

# The efficacy of entrepreneurship education

## Perspectives of Irish graduate entrepreneurs

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**Abstract:** *This paper presents an analysis of the views of Irish graduate entrepreneurs on the efficacy of entrepreneurship education in fostering their development as entrepreneurs. It answers three key questions: (a) what was the graduate entrepreneurs' experience of undergraduate entrepreneurship education; (b) what was the graduate entrepreneurs' experience of graduate entrepreneurship education; and (c) to what extent did entrepreneurship education prepare the graduate entrepreneurs to start their own business? The authors find that graduate entrepreneurs benefit from entrepreneurship education, particularly at graduate level, when it is more relevant, engaging and applied. They conclude that entrepreneurship education can be enhanced through experiential learning and the authentic experience of both students and lecturers.*

**Keywords:** *entrepreneurship education; graduate entrepreneurs; Ireland*

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It is widely argued in the international literature that sustainable economies emerge from indigenous entrepreneurial ventures. This has become all the more pertinent in light of the current financial crisis in global markets. The ability to grow and foster entrepreneurship is viewed by governments and policy-makers as the key factor in stimulating increases in GDP, job creation and export growth. The challenge for governments and policy makers is to create an environment in which it is easier for individuals and companies to create economic

activity and employment and to have the confidence to do so. Whilst government itself cannot create either entrepreneurs or employment in the private sector, it can create a favourable ecosystem for people to create and grow indigenous businesses (Innovation Task Force, 2010). This ecosystem requires policies favourable to new ventures, appropriate taxes and regulations; an adequate supply of finance; effective education; and research and development. Education, particularly higher education, has a strategic role to play in

increasing the supply of entrepreneurial talent to create new businesses and future employment and to generate wealth.

In Ireland, following the demise of the Celtic Tiger, attention is now primarily on the development of indigenous, export-oriented companies to fuel future economic growth. During the boom years of the Celtic Tiger – 1995 to 2007 – there was an over-reliance on foreign direct investment and construction to fuel economic growth: both proved to be unsustainable. Entrepreneurship has thus come into sharper focus and is being flagged as a solution to regenerate the Irish economy (Cooney and Murray, 2008), with an emphasis on supporting high-potential start-up businesses (HPSUs) (Government of Ireland, 2008; Innovation Task Force, 2010). Whilst indigenous entrepreneurship is regarded as a recipe for economic regeneration, home-grown business performance is weak and this weakness needs to be addressed urgently. There is a real need to increase the supply of entrepreneurial talent to create and grow new businesses that will generate employment and create wealth for the local economy (Henry *et al.*, 2003, p 5). Higher education institutes (HEIs) can underpin the growth and rejuvenation of the Irish economy by (i) fostering an enterprise culture through entrepreneurship education; (ii) developing an entrepreneurial student mindset; and (iii) providing a supply of future entrepreneurs capable of applying their knowledge to start and grow their own businesses.

### **Role of HEIs in enterprise development**

HEIs are regarded as engines of innovation, providing new knowledge and ideas which are translated into commercial entities, thereby exploiting the intellectual assets and enhancing economic growth. HEIs can also foster greater entrepreneurship and drive the rate of entrepreneurial activity by promoting and supporting campus and graduate enterprise development. They do this through undergraduate and graduate entrepreneurship education; knowledge transfer and academic spin-offs; spin-ins (the commercialization of R&D); campus incubators; and/or indirectly through networking and training. In an increasingly knowledge-based society, HEIs now perform a number of roles encompassing teaching, research and translation of scientific research into economic development through technology transfer (Etzkowitz and Leydesdorff, 2000; Barry, 2004). With their key missions of teaching and research, entrepreneurial HEIs represent an interdisciplinary, interactive environment equipped with a culture of academic entrepreneurship. By concentrating on effective knowledge transfer, by fostering the creation of new businesses on campus,

entrepreneurial HEIs also enhance the competitive advantage of existing enterprises both within and outwith HEIs. This is what Etzkowitz *et al.* (2000) refer to as an entrepreneurial university.

