



**Title:** Extracurricular enterprise activities in HE, students' perceptions of their entrepreneurial behaviors, competencies and capability.

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## **Title: Extracurricular enterprise activities in HE, students' perceptions of their entrepreneurial behaviors, competencies and capability.**

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### **Abstract**

**Questions:** Which students participate in extra-curricular enterprise activities? Why do these students choose to participate in extra-curricular enterprise activities? What impact do they perceive it to have on their entrepreneurial competencies?

**Objectives:** To evaluate the literature to understand the role extra-curricular enterprise activities have in enhancing entrepreneurial competencies. To collect empirical data on students' perceptions pre and post extra-curricular enterprise activity engagement.

**Approach:** This study used an online survey method to conduct a pre and post evaluation of extra-curricular enterprise activities running at a post 1992 University in the 2015/16 academic year. Each survey contained both open and closed questions to provide quantitative and qualitative data. A control group of students that did not engage in extracurricular enterprise activities was also surveyed at the beginning and end of the academic year (2015/16) using a non-engagement survey providing a comparison.

**Results:** The study found that students participating in extra-curricular enterprise activities were more likely to be female, studying a programme within the Faculty of Business and in the second or final stages of their programme.

Students reported participating in extra-curricular enterprise activities for many reasons, the most popular being 'interest', followed by 'enhancement of employability'. A comparison was made to a non-engagement 'control' group, and outcomes were comparable to those students engaging in extra-curricular enterprise activities. This raises questions of the importance of addressing these outcomes within enterprise-focussed education. With reference to specific competencies, students improved across all competencies bar 'creativity' in the enterprise engagement groups, with significant improvements in 'resilience' and 'perseverance'. Yet in the non-engagement groups, most competencies decreased. This strongly suggests that extracurricular enterprise activities are useful for improving students' personal competencies.

**Implications:** Enterprise educators must consider how to attract and deliver enterprise education to students from a more diverse range of discipline areas. In relation to competencies, enterprise educators may also benefit from signposting the competencies that can be developed within extra-curricular enterprise activities so students are aware of what they may be improving through their engagement.

**Key Words:** Enterprise Education; Extra-curricular; Student; Value; Impact.

**Word Count:** 5,859

### **Introduction**

Extra-curricular enterprise activities have been recognised as valuable in supplementing in class learning and stimulating student's enterprise knowledge, skills and experience (Edwards and Muir, 2005; Hannon, 2007; NIRAS, 2008). In acknowledgment of the value of extra-curricular enterprise activities many Higher Education Institutions (HEIs) have incorporated them into their wider extracurricular offer, in particular to focus on the practical component of enterprise education. This paper will explore students' participation in extra-curricular enterprise activities from the student perspective, specifically focusing on which students participate in these activities, their expectations and outcomes, and the perceived impact of participating on their entrepreneurial behaviours, competencies and capabilities. This will be done by comparing these students to a control group made up of students from the same post 1992 institution, but not involved in extra-curricular enterprise activities. This paper intends to address the 'missing perspective' in enterprise education; the student.

This paper will review the literature on extra-curricular enterprise activity and its place within enterprise education, including how we measure its success. The methodology used will be outlined and a rationale provided. The findings and discussion section will outline which students are participating in extra-curricular enterprise activities before discussing their rationale for participation and the result of participation on their entrepreneurial competencies. The paper will conclude with an overview of the implications for practice, and recommendations for future research.

## **Review of the Literature**

The UK Government perceives entrepreneurial graduates as crucial to socio-economic growth, and universities are the organisations critically placed to foster this entrepreneurial activity (Abreu and Grinevich, 2013; Universities UK, 2013; BIS, 2014). Since the 1970's business schools have been offering courses in entrepreneurship (Kuratko, 2005; Neck *et al.*, 2014) and entrepreneurship education has since become an important research domain in itself (Katz, 2003; Bechard and Gregoire, 2005). In the UK, enterprise and entrepreneurship education is now a recognised, and growing, area of the HE curriculum (Hannon, 2006; Matlay and Jones, 2011; Pittaway and Edwards, 2012).

However, there has been considerable debate regarding the tangible outcomes of entrepreneurship education. It's a reasonable assertion that enterprise education requires a hands-on component, giving students the opportunity to learn experientially (Kolb, 1984). Yet criticisms have been levelled at enterprise education courses, arguing that they do not provide opportunities for learners to properly test entrepreneurial skills beyond discussing or hearing about them (Morris *et al.*, 2013). There are criticisms that in-curricular activity may enhance students' understanding about enterprise and entrepreneurship, yet not necessarily their entrepreneurial intentions, skills and abilities (Pittaway and Edwards, 2012). This is exacerbated by an absence of a single overarching theory of entrepreneurial learning (Bygrave and Hofer, 1991). Subsequently, extracurricular enterprise activities have often been seen as a valuable mechanism for supplementing in-class learning.

This is not to say that practical learning here is entirely absent. Within the past ten years especially, an increasing number of entrepreneurial courses adopt learning-by-doing pedagogies, since these are deemed the most relevant to real entrepreneurship' (Rasmussen and Sørheim, 2006). Many of the newer entrepreneurial programmes recognise that they should aim to simulate a real-life entrepreneurial environment to exploit personal experiences as a means to learning (Neergard *et al.*, 2012). However, to address the balance, programmes often rely on extra-curricular enterprise activities to provide a practical experience and participation in extra-curricular activities is one way students can contribute to their own personal development (Atkins, 1999; Jones and Hill, 2003; Kuh, 1995). For example, the 2010 Survey of Enterprise and Entrepreneurship in Higher Education (Rae *et al.*, 2010) reported that extra-curricular enterprise activities are an essential means of raising student awareness of enterprise and providing opportunities to develop skills and confidence in practical ways.

Related problems can arise whereby an enterprise course is not simply too abstract, but that it teaches skills that are too generalized. These may be relevant to business and management, but often not to enterprise. Although UK policymakers perceive entrepreneurial skills and competencies as a route to improving student employability prospects regardless of their primary degree subject (Gibb *et al.*, 2012; QAA, 2012; BIS, 2014), the concentration of enterprise activities (both in and extracurricular) within business schools has been noted (Carey and Matlay, 2011; Pittaway and Edwards, 2012; Lilischkis *et al.*, 2015). The NCEE 2014 report found that 'business schools dominate delivery of enterprise programs', with 61% of all delivery emanating from business schools (NCEE, 2014). Other university departments generally do not offer any training in enterprise. It is argued that the business school is not always the best place to teach entrepreneurship, as it can become constrained by a disciplinary focus and there have been calls for increased multi-disciplinary approaches (Katz, 2003; Hannon, 2007; Thorp and Goldstein, 2010) that can address enterprise's unique requirements (Morris *et al.*, 2013).

