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The Impact and Support of Constructivist Learning Environments to Develop Entrepreneurial and Enterprising Graduates to Enhance Employability

Robin Bell

A thesis submitted to the University of Huddersfield in partial fulfilment of the requirements for the degree of Doctor of Philosophy

The University of Huddersfield

October 2017

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Abstract

Governments have encouraged higher education institutions (HEIs) to develop entrepreneurial, innovative and highly employable graduates. Accordingly, employability, enterprise and entrepreneurship are all high on the agendas of United Kingdom (UK) HEIs (Sewell and Dacre Pool, 2010) and the use of constructivist approaches, such as experiential learning and problem based learning, may offer an effective way to develop the entrepreneurial, enterprising and employability skills that both graduates and employers need.

Constructivist approaches in higher education (HE) have become increasingly common across a wide range of disciplines in recent decades. This is particularly true in the field of entrepreneurship where the development of entrepreneurial skills requires different hands-on or experience based approaches to the more traditional didactic lecture based teaching methods (Jones and English, 2004; Jones and Iredale, 2010; Zahra and Welter, 2008). Constructivism lends itself to active based learning approaches which can result in improved problem solving skills, improved knowledge retention, and improved motivation (Bonwell and Eison, 1991; Rhem, 1998; Snyder, 2003). Furthermore, unlike didactic teaching approaches, constructivist active learning can lead to changes in both thought and attitude, and the development of behavioural skills (Bligh, 2000; Grimley et al., 2011).

Whilst there is much practical practitioner based research focusing on the implementation of constructivist enterprise education, there is limited existing research focusing on the constructivist learning theory underpinning constructivism. This has led to a degree of separation between practitioner-based research and constructivist learning theory in abstraction and application.

This thesis addresses three research questions

- How can constructivism be applied to enterprise education in HE?
- What is the relationship between constructivist learning environments and the development of enterprising graduates?
- How can learning environments be created and implemented to effectively support the development of enterprising graduates?

This thesis investigates a range of constructivist pedagogic interventions across a range of academic levels, subjects, and disciplines, both within and outside of formal curricula, to explore their ability to develop enterprising skills and to consider how they can be created, developed and implemented to effectively support the development of these skills.

In addition, the portfolio contains an assessment of the relationship between a range of entrepreneurial attitudes and the likelihood of graduate employment in a professional field six months after graduation in Paper 1. This provides some quantitative evidence that enterprising skills that can be developed by constructivist active learning can have an impact on graduate employability.

This portfolio provides a strong case for the use of constructivist approaches in developing a wide range of entrepreneurial and enterprising skills that graduates require, enhancing their employability and enabling them to be more enterprising. These skills included developing a proactive disposition, achievement motivation, self-efficacy, interpersonal skills, team working, communication skills, planning, attitude to risk, leadership and a preference for innovation. This portfolio found support for the contention that in general, students respond

positively to these approaches and satisfaction levels are high e.g. in Paper 5 and in Paper 6. However, Papers 2 and 4 highlighted the importance of adequate temporary scaffolding, where appropriate, to ensure access to learning for all students.

The learning points that can be taken from the portfolio to help develop and create the best pedagogy and constructivist learning environment for students to maximise the benefits of constructivism are summarised in Appendix 2. Paper 7 considers the development of a constructivist intervention that involves external stakeholders. This research focused on the perspectives of students, faculty and stakeholders to better understand the creation, implementation, and development of such pedagogic interventions.

This thesis concludes that enterprise education in HE should be based not only on didactic teaching but should also involve the application of constructivist active learning approaches (particularly experiential learning) based and grounded on constructivist learning theory to develop enterprise skills. Thus enterprise education can be viewed as a mixture or fusion of didactic teaching to impart essential theoretical knowledge and the application of constructivist learning approaches which seek to develop experiential knowledge and skills, which can be developed through both experience and reflection.

This thesis contributes to knowledge by combining constructivist learning theory and practice based research to underpin the application of constructivism in enterprise education. It provides additional depth and breadth to research on constructivist pedagogy, using a range of research methods across a range of educational settings, to support the development of enterprise skills and employability. It identifies how to achieve best practice in the delivery of constructivist learning through the implementation of constructivist learning principles and highlights the pivotal role of the educator in supporting student learning in a constructivist learning environment.

Portfolio Publications

This portfolio brings together and contextualises research which has been published in the following seven papers:

1. Bell, R. (2016) Unpacking the link between entrepreneurialism and employability: An assessment of the relationship between entrepreneurial attitudes and likelihood of graduate employment in a professional field, *Education + Training*, 58(1), 2-17. [doi:10.1108/ET-09-2014-0115](https://doi.org/10.1108/ET-09-2014-0115)
2. Bell, R. & Loon, M. (2015) The impact of critical thinking disposition on learning using business simulations, *The International Journal of Management Education*, 13(2), 119-127. [doi:10.1016/j.ijme.2015.01.002](https://doi.org/10.1016/j.ijme.2015.01.002)
3. Bell, R. (2016) The continuing search to find a more effective and less intimidating way to teach research methods in higher education, *Innovations in Education and Teaching International*, 53(3), 285-295. [doi:10.1080/14703297.2014.956780](https://doi.org/10.1080/14703297.2014.956780)
4. Bell, R. (2016) Concerns and expectations of students participating in study abroad programs: Blogging to reveal the dynamic student voice, *Journal of Research in International Education*, 14(3), 196-207. [doi:10.1177/1475240916669028](https://doi.org/10.1177/1475240916669028)
5. Bell, R. (2015) Developing the next generation of entrepreneurs: Giving students the opportunity to gain experience and thrive. *The International Journal of Management Education*, 13(1), 37-47. [doi:10.1016/j.ijme.2014.12.002](https://doi.org/10.1016/j.ijme.2014.12.002)
6. Bell, R. & Bell, H. (2016) An enterprise opportunity for entrepreneurial students: Student enterprise development and experience assessed through the student voice, *Education + Training*, 58(7/8), 751-765. [doi:10.1108/ET-12-2014-0150](https://doi.org/10.1108/ET-12-2014-0150)
7. Bell, R. & Bell, H. (2016) Replicating the networking, mentoring and venture creation benefits of entrepreneurship centres on a shoestring: A student-centred approach to entrepreneurship education and venture creation, *Industry & Higher Education*, 30(5), 334-343. [doi:10.1177/0950422216660921](https://doi.org/10.1177/0950422216660921)

