Centre for Bioscience, the Higher Education Academy
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Annual report 2005

Scottish Learning and Teaching Issues.

Enhancement themes

The enhancement themes initiative (http://www.enhancementthemes.ac.uk/) is one element in the Scottish Quality Framework which emanated in 2003 from the Quality Assurance Agency for Higher Education (QAA) and the Scottish Higher Education Funding Council (SHEFC). The previous themes, *Asessment* and *Responding to student needs,* ran over the course of less than two years, but recognition that this was too short a period for good practices to be identified, developed and fully embedded in the curriculum led to proposals for the current themes to run over a longer period, perhaps five years. *Employability* and *Flexible delivery* are the current themes. For each of these themes working groups have established key areas for development, and series of meetings are being held throughout 05-06 to identify good practices and how these can be embedded into the curriculum.

Development of employability skills in our students is seen as a hallmark of high quality education by the Scottish Further and Higher Education Funding Councils (as indeed the equivalent position South of The Border). The main aims of the *Employability* initiative are to raise the profile of employability in our LTA activities and encourage us to embed it in the curriculum, encourage the sector to develop strategies at institutional level for implementation of this, and to examine links between employability and personal development plans (PDPs -see below). Two meetings on *Getting to grips with employability* examined strategies for embedding employability and entrepreneurship skills in the curriculum, and links with personal development plans (PDPs). A meeting on *Enhancing students' employability* examined strengthening and developing partnerships between students from department, faculty, institution and the international levels, and the possible roles for e-PDPs. Student representatives participated in the event. (See also the section below on enhancement-led institution review for comment on student involvement in quality assurance and quality enhancement issues). A meeting on *Employability: expanding the boundaries* examined support for part time, mature, and post graduate students, and those intent on becoming self employed. Student representatives also participated in this event. A meeting on *Employability assessment* examined issues related to assessment of employability skills, including roles of PDPs, e-portfolios and work experience.

Flexible delivery of our courses is seen as a means of bringing high quality, learner-centred education to an increasingly large and diverse student population, and in the broad sense this encompasses not only modes of delivery but also underlying support systems and infrastructure. The main aims of the *Flexible delivery* initiative are to examine pedagogical issues relating to flexible delivery of courses, needs of students in support for learning, and infrastructural processes that may be needed in institutions in order to support flexible learners. Views from institutions in the sector and from students of three representative institutions were obtained as part of the preliminary studies. A meeting on e-*Learning as*

open learning drew upon the results of the survey of students' opinions, sector-wide consultation, and case studies from various institutions within the UK and abroad to shape a vision for flexible delivery in the Scottish HE sector. A meeting on *Designing for flexible learning*, offered by the Joint Information Systems Committee (JISC), examined through discussions and case studies the advantages of using e-learning alongside traditional methods. A meeting on *Developing institutional strategies for flexible delivery* was aimed at those within higher educational institutions with responsibility for strategic planning, and drew on the experience of the University of Southern Queensland. A meeting on *Models of collaboration* drew upon the experience of some Canadian institutions and the sector wide consultation to examine how collaboration between institutions might be used to promote flexible delivery.

The CeLLS project

A project in life sciences related to the *Flexible delivery* Enhancement Theme's vision of collaborative development of flexible learning resources is the **C**ollaborative **e-L**earning in **L**ife **S**ciences (CeLLS) project (http://www.cellsproject.org/index.html), funded by SHEFC and SFEFC. This project is one of several so-called Transition Projects (http://www.jisc.ac.uk/elearning_sfc.html) aimed at developing materials for innovative course delivery, to examine new approaches to assessment, and to encourage partnerships between HE and FE institutions. The CeLLS project is aimed at transforming to student-based learning in the biosciences in Scottish HE and FE sectors, centred on resource-based, interactive e-learning for core subjects supported by more constructivist case studies, assignments and formative assessments for non-core subjects. It is envisaged that the adoption of the e-learning materials produced will allow students flexibility in learning, will increase their retention and progression rates (see below), and will reduce preparation, delivery and formative assessment time for staff. Project partners are two universities, FE colleges comprising the Scottish Colleges Biotechnology Consortium, the Interactive University and the Scottish Qualifications Authority, and the project is due for completion in May 2007. It is envisaged that materials produced will be used to deliver life sciences degrees and diplomas within partner institutions, and will also be made available to other HE and FE institutions throughout Scotland, the rest of the UK and elsewhere. The current state of the project is in defining and creating materials for core subjects.

