

# ARE ENTREPRENEURIAL EDUCATORS THE KEY ON EMBEDDING ENTERPRISE SKILLS ACROSS THE CURRICULUM? A COMPARISON STUDY BETWEEN TWO UK UNIVERSITIES.

Vasilios Tavlaridis

David Gibson

Liverpool John Moores University, United Kingdom

D.A.Gibson@ljmu.ac.uk

## Abstract:

The aim of this paper is to present the findings of a comprehensive study of the “Elvis model” and the “E-Factor” competency model questionnaire administered to students of two UK universities. The purpose of this research paper is to measure the Entrepreneurial competency development of students and any entrepreneurial outcomes by presenting the findings of the two research studies completed by students of all disciplines at Liverpool John Moores University and Queen’s University Belfast.

The authors have worked over a two year period at Liverpool John Moores Universities embedding entrepreneurial skills across the curriculum reaching over 17000 students and 150 degree programs included 300 members of staff as Enterprise educators. We compared the data with Professor Gibson’s previous work at Queens University Belfast where he embedded enterprise education in 116 pathways across all academic disciplines, reaching 11,000 students across the University leading to 1,100 students directly engaging in business activity over a 10 year period.

A research questionnaire based on the “E-Factor” competency model was administered to students to test the “ELVIS model”. The results highlighted that the greater the number of staff involvement as Enterprise educators the higher the impact across the university. In addition, the students had improved their “E-Factor” score significantly as a result of the higher number of staff involvement and there were also many more start-ups started by those who had received curricular training. There was a direct correlation between the level of Entrepreneurial competence and the extent of their curricular Entrepreneurial learning. The more experiential the pedagogy the more impactful the Entrepreneurial Learning.

*Keywords: enterprise educators; competencies; entrepreneurship education; pedagogy*

## 1. INTRODUCTION

For the first time in recent years there is a rise in the number of graduates that are unemployed. The perception that having a University degrees will lead into paid employment has been rigorously challenged. The increased supply of graduates and the regional as well as global competition they are facing in the labour market, combined with the economic crisis has made the issue of employment and employability of university graduates more complex and centre focused for Universities and governments worldwide.

As a result, Universities are now finding themselves in a competition focused upon the job take-up of their graduates and the quality of these jobs rather than the quality of their degree programs. They are under pressure to provide appropriate education that can enable graduates to seek self-employment as an alternative solution. In United Kingdom, past and present governments are partly

to be blame for the employability issue of graduates because with their policies and incentives since the 1990's they have increased the number of Higher Education institutions and committed themselves to open higher education to almost half of the UK school leaving population.

However, the employability issue goes beyond that of simple graduate unemployment and employment prospects. Both Industry and the Government are calling for graduate education to incorporate a greater skills focus across the whole curriculum since the gap between work competencies and university degrees based on what graduate can do has widened significantly. To be more precise there is an articulation by employers of the need for graduates to be equipped with a range of 'enterprising skills' with a focus upon creativity, capacity for innovation, networking, relationship management and risk taking.

The European Union has called for the development of the 'Entrepreneurial Mindset' in the student population in a number of studies (EU, 2006, 2008, 2013). Thus, support to embedded entrepreneurship within the university curriculum has never been more important than now. The European Union firmly believes that the essence of entrepreneurship education is to encourage creativity, innovation and self-employment, and may include the development of personal attributes and skills that form the basis of an entrepreneurial mindset and behaviour not limited to leadership, creativity, initiative-taking, risk-taking, self-confidence and team spirit by exposing students to the possibility of self-employment and entrepreneurship as a career option or working on real-life enterprise projects that will provide specific business skills and knowledge of how to start-up and run a business successfully.

There is now a considerable amount of international literature addressing the notion of the term 'the Entrepreneurial university' (Gibb and Hannon 2006; Kirby 2006; Lazzeroni and Piccaluga 2003; Poh-Kam Wong et al. 2007; Mohrman et al. 2008; Thorp and Goldstein 2010) and the concept embraces all types of universities including those with a strong research tradition, as well as newer organizations (Geiger 2006; Mohrman et al.2008).