The Impact and Support of Constructivist Learning Environments to Develop Entrepreneurial and Enterprising Graduates to Enhance Employability

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List of Abbreviations

HE	Higher education
HEI	Higher education institution
SAP	Study abroad programme
IPA	Interpretative phenomenological analysis
UK	United Kingdom
ZPD	Zone of proximal development

1. Introduction

1.1. The Role of Higher Education

From the late 1980s, an increase in globalisation and the adoption of neoliberal policies has resulted in the restructuring and downsizing of private organisations and a growing emphasis on competition and efficiency, which resulted in an increasingly competitive employment market (Clarke, 2008; Harvey, 2000). In addition, UK HE has undergone a ‘massification’ process over the past three decades. As a result, a HE approach that had once been necessary and sufficient for finding employment became necessary but insufficient (Sin and Neave, 2016) in a crowded graduate labour market. Thus being a graduate was no longer sufficient; it became necessary to be an employable graduate (Tomlinson, 2012) in an environment of mass higher education and economic policies that encouraged competition and efficiency. One of the missions of HEIs is to respond to the needs of employers (Boden and Nedeva, 2010), and the new neoliberal paradigm redefined the purpose of HE from the production of aware and rounded citizens to the development of employable graduates with requisite skills (Sin and Neave, 2016). In addition, HEIs were charged by the government with forging closer links with industry to improve employment prospects and skills and provide support to start-ups (Chatterton and Goddard, 2000; Rasmussen and Sørheim, 2006). HEIs have responded by offering consultative services, work experience links, and venture creation support. These development agendas require active regional engagement by HEIs (Chatterton and Goddard, 2000). Collaboration with outside agencies is illustrated in Papers 6 and 7 which look to create some of the benefits of a business incubator in a HEI on a shoestring.

Moreland (2006 p.21) described employability as “a set of skills, knowledge and personal attributes that make an individual more likely to secure and be successful in their chosen occupation(s) to the benefit of themselves, the workforce, the community and the economy”. The reference to making the individual more likely to secure employment as opposed to definitions that talk of ‘having the capability’ (e.g. Hillage and Pollard, 1998) acknowledges the role of the labour market in employability. It should be acknowledged that being employable does not necessarily guarantee employment and that employability is also impacted by demand in the labour market (e.g. McQuaid and Lindsay, 2005; Brown et al., 2003). Brown et al. (2003) refer to this as the ‘duality of employability’.

Brown and Hesketh (2004) highlighted the reduced importance of academic credentials to employers and the increased focus on personal attributes and skills. Since graduates may change employment during their working lives, possibly across sectors, they require a range of general competences to do so successfully. Personal characteristics such as creative and critical thinking, integrated skills and the ability to adapt to change are amongst the competences that are valued by employers' more than specific knowledge (Randma and Venesaar, 2016; EC, 2012).

Rae (2007) opined that enterprising students and graduates are generally regarded as being more employable than those without enterprise skills, and that there is a sound rationale to connect enterprise with employability. Pittaway and Cope (2007) however, highlighted the need for examining in more detail the links between entrepreneurship education and employability. Paper 1 in this portfolio investigates this link in a quantitative longitudinal study. A recent Higher Education Academy (HEA) report written by Artess et al. (2016) argues that there is increasing evidence for employment outcome through enterprise learning citing this study (Bell, 2016c).

An approach to education that is based on or includes entrepreneurship can help to develop new enterprising/entrepreneurial behaviours, including the identification of new opportunities and innovative approaches to problem solving (Bell, 2015; Karlsson and Moberg, 2013). Kuratko (2005) argued that entrepreneurs can drive technological change and produce wealth and employment through the development of new small businesses, whilst enterprising employees can play an important role within organisations by using their enterprising skills and attributes. It is perhaps not surprising that there have been calls for entrepreneurship/enterprise education to be more widely available to more people across a wider range of disciplines (e.g. Bell and Bell 2016a; Jones et al., 2012; Rae, 2010;).

Nabi and Holden (2008) suggested that it might be useful to consider enterprise/entrepreneurship as a spectrum ranging from broad and generic skills relevant to most students, to more specific and specialised skills for entrepreneurs, who may be more interested in creating new ventures. The skills and attributes at the enterprise end are particularly suitable for increasing the likelihood of employability, whilst those at the extreme entrepreneurship end, including for example, a high risk attitude, may be less suitable for employment (Sewell and Dacre Pool, 2010). Indeed, enterprise activities have often been

considered as synonymous with entrepreneurship in HE, with the more focused activities being aimed at the establishment of new businesses and the less focused or dispersed activities being directed towards the promotion of more diverse achievements that improve overall success in the labour market (Moreland, 2006). Rae (2007, p611) defined enterprise skills as, “the skills, knowledge, and attributes needed to apply creative ideas and innovations to practical situations”. These included such skills as initiative, independence, problem-solving and acting resourcefully. Over time, the term enterprising skills has been extended to include soft, generic and more transferable competences such as communication skills, teamwork and learning to learn.

Governments have thus encouraged HEI’s to develop entrepreneurial, innovative and highly employable graduates (Sewell and Dacre Pool, 2010). As a result, employability, enterprise and entrepreneurship are all high on the agendas of UK HEI’s (Sewell and Dacre Pool, 2010). Cranmer (2006) argued that employability issues lie at the core of contemporary UK HE, resulting in a wide range of approaches and strategies that include introducing new courses and offering work experience to make the delivery of employability skills more explicit. Yorke (2006) proposed that employability was not about skills alone but also included other personal factors, including beliefs, understandings, skilful practices and the ability to learn from reflective practice. Thus, employment is not based solely on matching the skills required with the skills possessed by the applicant (Holmes, 2001; Harvey, 2005). Recent research has highlighted the role of graduate (or pre-professional) identity in gaining employment (Holmes, 2013; Hinchcliffe and Jolly, 2011; Holmes, 2015; Holmes, 2001). Graduate identity can be considered the cultural capital acquired before entering an organisation (Hinchcliffe and Jolly, 2011), and employment can be based on the graduate’s identity and the extent to which others accept that identity (Holmes, 2015). Graduates can lay claim to an identity and provide evidence through past experiences such as work or authentic learning experiences. Knowledge of the culture, practices, norms, jargon and requirements can all be acquired to strengthen a graduate’s claim and highlight their skills and attributes (Holmes, 2001). Tomlinson (2012) argues that recent evidence suggests that employability may depend on the development of a work-related disposition and a positive identity. It has also been claimed that graduate identity is emerging as a key construct in the graduate employability literature (Jackson, 2016; Holmes, 2013; Tomlinson, 2012). Constructivist learning approaches can be

effective in developing a graduate identity through experiential personal change and development. This can be further influenced by contact and association with experts and professionals from whom the individual can pick up aspects of wider community practice including norms and traditions of practice. This is reflected across papers 2-7 and particularly in papers 6 and 7 where discussing and completing business plans with mentors from industry gave students confidence in enterprise.