In acknowledgment of the value of extra-curricular enterprise activities, many Higher Education Institutions have incorporated them into their wider extracurricular offer. However, engagement in these activities varies widely across institutions, as some students tend to prioritise activities that are being assessed (Rae *et al.*, 2010; Lilischkis *et al.*, 2015). Government funding for enterprise activity, especially extracurricular activity, can also be short-term and fragile (Hannon 2007; Rae *et al.*, 2012).

Mapping occurrences of extracurricular enterprise activities is made difficult by potential over and under representation of activity (Penulua *et al.*, 2012; Rae *et al.*, 2012). Responsibility for the coordination and tracking of enterprise support activities at HEIs may fall to a few key individuals rather than communicated across the whole institution thereby measurement of activity can depend upon which member of staff you consult (Hannon, 2007; Gibb, 2010; Rae *et al.*, 2012; Preedy, 2014). Comparing activity across multiple HEIs is problematic as

each institution varies hugely in the scale and delivery of their activities (Matlay, 2006; Preedy, 2014; Lilischkis *et al.*, 2015).

The NCEE report of 2014 is the most unequivocal on this point. Its mapping study of entrepreneurship education in 127 UK HEIs found that fewer than 50% of HEIs display the range of key entrepreneurial characteristics as suggested in the previous 'Toward the Entrepreneurial University' report, and that the culture of HE needs to be radically transformed in this respect. Colette agrees with the factual basis of this statement, stating that 'it must be acknowledged that efforts to fully embed entrepreneurship within and across the HE curricula are ongoing and still require support' (Colette, 2013; EEUK, 2012). However, her interpretation of the significance of these facts is different. She argues that enterprise is being too readily presented by governmental bodies as a panacea for a range of economic and social problems. She raises a few difficult questions about the prevailing paradigm, asking if enterprise education (and those who teach it) are perhaps being asked to do more than is reasonable. 'There is a sense that every student, regardless of their intended career path, should be...encouraged to engage with the entrepreneurship and enterprise agenda so the all-important 'culture of enterprise' can be instilled across the student population' (Colette, 2013:839). There is a cautionary note given here against the transactive value of enterprise skills (i.e. to unquestioningly view a trait as valuable simply because it exists, not because it is relevant to a student's career path). There may be a question mark over the concept of requiring all young graduates to repair a difficult economic situation by steering their education towards a career direction which even those who are very positive about it agree, it is often 'characterized as ambiguous, uncertain, stressful, intense, lonely, volatile, exhilarating and frustrating,' (Morris *et al.*, 2012; Colette, 2013).

On this point, the QAA does what most sources do not, and makes an explicit distinction, defining 'enterprise education' as equipping graduates with an enhanced capacity to generate ideas and the skills to make them happen, but 'entrepreneurship education' as equipping graduates with the skills, knowledge and capabilities needed to apply these abilities in the context of starting a new business venture (QAA, 2012: 2).

Currently, there is some debate on exactly how embedded vs how optional entrepreneurship education at Higher Education Institutions should be. Some models prefer optional credit-based courses or extracurricular provision made for those who wish to take it, others wish to see specific degree programmes become more widespread. Others take the view that these skills should be taught to all graduates across all degree programmes. Notably, entrepreneurship has been included amongst the eight key-competencies to be fostered through lifelong learning across Europe (European Commission, 2007). However, given the current lack of agreement on certain points of definition and on assessment methods, what exactly is being embedded may be hard to standardize.

The importance of a practical component within enterprise education has been established and its place within extra-curricular enterprise activities made clear. Yet how we assess this practical component is not clear. One common theme in the literature is the difficulty of defining and assessing the necessary traits required of an entrepreneur. However, one promising paradigm which may come to replace older definitions of 'skills' and 'traits' is Morris *et al.*'s 'competencies' (Morris *et al.*, 2013). A Delphi study, consulting a panel of 40 experts consisting of both leading scholars of enterprise and distinguished entrepreneurs, reached consensus on what specific competencies they believed led to entrepreneurial success. Over several rounds of research, a core list was produced, consisting of:

1. Opportunity Recognition
2. Opportunity Assessment
3. Risk Management/Mitigation
4. Conveying a Compelling Vision
5. Tenacity/Perseverance
6. Creative Problem Solving
7. Resource Leveraging
8. Guerrilla Skills
9. Value Creation
10. Maintain Focus yet Adapt
11. Resilience
12. Self-Efficacy
13. Building and Using Networks

This list serves as a useful starting point, and the study defines competencies as distinct from skills or traits. They are instead developed out of structuration theory, and refer to 'the knowledge, skills, attitudes, values and

behaviours that people need to successfully perform a particular activity or task, such as rewiring a house or performing a surgical procedure (Rankin, 2004, in Morris, 2013). It is therefore, arguably, a more targeted, practical and robust measurement of a graduate's learning. Alternative measurements have been used in the past, with emphasis put on functional business skills; social adaptability (Hood and Young, 1993); general managerial skills; entrepreneurial skills such as opportunity recognition and exploitation (Mitchellmore and Rowley, 2010). Of these, the first category is likely the most prominent, with many scholars holding that entrepreneurial teaching should be targeted towards these generic business skills (Morris, 2013).

This paper takes the view that the measure of entrepreneurial competency is about more than the success of a business start-up. A 2013 governmental paper reviewed entrepreneurship education in UK HEIs and found generally positive outcomes, but more specifically that 'while the evidence suggests that enterprise and entrepreneurship education generally has positive benefits that should be expected to lead to some students starting new businesses and making contributions to the growth of existing businesses, for example, the evidence does not conclusively show the attribution of this to enterprise and entrepreneurship education in either FE or HE.' (*Enterprise and Entrepreneurship Regulatory Act*, 2013). It also found that students do acquire general business-related knowledge and skills, but that 'there is no evidence that students are more likely to take steps as a result of courses towards the development stage of a new business or using the skills gained to develop new business opportunities in an existing small or large business.' (*Enterprise and Entrepreneurship Regulatory Act*, 2013).

