Enterprise and Entrepreneurship Education: Implications for Innovation in Delivery

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Abstract: This paper studies current provision of enterprise and entrepreneurship education at one university and provides recommendations for curriculum development across several different subject areas. The paper reviews the Quality Assurance Agency for Higher Education (2012) report Enterprise and entrepreneurship education: Guidance for higher education providers; and the recent All-Party Parliamentary Action Group for Micro Businesses report (2014) An Education System fit for An Entrepreneur. The former report highlights the importance of four factors concerning the students learning experience (enterprise awareness, developing an entrepreneurial mind-set, developing entrepreneurial capability, entrepreneurial effectiveness) and relates these to graduate outcomes (behaviours, attributes, skills).The approach of this research is to map existing delivery in three subjects against the above factors and consider what gaps can be plugged and how. Thus the approach is largely a mapping exercise but includes primary interviews with four senior managers (n=4) and a sample of students (n=42) to elicit their feedback on changes in delivery. The results provide a basis for curriculum development planning applicable to the particular subjects involved. However, implications are stated for how other subject areas can innovate in three key areas of HE provision (teaching, learning, and assessment) in order to improve the effectiveness of entrepreneurs and the employability of graduates in general. The value of the report is in highlighting key aspects of current delivery that can be improved through enhanced student learning, and improved delivery, around the theme of enterprise and entrepreneurship education.

Keywords: Enterprise education, Entrepreneurship education, innovation in learning and delivery, experiential learning, learning by doing

1. Introduction

What will the university of the future look like? Predictions include (Ernst & Young, 2012) that many universities will become unviable. Those that survive have been classified as: 'Streamlined Status Quo', 'Niche Dominators' and 'Transformers'. Even the first category, the broad based teaching and research institutions, will need to transform the way they operate. The real transformers though, according to the above report, will be private providers and new entrants merging with media, technology, innovation, venture capital, etc. Perhaps these transformers could be described as 'entrepreneurial'.

This trend is also recognised by the Times Higher Education Awards for the most Entrepreneurial Universities (2013). At first sight, one could easily conclude that most university entrepreneurial activity is taking place in the business school (60% according to NCGE below). However, this paper demonstrates that entrepreneurial activity is taking place across traditional subject disciplines and schools. Indeed, the main premise of the paper is that Enterprise Education has a place in teaching and learning across the university not just in traditional business disciplines.

Support for the need for Enterprise and Entrepreneurship Education comes from a wide variety of sources. The United Nations regard Entrepreneurship and its concomitant education as vital to economic growth and development (UNCTAD, 2012); and Wilson (2008), European Foundation for Entrepreneurship Research, states that Entrepreneurship education is the first and arguably the most important step for embedding an innovative culture in Europe. Indeed, the European Commission (2011) regard the developing of entrepreneurial mindsets as becoming embedded in policies across Europe; and Gibb et al (2013) provide an excellent review of implications for Higher Education Institutions across the world. For the UK, the NCGE [now NCEE, National Council for Enterprise Education] (2010) national survey of 126 HEI's found that enterprise and entrepreneurship is more embedded in strategic policies; with more students engaged and more start-ups (average 28 per HEI) than the last survey in 2007 – up 27%.

The QAA (2012) provide guidance on what this enterprise and entrepreneurship education should look like. Whilst the guidance is not prescriptive, the guidance is designed to complement the UK Quality Code for Higher Education which all providers of UK higher education are required to meet. Of particular significance is

that the guidance is intended to help academics, educators and practitioners seeking to embed enterprise and entrepreneurship across the curriculum. As such:

- Enterprise education is defined as the process of equipping students (or graduates) with an enhanced capacity to generate ideas and the skills to make them happen.
- Entrepreneurship education equips students with the additional knowledge, attributes and capabilities required to apply these abilities in the context of setting up a new venture or business.

Even more significant is that the above is considered a prerequisite for:

- Entrepreneurial effectiveness – the ability to function affectively as an entrepreneur in business.

This sets a policy framework for universities to tackle the entrepreneurship agenda; and provides a basis for identifying gaps in current provision. Thus, universities can map current provision and set an agenda for change based on how well their provision is meeting the needs for entrepreneurship in wider society. In fact, if a university is to pay more than lip service to such recommendations then importantly the guidelines also emphasise:

- Entrepreneurial mind-set – the self-awareness, motivation and self-discipline to apply enterprising and entrepreneurial qualities in different contexts.

