Embedding Enterprise in the University Curriculum: Can One Solution Fit All?

Mike Clements
Staffordshire University UK

Universities globally are finding themselves under pressure from their various stakeholders demanding more effective use of their resources and better targeted outputs. The UK Government wants "more for less" in terms of University outputs relative to the financial support it provides. (Willetts, D. (2010) Employers demand a better equipped workforce, with practical transferable skills. Students themselves are vocally demanding more from their university experience, wanting skills that will make them employable in a competitive marketplace. This paper will consider the challenges a University faces in curriculum development. An overview of the developments at the author's own institution concludes the paper.

UNIVERSITIES NEED TO BE MORE ENTREPRENEURIAL?

Because the UK has so few privately funded HE institutions, Universities are directly affected by Government educational policies on standards and funding. Some would argue that through the development of highly successful spin-out companies and joint-developments with industry Universities are fulfilling that role, but that is to take a very narrow perspective of what University's potentially could offer. The Government is convinced that Universities should be addressing more fundamental issues, in particular providing next generations of graduate with the skills to make a positive contribution to the recovery of the economy. *"Every school, college, university and training provider should treat employability as part of their core business".* (UK Commission for Employment Skills, 2009) Furthermore the Government believes that employability prospects are enhanced by the teaching of a range of *transferable skills* that are provided by undertaking an enterprise learning experience. There is growing evidence of the importance of teaching *soft skills* which form such an integral part, such as communication, drive and self–motivation and resilience, in graduate employability. (Andrews, 2008; Rae, 2008) Such is that belief that the Government is clear that only by stimulating and encouraging *enterprise* will the country move out of recession and reduce the National debt by reducing the reliance upon public sector. Cable, the new Coalition Government Business Secretary announced *"The Government wants to make this decade the most entrepreneurial and dynamic in our history. This will be achieved by challenging aspirations, embedding enterprise awareness into mainstream education and mentoring future entrepreneurs"* (Cable, 2010)

Certainly in the UK this is not a new 'call to action'. The Lambert Review of University-Business collaboration back in 2003 called for the nurturing of an enterprising and entrepreneurial spirit amongst academic staff and students. However a major EU Report covering 31 countries, including the 27 EU member states, Iceland, Liechtenstein, Norway and Turkey concluded: *"The results of the analysis show*

that the scope of entrepreneurial education is worrisome. Based on the survey results it is estimated that more than half of Europe's students at the higher educational level do not even have access to entrepreneurial education. (NIRAS Report, 2008, p3)

So why is there an apparent gap between the perceived economic benefits and enhanced employability prospects provided by including enterprise in a university "experience" and actual university provision? Why did one influential UK report into University enterprise education found that universities would have to try much harder to close that gap? (NESTA Report, 2008) Why did that same report indicate that it had identified "*academic tensions*" between traditional 'instruction' and effective entrepreneurship education*". (NESTA Report, 2008, p6); what one researcher identified as "*challenges to the structure, system and culture with HEIs'*"? (Rae, 2007)

Before directly addressing that question there is a contextual issue to consider, namely the impact of the structural changes that have been transforming the social and economic landscapes of most of industrialised Europe, which have exacerbated the more recent impact of the downturn(s) in the global economy. In particular, the rapid decline of traditional heavy industries and the growth in numbers of smaller companies that have emerged to fill the economic and social vacuum, providing employment and new growth opportunities.

SMALL ENTERPRISE ECONOMY – A RAPIDLY CHANGING ECONOMIC STRUCTURE

Calls for more enterprise and transferable skills reflect the fundamental shifts we have witnessed in the economic and social structure of the UK. Not only can workers no longer expect a job/one employer for life neither will their graduate skills be likely sufficient throughout their working life as technology increases at an ever-increasing rate. Furthermore the economic structure of UK businesses is now one where 99% of companies are small companies, with less than 250 employees (Office for National Statistics, Table A1.2, 2009); it becomes every increasingly obvious that more graduates will be employed by smaller firms where they will provide the leadership and drive or they will, at some stage of their careers, give consideration to starting their own businesses. The NESTA Report suggested "*Inspired, self-confident, talented and enterprising graduates are more likely to found and lead dynamic new ventures and transform any organisation they join or manage. Developing entrepreneurial graduates is therefore essential to our future success"* (NESTA Report, 2008, p4)