Enhancement-led institutional review (ELIR)

Another element in the Scottish Quality Framework of 2003 is new schemes for internal subject review and external institutional review (enhancement-led institutional review, ELIR; http://www.qaa.ac.uk/reviews/ELIR/default.asp). Between 2003-07 all tertiary education institutions in Scotland are being reviewed by the ELIR process, the equivalent of the Institution Audit South of the Border. The ELIR process is distinct from the previous review process in a number of ways: the management and monitoring of QA and QE; emphasis on the student experience, for example issues such as student awareness, representation and support (student satisfaction and retention); focus on learning, not solely teaching, for example use of external reference points such as the SCQF benchmarks; the spirit of cooperation and partnership with students and employers and other partners within the UK and elsewhere. At School/Department level in the biosciences the ELIR process will perhaps be felt most by the need to involve students more in course design, delivery and review, the need to enhance student support and increase retention rate through PDPs and other strategies, and the need to implement initiatives arising from the Enhancement

Themes (see above). Implicit in the process is the need for improved monitoring and evidence collection, which inevitably involves paper pushing – something we all tend to find onerous.

Student Retention

Student retention is a current preoccupation in QE processes, it is a key component of the ELIR process (see above), and it is deemed worthy of media attention (http://education.guardian.co.uk/higher/news/story/0,9830,861684,00.html; Tom Kelly *Focus on drop-out rates highlights an obsession with failure.* Scotsman, 28 September 2005). According to the Guardian survey, Scotland has the lowest retention rate of any UK region, and it is the need to improve the low rate of retention in Life Science programmes that has in part prompted the CeLLS project (see above). In my interim report I highlighted the School to University Transition in **S**cience, **T**echnology, **E**ngineering and **M**aths (STEM) project and its analysis of the shortcomings of the current school science curriculum in ensuring a smooth transition for students entering HE in Scotland (www.gla.ac.uk/stem/advisorygroup/index.html). This prompted me to suggest that we in Scottish universities should consider what part our LTA practices play in the transition process, in particular whether there is mismatch with our initial LTA approach and that with which incoming students are familiar. This could relate to the perceived problem of relatively low retention rates. There may be an additional Scottish dimension to this, caused by the distinct nature of the Scottish curriculum in which students can potentially enter our 4-year degree courses at the age of 17. These matters are worthy of our attention.

Attracting undergraduate students into our courses

The number of school leavers from Scottish schools will decline progressively over the next decade, and a smaller proportion of this declining pool are opting to study bioscience (and other sciences) in HE. In Universities there seems to be an increasing awareness that we need to actively attract students into our institutions, and inviting pupils to participate in activities in our institutions is seen as a good way of forming the initial link. I know of several examples of such practice.

This summer staff from four HE institutions in the Edinburgh area participated in the *Kickstart* programme (http://www.sra.ed.ac.uk/kickstart/), funded by local councils in the area, inviting pupils into institutions for a week of activities in science. The event was designed to give school pupils some experience of what it would be like to study in an HE institution, and as well as activities in subjects relating to science (including bioscience), health and technology, the event included activities related to generic skills. The event was, naturally, strongly linked to recruitment, and during the event students were able to meet with staff and current students socially and were given (optional) presentations on courses, how to apply, and sources of funding.

St. Andrews University has recently established a similar scheme with local schools (http://calvin.st-andrews.ac.uk/external_relations/news_article.cfm?reference=838). In this *Working together to improve* initiative pupils from local schools attend the university and work with student mentors on specialist topics of their choice, including science subjects.

My own School has for the past few years held an annual event, called *The schools challenge*, for pupils from schools in the region. In this event school teams engage competitively in a 'who-done-it?' problem-solving exercise that involves visiting our

facilities and collecting and interpreting results of various analytical tests related to the exercise.

It is likely that such activities designed to attract school leavers into our courses will become increasingly used in the future.