

The Response of Bolton Institute of Higher Education to the Lambert Review of Business-University Collaboration

Introduction

Bolton Institute welcomes the opportunity to comment on the issues raised for consultation in Richard Lambert's letter of 5 February 2003. We believe that we can offer views based upon in-depth practical experience of working with business over many years and a strategic commitment to providing higher education which supports application, innovation and the promotion of enterprise and which inculcates enterprising attitudes and skills in our students.

For the Institute, interaction with business is multi-faceted and rooted in our organizational culture. 45% of our students are part-time (one of the highest proportions in the HE sector) and are drawn from small and large employers in sectors such as engineering; textiles; construction; civil engineering; microelectronics; automotive industries and healthcare. We have recently been highlighted in a report by the Higher Education Funding Council for England as one of only eight "exemplary" institutions out of one hundred and thirty seven, for our application of Reach Out to Business and the Community funding to strengthening our interactions with business. Our new strategic plan priorities enterprise, innovation and knowledge transfer as defining characteristics of our institutional ethos and our teaching and applied research. Our programmes increasingly promote the 'work, earn and learn' model which we believe will best meet the needs of both individuals and employers.

Currently we are ranked in the top third of UK universities in terms of the generation of consultancy and enterprise income per full-time equivalent member of staff and we aim to grow enterprise income from the current annual figure of £3 million to £10 million by 2006. This means that all parts of the Institute are set ambitious enterprise targets and that partnership relationships with employers are strategically prioritised.

Our approach is therefore not to regard enterprise and collaboration with business as something 'separate' to our normal higher education activity to be hived off to a specialist 'unit'. It is integral to the identity of the Institute and shapes our approach to learning and teaching as well as to research and knowledge transfer. All Departments have enterprise and work-related practice as areas of activity they are expected to develop and we embed enterprise as a central value of the Institute's strategic position at all levels of the organisation.

Question One: Best Practice and Examples of Excellence in Business-University collaboration in the UK and abroad.

The Institute believes that working successfully with business depends upon having academic staff with the 'know-how' and the 'can-do' attitudes which ensure that ideas are turned into practical end-results. It is no good talking about business people and academics talking different languages, academics should naturally be able to understand business issues, be able to address the commercial imperatives which companies have to face and be able to produce solutions which work for business. Equally, they should be able to transmit these qualities to students so that they are enterprising, skilled and 'employment-ready' when they complete their initial course or 'employment-enriched' when they complete their continuing/part-time studies.

Mainly this is a recruitment issue and a staff development issue for higher education institutions. Bolton Institute is proud of the fact that 55% of its academic staff hold professional qualifications, compared to 38% for the university sector as a whole, placing the Institute in the upper quartile for the sector. Many of our staff have worked in business and

have studied part-time to gain advanced academic qualifications so that they understand the pressures faced by companies trying to promote workforce development, product innovation and systems improvement. Our human resources policy and our model of the 'Bolton academic', ensures that we maintain our staff's awareness of business and enterprise through their professional development and involvement.

This approach is exemplified in the comprehensive service we provide to certain key industrial sectors which is based upon the regular and continuous engagement of our staff with business, sector skills councils and the relevant employer organisations and public and regional agencies which promote business development. Two examples illustrate our approach.

Advanced Materials and Technical Textiles

The Institute's **Centre for Materials Research and Innovation** currently works on applied research and consultancy projects with approximately 30 companies and is effectively the major research and development arm of the North West technical textile industry. Supported by a grant from the North West Development Agency, the Centre has recently been augmented by a new Incubator unit – the iZone which will utilise the Institute's research facilities and expertise to create and sustain new high-tech businesses. These businesses will help to take the North West Textiles industry forward as a science-based industry at the forefront of innovation in geotextiles; healthcare products; safety and protective clothing; sports and active wear; automotive and aerospace products.

This day-to-day involvement of the Institute with the industry ensures that its advanced materials and technical textiles research is always business-focused and attuned to commercial realities. In the same way, the Institute is the base of the North West Textile Employers Network (TEXNET) and develops its courses at undergraduate and postgraduate levels to meet the needs of the industry. One such example, is an entirely distance-learning based Foundation Degree in Textiles aimed at developing the skills and knowledge of technicians and supervisors in the industry, which can be studied at work and at home on the 'work, earn and learn' model. Development funding was supplied by the North West Development Agency and the DTI and the project was run in partnership with Skillsfast-UK, the Sector Skills Council for the Apparel, Footwear and Textiles industries. The success of the new learning methods has prompted Skillsfast and the DTI to support the course's extension to the footwear and clothing sectors.

Thus, the Institute works with its business partners at all levels – from courses for technicians to the most complex scientific research for product innovation in order to identify and meet the needs of the technical textiles industry. This partnership is also recognised and supported by the regional and national agencies as the basis for the renaissance of the textiles industry cluster in the North West as an advanced, science-based industry vital to the region's regeneration and economic well-being.

