



# Developing Entrepreneurial Graduates

Briefing Note 1  
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NESTA



## Building an Enterprising Britain

An input paper<sup>1</sup> presented at The Chancellor's Conference on 'Enterprising Britain' opined that "an understanding of what it means to be entrepreneurial is especially important for young people when they are going through transition points and weighing up choices about their future". It highlighted that enterprise and self-employment are becoming increasingly more attractive amongst young people, with the numbers of students who eventually want to run their own business rising from 35% in 2000 to 43% in 2003<sup>2</sup>. By contrast there is evidence that the desire among students in their first year to engage in the spirit of entrepreneurship is undermined by their experience at university, so by the third year their aspirations are lower<sup>3</sup>.

A number of government reviews on building the knowledge economy of the future – the Sainsbury report on science and innovation<sup>4</sup>, the Leitch review on skills<sup>5</sup>, and the Lambert review on business-university collaboration<sup>6</sup> highlight the marked culture change in the UK's universities over the past decade. These reports acknowledge that many universities are being driven to play a broader role in the regional and national economy by building bridges between business and universities and working with regional development agencies to support economic development. In addition, there is a clear recognition of the numerous shifts in the expectation of businesses in relation to what they expect of university graduates. This has seen many universities work more collaboratively with business in the design of the curriculum, the placement of graduates in local businesses, and on technology exchange.

These developments and the focus by policy makers on building an enterprising culture in the United Kingdom and placing universities at the centre of the country's economic development<sup>7</sup> provide the context within which enterprise and entrepreneurship stimulation is an increasingly important part of the domain that is a university. UK business recognises that continuous innovation has to lie at the heart of our economic future<sup>8</sup>. This requires an increase in the pace of innovation and an increase in the number of businesses that are high value-adding, driven by innovation and packed full of dynamic entrepreneurially-minded people, more than often university graduates.

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<sup>1</sup> HM Treasury: 'Creating an Enterprise Culture – Discussion Paper for Advancing Enterprise'; Britain in a Global Economy, 2004

<sup>2</sup> Business Dynamics: Student Attitudes to Business, 2003

<sup>3</sup> ISBA consortium: 'Making the Journey from Student to Entrepreneur: a Review of the Existing Research into Graduate Entrepreneurship', NCGE, September 2004; NCGE and Barclays Bank: 'Nascent Graduate Entrepreneurs: exploring the impact of student debt on graduates' plans to set up a business', 2006

<sup>4</sup> Lord Sainsbury of Turville: 'The Race to the Top: a Review of Government's Science and Innovation Policies', October 2007

<sup>5</sup> Lord Leitch: 'Review of Skills: Prosperity for all in the global economy – world class skills', December 2006

<sup>6</sup> Lambert Report: Review of Business-University Collaboration', December 2003

<sup>7</sup> Richard Brown and Philip Ternouth: 'International Competitiveness: Businesses Working with Universities', CIHE, May 2006

<sup>8</sup> See also DTI Occasional Paper no 6; 'Innovation in the UK', July 2006

Meeting these global challenges will require an entrepreneurial response of universities, both in terms of preparing graduates for future global challenges and ensuring that universities participate in the knowledge economy of the future through active collaboration with business<sup>9</sup>. Research by NESTA<sup>10</sup> on education for innovation and entrepreneurship highlights the need to imbue young people with opportunities for personal mastery in learning to take initiative, challenging the status quo, creativity, leadership collaboration, enterprise, risk-taking, innovation, attitude and ambition to develop new ideas, new products, new markets for the future. Young people need to be prepared to be at the vanguard of disruptive innovation to address global challenges, working in high growth and dynamic companies, and with the ability to innovate through exploiting new ideas in entrepreneurial markets.

In parallel with these developments in society and the broader economy<sup>11</sup>, research by the National Council for Graduate Entrepreneurship (NCGE)<sup>12</sup> highlights the growing involvement of UK universities in teaching entrepreneurship and interest in building enterprise skills and capabilities in their students underpinned by a shift in the needs of business. Current estimates show that approximately 889 degree programmes or modules are on offer at 131 Higher Education Institutions (HEIs) in England at either undergraduate or postgraduate levels. This is a substantial improvement from earlier research that showed that 38% of English HEIs offered courses in entrepreneurship<sup>13</sup>. Student perceptions are also changing, with increasing numbers of students registering an interest in following an entrepreneurial career.