QAA (2012) encapsulate the above in a model, see figure 1.
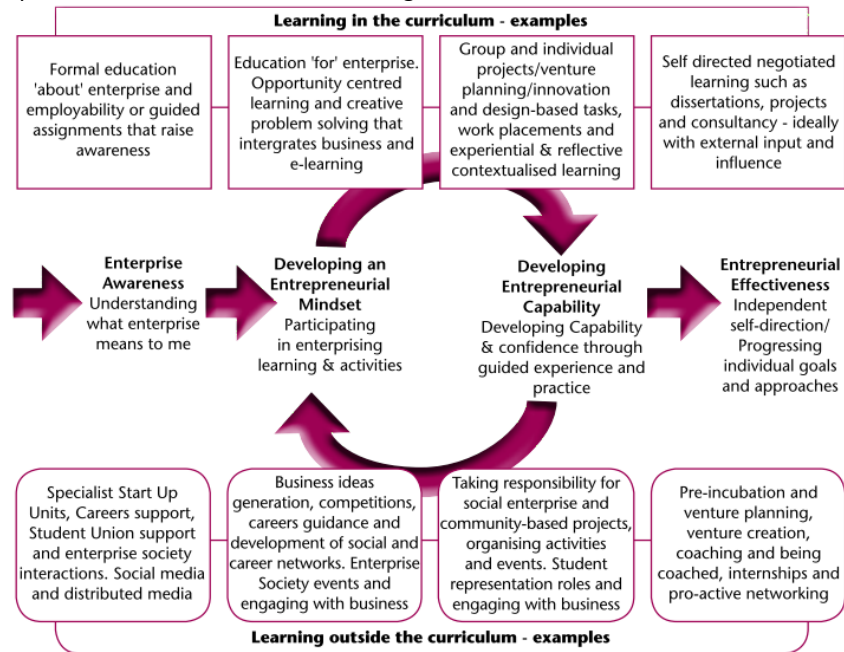
Figure 1. Developing Entrepreneurial Effectiveness

The above figure usefully highlights the transformative process necessary to move from awareness to application. The figure also highlights learning both inside the curriculum and learning outside the curriculum. All HEI's can benefit from recognising that they need to link theory to practice to provide students with the most relevant and up-to-date skills. Nevertheless, the All-Party Parliamentary Group for Micro Businesses (2014:12) conclude 'there is still much to do to offer the entrepreneurs in the UK the support they need to help them thrive rather than just survive.'

Brunel (2013) go a step further and provide a model which more clearly links possible programme structure with potential delivery outcomes. Thus figure 2 is more innovative in this regard.
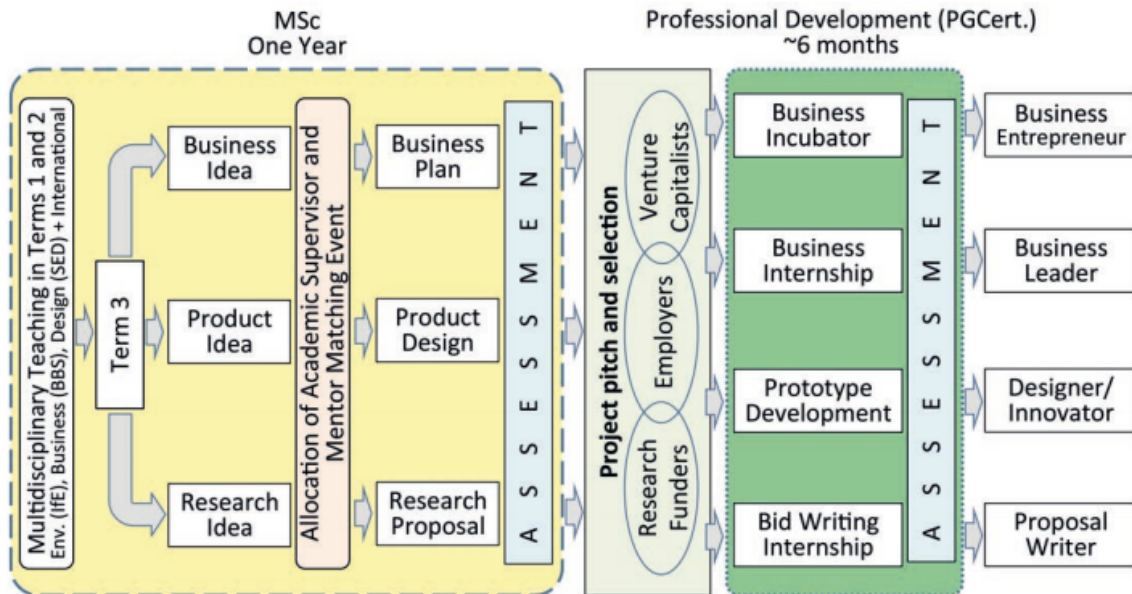
Figure 2. Brunel's MSc Sustainability, Entrepreneurship & Design programme

The Brunel programme offers several different pathways with the option of a six month placement to provide professional development. Of particular significance is that the programme is jointly run by the Institute for the Environment, School of Engineering and Design and Brunel Business School. And Brunel considers two ingredients essential: firstly, the mind-set and ability to play a key role in building a sustainable world; and secondly, hands-on experience. Time will be needed to evaluate the success of the programme (new in 2013) validated by a colleague from Middlesex University. However, early signs are positive.

