

## LTSN Centre for Bioscience

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**Annual report 2004**

### **The changing education climate in Northern Ireland**

In the six monthly report, presented in September 2003, a number of issues were discussed relating to teaching, learning and assessment issues in Northern Ireland. Since then there has been a major report on Primary and Secondary education in Northern Ireland and the ramifications of this may shape the future of education here for a generation.

The report, the *Future Post-primary Arrangements in Northern Ireland* – Advice from the Post-Primary Review Working Group (colloquially known as the ‘Costello Report’) is the second such report in recent years. The previous report (*Education for the 21st century: Report by the Post-Primary Review Body – the ‘Burns Report’*) was delivered in October 2001 at a time when Martin McGuinness was Minister in charge of Education and the Northern Ireland Assembly was still in existence. The areas that these two reports addressed were:

1. The future of the ‘Qualifying examinations’ or ‘Transfer Tests’ – essentially an 11+ examination that determines entry to secondary schools.
2. The type of schools at the secondary level – essentially, Northern Ireland maintains a Grammar School/Secondary School system as well as a series of other schools that largely cater for denominational groups. There are some designated non-denominational schools (‘integrated’ schools) as well as some ‘traditional’ comprehensive schools.

Selection at the age of 11 to a Grammar School system has been challenged consistently over the years and many in Northern Ireland, including a significant number of teachers, believe the Transfer Tests to be an anachronism and discredited. The Costello report has promised the Province that “Future post-primary arrangements should be based on the principles of equality, quality, relevance, access, choice, respect and partnership”. The achievement of this will be through the abolition of the Transfer Tests and a “choice [of school] by parents and pupil, supported by appropriate information including the Pupil Profile”. The “choice of post-primary schools will be between local schools with distinctive characteristics but which will be of equal high quality”. This essentially introduces a comprehensive system into Northern Ireland education – a major step indeed. The Grammar Schools have traditionally been the feeder schools into Northern Ireland universities (in 2001/02 80% of girls leaving grammar schools went to higher education and 67% of boys leaving grammar schools entered higher education; from the secondary section the data are just 16% and 6% respectively).

However, there is another suggestion in the Costello Report that may have huge implications for the future subject provision and teaching at Higher Education level.

The Costello Report concludes that “Schools will need to offer a wider range and more flexible choice of courses than is currently available, including a mix of both traditional academic and vocational courses”. We have already witnessed shifts in subject provision in the Further Education sector with traditional subjects like biology having to give way to subjects such as nutrition and sports science and this trend could now well begin to extend into the secondary sector.

From research we have been doing on the role of chemistry in Secondary Schools in Northern Ireland it is now very clear that the main (indeed, one might argue, only) reason that pupils take A level chemistry is to enter courses such as medicine and veterinary science at university. The numbers doing chemistry at university are falling; chemistry at the University of Ulster was closed down several years ago. The move to more vocationally oriented areas of the biosciences may lead the traditional areas down the same pathway that chemistry has taken – to extinction. Certainly, at the University of Ulster, the numbers of students enrolling in Biology (or Biological Sciences) has continued to decline as para-medical style courses have flourished. *If* this trend develops at the secondary level and in Further Education then it will represent huge challenges for biology if it is to continue at Tertiary level. (There is a fascinating debate about education in Northern Ireland reported in *Hansard*, Volume 397, 14 January 2003, Columns 556-605.)

### **The widening participation agenda**

In my six-monthly report in September I drew attention to the problems associated with large, diverse classes coupled with the significant declines in numeracy and literacy. Since writing that report, it has come to my attention that a number of schools (there may well be more and this may be a significant trend) are introducing literacy programmes in their curricula paralleling the introduction of numeracy programmes of a few years ago. The public examination system does seem to have failed the pupils in not preparing them well enough in basic numeracy and literacy required for entry to Higher Education or, indeed, the workplace. The constant downward spiral of standards in these areas is a worrying trend. The numeracy project at Queen’s University Belfast is now up and running and a useful discussion group has been started. (If you want to join this discussion list then send an e-mail message to [jiscmail@jiscmail.ac.uk](mailto:jiscmail@jiscmail.ac.uk) with the text subscribe biomaths-ed firstname lastname or e-mail [h.j.sears@leeds.ac.uk](mailto:h.j.sears@leeds.ac.uk) with the message ‘Join biomaths list’. Archive discussion material can be found at <http://www.jiscmail.ac.uk/lists/biomaths-ed.html>)

It is of some comfort to me personally that the problems are not just with my own students and that this is a common trend running throughout Higher Education. Perhaps the time has now come to establish a similar interest group to tackle the growing literacy problem – or maybe one exists?