The challenge laid down by the Government for Universities is how will they provide the education to equip these graduates for future work/life/career change decisions? Universities may well take a myopic view that they feel they do so already, but just as employers question them, so do students, as exemplars from a popular student blog suggest: *"A lot could be done to make undergraduates more aware of the direction their degree could take them in"* and *"I feel like I have not been taught anything that would be of real use in a work environment."* (The Student Room, 2010)

UNIVERSITIES AND ENTERPRISE EDUCATION

Universities and other Higher Education Institutions (HEIs) across the EU (European Union) do report already offering students learning experiences in entrepreneurial behaviour, (transferable) skills, knowledge, mindsets and experiences as the NIRAS report for the EU reports responses ranged from 78% (Specialised HEIs) to 97% for multidisciplinary HEIs including business schools (NIRAS Report, 2008, Q7). In the UK alone, named enterprise programmes beginning in 2011, including joint degrees and social

enterprise degrees, listed by UCAS for student enrolment were 307, up from the previous year (UCAS, 2010). So is there a problem at all?

The alarm bells begin to sound when, if enterprise education is to be a bedrock of economic recovery, on average only 71% of University Executives (Vice Chancellors, CEOs) reported having entrepreneurship embedded in their Mission Statements though the report does not develop to what extent it is marginalised in strategic decision making. (NIRAS, 2008, Q31)

Suggestions that enterprise education may be marginalised in the majority of institutions appear when it is reported that on average only 60% of graduating students can actually count their enterprise courses/modules/programmes of study as part of their degree studies. (NIRAS, 2008, Q47) Even more alarming then are the findings of possibly how few graduates are leaving their institutions with actual practical entrepreneurial activities, when researchers have suggested the importance of enterprise education pedagogy including "doing content", exposure to "real life experiences".(Jones 2009) On average, only 14% of students graduating would do so with actual practical entrepreneurial activities; 40% would have received less than 10% exposure. (NIRAS, 2008, Q58)

So how do we explain the apparent reluctance of Universities to engage in enterprise education in the face of the "evidence"?

"The Evidence" – Definitions and Proof It Works?

Earlier hostility to the idea of enterprising education subverting more pure academic aims was seen (Tomlinson), but it is much harder to identify what the hostility actually is other than an affront to academic freedom; one wonders sometimes if this hostility is based on a preconceived misconception that it means "business", "profit" and the like. Whilst Gibbs provided a good definition as early as 1993, Pittaway and Cope (2007) found still a lack of consensus on what entrepreneurship or enterprise education actually `is' when implemented in practice. More recent research has suggested in terms of programme design it is best to consider a broad approach definition where *enterprise education* is much more than just about "business start-ups" (though actively supporting and encouraging self-employment is an integral part of that educational experience) or "profit". Chell stressed the importance of social entrepreneurship. (Chell, 2007) Holistically it is seen as encouraging a way of thinking and behaving relevant to all part of society and the economy, seeking to develop mindsets, behaviours, skills and capabilities that can be applied to create values in a range of contexts and environments from the public sector, charities, universities and social enterprises to corporate organisations and new venture start-ups. (NESTA, 2008, p12) The NIRAS Report concludes *"The entrepreneurial agenda will only find its way into all fields of the HEIs if a broader definition is applied. The HEIs are advised to make the academics understand that the decision to engage in entrepreneurship does not equal business venturing (although it can be a part of the strategy), but it is a decision to expand the entrepreneurial spirit across the institution."* (NIRAS Report 2008, p9)

The Executive Commitment – Leading by Example?

Without the support of the University Executive, demonstrated through its actions such as the Mission Statement, reward systems, promotions and even recruitment strategies, as well as directives to faculty managers, there is no chance of embedding enterprise across the curriculum. But equally, successful embedding will be collaboration between executive and faculty rather than an imposition of one solution from the executive to fit all circumstances.

The University Culture and Structure – Structured to Resist Change?