The Oslo Agenda developed at a EU conference in 2006 established a commitment to promote the integration of the learning experience from primary school through to secondary school and university across all subject areas<sup>14</sup>. There also appears to be an emerging consensus across Europe that entrepreneurship education must stretch beyond a narrow focus on business start-up and equip young people with the personal skills, attributes and behaviours that focus on creativity, initiative, self-confidence and having an experience of entrepreneurship<sup>15</sup>.

## Project Overview

The Council for Industry and Higher Education (CIHE) recently partnered with the National Council for Graduate Entrepreneurship (NCGE), the Higher Education Academy and the Small Business Service (SBS) in reviewing Good Practice in Entrepreneurship Development in UK HEIs<sup>16</sup>. This review was intended to identify to what extent the initiatives undertaken by HEIs in the UK were, or were likely to be effective in developing entrepreneurial graduates.

<sup>9</sup> Allan Gibb: 'In pursuit of a new 'enterprise' and 'entrepreneurship' paradigm for learning: creative destruction, new values, new ways of doing things and new combinations of knowledge'; 2002, *International Journal of Management Reviews*, Vol. 4, No. 3; Claire Leitch and Richard Harrison 'A Process Model for Entrepreneurship Education and Development', 1999, *International Journal of Entrepreneurship Behaviour and Research*, Vol. 5, No. 3; NESTA Policy Briefing: 'Innovative Entrepreneurship in the UK', January 2007

<sup>10</sup> NESTA Policy Briefing: 'Education for Innovation', April 2007

<sup>11</sup> HM Treasury provided £60 million for secondary schools to offer a five-day entitlement of enterprise experience to young people at Level 4. Enterprise Insight is funded by the government to run a national campaign to excite young people about enterprise. At university level, government support has involved the Science Enterprise Challenge Fund (1999), Higher Education Subject Centres (2004); the National Council for Graduate Entrepreneurship (2004); Centres for Excellence in Teaching and Learning (2005); the Higher Education Innovation Funds (2001-2007) and support for entrepreneurship education in the creative industries by the Department of Culture Media and Sport (2006)

<sup>12</sup> Paul Hannon: 'Enterprise for all? The fragility of enterprise provision across England's HEIs', 2007, *Journal of Small Business and Enterprise Development*, Vol. 14, No. 2

<sup>13</sup> Jonathan Levie: *Entrepreneurship Education Higher Education in England*, London Business School, 1999 in Colin Mason report: 'Teaching Entrepreneurship to Undergraduates: lessons from leading centres of entrepreneurship education', Department of Geography, University of Southampton, 2000

<sup>14</sup> European Commission: 'Entrepreneurship Education in Europe: fostering entrepreneurial mindsets through education and learning', Oslo 2006

<sup>15</sup> Oslo conference Recommendations, workshop 3, 2006

<sup>16</sup> Ron Botham and Colin Mason: 'Good Practice in Enterprise Development in UK Higher Education', NCGE, CIHE, HE Academy, Enterprise Insight, SBS, 2006

Issues identified from this research along with a number of parallel country studies<sup>17</sup> and research undertaken by the NCGE<sup>18</sup> found: -

- (i) tension between the HEI culture of formal academic teaching<sup>19</sup> (in which “instruction” in enterprise development may be embedded) and entrepreneurial practice, experience and support activities in which students may be mentored;
- (ii) varying degrees of “embedding” across institutions with evidence that some are too reliant on short-term initiative funding and the enthusiasm of individuals; both result in this activity being inherently fragile;
- (iii) varying extent to which formal objectives had been set for the activity and evaluation methods established; in this context it is useful to note that there had been little objective setting in the formal, structured fashion implied by the outcomes framework developed by the NCGE;
- (iv) many combinations of different learning and support arrangements with some patchy evidence of effectiveness in individual cases;
- (v) varying contribution from and perceived utility of the engagement of business schools;
- (vi) a complex policy environment in which funding is short-term, fragile and often focused on projects/events rather than on long term capacity building and educator development.

The current body of evidence both in the UK and from a wide range of international experiences (e.g. the eight country studies commissioned by CIHE and NCGE covering education practices in the EU, China, South East Asia, India, South Africa, Ireland and the USA) show several dimensions of variation in the configuration of entrepreneurship education in the university sector. Key differences relate to subject specificity, stages in enterprise development, the outcomes achieved, types of provision, and barriers experienced in delivering it on the ground in and outside the classroom/lab.