### Methodology

This study focuses on the key stakeholder in Enterprise Education; the student. There are a limited number of studies focusing on extra-curricular enterprise activities (Jones and Hill, 2003 and Kuh, 1995) that take a similar approach, and these studies are somewhat 'out-of-date' when considering the changing HE environment and the changing status of enterprise in HE. As in research on the employability of HE students, students can be described as 'the missing perspective' (Tymon, 2011:9) with their opinion on current practice in extra-curricular enterprise education being unknown.

This study used an online survey method to conduct a pre and post evaluation of extra-curricular enterprise activities running at a post 1992 University in the 2015/16 academic year. Each survey contained both open and closed questions to provide quantitative and qualitative data. Each student was given a unique identifying number that enabled researchers to track students who engage in one or more extracurricular activities whilst ensuring anonymity. A control group of students that did not engage in extracurricular enterprise activities was also surveyed at the beginning and end of the academic year (2015/16) using a non-engagement survey.

When asking students questions regarding entrepreneurial competencies, they were presented with a list modelled on Morris *et al*'s (2013);

- Effectual Reasoning (entrepreneurs will determine goals according to the resources in their possession)
- Networking
- Leadership
- Creativity
- Self-efficacy (refers to an individual's belief in his or her ability to execute behaviours needed to produce specific results)
- Interpersonal skills
- Resilience
- Locus of Control (refers to the extent to which individuals believe they can control events affecting them)
- Tolerance of ambiguity
- Alertness to opportunities
- Opportunity exploitation
- Increase in confidence
- Perseverance
- Propensity to take risks
- Other (please state)

Following data collection, survey data was analysed qualitatively and quantitatively with the assistance of appropriate analysis tools (e.g. NVIVO and SPSS). In addition to exploring the data in relation to the stated research objectives, the purpose of the analysis was to draw out cross-cutting themes on which students

participate in these activities, their expectations and outcomes, and the perceived impact of participating on their entrepreneurial behaviours, competencies and capabilities. A comparison was also made to a control group made up of students from the same post 1992 institution, but not involved in extra-curricular enterprise activities. Analysis also aimed to identify examples of good practice and areas of development in extracurricular enterprise activities.

## Findings and Discussion

### Demographics

The four datasets were collected: Enterprise Engagement (Pre) (persons surveyed just prior to attending an enterprise event); Enterprise Engagement (Post) (persons surveyed after attending an enterprise event); Non-Engagement (Pre) (persons surveyed with no intent of attending any enterprise events); Non-Engagement (Post) (non-engagement pre persons surveyed at the end of the academic year, having still attended no enterprise events). For the purposes of ascertaining these initial demographics, any duplicate entries in the datasets were temporarily merged as appropriate.

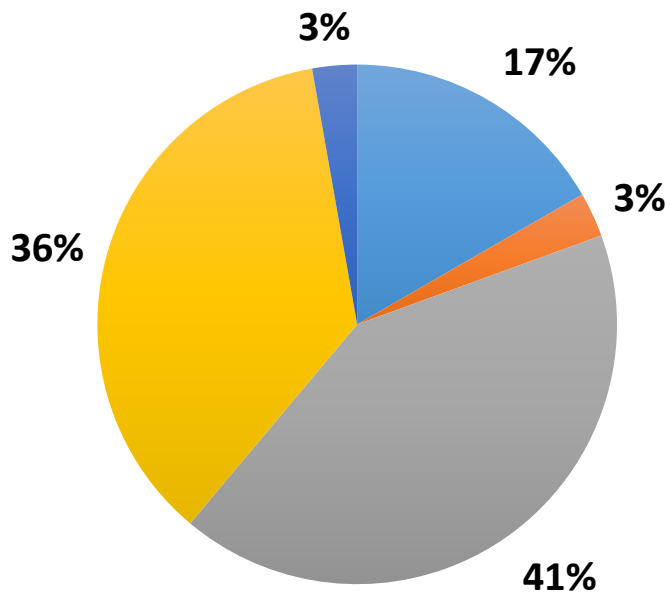
	Male	Female	Unknown/Other
Non-Engagement (Pre)	27 (37.5%)	44 (61.1%)	1 (1.4%)
Non-Engagement (Post)	14 (45.2%)	16 (51.6%)	1 (3.2%)
Enterprise Engagement (Pre)	48 (40.3%)	70 (58.8%)	1 (0.8%)
Enterprise Engagement (Post)	18 (30.5%)	32 (54.2%)	9 (15.3%)

**Table 1. Gender split of sample**

Female respondents outnumbered male respondents in every category. As around 56% of the total student body at this post 1992 University is female (2014-2015 Student Equality Data from the corporate information system), these figures are representative of the wider population, and in line with the closing gender gap amongst female entrepreneurs found by OECD Statistics Directorate (2015). However, it should be noted that there wasn't gender parity within degree subtype. Female students were significantly more likely to be doing Tourism and Hospitality degrees, a sector that OECD (2015) recognises as being dominated by female entrepreneurs.

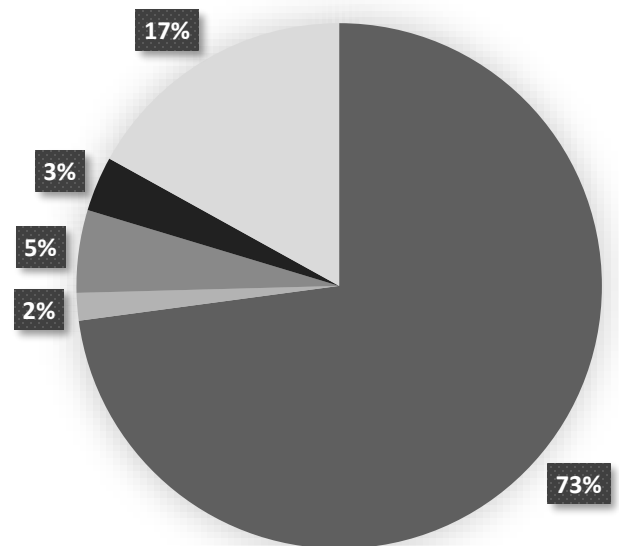
In terms of ethnicity, the demographics are more diverse than the overall demographics at this post 1992 University. Students from all ethnicities were present at the enterprise events and in the two datasets for non-engagement. The most recent figures for this post 1992 University (2014-2015 Student Equality Data) show that around 83% of the total student body is White (British or Other), and this largely holds true for the Non-Engagement groups. But in the Enterprise-Engagement (Pre) group, 78% of respondents identified as White British, with the second-largest category being Asian or Asian-British Chinese attendees and only the third-largest being Other White. This is a positive finding in terms of inclusivity. It indicates that enterprise events were slightly more inclusive to BME students. Another factor to note is the Faculties that student attendees mainly derive from. The faculties of respondents was as follows:

### Non-Engagement (Pre)



- Business
- Arts and Humanities
- Science and Engineering
- HHS and PUSMED
- Unknown

### Enterprise Engagement (Pre)



It can be seen that the vast majority of respondents who attended entrepreneurship events were on programmes from the Faculty of Business. This situation is not unusual, as several studies have identified the concentration of

enterprise activities both in programme and extracurricular, within business schools (Hannon *et al.*, 2007; Carey and Matlay, 2011; Pittaway and Edwards, 2012). It is likely that students who are already learning about entrepreneurship in their regular lectures may be more likely to take an interest in extracurricular enterprise events. It also indicates that enterprise events appear to be primarily advertised to, or hold the most appeal for, persons doing these types of degrees. Students from other faculties appear not to see these events as relevant to their careers – although plenty of opportunities exist for arts-themed business start-ups.

Our data shows that the majority of students who attend enterprise events are in the second year of their studies. From the Enterprise Engagement (Pre) group:

	Frequency	Percent
Stage One	29	25.7
Stage Two	45	39.8
Stage Three	39	34.5
Total	113	100.0

**Table 2. Programme stage of enterprise engagers (pre)**

As most students are on three-year degree courses, this indicates that these enterprise events are perceived as more relevant to those considering their future careers. The 2014 Sodexo University Lifestyle survey that found 76% of student respondents believed their main reason for attending university was to improve their job prospects (Sodexo, 2014). Thus, attendance at such events is likely linked to employability. Tymon (2011) noted that students, in the first year of their programme, had a narrower view of employability than that observed in the wider literature, thus suggesting why this study found attendance figures for stage one students were lower than those for other stages. A small percentage of attendees were alumni or non-students (n=6), indicating that the events are also attended by people possibly already involved in entrepreneurship or considering it as part of a career change.

Increased engagement with extra-curricular enterprise activities for students in the final stage of their programme could indicate intentions for a specifically entrepreneurial career. However, in a study by Wadhwa *et al* (2009) that surveyed 549 company founders from many different areas of business, only a weak link was found between career plans at college/university and future entrepreneurial status – 52% of respondents said they had some interest in entrepreneurship whilst at university, but 35% said they had actually never thought about it, and 13% stated they had had no interest at all (Wadhwa *et al*, 2009).

### **Student Expectations, Before and After**

Enterprise Engagement students were asked about their expectations for the activity (Pre) and how the event lived up to their expectations (Post). Students who did not attend enterprise events were asked instead a related question about any extracurricular activities they had done (non enterprise), and what their expectations were on the benefits gained from these.

#### **Enterprise-Engagement (Pre)**

Some students in the Enterprise Engagement group attended multiple enterprise events and answered for each. As the separate events are not being analysed individually here, these responses were aggregated. For this question, regarding expectations for the upcoming activity, 26 respondents did not answer, put an unintelligible answer, or put N/A (a decision was taken to treat this as a different answer to 'none', as 'none' implies they had few particular expectations whereas N/A implies they didn't consider the question itself relevant or worthwhile). Where answers cited multiple factors, the most prominent reason was coded (e.g. 'fun, engaging and great network opportunity' was judged to fit best under category (2), as two factors of enjoyment or socializing were mentioned vs one factor of generally positive experiences). Of the respondents (n=110), six main categories were identified for these answers:

Category	Number of Respondents	Examples
<b>Sustainability, social enterprise or community-focussed expectation</b>	26	'information around enterprise/community projects', 'to better my understanding of sustainable business', 'a better understanding of social enterprises'

<b>An expectation of primarily enjoyment networking or socializing</b>	9	'fun', 'it would be funny'
<b>An aim of gaining career or business skills</b>	24	'to gain insight on how to do better presentations', 'develop insight to business world and life as an entrepreneur'
<b>An expectation related to generalized skills or positive experiences</b>	47	'knowledge', 'positive way of thinking', 'self-development'
<b>No defined aim, or a negative expectation</b>	4	'possibly frustration, but hopefully a pleasant surprise', 'open-minded- I'll find out'
<b>A primarily study-related expectation</b>	0	N/A

**Table 4. Expectations of Enterprise Engagement students (Pre)**

These results show that respondents consistently had career-focussed expectations. Expectations were also consistently positive – students were optimistic about learning something new, even (as in a majority of cases) where they didn't have a very specific idea of what this was. By far the most common reason given for attending events is related to generalized life skills or self-development – motivation, inspiration, knowledge, understanding etc. – not specific business skills. This suggests that attendees considered the events to be of wider value than just a how-to guide for a business start-up.

#### Event-Engagement (Post)

In the post-event data sets, students were asked how the activity compared to their expectations of it.

<b>Category</b>	<b>Number of Respondents</b>	<b>Examples</b>
<b>Matched or exceeded expectations</b>	45	N/A
<b>Differed from expectations</b>	5	'It was less practical than expected', 'It was really informative, but too much for one day', 'It was much more interactive than expected'
<b>Specific knowledge of sustainability or social enterprise</b>	3	N/A
<b>Specific career or business skills</b>	3	N/A
<b>Social or networking benefits</b>	0	N/A
<b>Gains useful to studies or degree</b>	0	N/A

**Table 5. Were the expectations of the Enterprise Engagement group met?**

#### Non-Engagement (Pre)

The activities of the Non-Engagement participants (n=31) were coded into six basic categories shown in Table 3.

<b>Category</b>	<b>Number of Respondents</b>	<b>Examples</b>
<b>Volunteering and Charity</b>	13	Engineers without Borders, Amnesty International
<b>Employment</b>	2	Working in the Union bar

<b>Music, Arts or Popular Culture</b>	18	Harry Potter Society, Viking Society, DJ Society
<b>Sports</b>	16	Archery, Futsal, Kayaking and Canoe Club
<b>Study-Related Societies</b>	5	Marine Biology
<b>No Activities</b>	9	

**Table 3. List of event types non-engagement students participated in**

Students in this group cited multiple expectations, the most common, in order of frequency were:

- 1) Socializing, networking (e.g. 'a wider social network of friends', 'building more networks', 'friends/ wider social life', 'spending time with like-minded people')
- 2) Enjoyment and life skills (e.g. 'fun', 'personal development', 'laughs', 'discipline')
- 3) Health (e.g. 'increased fitness', 'healthy life', 'relieve stress and keep fit and healthy')
- 4) Career and business skills (e.g. 'get some idea about opportunities after studies', 'additions to my CV and further experience and skills', 'qualifications in certificate form')
- 5) Studies (e.g. 'Network to gain further knowledge. Also like-minded people who may help with my own degree')
- 6) Other (e.g. a spiritual or niche interest benefit, such as becoming more involved in a religion or improving at skiing)

Students generally didn't delineate clearly between these expectations, often citing them as intertwined.