The idea of the *entrepreneurial university* is not new (Slaughter and Leslie, (1997); Clarke (1998), nor is the fact that Universities globally have become very proficient at incubating and sustaining profitable spin-out companies. But this has become a double-edged sword. Pressures to generate now sources of income have sucked the most able of faculty staff into these "enterprising activities", in many cases dislocating them from teaching, in particular undergraduate teaching. Nowhere was Shaw's view that *"those that can, do...those that can't, teach"* (Shaw, 1903) more appropriately applicable, to the

detriment of developing student-orientated enterprise education. Rae concluded *"(much) less attention has been paid to the development of enterprising teachers and their pedagogy"* (Rae 2009, p185). Hannon identified resistance throughout the University structure and processes. (Hannon, 2007)

More emphatically, Kirby suggested that factors such as the size and layers of control within a university will act to discourage entrepreneurial activity (Kirby, 2006). University bureaucracies, like bureaucracies generally, tend to inhibit (innovative) change. Even the enterprising activities themselves tend to be hived-off from mainstream activities, to science parks, technology parks and the like, where general access is often strictly controlled and discouraged (from a student perspective at least).

The NIRAS Report concluded *that neither the top-down approach nor the bottom-up approach can stand alone. Creating an entrepreneurial institution demands a joint effort from the top-management, as well as academic and other staff, in order to succeed in fully implementing entrepreneurial education throughout the entire institution.* (NIRAS Report 2008, p4)

Communicating University Priorities?

Historically Universities have been judged by their "research output – research and publications" using various complicated and convoluted metrics. The success of which would provide in turn access to further funding and the cycle would continue as the successful got more successful. Whilst there is nothing intrinsically wrong with the cycle often *teaching*, developments in *learning and teaching pedagogy* and *programme developments* would for many of the more successful faculty staff be deemed "less interesting". Rewards such as promotions would then be confirmed on the successes, thereby sustaining the cycle and communicating to others that that was the success route (for a career in academia). What is required is for the executive to suggest though the cycle remains important, other priorities such as enterprise education are now important and success in innovative learning and teaching (as well as focussed research in the area) will be equally recognised and rewarded. A major speech from the Government Minister of State for Universities and Science, David Willetts, at the Universities UK Annual Conference outlined what the Government considers to be the priorities for the University HE sector. *"Fundamental to our vision is a renewed emphasis on teaching. The Higher Education Academy has produced one of the most shocking reports I have come across recently. It is a survey of what gets you promoted as a university lecturer. Most of the academics felt that teaching is not rewarded in promotions as much as it should be. Fewer than one in ten senior promotions in the Russell Group and the 1994 Group were significantly influenced by teaching. Another recent survey showed that academics perceived research as most important for promotion – while teaching was barely on a par with administrative diligence. Universities that relegate the importance of teaching are in danger of losing sight of their original mission. The balance between teaching and research has gone wrong. The acid test for HE providers is whether they offer excellent teaching and a high-quality experience for students."*

He sent strong signals to Universities that this may well mean higher concentration of public funding for research than is the current case; greater selectivity meant that not every academic, department or institution could necessarily continue to expect public funding for research. It is possible that looking for the "quick-fix" Universities will see "enterprise education" as where they should be, whether prepared or not. Brodie suggested *"what seems clear is that no one approach to entrepreneurship suits all institutions"* (Brodie, et. al, 2009, p234). Further more evidence suggests that no one approach will suit all students within an institution too (Smith, et. al (2006), Schwartz (2009).

The "Crowded Curriculum"?

It is not uncommon to find faculty staff resistance to embedding enterprise formed from the cry that their curriculum is already *overcrowded*, that even if they wanted to there is no space to fit an additional content to satisfy a further set of learning outcomes. In some cases one finds especially professional courses linked to professional external examinations (such as Law in the UK) some of the resistance is justified, but even here many of the transferable skills are as equally applicable to a graduate lawyer as they are to any other graduate; in fact many lawyers will form or become part of legal partnerships that by definition are "small companies". Often the "crowded curriculum" claim is to maintain the *status quo"*

rather than re-visit the current pedagogy, looking for new and innovative ways of re-bundling the existing content, delivery and assessment modes to make it more enterprising/entrepreneurially focussed.

Support For and From Faculty Staff?

The introduction of enterprise education will have to be a partnership between executive, faculty staff and the student. Staff must be persuaded that it has academic integrity, is worthwhile and beneficial for their engagement. This may call for fundamental change in the way they have previously taught, best affected by focussed staff development. It would appear that for much enterprise education where it is featuring in programmes of study, it is still reliant very much upon traditional pedagogy of "listening" rather than "doing", delivered through traditional programmes of study. It can be argued that some of this faculty resistance is due to a misunderstanding of how they perceive *enterprise education*, whilst others will simply resist change because that's what academics do! It can be a communication problem. The NIRAS Report concludes "*The entrepreneurial agenda will only find its way into all fields of the HEIs if a broader definition is applied. The HEIs are advised to make the academics understand that the decision to engage in entrepreneurship does not equal business venturing (although it can be a part of the strategy), but it is a decision to expand the entrepreneurial spirit across the institution.*" (NIRAS Report 2008, p9)

Support For and From Students?