Recognising the importance of developing enterprising graduates, this portfolio explores the application of constructivism in enterprise education in HE and the potential ability of constructivist learning environments to develop enterprising and employable graduates. A range of constructivist pedagogic approaches are utilized in papers 2-7 in this portfolio, to investigate the impact that they have on the development of enterprising/entrepreneurial students and graduates, with the relevant skills and attributes. Appendix 2 lists the papers, the constructivist learning environments, the data collection and analysis, the impact, and effective design of the process.

To underpin the research included in this thesis, the next sub section provides a summary of key definitions, which are used consistently throughout the thesis and the papers included within this thesis.

1.2. Definition of Terms

In order to research the application, design and impact of constructivist learning environments on the development of enterprising graduates, the following definition of terms is provided.

Learning & Pedagogy

Agreement over a definition of learning is hard to come by, due largely to the concept being broad and abstract (Houwer et al., 2013). The definition that is used in this portfolio is that proposed by Merriam et al. (2007, p. 277), that “Learning is a process that brings together cognitive, emotional, and environmental influences and experiences for acquiring, enhancing, or making changes in one’s knowledge, skills, values, and worldviews.”

Pedagogy can be defined as the teaching, learning, curriculum, and the culture thereto, framed by ideas, values and evidence (Alexander, 2004; Husbands and Pearce, 2012). In this portfolio, pedagogy will be considered in terms of teaching, learning and the design of the curriculum and culture and this definition has been adopted within this portfolio as the focus is on the design and impact of a range of constructivist pedagogic approaches on learning in different environments.

The definitions above are particularly appropriate for constructivist approaches, which involve learners being engaged in constructing their own knowledge through experience and reflection in a constructivist learning environment, scaffolded as required.

Constructivism

Constructivism is a theory of learning which asserts that knowledge is not transferred directly, but is constructed by the learner (Löbner, 2006). Learning comes from the individual making sense of new information against previous knowledge and experience and thus creating a new framework of knowledge (Snowman and Biehler, 2005).

Scaffolding

Scaffolding has been defined as the role of educators in supporting the learner's development by providing temporary support structures to enable students to progress to the next stage or level. Temporary scaffolding facilitates the ability to build on prior knowledge and internalise new information (Raymond, 2000). Such support can include approaches such as coaching, task structuring and emphasis of the benefits of a particular approach (Hmelo-Silver, 2006).

Enterprise

Enterprise has been defined as the application of creative ideas and innovations to practical situations. It involves the development of ideas, problem solving, creativity, communication and practical action (QAA, 2012). Enterprise education seeks to develop these skills in

graduates, and extends beyond knowledge acquisition to the use and application of enterprise skills (QAA, 2012).

Enterprising Graduates

The use of the term skill in this portfolio refers not only to the actual physical task specific skill involved but more widely to the skill and underlying competence based knowledge that surrounds the skill. In line with current usage, the term 'enterprising skill' has been extended to include a wider range of softer skills and attributes which include, for example, communication, teamwork and problem solving skills. It embodies skills and attributes that are brought together in a graduate/professional identity to match the context of the situation. This identity can reflect the enterprising/entrepreneurial nature of the graduate alongside other skills and attributes. In this portfolio an enterprising student/graduate is seen to not only have a specific skill set but a more holistic skill set comprising of skills, knowledge, attributes and identity.

The operationalization of these terms is described within the individual contexts of the individual papers in the portfolio.

2. Research Aim, Contribution & Portfolio Structure

2.1. Research Aim

The aim of this thesis is to more effectively understand how constructivism can be applied to enterprise education in HE, the ability of constructivist inter- and extra-curricular learning environments to develop enterprising graduates for the workplace, and how these constructivist environments can be designed effectively.

2.2. Research Questions

This portfolio of seven published articles constitutes a thesis that seeks to answer three research questions in order to help meet the proposed research aim:

1. How can constructivism be applied to enterprise education in HE?
2. What is the relationship between constructivist learning environments and the development of enterprising graduates?
3. How can learning environments be created and implemented to effectively support the development of enterprising graduates?

2.3. Research Contribution

Whilst there is much practical practitioner based research focusing on the implementation of constructivist enterprise education, there is limited existing research focusing on the learning theory underpinning constructivist enterprise education. This has led to a degree of separation between practitioner-based research and constructivist learning theory in abstraction and application. Fayolle et al. (2016) highlighted that existing research fails to engage with the deep body of educational literature on the nature of learning and pedagogical intervention. There is limited existing research focusing on the learning theory underpinning such approaches, even though many of the approaches used are based on educational science and research (Fayolle, 2013). This thesis brings the two fields together by underpinning the portfolio research with constructivist learning theory.

This portfolio of research brings together constructivist pedagogic interventions from different educational settings to explore their ability to develop enterprising skills. The interventions were undertaken across a range of academic levels, subjects, and disciplines,

both within and outside of formal curricula. This approach provides additional depth and breadth to research on constructivist pedagogy to support the development of enterprise skills and employability. This research considers a range of pedagogic interventions at different educational levels; however, it does not focus on the students' backgrounds, as it seeks to develop pedagogic approaches suitable for a range of students within a cohort.

This thesis also explores the effective design of a range of constructivist approaches in order to provide insights into how they can most effectively be created and implemented and to make recommendations based on the findings.

In summary, this thesis seeks to make the following four contributions:

1. It brings together constructivist learning theory and practice based research to underpin the application of constructivism in enterprise education.
2. It investigates a wide range of constructivist approaches using a range of research methods, across a range of educational settings, to add depth and breadth to knowledge on the use of constructivist pedagogy in developing enterprise skills.
3. It identifies how to achieve best practice in the delivery of constructivist learning based on the implementation of constructivist learning principles.
4. It details the important role of the educator in supporting student learning in a constructivist learning environment.