Thus innovation in programme design and delivery is taking place. And this is the back-drop to designing and delivering similar programmes at Middlesex University – the mini case-study for this paper.

2. Research questions

RQ1: What is the current provision of enterprise and entrepreneurship education at Middlesex University?
RQ2: What are the gaps between this provision and that expected to be offered by QAA?
RQ3: What is the feedback from students on current provision based on the QAA guidelines?

2.1 Methodology.

RQ1 was tackled initially with a trawl through the excel spreadsheet of all university courses. This content analysis was quite hit-and-miss given the hundreds of courses on offer, the evolving nature of programmes and modules, and the fact that course or module titles do not give an adequate picture of exactly what the course covers nor about how it is delivered. Nevertheless, this exercise is a useful first step to familiarising one with the myriad of courses on offer by one HEI and potential contact points for further reference.

RQ2 was tackled by interviewing key personnel in the university, familiar with course provision, and able to give a fuller understanding of current and planned provision. Three Deans responded to this invitation and all were able to provide a much more comprehensive response than the simple content analysis.

RQ3 was tackled by designing a questionnaire for students based on the QAA guidelines. An incentive was provided with the offer of a prize (chocolate) for all those completing the on-line questionnaire; and software was used to prevent students submitting multiple entries. N=43 final year UG business students responded to the survey from a course total of N=139 giving a response rate of 31%.The research is limited to the extent that only UG business students participated. However, the findings do reveal for the first time feedback based on QAA rationale.

3. Results

3.1 Snapshot Interviews

RQ1 and RQ2 have been combined to reveal the following narrative. Middlesex University Business School offers by far the most frequent number of courses on entrepreneurship, with the largest numbers of students participating. Courses offered include Business Start-Up for final year UG's, Venture Development for PG's and Entrepreneurship in Practice as part of a new programme for Economics students. The Dean of the Business School was able to add that new plans have been laid to provide Sustainable Products and Eco-Entrepreneurship as new modules for the 2014/15 academic year in recognition of the ever pressing agenda to tackle the problems caused by climate change (Royal Society, 2014) and resource depletion and environmental degradation in particular (Royal Society, 2012).

These latest innovations have been aided by the appointment of a new SL Eco-entrepreneurship, one of the first such appointments in the UK. This also build on the success of The Institute for Work Based Learning, now affiliated to the Business School, allowing individuals to negotiate customised pathways to University awards; including the Doctorate in Professional Practice used by entrepreneurs to develop their thinking.

Interestingly The Deputy Dean of The School of Art & Design did not cite any courses entitled enterprise or entrepreneurship but did state that all their programmes included placement modules; with all UG and PG programmes making use of multiple 'live' project briefs and simulation projects throughout the student journey; with plans for a progression of modules dedicated to enterprise; and creative entrepreneur learning strands as an option for UGs to develop contextual and critical awareness. Thus, enterprise and entrepreneurship in general is regarded as a necessary component of professional practice – despite 'enterprise' and 'entrepreneurship' not necessarily being directly referred to.

The School of Science & Technology reported their most recent success, to provide an excellent example of how work across subject disciplines is leading to better outcomes for graduates. In this case, one student won the Enterprise Challenge, an on-line competition run by The British Council and Virgin Atlantic in partnership with Zenith Bank. Creative Technologies master's student from Nigeria won with a business plan for a mobile app called Verdant, designed to help crop farmers in the face of the global food crisis. The student secured a mentoring session in London with Sir Richard Branson and a £5000 grant. Critical to his success, the student stated, was being able to work with Industry as part of one of his modules.

3.2 Questionnaire

The results of RQ3 are summarised in a series of graphs. Ten questions were asked based on the QAA guidelines:

Q1. How much has this course helped you improve your entrepreneurial skills?
Q2. How much do you think this course increased your employability?
Q3. To what extent does the course provide opportunities for active learning (rather than passive learning as with lectures)?
Q4. To what extent are the knowledge and skills you are developing on the course helping you be more adaptable to a changing business environment?
Q5. To what extent would you say the course is innovative?
Q6. To what extent does the course use or encourage the use of multimedia communication?
Q7. To what extent does the course encourage you to become more self-reliant and resilient?
Q8. To what extent does the course encourage you to learn from mistakes or failure?
Q9. To what extent are you considering starting a new business or self-employment as a result of participating in this course?
Q10. To what extent do you think this course, or similar, should be taken by non-business students within the university?

