

University of Abertay Dundee

Response to the Lambert review of business – university collaboration

The University of Abertay Dundee welcomes the Lambert review of business – university interactions and is pleased to respond to the questions for consultation.

We have also taken part in the associated seminar at the Royal Society of Edinburgh on 21 March 2003. We were disappointed that there was a very low industry participation, and little evidence of consultation with the Scottish Executive or Scottish Enterprise.

Our specific response to the questions follows:

1. Examples of best practice / excellence

The University of Abertay Dundee is involved in a wide range of business – university interactions. Three examples of best practice and excellence are given below.

In the context of University / Industry interaction:

EPICentre

The Electronics, Photonics and Information Control Centre (EPICentre) at the University of Abertay Dundee is an institute established to promote interdisciplinary research, training and commercial activities related to all aspects of the human-machine interface (HMI). It places particular emphasis on the *human factors of the visual interface*, i.e. displays of all kinds.

A particular challenge for industry involved in the manufacture of any equipment with visual displays is the readability of the display in natural light, particularly in sunlight. The EPICentre established a “sunlight readability group” where design challenges and common related display deployment issues are resolved in a non competitive environment. Members of the group include NCR (Dundee), BAE (Edinburgh, Warton and Farnborough), Raymarine, Global Display Solutions, Visteon and the University of Paisley. The University of Abertay Dundee’s EPICentre is the co-ordinator and lead investigator for the group. This has proved to be a highly cost-effective approach for the industrial partners and avoids duplication of in-house R&D by companies.

IC CAVE

The International Centre for Computer Games and Virtual Entertainment (IC CAVE) is a research centre at the University of Abertay Dundee established to focus on the development of research to support the computer games and digital entertainment industry. IC CAVE is a key component in the local cluster of creative digital industries based in and around Dundee (see also Q.3).

A key issue for interactive entertainment software developers is the area of usability. A usability test facility has been established in conjunction with industry partners who are also members of IC CAVE's advisory panel. The test facility allows companies to bring beta versions of games products into a usability laboratory and test them with target market cohorts. The facilities include multi-point video, eye tracking and physiological feedback. The resulting outputs have enabled interactive entertainment companies and other users to refine products prior to market.

In the context of work experience for students:

Embreonix / Dare to be Digital

Embreonix provides incubator facilities for students to develop a start up business whilst undertaking a postgraduate diploma in entrepreneurship. This provides them with enhanced business skills for either self employment or business. In addition, Dare to be Digital, our summer creative industries competition provides 10 weeks of employment for software and computer arts students to work together in a team to develop a product prototype. Teams pitch their product to a high profile industry team at the end of the ten week period. Successful teams are also supported in business start up after the end of the competition with incubation facilities and industry mentors. Other teams are rapidly employed by industry because their CVs have been enhanced through real world product delivery. The competition is national throughout Scotland and this year has a feeder competition in Malaysia. The national event has secured sponsorship from the BBC.

All of these projects have received support from the local enterprise company, primarily contributing to capital and revenue costs associated with the facilities.

One area where the potential for facilitating successful partnerships with business could be improved is in the area of profiling the company base for potential interaction with universities. There is a tendency to view this area in very broad terms and to talk about, for example, "improving University / SME interaction." Work carried out by the OECD has shown how SMEs can be profiled to show their potential for innovation or otherwise (with a very high proportion being lifestyle businesses with no significant interest in R&D / innovation) and it would be helpful if local enterprise companies were to profile their local company base in this way and share the information throughout the UK, allowing for an improved understanding of the company base with potential for interaction with universities both locally and nationally.

2. Strengthening relationships

In the context of strengthening relationships between business and industry one of the key challenges is the apparent separation between the mission and objectives of Scottish Enterprise and the local enterprise companies with that of the Scottish Higher Education Funding Council. This is particularly significant in the area of University core business areas (as opposed to research and commercialisation, which are supported in a reasonably complementary manner by both agencies). Local enterprise companies are unable to intervene in areas such as collaborative education with

industry because they see this as a funding council responsibility. To put together a significant collaborative education project with a specific local company or “mini-cluster” of companies that have a crucial place in the local economy is highly challenging. A typical project might require:

- Graduates that are produced against targeted labour force requirements of the company
- Students that are involved in placements and honours projects with the company
- University staff that can work in the company on specific projects
- Company staff that can work in the university on specific projects

The implementation of such a project would require a significant degree of co-ordination and management to ensure that maximum benefits accrued. It is challenging to secure full company sponsorship for such activities and external intervention is required to design and implement the project. Although such a project would bring significant local economic development benefits the local enterprise company would view the activities as core university business and be unable to support them. The funding council would see such activities as being too near market or specific to a region or company and be unable to support them.

