Oh my pod!
Teaching experimental biomedical science to undergraduates in research-intensive teaching labs

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What is wrong with lab practicals?

- One time event
- Staged
- Incomplete procedures
- Superficial reports
- Evidence that they can actually do more bad than good
Read

- Single protocol provided

Do

- Carry out experiment, as instructed
- Collect data, as indicated

Describe

- Present data, as per instructions
- Write report, according to the given format
Rubric designed to characterise the level of inquiry in higher education laboratory curricula (adapted from Buck et al., 2008).

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Lab Pod: where magic happens..
What is a Lab Pod?

- Run like a real research lab
- Hypothesis-driven research project
- 1 day per week throughout the academic year
- Focus on scientific rigour and the mastering of basic biomedical research techniques
- Analytical and transferable skills
Lab Pod: where magic happens...
Lab Pod: where magic happens..
When you think about what is good regarding the teaching in the LPs you think:
When you think about what is bad regarding the teaching in the LPs you think:

- heavy workload
- long hours
- disengagement
- space
- costly
- difficult to plan
- no time for breaks
- resource intensive
- overwhelming for students
- requires good TFS or GTAs
- staff
- resources
- 2 parallel labs stressful
- need more equipment
- unforeseen problems
- overwhelming
- little tech support
- lots to organise
- energy-draining
When you think about what is good regarding learning in the LPs you think:

- teamwork
- authentic
- relevant research
- self-driven
- decision-making
- complex techniques
- highly dedicated tfs
- regular feedback in labs
- learning through mistakes
- freedom with hypothesis
- learning from mistakes
- practical learning
- authentic learning
- collaborative
- independence
- ownership
- life-skills
- hands-on
- student led

- active
- challenging
- creative
- interesting
- interactivity
- experimentation
- collaborative
- transferable
- exciting
When you think about what is bad regarding learning in the LPs you think:

- confusing
- superficial
- rushed
- disengagement
- time management
- difficult to measure
- teams hide non-workers
- complex too soon
- anxiety
- uneven exposure
- demotivating
- overwhelming
- independent
- pressure
- storming
- monitoring
- stress
- conflict

long-hours
Getting ‘those’ skills...
Lessons learnt

• Authentic learning labs are resource intensive

• Lab Pods require highly qualified and trained staff

• Lab Pods require technical support

However...

• Rewarding for students and staff
• Learning happens almost by osmosis
• Students feel a huge sense of achievement and pride when ‘things’ finally work!
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