3. Literature Contextualization

3.1. Higher Education and Teaching Philosophies

The epistemological base of didactic teaching, that knowledge is an objective phenomenon, has been challenged in recent times by the constructivist perspective (Löbner, 2006). Didactic teaching is based on an objective view of knowledge, and is built on the idea that reality exists independently of the learner. This leads to efficient and functional mechanical processes (Löbner, 2006). Such didactic approaches are often lecture-based and the transfer of passive knowledge to learners can result in students becoming disengaged 'surface learners' who are only able and required to repeat back information (Bennett, 2006; Trigwell et al., 1999). These approaches are still commonplace but are increasingly considered more suitable for theoretical education and instructional information in entrepreneurship education (Gedeon, 2014). Finding a suitable balance between approaches to achieve different objectives based on the desired impact on learners becomes the key to success in a given field (Kirby, 2004). Despite this, much education is delivered passively through expediency and thus is not philosophically or pedagogically informed. In this portfolio of research (papers 2-7), didactic teaching is used to provide the basic instruction and information and then the experiential opportunity is provided in a constructivist learning environment to help the development of the experiential learning.

Constructivism has taken a leading theoretical position in HE and has become an influential force in the linkage between teaching methods and learning processes (Steffe and Gale, 1995; Tobin, 1993). It comes from an epistemology of knowledge based on the subjective understanding of the individual (Gergen, 2015). Constructivists argue that individuals play an active role in their knowledge construction (Mathews, 2007), which resides in the individual (Lorsbach and Tobin, 1992). Constructivism emphasises the role of the individual in creating their own meaning from knowledge in context (Mueller and Anderson, 2014) and lends itself to action-based learning whereby learners must construct their interpretations of their world through interactions with their surroundings (Mathews, 2007). This is particularly relevant for HE, with an emphasis on individual self-guided learning in which learners are responsible for their own development. Constructivism has been adopted (and researched) in numerous disciplines including mathematics (Kim, 2005), science (Madhuri et al., 2012; Geier et al.,

2008), management (Piercy, 2013), entrepreneurship (Löbler, 2006) and business (Mathews, 2007).

3.2. Constructivism and Entrepreneurship and Enterprise Education

Learning is achieved when individuals make sense of new information or input by filtering it against their past experiences and existing knowledge to build a new knowledge framework and understanding (Snowman and Biehler, 2005). It is largely a situation-specific and context-bound activity (McInerney, 2013), in which the learner plays an active role in directing the learning process and constructing their own knowledge based on background, context, and existing knowledge. Constructivism lends itself to a range of active learning approaches which are the focus of this portfolio (papers 2-7).

The social constructivism approach, often ascribed to Vygotsky (1978), focuses on knowledge construction within the social environment. This includes social interaction, language, and culture in addition to the individual's personal characteristics. Vygotsky's Theory of Zone of Proximal Development (ZPD) (1978, p.100) describes ZPD as "the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers". In effect, the social environment helps to facilitate or 'scaffold' (Wood et al., 1976) the learning process. Thus social constructivism is based on the social construction of knowledge within a social context of learning (Kerka, 1999). Originally developed with child development in mind, ZPD has contributed greatly in the field of education by designing appropriate curricula teaching techniques and has been extended and adopted widely to include other groupings such as in teacher education (e.g. Warford, 2011). This theory has informed this portfolio of research in the use of group work and the use of scaffolding to facilitate the learning process. In paper 3 for example, the students worked in groups, received teaching, developed their ideas, reported their findings back at each stage to the whole group and had access to the facilitators through the process. In paper 5, students received taught content regarding the process and stages they needed to go through in their groups, and were supported through the process.

Approaches rooted in constructivism are considered superior for entrepreneurship education (Balan and Metcalfe, 2012; Biggs, 1999), and can be considered to be one of the stepping stones to the development of an entrepreneurial mind (Assudani and Kilbourne, 2015). Since constructivism emphasises how individuals create meaning from new knowledge, it can offer a better explanation of how knowledge is created within the fast-moving and dynamic context of entrepreneurship. The experiential basis of constructivism can help to explain the experiential basis of entrepreneurial action (Mueller and Anderson, 2014). Korsgaard and Anderson (2011) have argued that entrepreneurship is both a social and economic process in which networking and social interaction plays a prominent role. This view suggests that a social constructivism approach should underpin entrepreneurship education. This has informed the research that has been conducted in papers 2-7 in this portfolio which has used group collaboration and a social constructivism approach to learning. However, it is necessary to find a balance between approaches underpinned by constructivism and didactic teaching approaches in order to teach both the 'about' and 'for' entrepreneurship (Kirby, 2004). For example, traditional approaches can provide the conceptual frameworks for students to analyse and understand their own experiences in the real world. All of the pedagogic interventions in the portfolio included teaching or instruction and none were entirely constructivist. The pedagogic interventions within papers 2, 3 and 5 all had teaching integral to the approach, paper 4 had scaffolded support before students went overseas and ongoing support whilst away, and papers 6 and 7 had one day of guidance and then the support of mentors.

A range of studies has highlighted the positive relationship between constructivist practice and cognitive and affective learning outcomes (Ernst and Monroe, 2006; Kim, 2005; Margianti et al., 2001; Yang et al., 2005), preference towards constructivist environments over didactic environments (Kim, 2005; Löbler, 2006), increased student engagement and motivation (Löbler, 2006), and positive impacts on interpersonal skills (Mathews, 2007). However, such approaches are not without criticism. Kirschner et al. (2006) have argued that these approaches are ineffective if they lack adequate guidance, making them less effective and less efficient than instructional approaches, which place a strong emphasis on student guidance. The necessity of adequate guidance only decreases when learners have sufficient knowledge of their own to build on, which may disadvantage novices. This criticism is countered by

Hmelo-Silver et al. (2007), who argue that the potential difficulties in problem based learning and inquiry-based learning can be countered by 'scaffolded' guidance, which allows learners to engage in complex tasks otherwise beyond their current abilities (Rogoff, 1990; Vygotsky, 1978). Instructors can also play a significant role in scaffolding by guiding learners, encouraging them to think deeply and leading them through the questioning process (Hmelo-Silver and Barrows, 2006). Support may include coaching; task structuring, and emphasizing the benefits of a certain approach (Hmelo-Silver, 2006). Scaffolding should only be used when appropriate and then gradually removed (Hmelo-Silver, 2006).