The rationale for the questions is based on what the QAA (2012) believe are the fundamentals for educating the entrepreneurs of the future. Q1 & Q8 focus on the skills necessary to become an entrepreneur: practical, social and conceptual skills. These skills can be operationalised by educators through opportunity recognition

exercises e.g. studying a product/service or industry or social issue and brainstorming potential solutions; problem solving exercises e.g. case study material to draw out and develop creative, novel or innovative solutions; video clips to help identify risks and the completion of risk templates; leading and managing a defined project e.g. identifying team talents and strengths/weaknesses, resourcing and motivating the team, building capacity and trust, persuading and negotiating outcomes. Students should be able to reflect on what has been learned, in particular the mistakes made or obstacles encountered and how they were overcome; pitching or presenting to entrepreneurs or potential investors to network and forge relationships.

Q2 &Q9 focus on entrepreneurial effectiveness with a clear link to graduate employability. Is the student more employable as a result of developing their enterprise awareness and entrepreneurial skills? This includes employment in general or self-employment in particular. For example, some students will become more aware of the opportunities available to them by participating in curricular and extra-curricular events. Curricular events include choosing modules or strands of learning that provide unique or interesting combinations of subjects e.g. combing science and art based subjects, media and business, health and education, etc. Effectiveness skills can also be developed by undertaking 'live' projects e.g. consulting to a local business or social enterprise – perhaps even with a small financial budget. Students can also attend trade shows, exhibitions, seminars by entrepreneurs, social and cultural events that inspire and motivate students to find new and interesting ways of tackling problems.

Q3 focusses on the student learning experience. Do students have to sit and listen to traditional lectures with little opportunity to interact or ask questions? Are students presented with a variety of learning opportunities in place of the traditional lecture/seminar format? This can include on-line activities for the students to research news items of interest, or electronic trails / treasure hunts. Business simulations provide a more hands-on opportunity to practise and make mistakes, and receive feedback on performance from peers and tutors. Students can thus be engaged in running their own business – drawing on expertise or other resources as they see fit. Specific software can be used that generates 'live' performance data, or tutors can develop their own scenarios for student participation. The fundamental emphasis is on 'active' rather than 'passive' learning.

Q4 & Q7 focus on whether the student is learning to be flexible and adaptable. This is part of the mind-set needed to be an effective entrepreneur; where often solutions are tried and fail on successive occasions and the entrepreneur needs to retain confidence to persevere. Students need to be challenged to re-set goals, building confidence in their ability to control situations that are ill-defined or appear haphazard. Experimentation is key; where students can try and test various options – perhaps with several options offering potential solutions or perhaps no options providing solutions. Self-insight can be developed through checklists and inventories or peer and tutor feedback, such that open and honest feedback is generated or received on strengths and weaknesses, and what types of business or social issues they are motivated to tackle. For example, the student might decide that environmental or social issues are foremost in their mind and they have or would like to acquire the ability to tackle a particular environmental or social problem. In fact, eco-innovation is quickly becoming a hot topic for budding eco-entrepreneurs (Moon, 2013, 2014). Personality that is founded on ethical values will tend to lead to concern or compassion that can be translated into such entrepreneurial activity.

Q5 focusses on whether the students feel the course is innovative in its own right. If educators are to encourage creativity and innovation then probably the best way to do that is through more creative and innovative approaches to learning. Of course, what the student regards as innovative might not be the same as what the tutor believes is innovative; especially if the educator does not have the resources to provide what their ideal would be. Innovations can though be via small steps; and the educator has to start somewhere – even if these small steps are not immediately recognised. The educator is charged here with re-examining their own approach to teaching and learning. Perhaps they decide to enrol on a PGCHE course or engage with CPD activity. Tutors might decide to use a more 'blended' approach to learning, or even 'flipping' the role of tutor and student entirely, as appropriate; and what experiential approaches they have the skills to try out. The tutor needs to consider the student perception or reaction to such changes; and whether the innovation has been properly explained to them from the outset.

Q6 focusses on learning technology such as the use of multimedia. The innovation here might be to move away from the usual power-point presentations and consider new ways of presenting to students. Even if

power-point slides are used, presentations can be made more stimulating through inclusion of video-clips, or quizzes. However, mobile phones can now be used for voting on topics, for texting 'live' questions or responses. Smart phones and tablets can be used to research 'live' topics and provide more up-to-date, perhaps up-to-the-minute material for discussion and review. Knowing how to navigate through the wealth of information on the world-wide-web though is a skill in its own right; and there is an enormous role here for the tutor to determine potential pathways or negotiate with students which paths to try out. This could include social media, music, books, film, the real world around us, historical artefacts, etc.

