what ways do participants on professional development programmes find a FILL+ analysis and discussion of their data useful?
2. What are the logistical challenges of incorporating this approach into CPD courses?



Framework for Interactive Learning in Lectures (FILL+)

- Reliable way to characterise classroom activities
- Focus on what students and lecturer are doing e.g.
 - Lecturer talking
 - Students discussing in small groups,
 - Questions to and from the lecturer

1. Wood, Anna K., et al. *Physical Review Physics Education Research* 12.1 (2016): 010140
2. Kinnear et al. *Journal for STEM Education Research* (2021): 1-23.