In 2006, Gibb's highlighted the need to embedded enterprise within the curriculum through his research paper "towards the Entrepreneurial University" (Gibb, 2006). The research was carried out by NCGE (National Centre of Entrepreneurship and Education) throughout UK and found that no significant embedding activity had been implemented within UK. Similarly, Matlay, (2008) and Mohamad et al (2015) agreed that although entrepreneurship education has a significant effect towards producing actual graduate entrepreneurs, there is still a negative correlation between higher academic achievement of graduates and their intention to become entrepreneurs.

Henry et al. (2005, Part 1&2) posed a significant question; *Can Entrepreneurship be taught?* which remains a perennial issue as it is still unclear whether this is indeed a challenge or simply more difficult to achieve for academics who have excellent knowledge about the literature on Entrepreneurship but neither the practical experience or pedagogical skills to create a high impact entrepreneurial experience or indeed the capacity to learn to deliver it. Certainly the work of Jones (2011) and Thompson, Scott and Gibson (2010) highlighted the importance of Entrepreneurship education being grounded on a student learning model.

Broadly the literature highlights the challenges that Enterprise Education faces and provides examples of potential models and what universities should do. What is needed are well researched longitudinal examples which prove what institutional and pedagogical strategies can work in practice which are transferable to other institutions. This paper will provide the quantitative evidence from two universities and should be used in conjunction with further qualitative evidence to provide a model which will increase the likelihood of any educator with appropriate professional and academic training being able to produce excellent student focused campus wide curricular Enterprise Education in all universities.

## **2. QUEENS UNIVERSITY BELFAST**

In 2002, the author was appointed to lead Entrepreneurship education at Queens University Belfast. One of the challenges was that there were very few exemplars anywhere in the world where Entrepreneurship had been embedded into the curriculum of all students and indeed into the entire student experience. Many of the large research based universities who had successful commercial

spin outs were highlighted as role models, however in many cases their success was based on one or two staff research spin outs with very little infrastructure to reach all students. The author recognised the outstanding opportunity and decided to design and implement his own cross curricular model. Prior to his appointment, Queens University of Belfast had only a small cohort of students studying Entrepreneurship modules.

The author hoped to reach students on a cross campus basis and to help them develop their entrepreneurial competencies by establishing an entrepreneurial ecosystem. This would allow students to develop enterprise competencies, have new venture experiences and be given the opportunities to be involved with co-curricular activity to improve their capabilities further.

In 2003, a new curriculum-based Certificate in Entrepreneurship Studies was introduced with the aim to embed entrepreneurship skills into the curriculum of all non-business students throughout the University in order to develop “enterprise for life” skills. The unique teaching model, called “Elvis Model” allowed students to develop real-life business and social enterprises by reflecting and learning from their successes or failures. The “Elvis Model” incorporated the “E-Factor” questionnaire which was designed specifically in an attempt to enhance the effectiveness of the Entrepreneurship education project.

Within the first two years, Queens University of Belfast through the “Elvis model” embedded enterprise skills in 116 pathways across all academic disciplines, reaching 11,000 students across the University. In addition the “Elvis model” over 10 years led to 1,100 students directly engaging in business activities.

In 2010-2011, the “Elvis model” was adopted by the European Training Foundation to enhance the employability of graduates across the EU by providing them with enterprise, business and entrepreneurial skills. During the 10 years that the author was at Queens University Belfast, they won multiple awards with the most significant be: The Times Higher Entrepreneurial University of the year in 2009, Best Postgraduate Course in Ireland in 2010, Global Entrepreneurship Educator in 2011, Higher Education Academy Most Innovative Teacher of the Year in 2011 and the OBE from Queen of United Kingdom for his contribution to Enterprise Education.

### **3. LIVERPOOL JOHN MOORES UNIVERSITY**

In 2014, Professor David Gibson OBE was appointed as the Head of Enterprise Education at Liverpool John Moores University with the aim to duplicate his success at Queens University Belfast. The challenges were many and the main question was if it was possible to reciprocate his previous success of embedding entrepreneurship within the curriculum at Liverpool John Moores University using the “Elvis Model” and testing it with the “E-Factor” questionnaire.

There was significant difference between the two Universities. Queen University of Belfast is a part of the Russell group Universities and a research led university. Their academic staff are high level researchers with limited practical knowledge but less focus on teaching and learning. In contrast, Liverpool John Moores University is one of the post 1990’s universities and their majority of their academic staffs are more practical PhD qualified academics and with some publications.