#### Non-Engagement (Post)

These students, surveyed at the end of the academic year, were asked about the reality of their expectations in terms of the perceived benefits. By comparison, answers tended more towards career, business and life skills and fewer answers proportionally seemed to cite socializing, health or enjoyment benefits as the primary aim. This time, the most common answers had themes of:

- 1) Life skills, enjoyment and altruism (e.g. 'motivation and satisfaction that I have contributed to positive causes in society', 'learnt commitment and how to manage my money')
- 2) Career and business skills (e.g. 'leadership, teamwork, entrepreneuriality (sic), creative thinking etc.', 'to gain advice from fellow entrepreneurs')
- 3) Other (spiritual or niche interest benefit) (e.g. 'I got better at archery')

Looking at the Pre and Post responses across all four groups, data clearly shows that the vast majority of students found the events as useful as they had hoped. The data also shows a contrast between the Enterprise Engagement and Non-Engagement groups' benefits – the Enterprise Engagement groups had more career-focussed motives, whilst the non-engagement groups were more interested in socializing, generalized life skills or physical fitness. But in both groups, improving study skills or gaining university-related benefits were barely mentioned, suggesting students surveyed don't look to this as a motivation for extracurricular activities.

#### Student Outcomes, Before and After

Questions regarding the perceived and actual outcomes of each activity were restricted to Enterprise Engagement Students.

#### Enterprise-Engagement (Pre)

26 of those surveyed gave no response to this question, but of the others asked (n=112):

<b>Category</b>	<b>Number of Respondents</b>	<b>Examples</b>
<b>Generalized outcome related to life skills, enjoyment and generalized</b>	49	'inspiration', 'knowledge', 'develop my skills', 'motivation', 'Learning something

<b>positive attributes</b>		about the way to work to succeed'
<b>Outcome related to career and business skills or specialist industry knowledge</b>	37	'know and understand more business skills', 'knowledge of motor industry', 'improved pitching skills'
<b>Outcome relating to improving sustainability, community or social enterprise</b>	19	'I am confident to engage my colleagues to start social enterprise together', 'developed ideas of sustainability', 'gaining knowledge how to solve social problems'
<b>Outcome relating to networking or socializing</b>	3	'greater ability to work in a team in various locations', 'new network'
<b>No specific prediction, or negatively-focussed prediction</b>	3	'Nothing specific', 'possibly frustration – but hopefully a pleasant surprise'
<b>Outcome relating to studies</b>	1	'more information to include in coursework, dissertation and in future employment'

**Table 6. Perceived outcomes of enterprise engagers participation in activities**

It can be seen from our data that, consistent with the previous question, students beforehand tended to rate career-focussed predictions and transferrable skills/knowledge as the most important, above outcomes related to their degree or to a specific subject area. The number of people with no expectation is small, so it's also clear that most students did have a positive outcome in mind, even if not clearly-defined.

#### Enterprise-Engagement (Post)

It should be noted that the sample size was smaller here; answers are listed here in decreasing order of popularity and should be looked at as a proportion. The after-event feedback was near-universally positive for every event. There was no one event that stood out as presenting problems for multiple students, and some students were very enthusiastic in their feedback ('bloody fantastic', 'exceeded my expectations', 'very satisfied', 'it's a really good chance to have such an [sic] unique experience').

<b>Category</b>	<b>Number of Respondents</b>	<b>Examples</b>
<b>Respondent made relating to life skills, employment and generalize positive attributes</b>	22	N/A
<b>Respondent obtained more knowledge on sustainability or social enterprise</b>	22	N/A
<b>Respondent mentioned a particular aspect of career and business skills they improved upon</b>	10	N/A
<b>Respondent cited outcome relating to their studies</b>	2	'wider view for my honours project'
<b>The event had not given the respondent much</b>	1	'just a certificate'
<b>Respondent mentioned a social or</b>	1	'that I have encouraged other people on my course'