## Project objectives

The objective of this project titled ‘Developing Entrepreneurial Graduates’ is to develop a pilot specification for encouraging the development of more entrepreneurial graduates at UK universities. With the assistance of an expert panel, the project team will develop a specification for a pilot that will then be established and evaluated in one or more universities in the second phase of the project. The role of the expert panel in this project is to review a range of evidence presented to it by the project team **drawing on their own experience and expertise**. Thus the panel will assist the project team to interpret the evidence of current developments and trends, contributing to, and refining the development of the specification for a pilot to be implemented in Phase 2.

As a unique partnership of leading thinkers in the policy domain of entrepreneurship, innovation, business and higher education, the NESTA-NCGE-CIHE project consortium aims to address the aforementioned issues. More specifically, and in partnership with the expert panel this project provides us with an opportunity to influence higher education practice and UK government policy.

## What do we know so far?

The NCGE’s mapping study found an 11% engagement rate by students in reported enterprise activity, of which two thirds involved extra-curricular activity. 80% of provision is at an undergraduate level and approximately two thirds of all entrepreneurship education provision in the curriculum is in the form of modules rather than full degree programmes. Business schools dominate provision – 61% of all delivery, followed by engineering, arts, design and media. Curiously the mapping survey reveals some interesting but not surprising results about

<sup>17</sup> CIHE Country Studies commissioned as part of the research undertaken with the NCGE

<sup>18</sup> Hannon op cit

<sup>19</sup> Allan Gibb op cit

the intended primary learning outcomes of entrepreneurship education – 27% is focused on “raising awareness, knowledge and understanding about enterprise/entrepreneurship concept and practice”; 15% on “developing individual enterprising/entrepreneurial skills, behaviours and attitudes” and 10% on “exploiting institutionally owned IP”. There is little support for learning outcomes such as “developing key business how-to’s”, “preparing to become a freelancer or self-employed” and “starting a new business”. This is rather remarkable given the ambition of government policy to promote graduate entrepreneurs starting innovative, high growth new business ventures. However, the NCGE report also cautions the interpretation of the findings as there is much regional variation in the data and the questionnaire only asked respondents to capture primary learning outcomes, and thus many of the suggested 13 learning outcomes may in fact be present in current university practice.

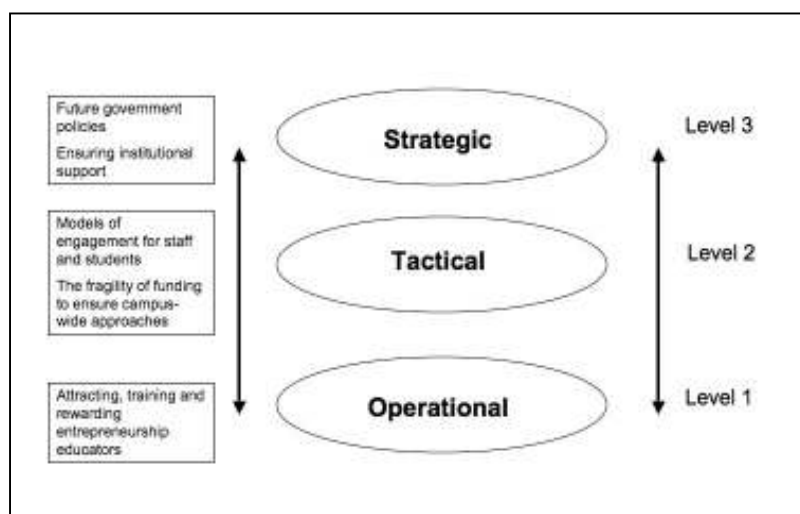
The diverse landscape at UK HEIs reflects the US experience where much of the entrepreneurial learning experience is about learning *about* entrepreneurship or about developing the *related skills* and behaviours. There is great diversity in the conceptions of enterprise and entrepreneurship, with most subscribing to a simple linear divide that the outcomes are either about becoming an entrepreneur or about being entrepreneurial<sup>20</sup>. There is also much regional variation in the scale of provision, the commitment by universities to this agenda and the levels of engagement by students.

### Key ‘how to’ issues

This Briefing Note poses a range of questions which we believe need to be considered in the deliberations between the panel and the project team. These are crafted as a series of ‘how to’ questions which affect the current practice of entrepreneurship education in universities today, but will need to be resolved as these issues will determine the outcome of future policy and practice. This ‘working framework’ is subject to input from panel members and the priorities listed here will no doubt change as the project moves forward.