Teaching and scaffolding where appropriate was a feature of all the pedagogic interventions included in this portfolio, for example, in paper 3 group activities were interspersed with teaching, feedback and discussion. Instructors were available through the process to act as coaches or facilitators. Indeed, the importance of scaffolding is highlighted in Paper 2 which considers the importance of critical thinking disposition on learning outcome and scaffolding is discussed in paper 4 as being essential in study abroad programs to ensure that all students can maximise the benefits of the experience.

Having considered the role and impact that a social constructivist approach to entrepreneurship/enterprise education can have, the next section will explore in more detail the concept of active learning in entrepreneurship/enterprise education, within which experiential learning is particularly efficacious (e.g. Fuchs et al., 2008; Honig, 2004).

3.3. Active and Experiential Learning

Active learning is an umbrella term for a range of activities that involve learners actively playing a role in their learning and which include problem based learning, inquiry learning, discovery learning and experiential learning. Bonwell and Eison (1991) describe active learning as students doing things and thinking about the things they are doing. Experiential learning can be defined as a participatory form of learning involving learners in mental processes to synthesise information in an active and immersive environment (Feinstein et al., 2002). One of the most widely adopted approaches to experiential learning is based on Kolb's (1984) experiential learning cycle, which draws on the earlier works of Dewey (1963), Piaget (1950) and others who emphasized the role of experience in learning and development.

According to Kolb (1984, p.38), "Learning is the process whereby knowledge is created through the transformation of experience." Experiential learning theory proposes a (social) constructivist theory of learning through which "social knowledge is created and re-created in the personal knowledge of the learner" (Kolb and Kolb, 2005 p. 194). Thus, the model is a dynamic and holistic model of the learning process based on experience (Kolb and Kolb, 2009). Kolb's experiential learning cycle is composed of four different stages of learning from experience: concrete experience, reflective observation, abstract conceptualisation, and active experimentation. Kolb's model thus focuses on the experiential learning process and incorporates personal change and development (Healey and Jenkins, 2000). It is both learning 'by' and 'through' doing (Morris et al., 2012), the latter being based on reflections of the experience and the lessons learned (Krueger, 2007). Reflection was encouraged in all the pedagogic interventions in this portfolio. In papers 2 and 3 reflection was undertaken in a classroom setting and was led by the instructor; in paper 5 reflection was part of the assessment and was supported by the instructor, whilst in papers 4, 6 and 7, students were encouraged and supported to undertake the reflective process outside of the formal classroom. Reflection ensured that the students learnt from the 'through doing' as well as from the 'by doing'. The personal change and development can not only help the student to develop new skills and knowledge but also help the individual to develop a new 'stronger' identity based on the new knowledge and understanding. This can be further influenced by contact and association with experts and professionals from whom the individual can pick up aspects of wider community practice including norms, tools, and traditions of practice. Papers 6 and 7 involved the use of business and industry experts to act as mentors to the students and act as judges to help provide an understanding of what is required in business and industry. Kolb and Kolb (2009) highlight how based on situated learning theory (Lave and Wenger, 1991), learning can be a process of becoming a member of a community of practice through participation (e.g. internships, apprenticeships, placements, work experience) in order to transition (develop a new identity) through mentorship and experience of the practice activities. Trede et al. (2012) highlighted authentic learning experiences, reconciling personal and professional identities, and students pursuing suitable development opportunities, as important factors in identity formation.

A wide range of approaches have been reported in the literature as beneficial experiential formats for the development of entrepreneurial/enterprise skills and attributes, which include meeting and interviewing entrepreneurs, developing business plans, attending entrepreneurship forums (Sherman et al., 2008), computer simulations, business visits, realistic class exercises (Solomon, 2008), mentoring experiences and case studies (Chang et al., 2013). A range of these activities have been utilized in the pedagogic interventions included in this portfolio. Papers 6 and 7 involved students meeting and speaking with entrepreneurs, papers 5, 6 and 7 involved developing business plans, paper 2 involved computer simulations, paper 2 and 5 involved realistic class experiences by designing a research project step by step and running a pop-up shop and event, and papers 6 and 7 involved mentoring experiences.

Whilst a range of approaches have been cited as experiential approaches, some may be more 'authentic' and may therefore offer the potential of being more effective as learning opportunities. Papers 5, 6 and 7 within this portfolio can be regarded as being the most authentic enterprise experiences as these offered students the opportunity to run real business activities and work and collaborate with industry mentors.

3.4. Summary

Experiential learning has become increasingly popular in recent times, with the literature reporting favourable outcomes both in results and student satisfaction (e.g. Bell, 2015; Bell, 2016b; Piercy, 2013). It is argued that whilst didactic approaches are useful for transmitting knowledge or instruction, constructivist approaches can result in thought and attitude changes and new behavioural skills (Bligh, 2000; Grimley et al., 2011). It has also been argued that active engagement and enjoyment in participating in an authentic experiential process can increase motivation, improve knowledge retention, and help in the development of problem solving skills (Bonwell and Eison, 1991; Rhem, 1998; Snyder, 2003). As a result, active learning approaches are becoming increasingly common to supplement didactic educational approaches (Piercy, 2013). However, existing research has failed to engage with the deep body of educational literature on the nature of learning and pedagogical intervention (Fayolle et al., 2016). This has led to calls for the need for robust intellectual foundations at both

theoretical and methodological levels (Pittaway and Cope, 2007). This has led to the need to bring together practice based research with constructivist learning theory to underpin the application of constructivism in enterprise education and investigate how enterprise education can be successfully implemented and delivered based on constructivist learning principles.

This portfolio of research brings together six constructivist experiential learning pedagogic interventions from a range of educational settings to explore their ability to develop enterprising skills, and investigate how they can be created and implemented to effectively support the development of these enterprising skills and employability. In addition, paper 1 investigates the link between entrepreneurialism and employability.