The role of HEIs has evolved from one primarily concerned with teaching and research on entrepreneurship education to one in which the HEI is part of the entrepreneurship system, with an augmented mission that encompasses economic and social development in addition to teaching and research (Neck *et al.*, 2004). The OECD (2008) has urged HE management to show leadership in the promotion of entrepreneurship through courses, knowledge exchange with businesses and by instilling an enterprise culture and promoting a greater awareness in staff and students of the forms and value of entrepreneurship. As such, HEIs could play a pivotal role in fostering an entrepreneurial mindset in students and providing the supply of future entrepreneurs.

Neck *et al.* (2004) identified pathways important for academic organizations to be considered entrepreneurial. This paradigm shift towards a commercial ethos within academia manifested itself in six ways:

- First, through the development of an interface environment in HEI to link academia with industry;
- Second, through the development of internal capacities to administer services to industry;
- Third, through a cultural change in the academic community's perception of the commercialization of higher education research;
- Fourth, a shift in the motivation of academic staff to engage in partnerships with industry;
- Fifth, through the development of campus incubators; and
- Sixth by way of growth in entrepreneurship activities, including entrepreneurship education.

### **Role of Irish HEIs in enterprise development**

Higher education in Ireland is delivered within an evolving national policy framework set out by government, and all stakeholders have a role in determining the priorities of this overarching policy. Over the past twenty years, entrepreneurship has entered the realm of Irish higher education: however, until the early 1980s, there was little or no acknowledgement in Irish economic policy of the intrinsic links between economic growth and the education system (Carr, 1998). A key change in Ireland's economic development policy was the recognition of the importance of education in

strengthening the enterprise sector, which led to significant restructuring of the education system by endeavouring to move away from what was described as the bias towards liberal arts and traditional professions to placing more emphasis on the importance of productive enterprise within society (Culliton, 1992).

Since then, despite many apparently exciting initiatives, collaboration between enterprise and academia has been limited. This has been attributed to low levels of investment in R&D, a lack of proactive initiatives by HEIs to engage with industry, poor capacity or resources within enterprises to source, integrate and exploit new ideas, and lack of a framework for determining intellectual property (IP) rights (Forfás, 2004). Until recently, HEIs in Ireland were regarded as little more than suppliers of graduates to the workforce.

In 2007, Forfás, the National Policy Advisory Board for Enterprise, Trade, Science, Technology and Innovation, outlined plans to make Ireland a strong entrepreneurial culture, recognized for the innovative quality of its entrepreneurs and acknowledged by entrepreneurs as a world class environment in which to start and grow a business. To achieve this, HEIs were urged to create opportunities for students to experience entrepreneurship, in order to produce graduates who would be capable of using their knowledge and applying it to start and grow their own businesses (Forfás, 2007). This required mobilizing HEIs towards a more responsive approach to the demands of local enterprise, through greater access to each institute's expertise, core competencies, embedded knowledge and the research capabilities of academic staff and students.

Ideally, HEIs would develop strategic partnerships with industry, SMEs and enterprise development agencies (EDAs) to harness the strengths of each Institute. These partnerships could create opportunities for graduate employment and student placements in SMEs, which would enhance their career prospects by adding entrepreneurial skills to core subject expertise. Recently, the development of professional doctorates has allowed graduates to work in industry whilst pursuing PhD studies; and the inclusion of enterprise-related modules in such courses ensures that future graduates, particularly in science and engineering, can play an active role in the commercialization of R&D and technology transfer. This, in turn, may lead to further collaboration, the commercialization of research and campus spin-outs or spin-ins. Despite limited resources, the Innovation Task Force (2010) urges the government to keep faith with its investment in the HE sector to foster development of human resources and knowledge. Amongst other recommendations it proposes: (i) investing 3% of GDP

in R&D; (ii) more initiatives by the HE sector to cultivate innovation and entrepreneurship at both undergraduate and graduate level; and (iii) cultivating entrepreneurial HEIs.