Q10 focusses on whether students, subject to silo disciplines, are themselves thinking with silo mentality. Or are the students able to recognise the benefits of cross-disciplinary or multi-disciplinary learning? Do they think that enterprise and entrepreneurship education is just for the business student or do they think that all students can benefit for such education? If students only see the relevance of enterprise and entrepreneurship to business then they could be missing out on potential collaborations and partnerships. Without knowing how enterprise and entrepreneurship is defined or regarded in various disciplines then students might not realise that such skills and expertise exists in all disciplines. For example, in art and design or media and performing art or science and technology, the emphasis might be more so on developing the skills for professional practice rather than enterprise or entrepreneurship per se.

Table 1.

How much has this course helped improve your entrepreneurial skills?
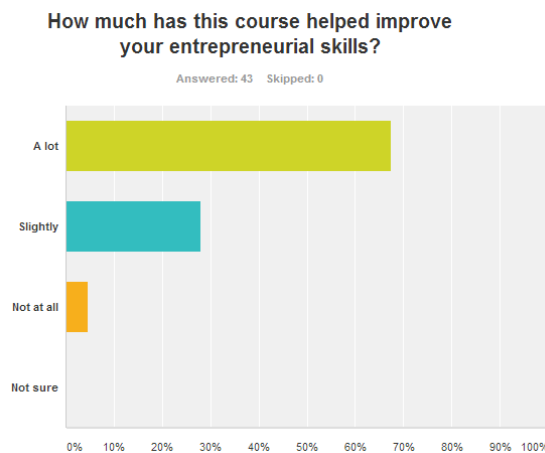Answered: 43   Skipped: 0

Table 1 indicates that, whilst over 60% of the students felt that the course helped improve their entrepreneurial skills a lot, there is a significant minority who did not feel this – indicating plenty of room for more in-depth review of how to develop these skills.

Table 2.

How much do you think this course increased your employability?
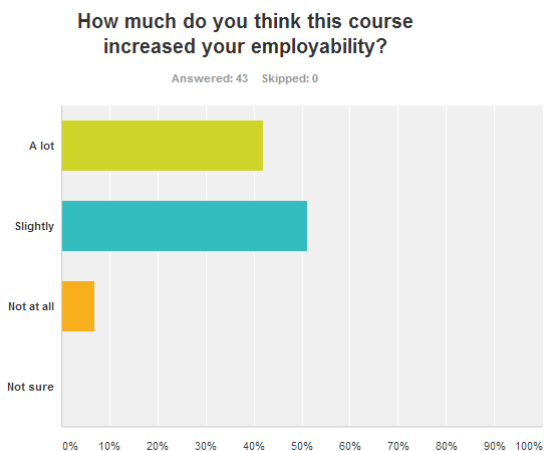Answered: 43   Skipped: 0

Table 2 indicates that over 40% of students felt that the course increased their employability a lot and over 50% slightly. This indicates the need to relate more clearly pathways that the students can follow e.g. business idea, further research, product development and the links to self-employment, intra-preneurship or gaining venture capital.

Table 3.

To what extent does the course provide opportunities for active learning (rather then passive learning as with lectures)?
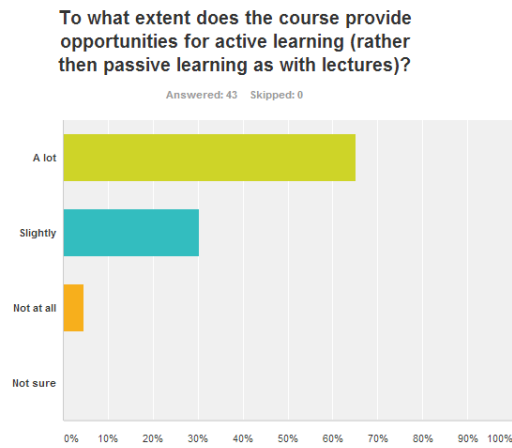
Answered: 43   Skipped: 0

Table 3 indicates that over 60% of students felt that the course provided opportunities for active learning. However, a significant minority felt this was only slightly. Thus, again plenty of room for further investigation and improvement.
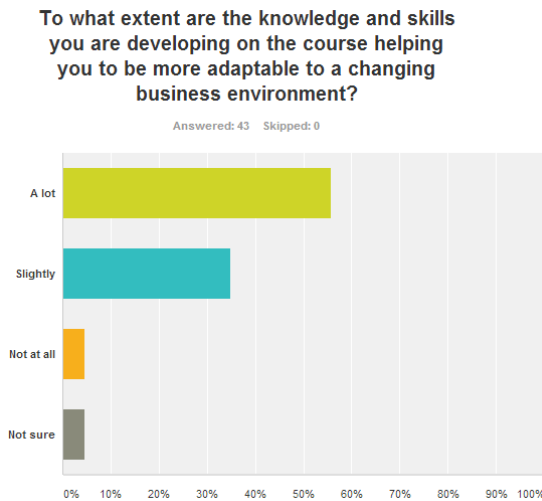
Table 4.