4. Individual Paper Research Methodologies and Findings

This chapter details the research aims and discusses the underpinning methodologies and findings of the individual papers included in this portfolio. Nind et al. (2016), highlight that pedagogic research can be viewed from different angles, which leads the researcher to use different methods. This portfolio follows this principle, by adopting a range of methodologies and methods to explore constructivist pedagogic interventions. A range of methods have been employed to their strengths to help meet the research aim set and answer the research questions posed. Table 1 provides an overview of the appendices that describe the research methodologies.

Table 1: Overview of Appendices Supporting the Methodologies and Research Papers

Appendix No	Appendix Title
1	Skills/Attributes Considered in Each Paper and their Link to Enterprise/Entrepreneurship and Employability
2	Overview of the Constructivist Learning Environment, Data Collection and Analysis and the Findings in Relation to the Portfolio
3	Background and Diversity of Respondents in Papers
4	Summary of Journal and Paper Impact

Table 2 details the research aims for each of the papers included in the portfolio, to help contextualise the different methodologies discussed in this chapter. The table also explains how each paper contributes to the overall portfolio.

Table 2: Research Aims of the Portfolio Papers and how they contribute to the Portfolio

Paper	Paper Aim	How the Paper Contributes to the Portfolio
1. Unpacking the link between entrepreneurialism and employability	The aim of Paper 1 was to investigate the relationship between students' entrepreneurial attitudes and traits and their employment classification six months after graduation. It explored which specific attitudes and traits were linked to employability in a professional or managerial field.	This research helps to conform the role and importance of entrepreneurial and enterprising attitudes and traits in successfully achieving graduate-level employment. This highlights the importance of developing enterprising/entrepreneurial skills. It sets a foundation for the research in the portfolio to explore the impact of constructivist learning environments and their design.
2. The impact of critical thinking disposition on learning using business simulations	The aim of Paper 2 was to determine the relationship between students' critical thinking disposition and their learning while engaging in a business simulation. This research assesses whether simulations are equally impactful for all students, regardless of their level of critical thinking disposition before they undertake the simulation.	This research contributes to the portfolio by exploring whether a constructivist teaching intervention (simulation) was appropriate for all students, and whether it was important to have a pre-requisite foundation.
3. The continuing search to find a more effective and less intimidating way to teach research methods	The aim of Paper 3 was to determine the impact of adopting an intensive, student-centred, and active learning approach on student's understanding and application of course content in research methods education.	This research contributes to the portfolio by highlighting the impact of student-centred active learning and providing insight as to how to design a more effective way to teach research methods using a constructivist environment.
4. Concerns and expectations of students participating in study abroad programmes	Paper 4 aimed to develop an understanding of the concerns and expectations of students before and during a study abroad program (SAP) to add depth to the literature on supporting students before and during SAPs.	This research contributes to the portfolio by highlighting the importance of scaffolding student learning during an extra-curricular EL experience.

5. Developing the next generation of entrepreneurs	The aim of Paper 5 was to explore the impact of a constructivist experiential learning approach on the perceived development of a range of entrepreneurial attitudes and traits and to measure the level of both student engagement and satisfaction. The research was conducted as part of a Higher National Diploma (HND) entrepreneurship module.	This research contributes to the portfolio by exploring the impact that adopting a constructivist experiential learning approach had on students' perceived development of entrepreneurial traits and how they found the experience.
6. An enterprise opportunity for entrepreneurial students	The aim of Paper 6 was to investigate the impact on students of an extracurricular experiential learning approach, which combined training, a hands-on entrepreneurial experience and professional consultant mentoring, through the use of a competition to win start up business funding. Feedback was obtained at each stage of the process to monitor student reaction and engagement. The extracurricular project was aimed at students across all departments in the HEI. The process was designed to give students practical skills and experience by developing their creative business ideas into solid business plans and pitching their ideas to compete for start-up funding. The use of professional consultant mentors can help not only to provide career-related support and insights, but also to facilitate reflection and learning.	This research contributes to the portfolio by exploring the impact and design of an extracurricular constructivist experiential teaching intervention undertaken with students from different academic subjects.
7. Replicating the networking, mentoring and venture creation benefits of entrepreneurship centres	The aim of paper 7 was to investigate the benefits to students and external stakeholders, and the associated impact on faculty, from an extracurricular entrepreneurial learning approach that focuses on networking, mentoring, and venture creation, as an alternative to activities that take place in an entrepreneurship centre. This research sought to identify the benefits and impact of an	This research contributes to the portfolio by adding further to the research and understanding of the impact of constructivist learning environments on developing enterprising skills and how these can be created and implemented effectively.

	<p>experiential approach that replicated the networking, mentoring and venture-creation aspects that would normally be offered through an entrepreneurship centre or incubator. This approach creates and implements a constructivist experiential learning environment for students for HEIs without the budget for entrepreneurship centres.</p>	
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4.1. Paper 1: Unpacking the link between entrepreneurialism and employability

Research Methodology

Paper 1 sought to investigate the relationship between students' entrepreneurial attitudes and traits and their employment classification six months after graduation. To make generalizations regarding the link between entrepreneurialism and employability, Paper 1 is underpinned by a positivist research philosophy, which views reality as a concrete structure (Morgan and Smircich, 1980). This involved reducing entrepreneurialism and employability into objective and testable components using a previously validated questionnaire. Breaking down the world into measureable concepts is a common trait of positivism (Easterby-Smith et al., 2015). This approach allowed the researcher to follow a deductive research approach to test a theoretical proposition (Saunders et al., 2016). Positivism emphasises the use of a highly structured methodology to support the replication of results (Gill and Johnson, 2010). A positivist approach was suitable for this study as it sought to find causality and provide generalizable findings. The study utilized a questionnaire to collect standardized data from 105 participants regarding their entrepreneurial drive and level of employment 6 months after graduation. While this methodological approach helped to make generalizations that set the scene for other research included in the portfolio, it does not explore the individual respondents' entrepreneurialism or employment situation in depth, but rather used a standardized research process to test causality. There are additional variables which are outside the focus of this study, which might impact the results drawn from this quantitative study. The same is true for papers 2 and 3, which employ quantitative methods.

Research Findings

The research found that the Entrepreneurial Drive model, based on proactive disposition, preference for innovation, self-efficacy, achievement motivation and non-conformity, was statistically significant and able to explain 20.6% (Nagelkerke R^2) of the variance between employment in a professional/managerial or non-professional/non-managerial job six months after graduation. Proactive disposition and achievement motivation in particular made a statistically significant contribution to predicting an increased likelihood of graduates being employed in a professional role six months after graduation.