### **Can entrepreneurship be taught?**

Within national and regional innovation systems, HEIs are seen as central players in fostering the growth of entrepreneurs. However, despite significant public expenditure in the developed world on integrating entrepreneurship education into both undergraduate and graduate programmes, very little is known about the degree to which HEIs successfully foster and encourage the growth of entrepreneurs and/or entrepreneurial ventures. This raises two key questions: are entrepreneurs born? – or, with the correct enterprise education programmes, can individuals be educated to be entrepreneurial in their professional lives?

Entrepreneurship education is the first, and arguably the most important, step for embedding an innovative culture in HEIs. Thus the question of whether entrepreneurship can be taught is largely becoming obsolete, with researchers agreeing that entrepreneurship can be learned and mastered and thus be taught, or at least encouraged (see, for example, Anselm, 1993; Gorman *et al*, 1997; Drucker, 1993; Kuratko, 2003; Dorf and Byers, 2005). Whilst we can concede that individuals may indeed be born with a propensity for entrepreneurship, the level of entrepreneurship activity will be higher if entry-level entrepreneurial skills are taught (Anselm, 1993).

There is a broad nomenclature for entrepreneurship and the definition of the term is being extended to include entrepreneurial activities in both self-employment and employment by others. For example, Bridge *et al* (2008) broaden the meaning of entrepreneurship to include the ability of an individual possessing a range of essential skills and attributes to make a unique, innovative contribution to the world of work, whether in employment or self-employment. The key challenge for entrepreneurship educators and curriculum designers is that there is no standard definition of entrepreneurship and this has led to a lack of uniformity in curricula design and delivery. The combination of a lack of accepted paradigms or theories of entrepreneurship education and the recognized shortcomings in the definition of entrepreneurship has led to ambiguity in the conceptual and assessment approaches of entrepreneurship in HEIs. Entrepreneurship education is, therefore, based on a flawed principle that entrepreneurship can be neatly defined, studied and explained in a classroom environment and replicated by all students of

entrepreneurship. We would argue that entrepreneurship teaching modules should be informed by international good practice and be of a quality, weighting and quantity that would result in a noticeable impact upon a student's entrepreneurial mindset.

### **What are the approaches to entrepreneurship education in HEIs?**

Hannon (2006) claims that in the rush to introduce and embed as many entrepreneurship programmes in higher education as possible educators have forgotten to examine what pedagogic approaches best support burgeoning or aspiring entrepreneurs. Solomon (2007) argues that if entrepreneurship is to produce real graduates capable of generating businesses, employment and wealth, HEI educators must develop entrepreneurship courses/modules with the requisite academic rigour whilst maintaining a practical and real-world focus on the entrepreneurial climate in the learning environment. Carey and Matlay (2007) conclude that successful third-level entrepreneurship education requires a combination of buy-in from staff, students and the HEI, as well as the resources to equip in full, and create better, enterprise educators. They concur with Hannon's vision for an entrepreneurial HEI, which encompasses the three main stakeholders, namely: (i) entrepreneurial institution; (ii) the entrepreneurial educator; and (iii) the entrepreneurial graduate (Hannon, 2006).

It is imperative to employ innovative approaches to teaching and learning which stimulate students and develop their self-confidence and commitment to pursuing entrepreneurial careers. This, in turn, will enhance their self-efficacy; that is, an enduring belief that they can successfully carry out the tasks they will be required to perform if they become entrepreneurs (Cooper and Lucas, 2007). Ryan (2008) suggests that early undergraduate entrepreneurship education is teacher- or teaching-centred and it is only at an advanced level of understanding that programmes become more learner- or learning-centred. He believes that the achievement of learning-centred entrepreneurship education can be achieved only where there is a real-world or live learning context for students. Cotton and Gibb (1998) state that with regard to entrepreneurial learning, the emphasis should be on pedagogies that encourage learning (i) by doing; (ii) through experience; (iii) by experiment; (iv) by risk taking and making mistakes; (v) through creative problem solving; (vi) by feedback through social interaction; and (vii) by role playing. Entrepreneurship research supports the position that entrepreneurial learning requires experiential learning, which Kolb

(1984) defines as a process whereby knowledge is created through the transformation of experience. Some researchers, such as Cope and Watts (2000), argue that learning by doing is the best means for students to learn about enterprise. Cope and Watts highlight the importance and potential value of building elements of authentic experience into educational programmes if they are to have enduring effects on entrepreneurial intent and embed self-efficacy levels. They assert that skills and attitudes associated with entrepreneurship are cultivated through authentic experience and enhanced in the workplace.