The authors tried to embed entrepreneurial skills across the curriculum in Liverpool John Moores University. The “Elvis Models” (*institutional support and innovative pedagogy*) was aligned with four strategic objectives of the 2012-2017 strategic plan of Liverpool John Moores University in order to be successful.

1. Student participation; “Entrepreneurship at the heart of student experience”.
2. Excellent in Teaching; “Curricula demonstrably linked to Entrepreneurship”.
3. Scholarship/ opportunities for staff; “Emerging areas of Excellence with potential for international impact”.
4. Social and Economic Engagement; “Innovative Knowledge and Technology Exchange”.

Within the first two years, Enterprise skills were embedded in more than 150 degree programme pathways, reaching more than 17,000 students. In addition, 300 academic staff were trained and supported across all subject areas, ensuring ‘enterprise skills’ competencies are embedded across

the LJMU curriculum. Due to the success of the model, it is now being rolled out to several other educational institutions within Liverpool and the authors have been voted number one for 2016 in the UK by the UK government, in Europe by the EU and in the USA by USASBE for embedding enterprise skills in the University curriculum.

#### 4. THE ELVIS MODEL

As mentioned above "ELVIS" was an attempt to create a working Entrepreneurship Education model which would not only help students develop the competencies and mindset to become more entrepreneurial but produce measurable results both on a short term but also on a long term sustainable basis.

"ELVIS" is an acronym of the key components of the Entrepreneurship Education Curricular Education system designed and implemented at Queens University Belfast in 2003-2013 and Liverpool John Moores in 2014-present.

E stands for *the embedding of entrepreneurial competencies within the curriculum*. The Eight Competencies embedded into the teaching and learning were as follows

1. Creativity.
2. Resilience
3. Personal Influence
4. Financial Mastery
5. Leadership and Team work
6. Negotiation and Assertion Skills
7. Personal Branding
8. Strategic Action

Every student in every degree pathway had to undertake at least one compulsory module during their degree where they would be assessed on their development of the competencies and the reflection on their learning. It was felt that as the model was innovative and represented a significant change both in curricular content and in pedagogy that educators would need to use the very competencies they were teaching. Students who graduated having completed a module with these competencies embedded graduated with the "Queens Certificate in Entrepreneurship Studies". By 2009 over 85 percent of all Undergraduates were achieving this on graduation which is a measure of the percentage of students who were involved in the programme and provided a large dataset for research over a period of time.

L stands for *linking up the Entrepreneurship education model with the rest of the Entrepreneurial Ecosystem both within and outside the University*. This includes further co-curricular activity with student societies and enterprise projects within the University and also linking with all relevant agencies and a large sample of entrepreneurs within the region and internationally.

V stands for *verifying the outcome of all enterprise activity in the curriculum both short term and long term* as educational activity, the teaching learning and assessment would have to be measured as Higher Education best practice and educators would need to review the feedback from students. Numbers participating and any short term results would need to be fed back to funders and other university stakeholders. Public Sector policy developers, funders and other stakeholders also need research based evidence that the model works on a sustainable basis.

Without evidences the likelihood is that most funders and universities will only invest in Enterprise Education models on a short term basis limiting the potential impact of any Enterprise Education carried out. Educators despite the practical nature of the project had to work together to research and publish findings as this is critical in providing verifiable evidence to University Senior Management and the Funders of the University.

I stands for *institutional support and innovative pedagogy*. Without institutional support from a senior level any curricular project is unlikely to have a long term future. Most innovative Entrepreneurship education projects are funded on a short term basis externally with the need for the institution to fund the next stage of the project on a permanent basis. Does the curricular project fit in with the strategic plans of the University? If not, this is also likely to impact on its long term impact and indeed existence.

Innovative pedagogy and assessment are vital to ensure that students acquire not only knowledge but also the entrepreneurial competencies and attitudes needed. University module leaders are under pressure to ensure research is embedded in the curriculum and that the module and its teaching and assessment have rigour. However it was felt in the design of the “ELVIS” project that students need to be inspired and to learn by doing. Ocinneide et al. (1994) confirmed in their study of Irish Higher education that it was possible to develop creativity and a belief amongst students that they could make things happen. There were very few modular examples that met up with this within the UK Higher Education system in 2003 but fortunately there are now a few case studies with guidance from the QAA (2012) who have recognised the need for appropriate pedagogy and assessment in teaching in this area. The emphasis of the “Elvis” teaching model was getting engagement with the students, providing experiential experience and a chance to reflect on experience rather than simply reviewing literature on its own.