To what extent are the knowledge and skills you are developing on the course helping you to be more adaptable to a changing business environment?

Answered: 43   Skipped: 0

Table 4 indicates that over 50% felt that they were becoming more adaptable to a changing business environment – with over 30% stating 'slightly'. This could be demonstrating a need for the tutor to re-consider the balance between the 'experiential' emphasis on skills development and the 'experience' emphasis on students learning about the world outside.
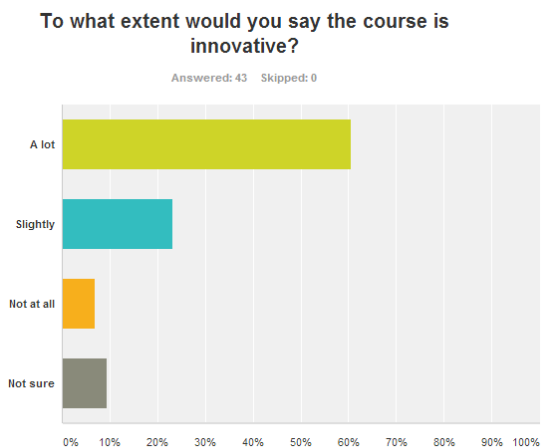
Table 5.

To what extent would you say the course is innovative?

Answered: 43   Skipped: 0

Table 5 indicates that over 60% felt the course was innovative.

Table 6.

To what extent does the course use or encourage the use of multimedia communication?
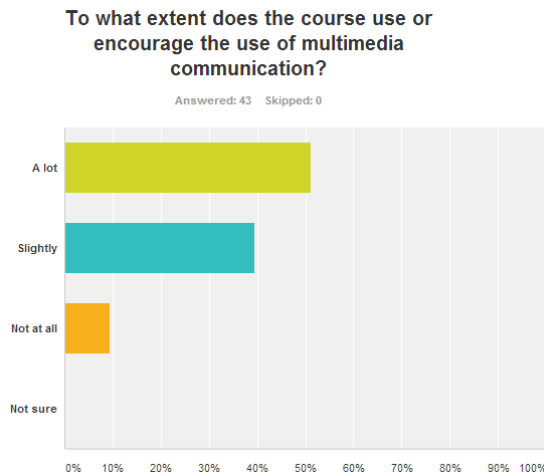
Answered: 43   Skipped: 0

Table 6 indicates that over 50% of students felt the course used or encouraged the use of multimedia communication. However, nearly 40% only felt this slightly which indicates room for improvement.
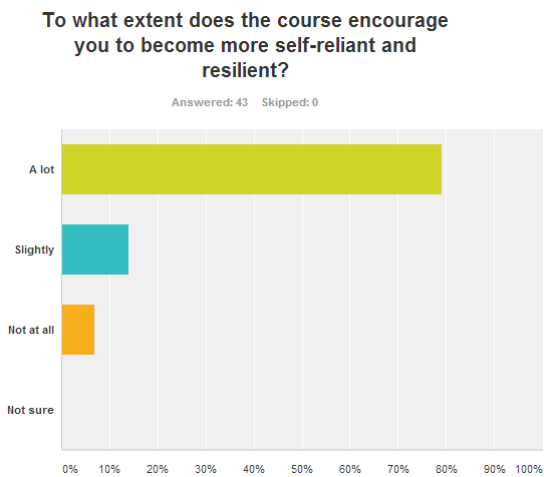
Table 7.

To what extent does the course encourage you to become more self-reliant and resilient?

Answered: 43   Skipped: 0

Table 7 indicates that nearly 80% felt the course encouraged them to be more self-reliant and resilient.

Table 8.

To what extent does the course encourage you to learn from mistakes or failure?
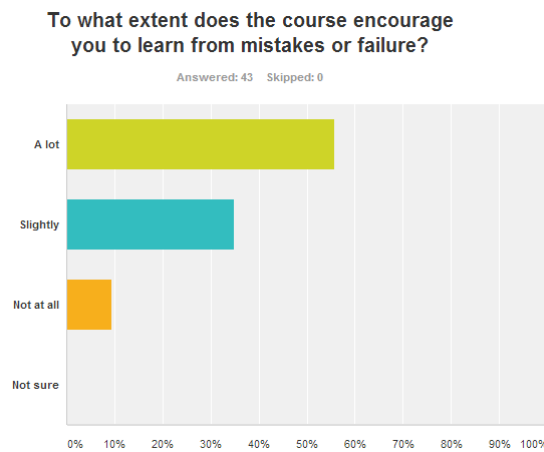
Answered: 43   Skipped: 0

