2014

Practical Project

Phil Nicholl
Technological University Dublin

Assessment & Feedback Use Cases

PRACTICAL PROJECT

Author: Phil Nicholl

Date: 2014

This use case describes how one assessment method was designed and implemented by a lecturer or a group of lecturers in DIT. The use case was compiled from an interview conducted as part of **DIT's RAFT project (2013-14),** the aim of which was to provide a database of assessment practices designed and implemented by academic staff across DIT.

Lecturer

Phil Nicholl

Programme and year on which assessment was offered

BSc Nutraceuticals in Health and Nutrition, Years 2-3

Description

Students work in groups in the microbiology lab carrying out structured tasks on a weekly basis. Completion of the tasks ultimately allows them to complete a project over several weeks. The tasks are based on the previously used lab manual. Each group is given a slightly different project to complete (eg different pathogens) however the tasks are similar, with minor modifications to suit the project. Students are given templates for SOPs and reports, and they learn to generate their own SOPs during the project. They decide as a group what tasks are required, and elect a supervisor to delegate tasks. They must plan ahead to ensure they have sufficient stock for the entire project. The group also has reporter to take records of brand names, calculations etc. Groups submit a final report, containing all generated SOPs and experimental reports.

Why did you use this Assessment?

Students need to think more about the practical work because they are not just given a lab manual to follow. They need to become familiar with the lab, the equipment and the consumables. They are given guidelines, but need to work out the methods, including calculations etc. They are more self-directed, and learn some of the skills they will need for their projects in fourth year. The assessment is more student centered. It can be adapted to suit different levels of learning outcomes, by increasing or reducing the level of guidance given to complete tasks.

Why did you change to this form of assessment?

Used to use a traditional recipe style practical manual, with similar techniques being carried out on a weekly basis. Students worked individually. Changed to this one for many reasons: students learn more from each other. They ask questions of each other, and are not intimidated as they may be when asking questions from a lecturer. The higher order questions they now ask demonstrate this assessment is promoting critical thinking. There is continuity from week to week, so they consider what happens in a project overall, unlike standalone week by week experiments.

How do you give feedback to students?

Weekly face-to-face feedback given to each group in the lab. Opportunity exists for utilising technology (e.g. a wiki) also. I try to compliment and pick out examples of good work to show to the class.

What have you found are the advantages of using this form of assessment?

- Group work reduces the number of submissions, so works well for larger classes
- Good preparation for research project, compared to 'recipe-style' practical work
- Can utilise 'tried and tested' lab manual experiments
- Student groups have different projects which requires them to think, but as the tasks are similar, it is manageable to organise.
- Students are more engaged and self-directed in the lab, which also frees lecturer time to give feedback.
- Group work, oral communication and level of organisation and planning required provides professional context.

What have you found are the dis-advantages of using this form of assessment?

- More difficult to monitor individual students
- Can be chaotic for the first couple of weeks as students settle into the project (although this experience is normal at the beginning of a project in real life, so possibly a good experience for students)
- Need to consider the assessment of group work

If another lecturer was using this assessment method would you have any tips for them?

- Make sure time is given in the lab to ensuring all students in a group are contributing e.g. through asking questions of all members of a group. Consider peer assessment of group work.
- Monitor the work as the students go along.
- Make use of your 'tried and tested' lab manual experiments, just change the emphasis or how you use them.
- You will likely use fewer experiments than a more traditional 'recipe style' practical assessment.
- Consider the arrangement in the lab and how student groups are formed. Don't allow weak students to work together and cluster 'down the back' of the lab.

Do you have any feedback from students about this assessment?

Get the sense that they like it, but no formal evaluation carried out.