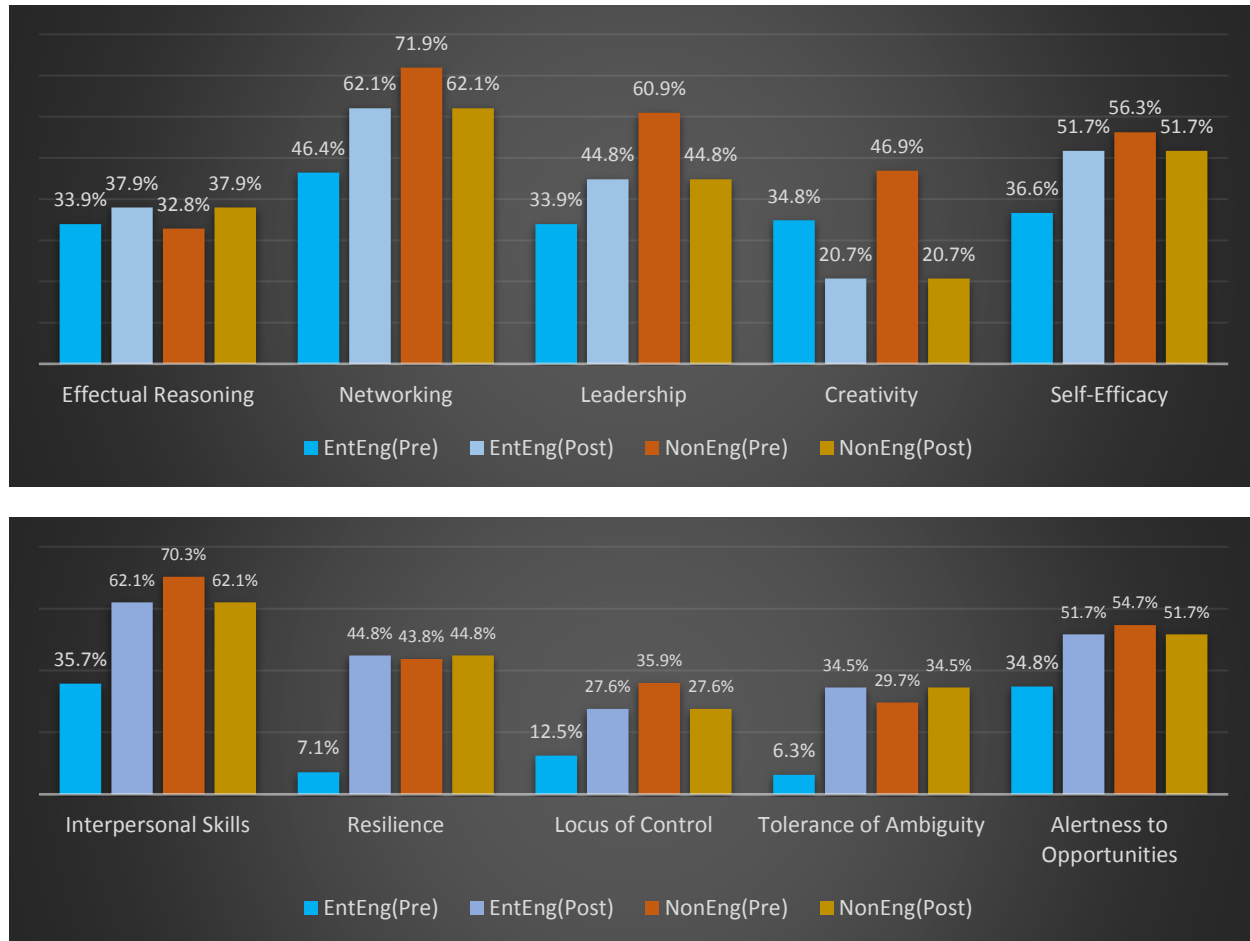
networking outcome		to attend if it is run again in the future'
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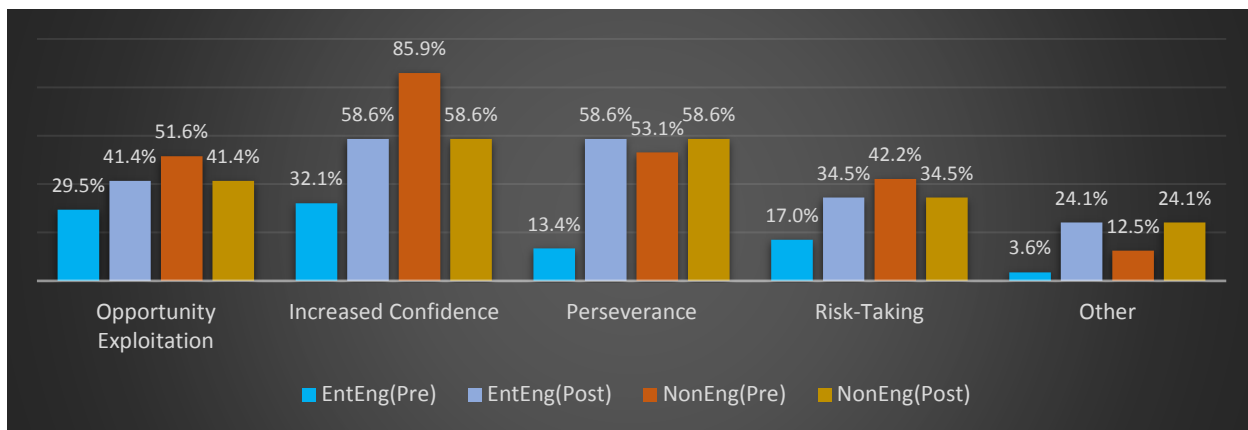
Table 7. Feedback of enterprise engagers on activities

The outcomes here show little difference between the pre-event and post-event sets – priorities seem to be consistent between the two groups and most students appear to have gained the outcomes they expected to. Student predictions of which skills they would gain appear mostly accurate.

### Behaviours and Competencies, Before and After

Students in all four datasets were asked to identify which out of fifteen behaviours and competencies, based on those listed out by Morris *et al.* (2013) they expected to gain, and then which they perceived they actually gained. These tables illustrate the percentage of total respondents (in each category) who rated themselves as possessing a particular competency.





**Figure 5. Respondents perceptions of competency increase or decrease (%)**

For all competencies save 'creativity' those Enterprise Engagement students who saw improvement, often significant improvements as well. However, for control group students, ten of the fifteen competencies decreased, again several rather dramatically, while only five increased, and these only slightly.

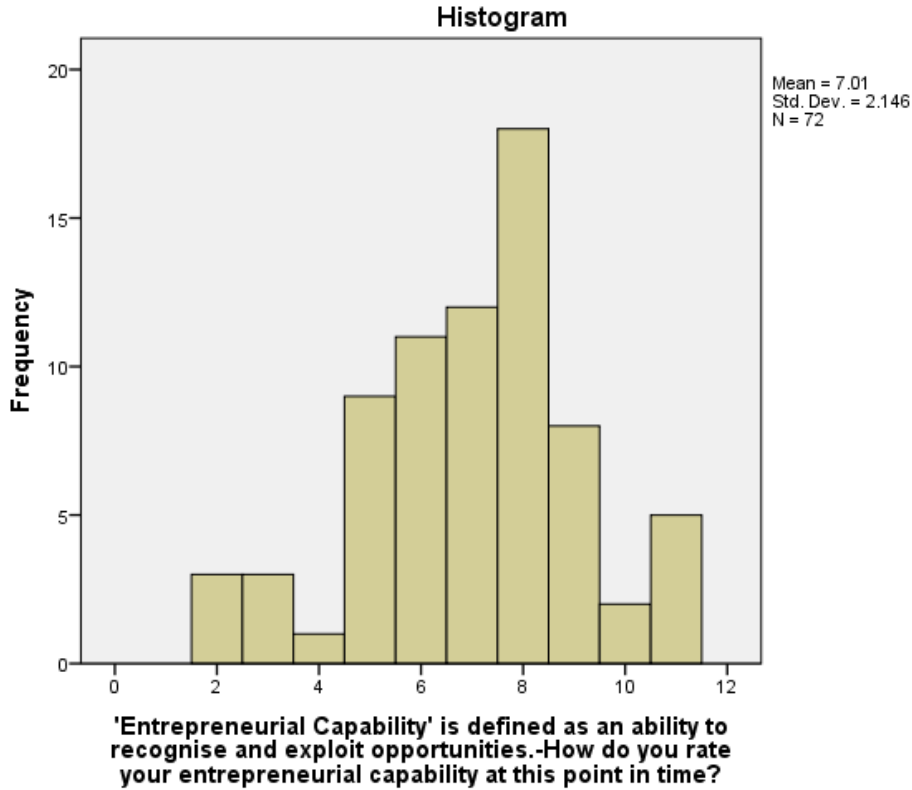
For the Enterprise Engagement group, particularly large gains were seen in Resilience (7.1% to 44.8%) and Perseverance (13.4% to 58.6%). The only category where a decrease was seen over time was Creativity (34.8% to 20.7%). It is not clear why this happened, amidst so many other increases. The Non Engagement students became less sure of their competencies from Pre to Post, decreasing especially in Confidence and Creativity. This is clear evidence that students perceive their competence at entrepreneurship to increase significantly when they attend enterprise events to improve it.