However, authentic engagement is not widespread in undergraduate programmes, because such developments are not without significant resource implications. Nevertheless, the apparent efficacy of authentic experience in developing entrepreneurial skills, attitudes and intentions makes it an important issue for policy and curriculum designers. The challenge for educators is to determine how authentic experience might be embedded in undergraduate entrepreneurship modules.

The OECD (2008) recommends that HEIs focus on growth-oriented entrepreneurship and shift the focus of entrepreneurship teaching away from traditional business management to stimulating growth-oriented entrepreneurship. Lecturers should focus on business growth strategies relating to internationalization and finance and on facilitating the development of students' skills in relation to opportunity identification, risk-taking, strategy, leadership, negotiation, building strategic alliances and IP protection. The challenge for entrepreneurship lecturers is that they cannot assume that all students have studied enterprise or participated in entrepreneurship courses at primary or secondary level. Entrepreneurship education at tertiary (HE) level endeavours to be inclusive and to cater for students with and without prior knowledge or experience of the subject. There is growing interest in how entrepreneurial skills and attitudes might be developed earlier. Whilst education is recognized as having a key role in developing student entrepreneurial mindsets, there is a need to convey knowledge about enterprise and employ teaching and learning approaches, which encourage learners to strengthen their entrepreneurial self-efficacy and anchor intentions to pursue innovative careers, important in pursuing entrepreneurial pathways.

Entrepreneurship education is frequently cited as a solution for increasing the supply and quality of entrepreneurs; however, there has been limited research on graduate entrepreneurs to substantiate HEIs' claims that graduates benefit significantly from entrepreneurship education. McKeown *et al* (2006) called for an investigation of the efficacy of

entrepreneurship education in HEIs, but the OECD (2008) cautioned that such an evaluation is difficult given the lag time between graduation and when graduates actually start their business. Evaluating the effectiveness or efficacy of entrepreneurship education in HEIs is vital in order to (i) track graduates' career paths; (ii) tailor entrepreneurship education to the needs of students and future entrepreneurs; and (iii) secure long-term funding for entrepreneurship education.

## Research aim and questions

This research aimed to examine the views of 20 graduate entrepreneurs on the efficacy of entrepreneurship education in Irish HEIs. Graduate entrepreneurs were therefore at the heart of the study and the researchers wanted to ascertain the graduates' perspectives on how HEIs fostered and encouraged the growth of entrepreneurs and/or entrepreneurial ventures through entrepreneurship education. This was achieved with the following research questions:

- (1) What was the graduate entrepreneurs' experience of undergraduate entrepreneurship education?
- (2) What was the graduate entrepreneurs' experience of graduate entrepreneurship education?
- (3) To what degree did entrepreneurship education prepare the graduate entrepreneurs for starting their own business?

The research findings highlight both good practice in and the limitations of entrepreneurship education.

## Methodology

The 20 graduate entrepreneurs had all been participants in the South East Enterprise Platform Programme (SEEPP) in summer 2010. This population represents a 'black box' of critical data in ascertaining the role of HEIs in fostering student enterprise and graduate entrepreneurship. SEEPP is a one-year rapid incubation programme for graduate entrepreneurs run by the Waterford Institute of Technology (WIT) in conjunction with Enterprise Ireland. It incorporates a remuneration package, research and development (R&D) funding, extensive group training, one-to-one mentoring and the provision of incubation space within the Institute's campus incubator. A qualitative approach was used, to obtain in-depth answers to the three research questions. Respondents were asked to elaborate on their experiences, where applicable, of undergraduate and graduate entrepreneurship education. All 20 interviews were recorded and transcribed. The researchers undertook a thematic analysis of the research findings

using NVivo software. The findings provide an in-depth synthesis of the perceptions and perspectives of graduate entrepreneurs on the efficacy of entrepreneurship education.