S stands for *student and stakeholder marketing*. The objective of the new cross campus Entrepreneurship education was not for students to learn about Entrepreneurship but to complete entrepreneurial projects within their own disciplinary areas and to develop the competencies and self-efficacy to create and implement projects. It was felt that the curricular modules were vital to ensure that all students got the chance to develop these competencies and also to find out about further projects and opportunities outside the curriculum. This led to the deliberate inclusion of meeting with outside stakeholders and to at least a limited amount of co-curricular activity. Traditionally most of the student base is not reached outside the curriculum and it was vital to provide relevant and inspirational teaching and an opportunity for independent learning within the curriculum as all students at all levels were registered on the Certificate in Entrepreneurship Studies. There was a need to build the profile of the modules and the success stories and ensure they were highlighted both within internal communications and also with all the stakeholders both within and outside the University Ecosystem. A commitment was made to constantly develop the programme based on student and alumni feedback.

The outline of the ELVIS project highlights the features of the project and the plan for its strategic development. One of the problems was there were very few exemplars of working cross campus enterprise projects and very little research evidence. It was necessary to create a project that had clear objectives, best educational practice and that could be measured both on a short or long term basis.

## 5. THE RESEARCH METHODOLOGY

A research questionnaire based on the “E-Factor” model was administered to all students to measure the impact of the “Elvis Model”. The “E-Factor” research questionnaire contains 40 questions divided in 8 subsections and each section consists 5 questions. The answers are scaled from 1-7, where (1) is *Almost Never*, (4) is *Generally*, and (7) is *Almost Always*. For this paper the authors have drawn conclusion from a sample of 1000 students from each University and draw comparisons. There was no attempt for the authors to lead the group other than to ask them to complete the questionnaires.

## 6. FINDINGS

The result from the questionnaire did not surprise the authors. All the student felt that the programme had developed their belief that they could start up a business as and when they wanted to. They were much more resilient and ready to tolerate ambiguity in the work place. They all felt they had developed both their creative skills but also understood their own personal strategy of being creative. They were prepared to promote both themselves and their companies and put themselves forward for any opportunity. They were more relaxed and aware of strategies pertaining to raising funding and to understand the importance of money in most business situations. They also felt that that the entrepreneurial learning methodology made them capable of making much more impact in whatever work situation they were in. They all felt they had a significant advantage in developing innovative projects in their career.

The higher percentages are highlighted in yellow

QUB

LJMU

	Start of course	Start of course
Creativity	58%	60%
Strategic thinking	64.9%	57.1%
Negotiation	61.8%	60.5%
Personal Branding	63.6%	52.4%
Financial Acumen	57.6%	56.2%
Leadership	67%	62.6%
Resilience	60.4%	50.4%
Personal Influence	54.2%	55.6%

QUB	Start of course	End of course	Increase in their percentage since start	Two years after	Increase in their percentage since start
Creativity	58%	81%	23%	84%	26%
Strategic thinking	64.9%	70%	5.1%	73.6%	8.7%
Negotiation	61.8%	67%	5.2%	69.5%	7.7%
Personal Branding	63.6%	72%	8.4%	76.4%	12.8%
Financial Acumen	57.6%	66.4%	8.8%	69.8%	12.2%
Leadership	67%	69.3%	2.3%	70.8%	3.8%
Resilience	60.4%	69%	8.6%	71.5%	11.1%
Personal Influence	54.2%	67.5%	13.3%	90.3%	36.1%

LJMU	Start of course	End of course	Increase in their percentage since start	Two years after	Increase in their percentage since start
Creativity	60%	86.2%	26.2%	87.5%	27%
Strategic thinking	57.1%	61.3%	4.2%	64.1%	7%
Negotiation	60.5%	68.3%	7.8%	72.3%	11.8%
Personal Branding	52.4%	69.1%	16.7%	72.8%	20.4%
Financial Acumen	56.2%	68.4%	12.2%	70%	13.8%
Leadership	62.6%	68.9%	6.3%	72.8%	10.2%
Resilience	50.4%	67.5%	17.1%	69.3%	18.9%
Personal Influence	55.6%	69.4%	13.8%	72.1%	16.5%

The results for both groups of students showed a clear increase in all Entrepreneurial competencies at the end of the course and at two years. Also, it was noted that the students from QUB were less creative but more confident compare to the LJMU students and had the most surprising figure, as their personal influence competency increased from 54.2% to 90% after 2 years indicating a 36.1% increase which can be related to higher competency in personal branding.

