

Stretching your students

Notes from the workshop session at the event “Differentiated Learning – stretching able students” on the 14th January 2009

Workshop facilitator – Julian Park, University of Reading and Centre for Bioscience

Attendees, in groups of four, undertook two activities in the workshop

1. Is there more we could do to stretch our most able students?

- On a one-to one basis?
- In small groups (e.g. tutorials)?
- In large groups (e.g. lectures)?
- On an institutional basis?
- On a UK wide basis?

Stretching the more able with:

- Biosciences Challenge – a national competition in a similar vein to University Challenge, innovative, entrepreneurial and could be sponsored
- National Student Bioscience Conference
- Visits – to industry or Research Centres, other science sites
- Science writing competitions
- Prizes for the most able on a national basis (students are recognised outside of the traditional prize for e.g. the best zoology marks in the year)
- Developing a community of more able students – putting talented students in touch with each other – online discussions or online forum
- Leading peer-led tutorials
- Presenting at a conference
- Participating in community science
- Streaming – for example in practicals or tutorials – students could either be identified or self-selected
- Accelerator course – students take exams early and then go on to do extra modules, possibly outside of the departments or can undertake research in the lab.

2. From the ideas put forward, four were selected:

1. Student conference
2. Bioscience University Challenge
3. Accelerator programme
4. Most able to become peer tutors

Groups then considered the positive and negative aspects of each

Student conference:

Looks good on student’s CVs

Students can develop a variety of skills (e.g. presentation skills, networking) - teaching these skills may be difficult and students’ nerves could be an issue

Publication opportunities, e.g. undergraduate research journal or conference proceedings

Timing could be an issue – after final year projects are completed could be a good time, or in between 2nd and 3rd year

Funding – no input from students should be required, could look for sponsors from among the learned societies

Would the Conference operate on a regional or national basis?

How would students be selected for the Conference? For example, an internal selection process within each department taking part selecting two students to attend and present.

Content – the conference could be streamed – research stream, gap year streams, area of interest stream (almost like a review paper) or discipline stream.

Students would be the producers.

Links into UROP schemes (Undergraduate Research Opportunities Programme) and getting students into labs over the summer.

Learned societies could provide sponsorship, or could form a part of an already established conference, e.g. the SEB.

Bioscience Challenge

Good for CVs.

Have regional heats and build up to a national final – get the students focussed.

Involve students in setting up the question bank for the challenge.

Aim to alter ethos of being clever, make it positive, rather than “geek”.

Could encourage generalists.

Negative – costs.

Would need a “Jeremy Paxman”!

Accelerator programme

Increase student engagement.

Done the module topic before? Pass the module and then move onto something new (e.g. module external to the department, extended lab work), could be especially valuable in the first year.

Broaden student’s knowledge.

Could enable more lab work to be undertaken.

Could encourage self directed / self motivated learning.

When would the accelerated test be done? Would half modules have to be offered? Would it encourage re-takes?

What extra modules would students opt into? Would teaching staff be kept informed of the extra modules students were doing?

Very strong learning outcomes would be needed for shortened modules.

Would it double the exam workload? Providing two different, comparable sets of exam questions?

Peer tutorials

Could quality control be an issue? i.e. what are the student tutors actually teaching – who is going to keep tabs on this?

Peer tutoring could be a very effective learning tool for the students actually doing the peer tutoring

Various institutions offer Peer-learning and Peer mentoring schemes – e.g. Oxford Brookes (<http://tech.brookes.ac.uk/student-activities/mentoring/peer-assisted-learning>) and

Manchester (www.bioscience.heacademy.ac.uk/ftp/events/slrc07/papers/o24fostier.pdf)

Peer tutors would need an effective training programme

The Student Conference was identified as the initiative delegates would most like to follow-up as a way of stretching able students in the biosciences.

Examples of student conferences:

- Promoting Undergraduate Student Conference Attendance Has Benefits for All!
www.bioscience.heacademy.ac.uk/ftp/TeachingGuides/studentresearch/turner.pdf
- Case study of a student conference on animal nutrition
www.bioscience.heacademy.ac.uk/resources/projects/sparagano.aspx
- Mini conference: Student Oral presentations in a Real-World setting
www.bioscience.heacademy.ac.uk/ftp/realworld/worsley.pdf

Differentiated Learning – stretching able students

www.bioscience.heacademy.ac.uk/events/bristoldl140109.aspx