Committed engagement in enterprise from all graduates can only be affected by selling them that it is worthwhile. Graduates on the whole will be concerned about their future employability and ability to repay to the University (or bank) the loans they have had to take out to secure their learning experience; the costs of which will inevitably continue to rise as Universities themselves look to secure increased funding. Research drawn from case study exemplars does suggest "more enterprising students undertaking enterprising programmes are more employable students", so that the rate of introducing enterprise education into university curriculum is unlikely to diminish, but it has to be explained to those student groups less aware of its importance. "*(It) is more important to embed the entrepreneurial vision in all courses to get in touch with all students instead of just students that probably already have a positive notion of entrepreneurship because they have actively chosen an entrepreneurial degree.* (NIRAS Report 2008, p5)

However, to date, there are few longitudinal studies to support or question this "evidence". Matley and Carey (2007) studied a sample of 40 new and established universities in the UK over a period 1995-2004, to analyse the development and implementation of various approaches to entrepreneurship education, identified barriers to adoption and conceptual and contextual as well as design and delivery factors can impact significantly upon entrepreneurship education courses developed in UK HEIs, but what is also required are more studies of the longer term impact of enterprise education on the *graduates'* work/life careers. (Matley 2008)

Pressure from Collaborative Projects with External Partners?

External collaborations are to be actively encouraged not only to develop the expertise of staff but as much to expose the student to a wide range of enterprise experiences, through industry-university projects, guest lectures as well as focussed student (and faculty) business placements. This collaboration has the potential to be developed much further, deep into the pedagogy. With specific regard to enterprise education many universities now involve their external collaborations in not only the development of curriculum content, but also shared/joint delivery and assessment.

Government Support?

Government rhetoric alone will not embed enterprise in university curricula. Such advocated changes are an investment with a cost. This may not mean additional income to the Universities, but rather a government-directed shift in emphasis in where income is allocated. For example, currently in the UK (September 2010) the Government has "capped" (put a limit on) the number of full-time undergraduates a

University can enrol. If it is serious about encouraging enterprise education it might either consider relaxing this cap on those programmes with a substantial enterprise element within the curriculum and/or use its influence to "re-direct" University resources to those areas perceived as being of national priority; such policies that would surely bring it into conflict with the Universities, threatening their academic independence and freedom as well as those opposed to Government intervention policies. How willing is the Government to do that time will tell.

ENTERPRISE EDUCATION AT STAFFORDSHIRE UNIVERSITY

Though I may have appeared to paint a picture of gloom, my own experiences across Europe suggest that is not always so. For instance my own institution is located in an area that has suffered badly from structural change, the almost disappearance of its traditional industrial base – iron, coal, steel and ceramics (we remain known as the Potteries – home of Wedgwood and Royal Doulton amongst others). The University is committed to widening local participation in higher education where the average level of education attainment is below the UK average, encouraging (graduate) business start-ups (where again the region is lagging behind the UK average) and retaining graduate skills in the area as the launch-pad to economic and social recovery. Researchers – Centre for Cities – have suggested Stoke-on-Trent to be one of the five areas in the UK likely to face a particularly tough time as the country emerges from recession due to its loss of private sector jobs, low business start ups (30 start-ups per 10,000 residents – the ninth worst statistic for all 64 cities featured – UK average 44) and area of low qualifications. (Centre for Cities 2010)

This has driven the University Mission to be very proactive in programme design and staff training to provide support for the area's economic and social recovery. At present it is undertaking an across-University-wide embedding of enterprise in curriculum, where faculty are expected to sign up in a positive way with the exploration of new pedagogy, underwritten by an active and participatory University executive. Furthermore, the University actively encourages two-way collaboration with local private industry in the design and mentoring of its (in particular) business start up programmes, but generally across the University. (Mason et al, 2009) The arrival of a new Vice Chancellor in January (2011) only further underlined his (and therefore the University's) commitment to what he calls his "3Es", namely *employability*, *enterprise* and *entrepreneurialism* as the main drivers and purpose of the University. The University is clear on what it expects enterprise education to contribute to the graduate's overall University learning experience:

- It should prepare our graduates sufficiently to take their place in smaller firms?
- Prepare our graduates to be intrapreneurs?
- Provide all our graduates with the skills and mindsets to assist their starting and sustaining their own business?
- Prepare them for possible future flexible career change/work-life balance with transferable skills?