## Graduate entrepreneurs' experience of undergraduate entrepreneurship education

Of the 20 respondents, 15 had studied entrepreneurship as part of their undergraduate programme. Business, science and technology students were more likely to be exposed to entrepreneurship during their undergraduate years. In many undergraduate programmes, entrepreneurship was an elective subject and students had to make a conscious decision to study it. The five respondents who did not study entrepreneurship at undergraduate level were graduates of humanities and arts, education and health sciences.

The respondents believed that the approach to entrepreneurship education was primarily theoretical, with lecturers using business plans as the main teaching tool. Whilst this was useful in providing students with a framework for developing a business plan, they regarded it as too theoretical for those with no business idea or prior exposure to enterprise. Some respondents had studied neither entrepreneurship nor business studies at secondary level and this was their first exposure to the subject: they believed that they were at a disadvantage compared to those students with prior exposure. Moreover, they believed that the module title 'Entrepreneurship' was initially off-putting, given their lack of prior knowledge.

Students worked in groups to prepare a business plan, often for a fictitious business, and there was therefore limited scope for experiential or 'live' learning. The respondents believed that there were advantages in working in groups: they learned additional skills such as project management, identifying the skills and talents of team members, team building, delegation and conflict management. A lot of learning was gained from class presentations of each group's business plan. The respondents praised entrepreneurship lecturers, who tried to foster enthusiasm for small business creation in the students. Typically, these lecturers provided the undergraduates with opportunities to engage with successful entrepreneurs: this early exposure to business success was inspiring and crucial to the students when considering entrepreneurship as a possible career choice. Some lecturers used an external, *Dragons' Den* style panel to review their business proposals, which provided them with a fresh and real-world perspective.<sup>1</sup> The respondents' experiences of undergraduate entrepreneurship education are summarized in Table 1.

**Table 1. Approaches to undergraduate entrepreneurship education.**

- Entrepreneurship modules
- Feasibility studies
- Business plan competitions
- Case studies
- Guest lecturers
- Avatars – simulated enterprises
- Knowledge of campus incubators
- Enterprise boot camps
- Placements in SMES
- Prior knowledge of Enterprise Platform Programme
- Links with graduate entrepreneurs
- Consulting with SMES
- Links with Enterprise Development Agencies
- Links with city and county enterprise boards
- Blended/e-learning modules
- Links with industrial liaison office

The respondents highlighted the challenge provided by the tight deadlines implicit within a semester-based timetable. This limited their understanding and awareness of the subject because, as one participant observed, ‘there was too little time to cut your teeth with the subject’, given that most students had studied only one module of entrepreneurship throughout their entire undergraduate courses.

### Graduate entrepreneurs’ experience of graduate entrepreneurship education?

All 20 respondents had studied entrepreneurship through SEEPP and were committed to establishing their business. Any ambiguities about a business idea that they may have had at undergraduate level no longer applied. According to the 15 respondents who studied entrepreneurship at undergraduate level, at graduate level it was ‘a different ball game’. Given the enhanced validity of their business concept, entrepreneurship education became more meaningful and relevant and less theoretical. All of the respondents stated that they were more motivated and self-directed in their study and were not dependent on lecturers to motivate them. They all welcomed the opportunity to work, study and network with like-minded peers, who ‘were in the same boat’ as themselves. Such close cooperation led to the creation of synergies between similar or complimentary businesses, sharing resources and expertise and generating business referrals and sharing expertise. Much of this networking was organic in nature and was not contrived by the lecturers or SEEPP management.