Widening participation has to have a proactive stance. I have seen two models at work and both have merit – though both are potentially expensive. One model is to work with local schools where participation in Higher Education has been low (or non-existent) and with pupils in those schools where there has been no tradition in the pupil’s family of participation in Higher Education. (This is run by the Step Up programme funded by the Northern Ireland Higher Education Council; see

[http://www.ulster.ac.uk/stepup/.](http://www.ulster.ac.uk/stepup/)) One problem that these students face is that their expectations can be raised – lots of very small group work and projects is what they are introduced to – and the reality once they arrive at university is huge classes where they can easily become lost and alienated. This represents an interesting model but more work is probably required to ease the transition once such students have entered Higher Education.

One other model, from the University College Worcester and submitted to us as a STAR (Student Transition and Retention) FDTL4 project case study, involves seeing potential students (usually mature students) in their own community; this involved meetings in village halls, employers premises, drop-in centres and cafes. As well as acting as a ‘brokering service’ the consultations also help to spell out the reality of the demands of Higher Education.

Both these models have merits and there are probably a large number of similar ones ‘out there’ – a compendium of fully evaluated programmes for use in the biosciences would seem appropriate.

### **Employability and Enterprise**

One very obvious way of tackling employability and enterprise in the curriculum is to introduce an element of work experience. Unfortunately, the economic climate is such that this is not any longer an attractive option.

With many students working part-time, most are unwilling to give up that form of job security in order to do a year’s placement. Additionally, they may have to pay fees for the year spent away from the university. In my institution, these are half fees though to be fair the student is enrolled for a Diploma in Industrial Studies and gets significant help and support before, during and after placement to justify the charging of fees. The economic down turn seen in some parts of industry have also impacted on the number of placement opportunities and many firms that in the past have offered placement opportunities have now cut these back. Northern Ireland is a relatively small place and the number of placements available has always been small but placements are now getting more difficult to acquire and at the same time it is becoming increasingly difficult to persuade students of the advantages of taking a placement. Computer science has been particularly badly affected by this but there are signs that biology could soon follow.

### **Research and teaching**

With the dust beginning to settle on the 2002 Research Assessment Exercise (RAE) the University of Ulster, like many other universities is beginning to put into place a strategy to maximise its success in the next RAE. This will include the development of a number of institutes focussed on specific research activity (e.g. Biomedical Science, Nursing, Rehabilitation Science, etc.). A director will head these institutes and all research active staff will be assigned to an institute provided an institute has been established in their area. The disturbing development is that “All research-active academic staff members will contribute to both teaching, research (and, where

appropriate, knowledge transfer) with the proportions of time devoted to each activity being subject to discussion between the Pro-Vice-Chancellor (Research), the Dean, Head of School and the Head of the Research Institute”. How this will impact on teaching at this stage is difficult to judge but the comments I made in my six-monthly report in September 2003 still seem highly pertinent:

“The importance of the research agenda as a consequence of the RAE has meant that teaching has suffered in recent times. This is evidenced by:

- a. staff being asked to teach in areas where they have little expertise in order to cover for other staff whose teaching load is being minimised to allow more time for them to do research;
- b. teaching being devolved to research fellows to free up time for research active staff to be away. (In itself, this is not a bad thing, but the reports from students would suggest that quality is being sacrificed.); and
- c. the increase in stress levels amongst those staff who are carrying the highest teaching burden.

Without negotiation, including a sensible career pathway for ‘teachers’, we have moved towards unwritten teaching-only and research-and a little bit of teaching contracts.”

The development of research institutes with negotiated teaching loads for particular staff would seem to be another step towards different contractual requirements. The argument has always been that research should underpin teaching but the withdrawal of research-active staff will weaken this link and diminish the quality of teaching provision. But ... there doesn't seem to be any way of stopping the research train.

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