Outlined below is a three tier framework with which to consider a range of **strategic, tactical and operational issues** facing the development of an overarching entrepreneurship education specification for universities. These are outlined briefly here, and are underpinned by a plethora of research, some of which is offered as additional reading in the footnotes. Although raised here as unanswered questions, it will be the purpose of the expert panel to offer their insights and perspectives to help us resolve these key how to’s as part of the development of the draft specification framework.

**Figure 1: Specification Development Framework**



<sup>20</sup> Andrew Atherton: 'Unbundling Enterprise and Entrepreneurship', 2004, Innovation and Entrepreneurship, May

## Strategic issues

*What policies should be adopted at a national, regional and institutional level?*

If one considers the experience in Norway, the government has developed a national policy framework that sets out clear objectives and covers the entire education spectrum from primary school to university. By contrast the Kauffman Campus Initiative shows what can be achieved by engaging universities through a competitive bidding process to establish campus-wide entrepreneurship education programmes at eight universities in the United States<sup>21</sup>. At a local level, the Cambridge MIT Initiative<sup>22</sup> (CMI) experience highlighted what can be achieved through a partnership approach between two institutions that allowed for the exchange of ideas, good practice and experiences. The aforementioned examples provide three different policy approaches or pathways that could possibly be encouraged. What policy pathway should the UK adopt at a national, regional and institutional level to support the embeddedness of entrepreneurship education<sup>23</sup>?

*How do we ensure institutional support in universities to champion entrepreneurship education with a clear vision and clarity about its outcomes, impact and value?*

The experience in the US shows that universities are successful at embedding entrepreneurship education within the institution where they have support from senior management (primarily the Vice Chancellor). The Kauffman Campus Initiative shows that institutional support is crucial especially where one is attempting to adopt a 'campus-wide' model which requires it to be embedded in academic departments outwith business schools. Securing active leadership from the Vice Chancellor (not only official support) but also from other central administrative units, the technology transfer office and faculty staff is crucial for embedding entrepreneurship education in degree programmes of non-business disciplines<sup>24</sup>. Aside from the leadership dimension, there are a number of questions related to *the nature of institutional provision* that require consideration. The UK experience shows that to date, as with the US, business schools dominate the delivery of entrepreneurship education (64%). This causes perceptions about entrepreneurship being 'for business studies students' and not relevant to disciplines in engineering, the sciences and creative arts and media<sup>25</sup>. Given this current positioning of entrepreneurship education at UK universities:- Should the development of an entrepreneurial approach be embedded across all university departments and courses? Should it be focused in the business school which should then deliver the learning to others? Should it only involve elective options within the curriculum? Should it be delivered outside of the curriculum as an additional option? Given the inadequate state of knowledge on what works and why, and the limited resources to deliver entrepreneurial approaches, it is not self evident that the first option (which we might initially prefer) is necessarily the appropriate one at this stage. Although the diversity of definitions, approaches, outcomes and take-up is at one level the key requirement for success (an entrepreneurial response to suit the institution), are we better placed establishing a national framework (as a template) within which institutions can build an approach to suit their needs?

## Tactical issues

*What models and modes of engagement for staff and students are needed to ensure that the design of the educational experience allows for innovative pedagogy and a diversity of learning outcomes?*

Ambitions for achieving substantial acceleration in the penetration of entrepreneurship education to all students (beyond the current level of 7% in England) and to cover all subject disciplines are undoubtedly constrained not only by limited resources, but also lack of modes of engagement, especially for faculty staff in non-business disciplines<sup>26</sup> who have to take the lead, design the courses and delivery to what may be a sceptical audience. The NCGE has developed a learning outcomes framework<sup>27</sup> which provides the building blocks for innovative

<sup>21</sup> Judith Cone: 'Entrepreneurship on Campus: why the real mission is cultural change', Kauffman Foundation Thoughtbook, 2007

<sup>22</sup> David Good, Suzanne Greenwald, Roy Cox and Megan Goldman (eds): 'University Collaboration for Innovation – lessons from the Cambridge-MIT Initiative', 2007

<sup>23</sup> Allan Gibb: 'Towards the Entrepreneurial University: Entrepreneurship Education as a lever for change', NCGE, May 2005

<sup>24</sup> David Clews: 'Creating Entrepreneurship: entrepreneurship education for the creative industries, NESTA, 2007

<sup>25</sup> James Fiet: 'The Pedagogical Side of Entrepreneurship Theory', 2001, Journal of Business Venturing, Vol. 16, No. 2