Microelectronics

The effective synergy between the Institute's expertise, the needs of a growing business sector and the use of public funding to generate productive outcomes from university research and innovation is typified by our work in microelectronics. Our reputation for innovation in circuit and microchip design led to funding of £140,000 from DTI in 1994 to establish the Microelectronics in Business Centre to support SMEs in developing and implementing new products. This was followed by a £2.5 million FUSE award from the EU to establish the Institute as a Technology Transfer Node (one of only three in the UK) and a further DTI award of £200,000 to establish an electronics systems design centre to support software design and industrial application.

The results of this funding and the close engagement with business which it has fostered include:

- 90 new products developed for SMEs
- ongoing support to over 500 SMEs
- 7 Teaching Company Schemes - including a national TCS award for engineering excellence
- the establishment and funding by the Engineering and Physical Research Council (EPSRC) of a sponsored consortium of 8 universities, led by the Institute, for Continuing Education for Electronic Systems Integration (CEESI)
- a M.Sc in Microelectronics for Industrialists which is now delivered to 130 employees of UK and international businesses entirely on-line
- student designed products and placements which enhance individual learning and benefit companies
- further demand from the microelectronics industry for a new M.Sc (start date: 2003) in Electronic Design Realisation.

The above examples of the close relationships which the Institute has developed with particular business sectors indicate the approach which we believe is most successful from both sides' points of view. This approach is one of Interdependence and Engagement at a variety of levels. Not only is business involved in guiding the focus of our applied research and innovation work, it is also a partner in the development of our taught courses which are tailored to meet advanced workforce development requirements and are delivered in the formats businesses require. The pump-priming funding from public agencies has recognized this practical and hands-on engagement and has provided a multiplier effect to generate knowledge transfer and business growth on a sectoral level.

Question Two: How might relationships be strengthened

We believe that the success of these partnerships could be replicated if public funding was targeted at all aspects of knowledge transfer and not just at large-scale research. The integration of the strategies of the DTI, the DFES and the Regional Development Agencies in support of higher education's knowledge transfer activities would also be of assistance as would an end to the privileging of 'pure' over applied research by the Higher Education research assessment exercise.

Question Three: How business can attract the best graduates and postgraduates

As above, the Institute believes that it is the job of higher education institutions to involve business in the planning and development of courses and applied research so that students who take them are equipped with the knowledge and skills which businesses want. This is particularly the case with SMEs and our pioneering MBA in Small Business Management has been illustrative in this respect. By working with representatives of small businesses we have been able to develop a postgraduate course which more precisely meets their needs compared to the conventional 'off-the-shelf' MBA. This approach requires higher education institutions to get out and find out what business requires and work closely with them on course development. Equally, businesses should be prepared to spare time to provide staff and student placements and to work with academic colleagues on tackling their business problems. Involvement at the levels of course planning; student placement supervision and applied research and consultancy project management is more important than sitting on advisory councils or responding to surveys.

For higher education institutions the task is to integrate enterprise values and skills more firmly into the curriculum not as 'add-ons' but as an integral part of the intellectual challenge of an academic degree course. It is also the role of higher education institutions to work closely with the schools and FE colleges sectors to stimulate and value high quality vocational education which opens up a wider range of student participation in vocational and technological higher education courses. The Institute is proud to be working, through its North West Development Agency sponsored project, ACCOMPLICE, with employers, schools and work-based training providers on developing enterprise and creativity in the school curriculum – using our own students and staff as mentors, working alongside school pupils and employers. Only by higher education institutions and employers demonstrating their involvement and interest in the 14-19 vocational and technological curriculum will learners be encouraged to follow on to higher education in these areas and be educated for future employment.

A further aspect of improving the fit between higher education and employer needs might be for businesses to work more intensively on advanced modern apprenticeships and graduate apprenticeships. Far too few modern apprentices go on to higher education and there is clearly substantial undeveloped potential which could be fostered by a flexible part-time route through vocational higher education supported jointly by employers and higher education institutions. The Institute is currently working on a pilot project with employers and work-based trainers to promote such a route in the Construction sector.

Question Four: Financial Considerations

The single most important issue for higher education institutions is the development of a third stream of funding for enterprise and knowledge transfer which is significant in terms of impact on the activity of higher education institutions. Current proposals in the Government's White Paper for such a funding stream are welcome but the amounts proposed are paltry when compared to the increase in research funding. It is our contention, supported by our experience (two examples of which are presented in the response to Question One) that public funding can have a very effective pump priming and multiplier role in supporting the impact of higher education on product development; workforce development and the transfer of practical know-how to business. The test of 'application' is no less challenging for the academic than that of theoretical rigour and a funding stream which provided sufficient incentives for enterprise and knowledge transfer activity would reward many outstanding academics and deliver practical benefits for business, the economy and society.

Equally, third stream funding for knowledge transfer and innovation activity should be firmly linked to the effectiveness of an institution's costing and pricing strategy and its ability to achieve overhead recovery. The Institute has had some success in developing this internal discipline and recovering its costs from enterprise activity through realistic costing and pricing. We believe that if higher education institutions are to receive public funding in support of improved relationships with business, it is incumbent on them to themselves be 'businesslike' in their commercial activities and in their use of public funds, so that the returns to both parties can be maximised.