Table 8 indicates that over 50% felt the course encourages learning from mistakes or failure. However, over 30% felt this only slightly which is worthy of further investigation.
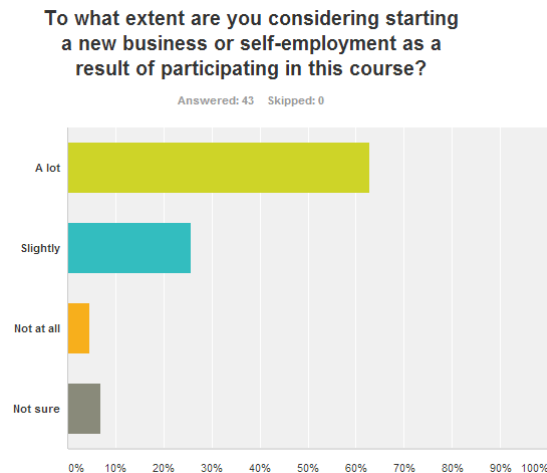
Table 9.

To what extent are you considering starting a new business or self-employment as a result of participating in this course?

Answered: 43   Skipped: 0

Table 9 indicates that over 60% were considering starting a new business or self-employment.

Table 10.

To what extent do you think this course, or similar, should also be undertaken by non-business students in the university?

Answered: 43   Skipped: 0
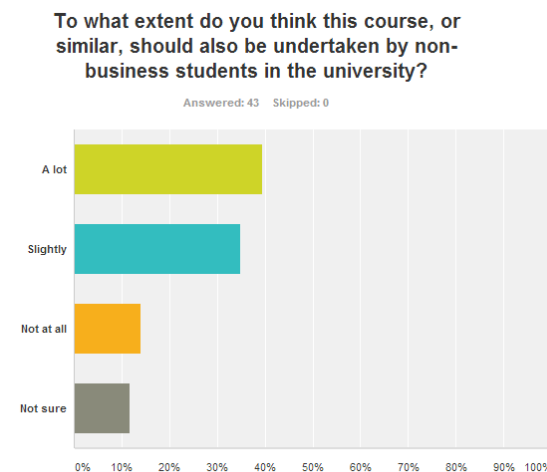
Table 10 indicates that nearly 40% felt that this Business Start-Up course should be taken by non-business students – though over 30% felt this only slightly and several students did not feel this at all.

4. Discussion

The results of this research demonstrate how one university is tackling the enterprise and entrepreneurship agenda. QAA (2012) guidelines envisage more courses being offered on enterprise and entrepreneurship. However, this research clearly shows that courses are being offered not necessarily with enterprise or entrepreneurship in the title. The starkest evidence of this is with schools offering professional practice. Even here though some progression is now being considered to enable students to relate theory to practice in more innovative ways.

Ideally there is collaboration across schools and disciplines. Universities can no longer best serve students by operating in silos. Working across subject boundaries enables students to see links and integrate knowledge and skills from different domains; and to integrate this learning with broader needs of society. This is the model provided by QAA (2012) with their proposed integration of learning from within the curriculum and outside of the curriculum. Nevertheless, despite pockets of excellence e.g. Brunel, Huddersfield, Middlesex, much more needs to be done to break down disciplinary and functional silos in universities to enable cross-disciplinary and multi-disciplinary learning to take place.

The above points are reinforced by decades of learning and development theory. QAA (2012:8 emphasise the need for creativity and innovation in teaching and learning. QAA (2012:9) emphasise 'learning for' rather than 'learning about'. QAA (2012:16-21) place 'students at the heart of the system'. QAA (2012:22) refer to

'pedagogical experimentation'. QAA (2012 22 refer to 'constructive alignment'. QAA (2012:24) refer to 'active' rather than 'passive' learning. QAA (2012 24) refer to 'on-line learning'. And there is a great deal of support in the literature for these tenets.