The approach to graduate entrepreneurship education was facilitative rather than directive. The respondents no longer felt they were ‘mere students’ but were

regarded as peers by the lecturing staff. The introduction of subject experts in the fields of corporate taxation, company law, intellectual property and raising finance was regarded as worthwhile and practical. The respondents also stated that they had an input into the curriculum and, for example, could suggest guest speakers and site-visits which would enhance their learning overall. The general experience of the graduates of entrepreneurship education was that of an adult learner, respected for bringing and sharing their experiences. In WIT, on successful completion of SEEPP, graduates received a Postgraduate Diploma in Enterprise Development. Whilst this was a welcome achievement, it was not regarded as the graduate entrepreneurs’ primary motivation for participating on the programme. Essentially, graduate entrepreneurship education is more dynamic and focused: the stakes are higher. It takes place in the real world within the HEI’s campus incubator and the students are embedded in an enterprise environment with links to the academic and commercial worlds. The key approaches to graduate entrepreneurship education are summarized in Table 2; and the perceived benefits and limitations of entrepreneurship at both undergraduate and graduate level are shown in Table 3.

### Did entrepreneurship education prepare the graduates to start a business?

Of the 15 graduate entrepreneurs who studied entrepreneurship as undergraduates, eight believed that it did not equip them with the skills or knowledge to

**Table 2. Approaches to graduate entrepreneurship education.**

Entrepreneurship modules	→ Integrated programme
Feasibility studies	→ ✓
Business plan competitions	→ Optional
Case studies	→ ✓
Guest lecturers	→ ✓
<i>Dragons’ Den</i> pitches	→ ✓
Attendance at conferences and seminars	→ Encouraged
Campus incubators	→ Business based in campus incubator
Links with other graduate entrepreneurs	→ Alumni in operation
Links with Enterprise Development Agencies	→ Strong links
Links with city and county enterprise boards	→ Strong links
Blended/e-learning modules	→ All face-to-face tutorials
Links with industrial liaison office	→ Strong links
Links with business angels or venture capitalists	→ Optional

**Table 3. Perceived benefits and limitations of entrepreneurship education.**

<p><b>Benefits of undergraduate entrepreneurship education</b></p> <ul style="list-style-type: none"> <li>• Exposure to alternative career path</li> <li>• Opportunity to participate in Institute and national enterprise awards</li> <li>• Continuous assessment</li> <li>• Value of group work</li> <li>• Links with real and graduate entrepreneurs</li> <li>• Passionate lecturers</li> <li>• Links with external agencies</li> <li>• Entrepreneur in Residence: positive role models</li> </ul>	<p><b>Limitations of undergraduate entrepreneurship education</b></p> <ul style="list-style-type: none"> <li>• Theoretical approach</li> <li>• Over-reliance on business plan as teaching tool</li> <li>• Lack of ideas – sometimes going through the motions</li> <li>• Title of 'Entrepreneurship' can be off putting</li> <li>• Semesterization</li> </ul>
<p><b>Benefits of graduate entrepreneurship education</b></p> <ul style="list-style-type: none"> <li>• Networking with like-minded peers</li> <li>• Definite business opportunity in place</li> <li>• More practical</li> <li>• The stakes are higher</li> <li>• Greater focus on self-directed learning</li> <li>• Graduate learning embedded in campus incubator</li> </ul>	<p><b>Limitations of graduate entrepreneurship education</b></p> <ul style="list-style-type: none"> <li>• Greater risk involved as the stakes are higher</li> <li>• Limited engagement with academic staff of HEI</li> <li>• Lack of engagement with undergraduate students</li> <li>• Campus incubator off campus</li> </ul>

establish their own business. They believed that the approach to entrepreneurship education was 'dry and theoretical' and did not instil in them the self-confidence or self-efficacy deemed necessary to become successful entrepreneurs. All respondents said that no amount of entrepreneurship education would prepare them for real-life enterprise development. Essentially, such knowledge could be attained only through experience and insights gained while working in companies. Conversely, all the respondents believed that graduate entrepreneurship education was more focused, effective and practical. This is primarily because all of these respondents had a definite business idea and could apply the knowledge gained in class directly to their business. While they welcomed some theoretical approaches to entrepreneurship education, their approach was more strategic, and they learned to use knowledge that was relevant to their business.