One slight cautionary note in these findings could be the students' own recognition of competencies. Volumes of education theory articles have been written on the difficulties students experience in recognising their own skills and in applying them in differing contexts – and this is known to impact on students' understanding of concepts like 'graduate attributes' and 'employability' too. Likewise, experts in a field – entrepreneurship included - are known to perceive the skills and knowledge of their field differently to a novice (Chi *et al.*, 2014).

### **Entrepreneurial Capability, Before and After**

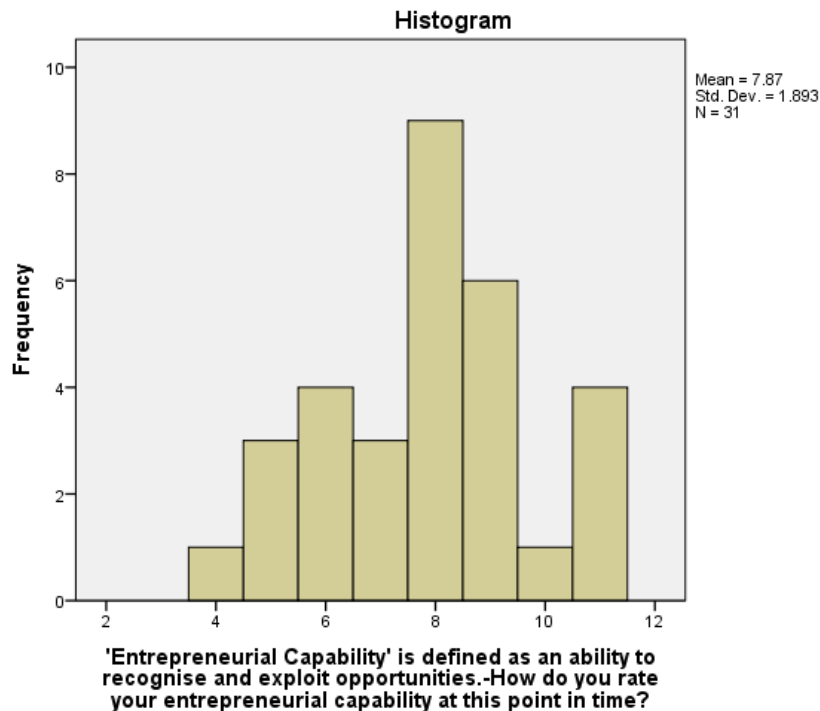
Students from both groups were as to rate their entrepreneurial capability at the time the survey was taken. This value had the potential to change over time for each person, and as it was based on a subjective measure of self-confidence, it did not always increase in a linear way over time as an individual student attended more events. However, the aggregate scores are a useful measure of comparison. The scale was 0 -10 (represented on the graphs as 1- 11).

)



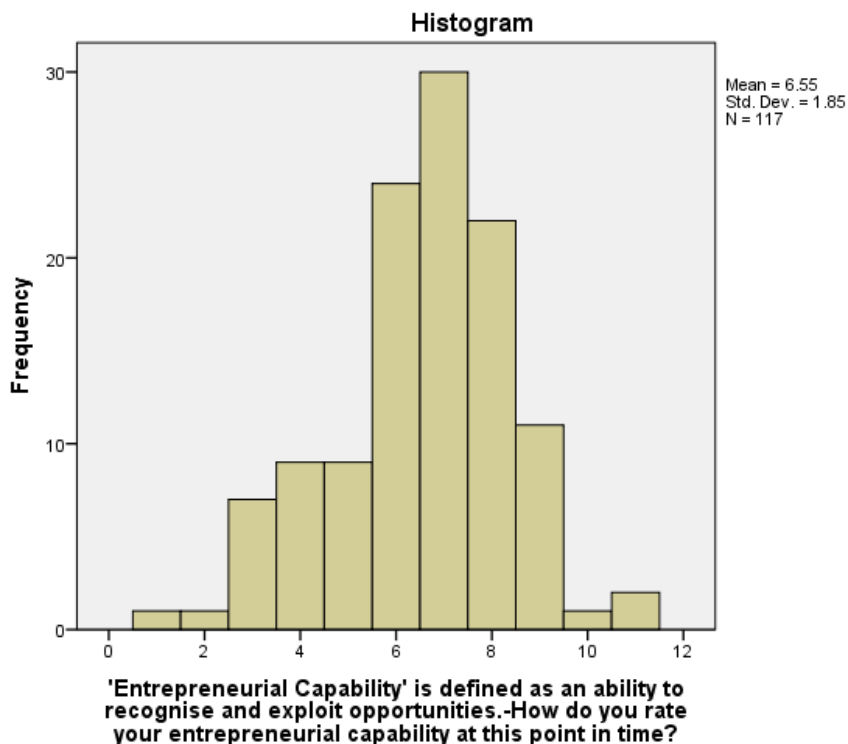
**Figure 6. Entrepreneurial capability self reported by non- engagement (pre)**

The mean rating of this group was 7.01, and a number of individuals rated themselves at the highest possible score, despite not doing business degrees or attending any enterprise events. Interestingly, the 9 students from this group who did no work, volunteering, study clubs or extracurricular activities of any kind tended to rate their entrepreneurial skills fairly high (at 7,10, 4, 5, 3, 8, 8, 8 and 9). This perhaps suggests that some students indicate that extracurricular activities are not necessary for entrepreneurial capability.