To aim to achieve to this Faculties/Schools have introduced a range of delivery modes, identified by faculty to be the most appropriate within a programme. In additional to traditional face-to-face contact, the University uses both virtual and blended delivery. It has been using a virtual learning environment to deliver on and off-campus programmes since 1998, first using *Lotus Learning Space* and subsequently *Blackboard*, though use is also made of *open source platforms* such as *Moodle*. Content is very much focussed on aspects of "doing", involving in-class and in-industry shared experiences of work-based and work-related learning to support traditional learning modes. This involves working closer with the local business community and agencies supporting business, the banks and local government agencies in collaborative projects as well as programme design and delivery. This opening up of the enterprise agenda to external bodies has led to a wide range of programmes, module developments and student placements tailored to the specific needs and expectations of the target student groups. These in turn are supported by student and staff involvement in both internal and external enterprise extra-curriculum activities. The

University has moved far from a generic enterprise programme. Some are quite unique, like the *Foundation Degree in Business Start Up*, which is aimed at the student looking to prioritise their career through starting their own business. They vary in age, gender and ethnicity, but are driven by one goal – to be their own boss. They have to undertake a pre-start interview by external SFEDI-trained coaches (SFEDI, 2010), where both business idea and self-employment motivation are explored. The pedagogy is designed specifically to match their needs; generally learning and teaching styles and assessment styles match the expectations of the students.

Certainly at Staffordshire, through the Careers Department, tracking on enterprise education/employability performance is to be more focussed with a view to deriving longitudinal evidence, but the practicalities of doing so will themselves be challenging. We have seen that the nature of the institution and faculty members, available (investment) funding for new programme development as well as type of student lead us to the conclusion that one solution simply cannot be the answer to designing and delivering enterprise programmes, even within an institution; programmes will have to be much more student-centred, delivered as far as possible in a mode most flexible to the needs of that student. External collaborations are actively encouraged not only to develop the expertise of staff but as much to expose the student to a wide range of enterprise experiences, through industry-university projects, guest-lectures, as well as focussed student (and faculty) business-related placements. Overall this University-wide initiative, embedding enterprise into the curriculum of 12,000 students, is on-going, with a projected fully implementation by 2011/2012.

REFERENCES

Andrews, J. & Higson, H. (2008). Graduate Employability, "Soft Skills" versus "Hard Business Knowledge: A European Study*, Higher Education in Europe, 33*(4), 411-422.

Archer, W. & Davidson, J. (2008). *Graduate Employability. The Views of employers,* The Council for Industry and Higher Education Report, London.

Brodie, J., Laing, S & Anderson, M. (2008), Developing enterprising people through an innovative enterprise degree, *Industry and Higher Education, 23(3)*, 234.

Cable, V. (2010) Speech presented to Business Secretary, BIS, 3 June, CASS Business School, UK. Retrieved from http://web.bis.gov.uk/news/speeches/cass-business-school

Centre for Cities. (2010) Centre for Cities Outlook 2010, Centre for Cities, London, 28. Retrieved from http://www.centreforcities.org

Chell, E. (2007) Social Enterprise and Entrepreneurship: Towards a Convergent Theory of the Entrepreneurial Process. Making a case to include social entrepreneurship within the umbrella, *UK International Small Business Journal*, *25*(1), 5-26.

Clark, B.R. (1998) *Creating Entrepreneurial Universities: Organisational Pathways of Transition,* IAU Press/Elsevier, Oxford.

Gibbs, A. (1993) Enterprise Culture and Education**:** Understanding Enterprise Education and Its Links with Small Business, Entrepreneurship and Wider Educational Goals**,** *International Small Business Journal*, *11*(3), 11-34.

Hannon, P. (2007) Enterprise for all? The fragility of enterprise provision across England's HEIs, *Journal of Small Business and Enterprise Development, 14(2),* 183-210.

Jones, C. (2009) Enterprise Education: learning through personal experience, *Industry & Higher Education*, *23*(3), 175-182.

