

Bioscience Representatives' Forum 2007

Date: Thursday 6th to Friday 7th September

Use of automated on-line quizzes as a means to engage and motivate students to prepare in advance of laboratory practical work

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The problems:

- more students,
- fewer staff,
- increased pressure to be efficient.

Move from full written lab reports to 'fill the gaps' proforma-style reports made 5 years ago reduced marking load but also removed the driver of assessment from students.

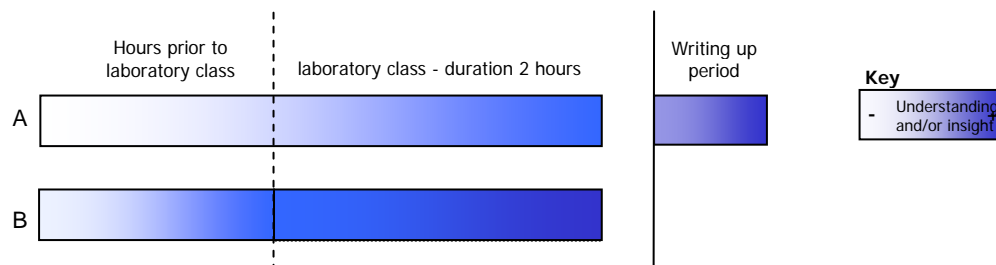
Comments from students such as *'I don't know what I'm doing or why I'm doing it'* are not uncommon.

In examinations and in final year research projects, students are relatively poor in applying basic laboratory related skills and are particular poor at anything that involving calculations.

The solution!

Introduce a series of on-line quizzes that are mandatory and that oblige students to read the practical schedule, practice basic (calculation for concentrations, molarity, %w/v, volume, BMI, conversion between units) and more advanced (plotting data, calculating gradients, interpretation etc) laboratory skills. **All quizzes are associated with formative feedback.**

The intention is that students will enter the laboratory better prepared for the specific practical and more aware of how to deal with the data they record. The general schemes that existed in 2006_7 (A) and will run in 2007_8 (B) are outlined in figure below.



The questions are being delivered using QuestionMark Perception. Failure to satisfactorily attempt the quizzes will be regarded as non-attendance at the laboratory practical.

You can try out the questions during September 07 using our guest account. Any comments welcome:

<http://qmp.bris.ac.uk>

Username, 1abc, password, 2xyz

Information at the beginning of each pre-laboratory quiz

You need to complete all the questions **before** 9am on the day of the practical class. You should **not** attempt these questions without first reading the practical schedule.

Please note:

1. Your mark and detailed feedback is provided at the end of the quiz- once you've gone through all the questions (*see the instructions on the page that reports your score at the end of the quiz*).
2. Some questions permit only a single option to be selected (selection is seen to 'toggle'), whereas others permit multiple options to be selected.
3. Where the answer is a number, do **NOT** type in the units, but **DO** take note of the units that apply i.e. if you calculate an answer to be 10 ml, entering '10' will be **incorrect IF** the question specifies that the answer should be expressed (given) in litres; in which case '0.01' is the correct response.
4. The quizzes are **NOT** negatively marked. You should note, however, that some of your examinations will include similar question types that **are negatively** marked.

The questions test several things:

- that you have read the practical schedule (something that helps you and the teaching staff)
- that you have the basic skills (basic maths, knowledge of SI units etc)
- that you have the vocabulary required to understand the concepts that underlie the practical class

We would expect you to achieve an overall pass mark (40%) for these quizzes.

Information at the end of quiz IF score more than 40%

Good, you scored in excess of 40% which we regard as a reasonable effort.

IMPORTANT: You have the opportunity now to review each question and tailored feedback will be provided on each question; depending on whether you answered the question correctly or not. The value (to you) of these formative tests will be greatly increased if you can find the time to review the feedback and reflect on your reasoning.

When you have finished reviewing the feedback, click on '**Home**' button at the bottom of the page to close the assessment.

Information at the end of quiz IF score less than 40%

Your overall score was less than 40%. This is below the level that we regard as satisfactory.