

Centre for Bioscience, The Higher Education Academy

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Introduction

In my previous report I presented a summary of changes and developments in Higher Education in Northern Ireland (NI) which currently affect the academic climate of the two Northern Ireland Universities i.e. The University of Ulster (UU) and The Queen's University, Belfast (QUB). Here I focus on the prevalent issues that relate to teaching Biosciences in Northern Ireland within our given context.

Fees, placements and CPD

The implications of introducing student tuition fees in NI in autumn 2006, remain unclear at present. One likely implication is that less students may choose to proceed to undertake placement, in programmes where this is optional, in order to save on fees. Since placement is undoubtedly a valuable experience, this would be a significant loss. This combined with the move towards three-year degrees for most health professional degrees means that there will be greater emphasis on continuous professional development (CPD). CPD courses will need to focus more on the areas which can no longer be covered during the undergraduate degree programmes.

Recruitment and chemistry backgrounds of bioscience students

In relation to recruitment, it is becoming more difficult to recruit to bioscience courses. Students in general seem to prefer to do vocational courses. Also, students coming onto science programmes have, in the main, weaker chemistry backgrounds than previously, with fewer students having studied chemistry to "A" level. Since a good understanding of chemistry is foundational to the biosciences this is a serious problem. It also makes teaching chemistry very difficult because chemistry modules usually contain students with a very wide range of previous knowledge and understanding in the subject. To support the student learning experience so that the required academic standard of chemistry can be achieved by most students is a significant challenge. At UU a diverse support programme has been implemented by colleagues teaching first year Chemistry to Bioscience students, with encouraging results in relation to student perceptions and performance. This has included an online survey to gauge students' previous chemistry knowledge, a compulsory tutorial support programme grouping students of similar abilities together, regular frequent tests during the first 8 weeks of semester, e-mail checks on progress particularly for the weaker students, development of a dedicated module website for online support material for self-assessment and on-line assessment, an online discussion board to enhance peer support, cumulative assessment mark "look up" facility to enable students to track their own marks for practical and class tests, text messaging to inform students of tutorials etc, increased student participation in lectures and use of lecture material which is more applicable to real-life situations. The importance of this and other innovations to revive chemistry performance and to reinstate its central significance in Bioscience education cannot be overstated.

Study skills training and assessment processes

Students coming to university with varied types of qualifications e.g. A level, AVCE etc., mean that students arrive with differing skills. The A level syllabus requires only one piece of extended writing. Additionally less attention in general appears to be given in schools to developing creative thinking and critical analysis skills, however IT and presentation skills tend to be very well developed. Study skills training at University is becoming increasingly important to help students make the transition from their previous educational experience to studying at university. Adapting assessment processes to gradually introduce particular skills e.g. essay writing are necessary. Initiatives to widen access accentuate the importance of these innovations.

Attendance monitoring and personal development plans

Attendance appears to correlate well with student performance. Students who engage in part-time work, where it is in excess of approx 12 hours per week, frequently experience problems with their studies. Some students simply don't appreciate the value of attending classes, particularly if they can obtain copies of notes used, electronically. Issues relating to accurate and efficient attendance monitoring of students for all lectures, tutorials and practical sessions, together with rapid and effective follow up are becoming important in helping students to remain and succeed in their chosen courses. Personal development plans are being encouraged for all students and advisors of studies have a key role in providing 1:1 encouragement and guidance to students.

Plagiarism

With opportunity for extensive use of the internet, there is a growing incidence of plagiarism by students. This has meant that rigorous plagiarism detection systems and supporting processes need to be introduced. These involve educating students on plagiarism, using plagiarism detection software and introducing guidelines with penalties affecting assessment marks, when plagiarism is found.

Research governance and ethical approval for undergraduate research projects

Another area of concern for science courses is in relation to research projects. The final year research project has traditionally been viewed as a critical part of the honours degree and offering students the opportunity to do a piece of genuine hypothesis-driven research has been regarded as essential to their experience and qualification. Obtaining ethical approval for research projects has become increasingly challenging. Offering undergraduate or masters projects which involve hospital patients is now almost impossible due to the time required to get ethical approval through the appropriate committee together with the required approval through the relevant Trust. Student projects involving human subjects, and projects involving animals also require ethical approval and putting processes in place which facilitate a rapid evaluation and response for student projects continue to exercise universities in NI and throughout the UK. For some science disciplines the pressure to discontinue hypothesis driven undergraduate research projects is very great. In all

areas however projects are increasingly being sought which do not require ethical approval.

Pressures on time for academic staff

With the Research Assessment Exercise approaching rapidly, pressures on the delivery of excellence in teaching, increase. Staff are understandably prioritising endeavours which will favourably enhance their RAE status. Meanwhile the demands in teaching, and in particular the need and expectation for increased student support, are also increasing. Major restructuring of schools and faculties has taken place in QUB, with considerable devolved responsibility to schools. At UU the recently developed research institutes across the university mean that teaching is the main responsibility of the schools.

Conclusion

The 2004 / 2005 QAA Institutional Audit of teaching produced very favourable reviews for both universities in Northern Ireland. Continuing to provide tailored, relevant and adequately supported programmes for our students continues however to be a significant challenge for all academic staff.

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