### **Graduates' recommendations for enhancing entrepreneurship education**

The respondents suggested a number of initiatives to improve undergraduate and graduate entrepreneurship education in order to enhance the student learning experience and to increase the efficacy of entrepreneurship teaching and learning.

#### *Promoting entrepreneurship as an alternative career path*

Graduate entrepreneurs agreed that, ideally, entrepreneurship competence should be acquired from primary school right through to secondary and tertiary (HE) level; but entrepreneurship education could inculcate an entrepreneurial mindset in undergraduates.

They believed that this was imperative given the current limited employment prospects for graduates.

#### *Enthusiastic entrepreneurship lecturers*

All respondents thought that the success of entrepreneurship education was attributable to dedicated and enthusiastic lecturers with both credibility and experience in enterprise development. Essentially, entrepreneurship lecturers are instrumental in instilling enthusiasm for entrepreneurship in students. Graduate entrepreneurs had greater respect for lecturers, who had 'walked the talk' and had experience either setting up their own business or working in a business start-up. Without such experience, lecturers were regarded as lacking credibility, transmitting no more than theoretical knowledge of how to start a business. This brings to mind the acuity of Antoine de Saint-Exupéry's thinking on education: '...if you want to build a ship, don't drum up the men to go to the forest to gather wood, saw it, and nail the planks together. Instead, teach them the desire for the sea' (de Saint-Exupéry, 1991).

#### *More creative approaches to teaching entrepreneurship at undergraduate level*

The graduate entrepreneurs recognized the shortcomings in entrepreneurship education, particularly at undergraduate level. They called for a movement away from the business plan as the dominant teaching methodology because it was often 'abstract' and caused problems for students without a business idea. Instead, they suggested using case studies, simulated enterprises (avatars), shadowing and profiling entrepreneurs, meeting graduate entrepreneurs and networking with enterprise development agencies. Moreover, they suggested that lecturers should focus on key business

growth strategies such as raising finance, opportunity identification, risk-taking, strategy making, leadership, negotiation skills, building strategic alliances and protection of IP. However, the challenge for Irish entrepreneurship lecturers is that they cannot assume that all students have studied enterprise or participated in entrepreneurship courses at primary or secondary level. The respondents felt that students would gain greater insight into the realities, challenges and benefits of setting up a business given more creative and relevant approaches to entrepreneurship education. Armed early with such knowledge, students would be in a better position to make an informed decision about whether or not self-employment would be a viable option for them.

#### *Entrepreneurs as role models*

In WIT, the School of Business has appointed an Entrepreneur in Residence, who acts as a role model to the student body and as an ambassador for the Institute at public meetings on enterprise. Whilst the respondents conceded that the value of such an appointment was difficult to measure, they welcomed the role because it raised the profile of entrepreneurship in both the Institute and the wider community. They believed that lecturers should maintain strong links with graduate entrepreneurs to develop opportunities for symbiotic relationships with existing undergraduates and graduates. Initially, the onus should be on the lecturer to facilitate such links through networks with students, campus incubator clients, enterprise development agencies and the wider enterprise community. Graduate entrepreneurs can, in turn, support entrepreneurship education initiatives by becoming guest speakers, mentors and/or positive role models to existing students. There would be merit in developing symbiotic relationships between graduate entrepreneurs and current students, but respondents argued that the viability of such relationships would rely on the presence of sustainable symbiotic links between both parties. Some respondents suggested the creation of an Enterprise Club or Society, led by students and affiliated to the Students' Union (the body formally representing the educational, social and other interests of students in HE) to allow students to be in control, could help identify relevant role models of interest.

