

# What's the problem?

## □ Lack of confident ability .....

- ❖ 100 cm in 1 m, 100 ms in 1 s
- ❖ 100mm in 1 m
- ❖ 100cm<sup>2</sup> in 1m<sup>2</sup>
- ❖ 50 cm travelled in 10 ms =  $0.5/0.001 = 500 \text{ ms}^{-1}$
- ❖ Cardiac output is 5000 litres per minute
- ❖ Graph: distance (x) and time (y) - gradient = speed
- ❖ Total body water = 60% body mass  
**Question:** TBW = 42 litres, what is body mass?  
**Answer:** ???? How much does a litre weigh?
- ❖  $CO = MAP * TPR$   
**Question:** If CO increases but MAP remains constant, what change must occur to TPR?  
**Answer:** Increase

# Can a quiz solve a problem?

- Problem
- Objective
- Demographics
- Strategy
- Method
- Development
- Review
- Revision
- Implementation
- Overall costs

# Always question, never accept!

*"The first step towards madness is to think oneself wise."* Fernando de Rojas (1465 - 1538)

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## Problem

- ❖ Students with poor laboratory skills in Yr2

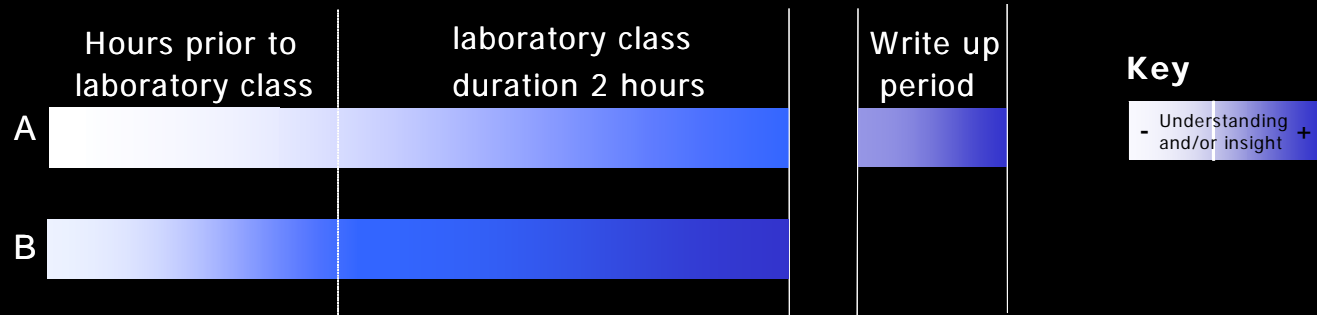
## Objective

- ❖ Better engagement in Yr 1 laboratory practicals
- ❖ More effective learning of lab skills

## Demographics

- ❖ ~200 students (about 170 subsidiary)
- ❖ 10 first year laboratory practicals

# The mad plan!



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## Strategy (actioned by Teaching Committee)

### ❖ On-line [pre-practical] quizzes

- Available BEFORE each laboratory practical
- MUST be complete BEFORE laboratory practical

## Method

- ❖ Delivery by QuestionMark Perception
- ❖ Questions authored by PDL
- ❖ Revision & development by all staff
- ❖ Policy [enforced engagement] - make quizzes part of mandatory coursework
  - Non-compliance to followed up in laboratory sessions

# The Devil is in the detail

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## Development

### ❖ PDL - drafted questions

- Questions (on paper) discussed with laboratory practical class lead
- Revisions on paper

### ❖ Inputting of questions

### ❖ On-line trialling

- Practical class leads
- All members of TC
- Students (voluntary)

### ❖ Repeated rounds of editing, bug checks and revisions

### ❖ Teaching Committee item - several issues raised

### ❖ Sub-group of TC - actioned to resolve issues

# Progress is impossible without change

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## TC agenda item: Identified issues not easily resolved by large meeting

### Review:

- ❖ Sub-group of four identified
  - Remit to review policy, details & implementation
- ❖ PDL provided proposals for each issue
- ❖ Sub-group's decisions made in one hour meeting
- ❖ Reported back up to TC

### Revision:

- ❖ In accordance sub-group decisions [in progress]
  - Not negatively marked
  - Maths to GCSE only
  - No laboratory data used
  - Explicit feedback for wrong answers

# The future is out there

[the trick is finding it!]

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## □ Implementation

- ❖ All required ratification by TC
- ❖ Quizzes integral to laboratory practical coursework
  - failure satisfactorily attempt quizzes = failure to adequately complete coursework & Unit
- ❖ Initiated for Physiological Science B.Sc but adopted for all first year programmes from 07\_08
- ❖ Office secretaries take responsibility for:
  - Scheduling quizzes
  - 'Broadcast email' notifications and reminders
  - collating data in Enterprise Manager

# Time is not without cost!

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## Overall costs

- ❖ Authoring 150 questions (PDL) - 30 hours
- ❖ Discussion/revision with laboratory lead staff - 10 hours
- ❖ Inputting questions (& feedback) - 70 hours
- ❖ Trialing (& discussions)
  - Lead staff (5 × 2 hours) 10 hours
  - all staff (10 × 2 hours) 20 hours
  - Students (voluntary exercise) - ????
- ❖ Revisions (post-trialing) 30 hours
- ❖ TC (10 staff × 1 hour) 10 hours
  - Sub-group (4 × 2.5 hours) 10 hours
- ❖ Revisions required by sub-group decisions ~ 30 hours
- ❖ Proposals, reports and documentation ~ 10 hours

Total = minimum of 230 hours (~175 hours by PDL)



# Acknowledgements

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- Prof Judy Harris & TC
- Laboratory class lead staff
- Roberta Perli and Jules Cook (LTSS)

Questions???