<sup>26</sup> James Fiet: 'The Theoretical Side of Teaching Entrepreneurship', 2001, Journal of Business Venturing, Vol. 16, No. 1

<sup>27</sup> Allan Gibb: 'Entrepreneurial Learning Outcomes – a benchmark framework', NCGE, 2006

pedagogy and module design. Many of these learning outcomes demand an *experiential and action-based* approach to learning<sup>28</sup> – learning by doing, learning by making mistakes, learning through the eyes of entrepreneurs and learning captured through innovative learning logs, not business plans. *At present entrepreneurship education in UK universities is operating on the margins, a peripheral activity with limited reach in the student base. What radical change is needed in the educational experience, in what we expect from the learning process and in the way it is delivered in the classroom/lab?*

*How do we address the current fragility of funding and resources needed to mainstream this activity across campus at all universities nationally?*

The experience in England shows that funding streams to support this activity are fragile. The NCGE mapping study of English universities found that 80% of funding is provided by public sources. These are subject to three year spending priorities, are competing with many other demands on the public purse, and often only provide seed funding for activity. How do we ensure the sustainability of funding for entrepreneurship education in universities? There is also anecdotal evidence that most graduates enter entrepreneurship practice when they are around 30. This raises additional questions about resources. What is the role of the university as an access point for alumni and those in the local community as a centre of expertise? In an age of lifelong learning universities need to give consideration to not just developing an HE experience for the young. Are there different phases of an entrepreneurial learning experience? Some may want to go through all of them and then start a business; some may want a taster and to have their excitement raised; some may want to get a deeper experience and then return; some may come to the idea much later and then want to gain the experience as a mature learner. Can one size fit all or are there a range of approaches and modules needed? If so, how do universities configure and resource these different permutations of an entrepreneurial learning experience?

### **Operational issues**

*How do universities attract, train and reward entrepreneurship educators to ensure appropriate learning outcomes are achieved?*

Research by the NCGE demonstrates that skilled, talented and passionate entrepreneurship educators in universities are fundamental to the success of embedding a campus-wide approach<sup>29</sup>. Recognition of this has led the NCGE to establish a national entrepreneurship educators programme. The US experience on the Kauffman campuses<sup>30</sup> also shows that having the 'right people' is a key ingredient for success. Evidence from the eight Kauffman campuses shows that the following forms of institutional action are important: training support for academic faculty, research grants available to staff and students to undertake entrepreneurship research in their subject discipline, and actively rewarding participation in the delivery of entrepreneurship education. What can be done in the UK to ensure that the recruitment and retention of teaching and research talent across all disciplines accommodates the requirements of innovative pedagogy and entrepreneurial outcomes? Should universities use existing academic faculty (and provide specific staff development training) or is there a need to employ staff from outside the university sector to bring business experience to implement an entrepreneurship education strategy? How do we go about employing staff who can bring 'real world' experience into the classroom? What is the role of external practicing entrepreneurs; how can they act as role models, mentors and coaches? What other external practitioners are needed on campus (or at least on call as part of a university network) such as business angels, venture capitalists, IP experts and other business support agencies?

In summary, these five questions are framed not just as questions to answer, but as themes to consider in the context of the project developing a specification framework for adopting a holistic and campus-wide approach to embedding entrepreneurship education in UK universities. The challenges are substantial – the Botham and Mason report highlighted the

<sup>28</sup> Leitch and Harrison op cit

<sup>29</sup> Hannon op cit

<sup>30</sup> Laura Hulsey, Linda Rosenberg and Benita Kim: 'Seeding Entrepreneurship Across Campus – early implementation experiences of the Kauffman Campuses Initiative', December 2006

stark realities of current practice in UK HEIs – it operates at a small scale, few students are engaged, few subject areas are covered, and there is a lack of educators and a lack of resource to support activity as an embedded part of the student learning experience. There is systemic fragility that needs to be addressed.

### So... what do we need?

The challenge for the expert panel and the project team is scoping out an entrepreneurship education specification framework that will ensure: we have sustainable sources of funding; a coherent national policy framework; we encourage experimentation; we develop long term institutional models which are adaptive; we achieve scale of delivery in HEIs; we can rely on core funding as a result of demonstrated learning outcomes which add value to universities and business and a framework which links students with entrepreneurs, university alumni, the best companies to work for and a diverse range of external agencies that can also support the delivery of a robust entrepreneurship education framework.