Lambert. R (2005) Review of University-Business Collaboration. 4 Dec, Retrieved from http://www.hm-treasury.gov.uk/lambert_review_business_university_collab.htm

Mason, G., Williams, G. & Cranmer, S. (2009) Employability Skills Initiatives in Higher Education: What effects do they have on Graduate labour Market Outcomes, *Education Economics*, *17*(1), 1-30.

Matlay, H. & Carey, C. (2007) Entrepreneurship education in the UK: a longitudinal perspective, *Journal of Small Business and Enterprise Development, 14(2),* 252-263.

Matlay, H. (2008) The Impact of Entrepreneurship Education on Entrepreneurial Outcomes, *Journal of Small Business and Enterprise Development, 15(2),* 382-396.

NESTA Report. (2008) *Developing Entrepreneurial Graduates. Putting entrepreneurship at the centre of higher education*, NESTA, London. Retrieved from http://www.nesta.org.uk

NIRAS Report. (2008) *Survey of Entrepreneurship Education in Higher Education in Europe*, NIRAS, FORA, ECON Pöyry, EU Commission, Directorate-General for Enterprise and Industry, Brussels, Belgium.

Office for National Statistics. (2010) *UK Business Activity, Size and Location in 2009,* London. Retrieved from http://www.ons.gov.uk/about/index.html

Pittaway, L. & Cope, J. (2007) Entrepreneurship Education: A Systematic Review of the Evidence, *International Small Business Journal*, *25*(5), 479-510.

Rae, D. (2007) Connecting enterprise and graduate employability: Challenges to the higher education culture and curriculum? *Education and Training, 49*(8/9, 605-619.

Rae, D. (2008) Riding out the storm: graduates, enterprise and careers in turbulent economic times, *Education & Training 50*(8/9), 748-763.

Rae, D., Gee, S. & Moon, R. (2009) Creating an enterprise culture. The role of an entrepreneurial learning team, *Industry & Higher Education 23*(3), 183-197.

Schwartz, D. & Malach-Pines, A. (2009) Entrepreneurship education for students. How should universities prepare for the challenge of teaching entrepreneurship?, *Industry & Higher Education 23*(3), 221-231.

SFEDI (2010) is the Government recognised UK Standards Setting Body for Business Support and Business Enterprise. Retrieved from http://www.sfedi.co.uk/about

Shaw, G.B. (1903) Maxims for Revolutionists *Man and Superman*, Forgotten Books re-published (2010). Retrieved from http://www.forgottenbooks.org

Slaughter, S. & Leslie, G. (1997) *Academic Capitalism,* John Hopkins University Press, Baltimore, MD.

Smith, A.J., Collins, L.A. & Hutton, P.D. (2006) Embedding new entrepreneurship programmes in UK Higher Education institutions: challenges and considerations, *Education and Training*, *48*(8/9), 555-567.

The Student Room (2010) Student Blog. Retrieved from http://www.thestudentroom.co.uk/

Tomlinson, M. (2009) *Higher Education and Graduate Employability*, Verlag Dr. Müller, Saarbrücken, Germany

Willetts,D. (2010) Universities UK Annual Conference, Key Note Speech to the Association of UK Universities Annual Conference, Cranfield University, 9 September, Department for Business, Innovation and Skills, UK. Retrieved from http://www.bis.gov.uk/news/speeches/david-willetts-uuk-conference

UCAS. (2010) Database of available student programmes - Universities & Colleges Admissions Service. Retrieved from http://www.ucas.ac.uk/

UK Commission for Employment Skills. (2009) *Employability Skills*, London.

Professor Mike Clements

Professor Mike Clements BA, MSc, PhD is Director of the SPEED/EFS Programme at Staffordshire University as well as heading the development of enterprise education programmes within the University and nationally. In addition he is working with schools and academies on the introduction the UK Government's new entrepreneurial/enterprise curriculum. Awarded a University Teaching Fellowship (2001) he is now full Professor of Enterprise Education (2009) and a UK National Teaching Fellowship (2009), where he is a national Committee member. He is an Academic Associate for the UK Higher Education Academy where he acts as an educational consultant for Universities, colleges and private training providers.

Since 2003 he has led projects worth over £5mn/$8mn involving national and international funding agencies. His latest TEMPUS/EU project (October 2010-13) is leading 5 EU university partners developing an *Enterprise Pathway* for Universities in Jordan, Palestine and the Lebanon worth €1.3mn.