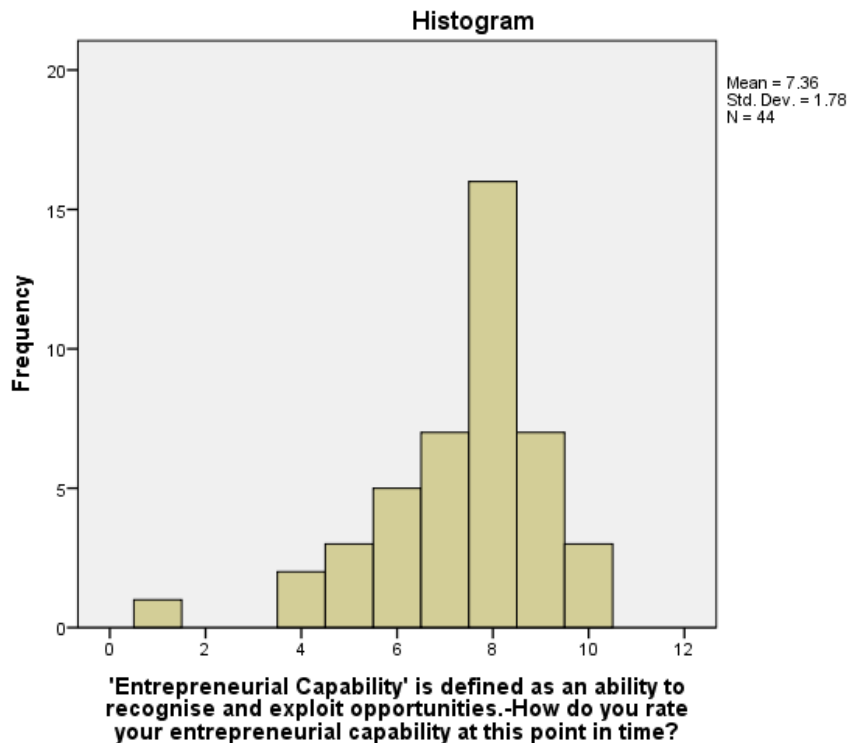
**Figure 7. Entrepreneurial capability self-reported by non-engagement (post)**

The group showed improvement over time, as the mean rose from 7.01 (Pre) to 7.87 (Post). Fewer students also rated themselves in the lowest categories, in the Post survey.



**Figure 8. Entrepreneurial capability self-reported by Enterprise Engagement students (Pre)**

By comparison, the mean rating by Enterprise Engagement students (Pre) was actually lower than those who had no intention of going to one. The mean was 6.55 (shown in the diagram above), compared to 7.01. Several students have rated themselves in the lowest categories, and very few have rated themselves in the highest. One sociological explanation is that students are comfortable giving lower self-ratings if it's immediately before they feel this self-rating will be improved anyway. Alternatively, they may have an unrealistically low self-perception, or a better understanding that business entrepreneurship skills take work to acquire.



**Figure 9. Entrepreneurial capability self-reported by Enterprise Engagement students (post)**

The mean improved between Enterprise Engagement students' Pre and Post, from 6.55 to 7.36. This shows that students' perception of their entrepreneurial capabilities was improved by attending enterprise events. However, the group of Non-engagement students still rated themselves more highly than the Enterprise Engagement students (7.87 vs 7.36).

Independent sample T-test showed that there was no significant difference in the final ratings between the enterprise and control groups ( $P = 0.240$ , 2-tailed,  $df=73$ ). The difference in ratings between these two groups before they attended any extracurricular events was even less significant ( $P = 0.115$ , 2-tailed,  $df = 187$ ). There were, however, significant differences between the pre and post outcomes within each group. In the control group ( $P = 0.047$ , 2-tailed,  $df = 64$ ). In the event engagement group ( $P = 0.013$ , 2-tailed,  $df = 159$ ).

Thus, although the enterprise engagement group still ended with a slightly lower score when reflecting on their entrepreneurial capabilities, their *degree* of improvement across capabilities was substantially higher. This is a key point to note, as it means enterprise events still increase students' rating from baseline more than other activities, even if they did not produce a significantly higher final rating.

### Summary and Implications for Practice

A comparison was made between Enterprise Engagement and Non-Engagement students over the period of a year at a post 1992 HEI.

In conclusion this study has shown that students engaged in extra-curricular enterprise activities are likely to be female, studying a programme within the Faculty of Business and in the second or final stages of their programme. Enterprise Engaged students tended to have career-focussed expectations of the extra-curricular enterprise activities they engaged in, which they perceived were met on completion. In comparison, the non-engagement group's expectations around extra-curricular activities that they engaged in were more related to socializing, generalized life skills or physical fitness. Similar to their expectations for extra-curricular enterprise activities, Enterprise Engagement students highlighted a career-focus and transferrable skills/knowledge as perceived outcomes of engagement. Enterprise Engagement students saw improvements from Pre to Post in their rating of all competencies, save 'creativity'. However, Non engagement students saw a decrease in ten of the fifteen competencies, several rather dramatically highlighting the significance in improving entrepreneurial

capabilities though engagement in extra-curricular enterprise activities. Finally, the mean rating of entrepreneurial capability improved between Enterprise Engagement students' Pre and Post evaluation. However, Non-engagement students still rated themselves more highly than the Enterprise Engagement students (7.87 vs 7.36). However, enterprise students started at a lower self-perceived rating of entrepreneurial capability and increased much more. Given that several Non-engagement students rated themselves very highly in both cases, this may point to a more realistic view, before and after, amongst students drawn to enterprise activities, as well as a greater overall impact of the enterprise events. After all, if they are engaged in enterprise activities, they perhaps have a better understanding of entrepreneurial capability, leading to a more realistic, be it lower, rating.

The implications for practice stem from the finding that extra-curricular enterprise activities attract a large proportion of students from Business disciplines. Enterprise educators must consider how to attract and deliver enterprise education to students from a more diverse range of discipline areas. In relation to competencies, enterprise educators may also benefit from more effectively signposting the competencies that can be developed through extra-curricular enterprise activities so students are aware.

### Further Research

There are several further areas to explore in this developing research area. Previous literature and this study focus on single institutions and therefore, going forward, a multi-institutional study, allowing comparisons across the HE sector, would be advantageous. A qualitative methodology would also allow for a deeper exploration of students' perceptions and understandings of their competencies. The inclusion of interviews with enterprise educators would also provide a comparison between intended delivery (by enterprise educators) and perceived impact (on the students).

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