3. How business can attract the best graduates, with the skills they require

Areas where improvements can be made in this field are:

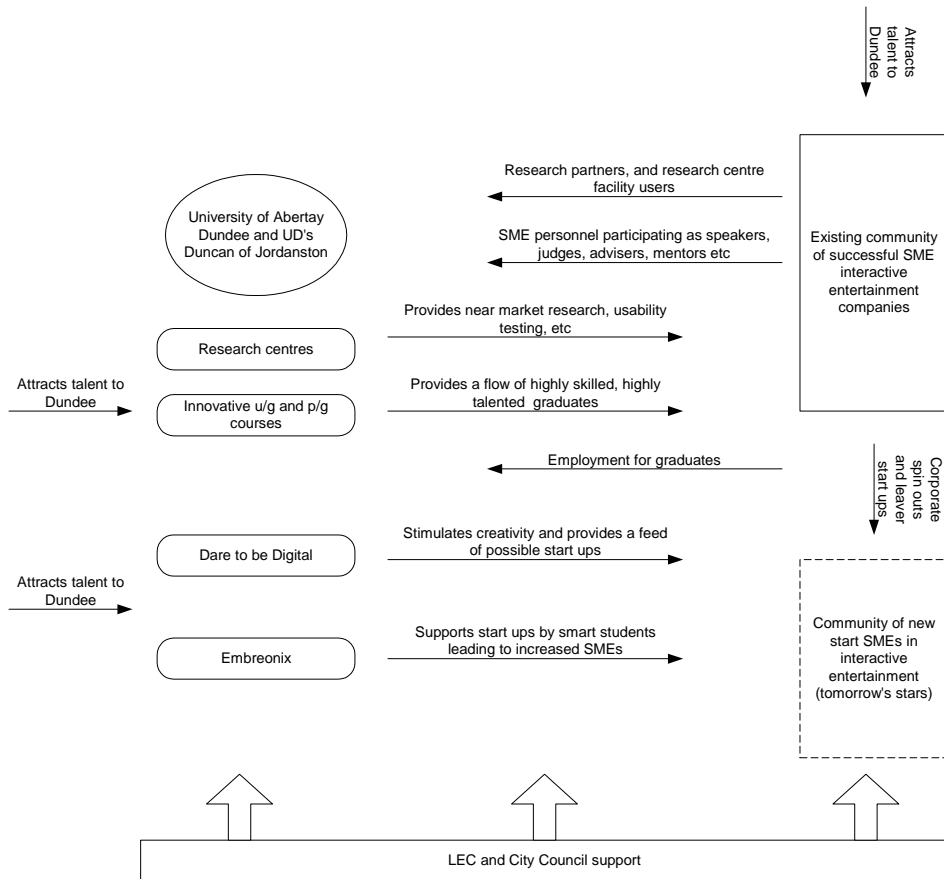
The development and promotion of student placements – the chance for students to be involved in industry on placement at the earliest opportunity significantly enhances the employability of graduates. There is often insufficient buy-in from industry with placement schemes leading to a shortage of places. In addition, securing funding for placement support staff is often a challenge.

The tendency of industry to require prior experience for graduate appointments – graduate level recruitment advertising frequently carries requirements for two years post qualification experience. Unless some industry sectors are prepared to take fresh graduates (possibly after a relationship that has grown through placement or early stage interviewing) there will always be a shortage of candidates with the right experience.

There are still many *ambiguities between skill set requirements and the actual needs of industry*. This university has seen examples of sectoral skill sets produced very recently that are ignored by employers, providing little incentive for universities to find ways of demonstrating the match with graduate skill sets. It may be more effective for business to interact with universities on a one to one basis, through collaborative education projects, rather than through industry bodies. This will allow the specific requirements of the employer to become embedded in the curriculum.

In Dundee there are very good examples of integration between the local clusters of creative digital industries and biotechnology and the local universities. The University of Abertay Dundee’s role in the digital media cluster was recently featured in *The Economist* (4th January 2003).

An example of the synergistic relationship is given in the following diagram:



4. Financial considerations

There are still significant issues with many of the programmes that purport to bring Universities and industry together in collaborative research projects. For example, EU CRAFT projects designed to promote industry / SME collaboration in R&D can run into problems because partnerships are put together for compliance or trans-national involvement purposes, as opposed to being led by the business case. This leads to partnerships that are not best suited for joint exploitation. Universities often find themselves at the centre of disputes between industrial partners in such projects and this can be highly destructive.

The University of Abertay has seen little growth of industry sponsored research driven by the R&D tax credit scheme, although these have benefited a spin-out company of the University.

Our comments regarding funding in questions 1 and 2 are also relevant here. In a Scottish context, enhanced integration and collaboration between the funding council and Scottish Enterprise / local enterprise companies in this area would help to provide a consistent approach to working with business. In particular, University activities in any area of working with business should be eligible for consideration of financial support by Scottish Enterprise.