In addition, we observed that the QUB group had higher scores in 6 out of the 8 competencies compare to LJMU group at the start of the course. The LJMU students scored higher only in Creativity and Personal Influence. Nevertheless the LJMU data show a greater increase in their percentages in all competencies except the strategic thinking at the end of the course and at the two year benchmark compare to the QUB group data.

The authors firmly believe that the ELVIS model had a greater impact on the LJMU group because we involved and train more Enterprise Educators. In Liverpool John Moores University we trained and involved 300 academic staff as Enterprise Educators, a number significantly greater than the 30 academic staff that were involved at Queens University Belfast.

## 7. THE PEDAGOGY

Initially the groups found the pedagogy very unusual and not in line with what they had experienced not only through their university degree but also in secondary education. They found the style of learning inspirational and responded well but worried if this was proper education if they were doing things and having fun. They also learned that they would continue to learn post University and were

willing to create ideas, implement and in many cases learn from failure. This was not something they had experienced before.

The student comments illustrate their feelings about the course.

*"The best teaching I have had in my three years in Queens. Unbelievable!!!!"* Third year Nursing Student

*"The most impactful teaching session in my life"* Pharmacy graduate five years after the teaching experience

*"The entrepreneurship teaching strategies inspired me to set up my multimillion tourist business within three years of Graduation"* Computer Science Student

## **8. SELF EFFICACY**

This was perhaps the key variable in that all students felt had increased for them immediately and continued to grow over the two year period.

As one History student indicated: *"I feel the programme and the method of learning increased my capacity and my belief that I was an enterprising graduate and that I could make impact within the workplace almost immediately."*

## **9. START-UPS**

The groups indicated that they got the message that Enterprise Education went way beyond start up.

Student comment on start ups

*"What I liked was that I became streetwise about starting a business and had the skills to create and start a new venture either within a company or as a small business".*

## **10. ANY OTHER FINDINGS**

Almost a tenth of the groups wanted at some stage to become a full or part time enterprise educator. They all felt that students should have curricular enterprise education from year one to ensure they made the most of the opportunities that the University experience provided.

Over 90 percent indicated that they felt that all Universities must have educators who had practical experience with clear expertise in entrepreneurial learning. They indicated that they had picked up the view that the enterprise educators seemed to be treated as second class citizens to pure researchers within the university system and felt they wanted more transparency about this. They felt that parents and careers advisers should have access to this research evidence in their choice of universities.

## **11. FUTURE DIRECTIONS**

The results from the groups show clear longitudinal benefit from this type of project. There is now a need to provide detailed statistical analysis from the qualitative data and test it for correlation with the quantitative evidences.

It is hard to understand that why after over twenty years there are limited curricular interventions and research data to help educators and universities to create campus wide interventions for maximum impact. There is no doubt that the conclusions of Penaluna, Gibson et al. (2008) remain valid "Entrepreneurial Education needs Entrepreneurial Educators." Perhaps in addition to researching further applied interventions there is a need for much more than the present training and support system for educators because their success is not only predicated by their teaching and their curricular design but by having training and mentoring for a longer period to negotiate the obstacles that a university as a large bureaucratic organisation will present them if they are to achieve the sustainable impact clearly needed.

This research has indicated that good curricular education has significant longitudinal validity and it is likely that the next stage of the research project will offer both related and further findings. Policy makers must listen to enterprise educators who have had significant experience in creating cross campus curricular education for the vast majority of a University population and develop a new approach otherwise it is unlikely they will produce an adequate number of innovative graduates to compete in the global economy. Universities have to respond to funding and the needs of key stakeholders. If Policyholders accept that enterprise education has significant role to play, they must ensure that this policy is turned into practice.

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