

## PRACTICAL SKILLS

### - TIME FOR A RETHINK?

A recent survey (Brown *et al.*, 2005) asked graduates to identify three things in their current occupation for which their university course had prepared them well and three things for which their course had prepared them poorly. Lack of practical work and experience stood out as the aspect of courses to receive most criticism (second was career development skills).

There has undoubtedly been a reduction in the provision of practical work in university courses in response to:

- Staff pressures (available time and the drive to research priorities);
- Resource pressures (both from the increasing cost of consumables and the reducing unit of resource per student);
- Increased student numbers (since what can be done with 8-12 students cannot necessarily be done with 50);
- Increased Health and Safety issues;
- Increasing sophistication of experimental method in the biosciences;
- Reduced hours for which students are expected to attend classes; and
- The need to make time available to teach generic skills.

Quoting from a recent HEFCE consultation paper (HEFCE, 2003), "Employers expect bioscientists to have significant practical experience, and so there is pressure to ensure that the amount of practical work is not reduced". "Reducing practical work in the biosciences would undoubtedly have an adverse effect on HEFCE employability objectives". The responses from the survey reported here suggest we have already arrived at this situation! This is supported by recent reports from the Biosciences Federation *Enthusing the next generation* (<http://www.bsf.ac.uk/responses/enthusing.pdf>) which recommends that "practical work be given greater prominence in the curriculum" and the Association of the British Pharmaceutical Industry *Sustaining The Skills Pipeline* (<http://www.abpi.org.uk/publications/pdfs/>)

*2005-STEM-Ed-Skills-TF-Report.pdf* also identifies practical skills and *in vivo* skills (among others) as requiring action, in some cases immediate, to improve the situation.

There are a number of options which would increase the practical abilities and experience of graduates. For example:

- Increase total teaching time;
- Reduce time spent teaching generic skills;
- Increase the provision of sandwich courses, vacation work experience and placements in industry;
- Give students options for 'practical light' or 'practical heavy' modules;
- The diversification of the mission statements of universities might allow institutions to establish themselves as providers of practically orientated courses; and
- Provision, by employers, of training courses for newly-employed graduates to bring them up to speed.

None of these are without problems but the most important thing is for us to take on board student and employer concerns about the practical work to which students have access at university. The question then becomes how, within the constraints under which we operate, can we deliver a more satisfactory student experience?

Brown, C.A., Calvert, J., Charman, P., Newton, C., Wiles and Hughes, I. (2005) Skills and Knowledge Needs Among Recent Bioscience Graduates — How Do Our Courses Measure Up? Bioscience Education E-journal, volume 6. Available at

<http://www.bioscience.heacademy.ac.uk/journal/vol6/beej-6-2.htm> Accessed 2/06/06

HEFCE (2003) HEFCE consultation document: *Developing the funding method for teaching from 2004-05 — A response from the Heads of Biological Science.* HEFCE Nov 2003

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