For example, the 'creative curriculum' is an accepted educational practice (e.g. Belinda Allen's work at the University of New South Wales, see figure 3). Fry et al (2009) cite the importance of 'learning for' (e.g. Lucas and Milford) and 'assessment for learning' (e.g. Sambell). Roger Fox (1983) has written extensively about 'student centred learning', 'active rather than passive' and the need for more 'experimentation.' Kolb (1984) stresses the importance of both 'cognitive' and 'affective' learning'. And, these concerns are now being related to e-learning (e.g. Brenton in Fry et al, 2009) as new forms and uses for learning technologies are being developed, such as VLEs (Virtual Learning Environments) and MOOCs (Mass Open On-line Courses).
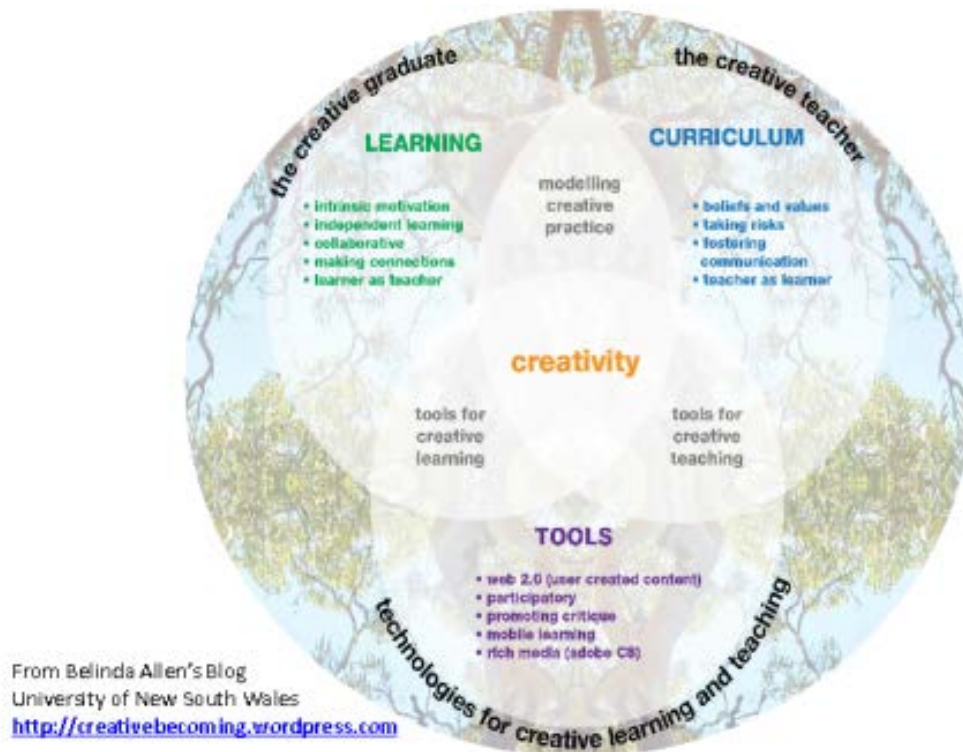

Figure 3. The creative graduate.

5. Conclusions

This paper concludes that even more active learning is needed in the curriculum given the need for entrepreneurs to develop creativity and experimentation. Recent research by Bocken et al (2014) focussed on the 'fuzzy front-end' of eco-innovation where creativity and experimentation were deemed particularly important. University faculty can do much more to move away from traditional lectures and seminars to workshops that develop creative thinking and problem solving skills; with active experimentation and the opportunity to learn from mistakes.

Assessment at universities can be based on out-dated academic protocols and outdated module narratives e.g. where formative assessment is replaced by summative to justify academic content and provide a degree of control by the academic over the achievement of learning outcomes and progression of students. It is all too easy to write traditional exam type questions and set projects or essays that tend to examine knowledge over skills. Thus, there is plenty of room for self-assessment, peer assessment, formative and continuous assessment. This is particularly pertinent with entrepreneurship where new product design and development is needed; and hands-on business planning and development skills. For example, 'pitching' ideas and plans to a panel of entrepreneurs can hone skills far more effectively than writing a classic business plan in isolation.

The time has come for more multi-disciplinary and more multi-media learning. Business Schools, Science & Technology, Social Science, Health Education, Media and Performing Arts all have their own methods of teaching and learning; and much can be learned from the practices of different schools. However, much more concerted action is required to construct opportunities for learning that are outside of traditional subject disciplines. The university of the future is inevitably more ICT led – with VLEs and MOOCs replacing many traditional university campuses. In fact, there is even discussion of going beyond VLEs. Universities that do not embrace these new forms of learning will quickly be left behind as new providers develop their own content and do not rely on traditional academic material (and uninspiring classrooms or lecture theatres).

With enterprise and entrepreneurship education there is a need for current universities to integrate their provision both vertically and horizontally. That is, internally between subject disciplines and externally with practitioners. QAA (2012) provide the policy basis for doing this. Ernst & Young (2012) provide the vision of the University of the future. The UKs All-party parliamentary group for micro businesses (2014) provide support for the steps required. Entrepreneurs and academic–practitioners are beginning to impact on traditional forms of educational provision by recognising and acting on the need for more creativity and experimentation; with doses of reality providing the more relevant context.

This paper has provided primary research on one sample of students at one university. The results demonstrated that innovation in teaching and learning is possible and there is the potential for improving graduate employability and entrepreneur effectiveness. However, better links to outcomes outside of the university are needed to evaluate real progress. Students can benefit from awareness-raising and skills development but they also need the mind-set to thrive – especially if some of the complex problems facing society e.g. social and environmental are to be tackled. The results of this paper go a small way in demonstrating implications for teaching, learning and assessment as regard Enterprise & Entrepreneurship Education.

Acknowledgements

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