HEIs are charged with producing employable graduates with enterprising qualities (Sewell and Dacre Pool, 2010). It has been argued that enterprising students and graduates are generally regarded as being more employable than those without enterprise skills (Rae, 2007) and that employers prefer graduates with entrepreneurial skills (Laguador and Ramos, 2014). This research provides evidence that entrepreneurial/enterprise skills, which can be encouraged and developed by HEIs, assist graduates. However, this study does not uncover why. It could be the skills make them more attractive to employers and/or the skills could help give them the motivation and ability to successfully navigate the employment search.

4.2. Paper 2: The impact of critical thinking disposition on learning using business simulations

Research Methodology

Paper 2 sought to determine the relationship between a student's critical thinking disposition and their learning while engaging in a business simulation. Similar to Paper 1, this research sought to find a generalizable causal relationship between two factors. To do so, a positivist research philosophy and a deductive research approach were used to underpin the research. This approach was suitable, as a testable hypothesis could be drawn from existing theory (Blaikie, 2003). To collect data suitable for testing the hypothesis, a standardized questionnaire collecting data was adopted as the research instrument (Gill and Johnson, 2010). This follows the guidance of Tharenou (2007), who suggests that quantitative analysis is best employed when the aim is to test theoretical predictions with precise measures of variables. Similarly, Punch (2003) argued quantitative research was best used to discover and understand how different variables are related. In order to obtain a 'precise' quantitative measure a previously validated questionnaire, the University of Florida Engagement, Cognitive Maturity, and Innovation instrument was adopted for this research. The total sample for this research was 173 participants and the quantitative data found a statistical causal link between critical thinking disposition and achievement of the set learning outcomes. However, the learning of participants and their critical thinking was not explored in depth and was taken from self-reported measures.

Research Findings

The results of this paper highlighted the positive relationship between critical thinking disposition and the student's learning. In this study, students with greater critical thinking dispositions achieved improved learning outcomes from business simulations. The Engagement dimension, defined as the disposition to use reasoning skills, solve problems, make decisions and communicate the rationale, was the most influential dimension. This was supported by the Cognitive Maturity dimension, defined as the disposition to be aware of the complexity of problems, to be open to the viewpoints of others, to be aware of internal and external dispositions and biases, and to consider such biases objectively before making a decision, in predicting student learning.

4.3. Paper 3: The continuing search to find a more effective and less intimidating way to teach research methods in higher education

Research Methodology

Paper 3 sought to explore a pedagogic intervention to determine if it offered a more effective, less daunting way to teach research methods. The research was approached from a realist philosophy, with the belief that there is an external reality that exists independently of people's beliefs or understanding (Ritchie and Lewis, 2003). To support this aim a mixed methods research design was undertaken, combining quantitative and qualitative research in a single research design (Saunders et al., 2016). Quantitative data was collected from 96 students and was used to objectively assess whether students' grades for the module had improved in relation to a previous cohort. Qualitative interviews were undertaken with dissertation supervisors to understand how prepared students were to conduct research and their general understanding of research methods, compared to previous cohorts. This research design helped to provide an understanding of student performance, acknowledging the existence of an external and objective reality, which might not be directly perceptible to the students being researched, a fundamental belief of the underpinning realist research philosophy (Saunders et al., 2016).

Research Findings

The research concluded that the new approach produced scores that were statistically higher than with the previous didactic teaching approach and that were more in line with the average overall course scores of students, although the standard deviation was greater. The last point may suggest the new format did not necessarily suit all students. In addition, students were better able to overcome the perceptual link between theory and practice. They had a deeper understanding of the subject, which enabled justification and defence of their individual proposed approaches. Students were also more enthusiastic and took greater ownership of their research topics. Routine post-course satisfaction surveys suggested similar levels of satisfaction.

4.4. Paper 4: Concerns and expectations of students participating in study abroad programs

Research Methodology

This research sought to understand students' concerns and expectations in relation to undertaking a study abroad program (SAP). A strong focus on description was required to ascertain this. An underpinning phenomenological research philosophy was adopted. This was appropriate as it supported a focus on lived experience and meaning (Finlay, 2011). In order to get the rigorous, rich and resonant description required for interpretative phenomenological analysis (IPA) (Finlay, 2011), data was collected through blogs. Blogs allowed the respondents the opportunity to detail their views and thoughts throughout their experience from a personal perspective, rather than the after-the-event semi-structured interviews commonly used for IPA (Braun and Clarke, 2013; Smith, 1995). This research design allowed for students to report their experience and the analysis to build up results from in-depth data.

Research Findings

Overall, the feedback from students was positive, highlighting several of the previously reported benefits of SAPs. However, feedback also suggested that SAPs can be stressful both academically (e.g., communication styles, teaching/assessment styles), in terms of domestic arrangements (e.g., accommodation, internet access), and different local customs and

conditions (e.g., slow service, refuse in the streets). Moreover, students reported that they related more effectively to other international students than to domestic students and locals, which can reduce some of the proposed experiential benefits of cultural immersion (Bandyopadhyay and Bandyopadhyay, 2015; Jones, 2003). Furthermore, some students were disappointed that they had not been able to develop their foreign language skills whilst abroad.

This research considered the scaffolding required pre-departure by the home HEI and during the SAP by both the home and host institutions for the students to realize the potential benefits of this experiential learning experience. These benefits can include self-confidence, leadership skills, problem solving skills, and a greater open-mindedness (Black and Duhon, 2006; Ingraham and Peterson, 2004; Sachau et al., 2010). Other skills include initiative, independence, and problem solving, acting resourcefully and responding to challenges (Rae, 2007). In addition, SAPs can positively impact early career development (Potts, 2015) possibly through a stronger graduate identity.

By analysing the concerns and expectations of students studying abroad on organised programmes, this research addressed how an experiential learning environment can be created, implemented and developed to maximise the benefits of SAPs and support the development of enterprise skills.