#### *Greater engagement with campus incubator*

Campus incubators are a welcome and valuable addition to HEIs, providing a focal point for campus enterprise development. However, the present research confirmed that they are either not used or, at best, are under-utilized by undergraduate students. This is because campus incubators are actually often located

off-campus and thus removed from undergraduate students – who were therefore not aware of, or did not avail themselves of, an incubator's facilities. Graduate entrepreneurs did use the campus incubator when they were given a hot-desk facility as part of the SEEPP. They suggested that by initiating real and practical synergies between the student, academic and enterprise communities, campus incubators could provide a stimulating and supportive environment for future student enterprise development. For this to succeed, there would be an obligation on both lecturers and the campus incubator manager to embed student entrepreneurship education initiatives within the campus incubator. As well as increasing awareness of the facility, students could network informally and formally with real-world and graduate entrepreneurs and become aware of opportunities.

#### *Better links with real-world entrepreneurs and EDAs*

Networking with real-world entrepreneurs is regarded as a vital component of successful entrepreneurship education and the lecturer is instrumental in facilitating and developing both formal and informal networks between students and SMEs. The lecturer's role is to initiate links between students and local and national entrepreneurs and EDA personnel who could help the students in developing their businesses. However, there is also significant value in the organic, informal student networks, initiated by them, in which they support each other; and particularly so for interdisciplinary networks.

### **Research limitations**

The following limitations restricted and influenced the research findings. This was a small-scale research sample in a project conducted over a short timeframe and the research was limited to graduate entrepreneurs. Budgetary constraints limited the research to one HEI and the study does not include other national or international case studies. This research was conducted in WIT, which operates in a unique, regional environment influenced by the policies, priorities and ethos of its management and regional economic conditions. It thus represents a snapshot of graduate entrepreneurs' perspectives of entrepreneurship education in the South East Region of Ireland and cannot be taken to be indicative of the nation as a whole. It should therefore be considered as a first step in the study of how graduate entrepreneurs perceive entrepreneurship education.

### **Recommendations for future research**

This research has identified ways in which entrepreneurship education could be enhanced in Irish

HEIs in order to optimize the student learning experience. We would suggest that the findings have implications for enterprise policy makers, HEIs and academics charged the design and delivery of entrepreneurship education programmes. Equally, the limitations of this research highlight a number of opportunities for future work: for example, a similar study could be conducted at national level in Ireland to provide a more wide-ranging view of entrepreneurship education across a broader cross-section of graduate entrepreneurs. Such a study could document different approaches to entrepreneurship education and enable a good practice model to be formulated which could then be disseminated to entrepreneurship lecturers.

## Conclusions

Graduate entrepreneurs benefited from undergraduate entrepreneurship education because it directed them to an alternative career path different to traditional employment. Whilst the graduates considered some of the approaches to undergraduate entrepreneurship education to be theoretical or abstract, graduate entrepreneurship education was regarded as more relevant, engaging and applied. Through participation in SEEPP, graduate entrepreneurs were able to develop and refine their entrepreneurial skills whilst creating a real business. Essentially, their learning was live, real and experiential, the stakes were higher and they were more committed and self-directed as learners: this reflects the ideals and values of graduate and adult education. Enthusiastic lecturers, with credibility and experience of enterprise development, are crucial factor in the success of entrepreneurship education: such teachers are able to instil enthusiasm for entrepreneurship amongst students. The perspectives of graduate entrepreneurs on good practice in entrepreneurship education requires commitment from the students, lecturers and the HEI itself and liaison with external partners (SMEs and EDAs). At a strategic level, it is imperative for each HEI to plan, prepare and implement innovation, knowledge and enterprise development strategies as a key component of its institutional mission. HEIs need to be brave and ambitious for their graduates and to create the necessary conditions for entrepreneurship to flourish. As and when the Irish and global economies improve, Irish graduates should be equipped with the skills and self-confidence to embrace self-employment as a viable career option.

## Notes

<sup>1</sup> *Dragons' Den* is a so-called 'reality television' programme, broadcast by the BBC, in which budding entrepreneurs are given the opportunity to sell their business ideas to five

multi-millionaires willing to invest their own cash if they find the business proposal attractive.

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