4.5. Paper 5: Developing the next generation of entrepreneurs

Research Methodology

Paper 5 sought to explore the impact of a constructivist experiential learning approach on the perceived development of a range of entrepreneurial attitudes and traits and to measure the level of both student engagement and satisfaction. This research adopted an interpretivist philosophy to investigate how constructivist learning approaches may influence the development of entrepreneurial traits. Interpretivism does not test hypotheses; rather it seeks to provide a deeper understanding of a particular phenomenon (Polkinghorne, 1988). The study sought to provide understanding on the impact that a constructivist experiential learning intervention had on students' entrepreneurial attitudes and traits, as well as their satisfaction and engagement with the module. Interpretivism maintains that the researcher

must understand and interpret the respondents' environment and their interaction with it to contextualize the responses (Creswell, 2013). As students are influenced by a variety of factors, a more inductive approach was taken to gain an understanding of the impact and meaning the participants gave to certain events (Saunders et al., 2016). The research design collected students' narratives about the modules impact on them, through written reflections that formed part of the module assessment. Clandinin (2006) suggests that the narrative approach is an appropriate method when seeking to understand individuals' experiences. Czarniawska (2004) defined narrative research as a written or spoken account of an event/action or series of events/actions. The more open-ended approach afforded the researcher the opportunity to listen to and understand the students' experiences in greater detail (Creswell, 2013). Mayer (2004) identified student reflection as a particularly relevant form of assessment for constructivist learning.

Research Findings

The research concluded that the experiential approach design resulted in both a high level of engagement and student satisfaction. Whilst there was evidence that students innovativeness, proactiveness, attitude to risk and self-efficacy were all positively influenced, the development of self-efficacy was particularly noticeable. The reflective nature of the design also encouraged students to reassess their views of concepts such as risk-taking in the light of their experience. Students gave suggestions on how the course could be improved, which included comments on group formation and establishing penalties/incentives to increase accountability and individual participation. This feedback provides potential guidance for the future development of effective constructivist learning approaches.

4.6. Paper 6: An enterprise opportunity for entrepreneurial students

Research Methodology

Paper 6 sought to investigate the impact on students of an extracurricular experiential learning approach, which combined training, an experiential entrepreneurial experience and consultant mentoring, through the use of a competition to win start-up business funding. This research was underpinned by an interpretivist philosophy and an inductive research

approach, which focused on developing theory and understanding from the data collected (Suddaby, 2006). The research sought to understand the educational and skills-based benefits students perceived they had obtained through participation in the pedagogic intervention. Semi-structured interviews were chosen to collect data which provided more open-ended questioning, and the chance to understand the participants' experiences (Creswell, 2013). This qualitative research approach provided detail and richness, along with sensitivity to the context (Tharenou, 2007). The data was thematically analysed (Braun and Clarke, 2006), which helped to identify the impact that the experience had on students' learning and development. This approach offered only limited generalizability, however. It focused on understanding the development of the students involved in the project in their contexts, which was important as the students came from a diverse subject background.

Research Findings

The research found that the experience resulted in an increase in the students' confidence and belief in their ability to undertake the process, which was enhanced by the experience of meeting and networking with experts. Networking and business planning are considered as being important for both entrepreneurs and existing businesses (Korsgaard and Anderson, 2011). Students also reported increased confidence in discussing their ideas with the mentors and experts. Importantly, the 'real-life' experience helped to demystify the business plan process, resulting in increased confidence towards future endeavours. The final stage of the process helped the winning students to develop other enterprising skills including communication, negotiation, planning and time management skills. Paper 6 provides evidence that entrepreneurship education linked to realistic and useful life practice can encourage the development of entrepreneurial skills (Arvanites et al., 2006; Jones et al., 2012).

4.7. Paper 7: Replicating the networking, mentoring and venture creation benefits of entrepreneurship centres on a shoestring

Research Methodology

Paper 7 sought to identify the benefits and impact of an experiential learning approach that replicated the networking, mentoring and venture-creation aspects that would normally be offered through an entrepreneurial centre. This research was approached from an interpretivist philosophy and employed inductive reasoning. This was appropriate for the research as it sought to observe a specific phenomenon (pedagogic intervention) and from this to arrive at general conclusions (Sekaran and Bougie, 2016), as to the benefits and impact on students, faculty and external stakeholders. Adopting an underpinning interpretivist philosophy was suitable, as the benefits and impact was context bound and subjective (Collis and Hussey, 2013). Semi-structured interviews were conducted with the students and faculty to allow them to detail the aspects that impacted them most through sharing their experiences (Creswell, 2013). Press releases were analysed to understand the benefits and impact the pedagogic intervention had on the external stakeholders. This approach was taken due to the difficulty in access to senior executives, although they openly engaged in press releases. This form of document interrogation is common when no one is accessible to offer their thoughts (Thomas, 2016). The inclusion of this document analysis provided a more holistic understanding of the benefits and impact created by the pedagogic intervention. This was important as this research was seeking particular depth of understanding of this one case; this depth is particularly common when looking at one case study (Thomas, 2016).

Research Findings

Entrants were positive about the experience and cited the major benefits as greater knowledge/demystification of the process and increased confidence/motivation towards starting a business in the future.

From the faculty perspective, the event took time to make the arrangements with stakeholders and arrange advertising of the event. However, it was agreed that this would be less time consuming in the future, having developed contacts with stakeholders and having learned from the experience previously. The faculty were excited about repeating the event,

having seen the results, and were pleased with the key contacts and networks that were developed. This was a positive outcome that offered future potential and could be developed into a key attribute. The stakeholder experience was similarly positive. In collaboration, it was possible to recreate the advantages of an entrepreneurship centre on a shoestring.

4.8. Research Ethics

All of the research included in this portfolio followed the British Educational Research Association (BERA) 2010 guidelines and the research was subjected to the University of Worcester staff ethics review procedure, which involved making a formal application for ethical approval, which was reviewed by the departmental ethics review panel. Ethical research was considered during the research design and development phase, which impacted the decision making of the final research design and data collection.

5. Research Results & Discussion

The research results of the portfolio will now be presented and discussed, structured around the research questions posed in this thesis.

5.1. How can constructivism be applied to enterprise education in HE?

Although didactic teaching methods still predominate within HEIs, in the field of enterprise and entrepreneurship education, constructivist approaches are becoming more common (Piercy, 2013). Indeed, constructivism has taken a leading theoretical position in HE with its dynamic linkage between teaching methods and learning processes (Steffe and Gale, 1995; Tobin, 1993). This has been driven by the increased focus on the development of highly employable students with the enterprising and entrepreneurial skills to meet the needs of the economy. As such, employability, enterprise and entrepreneurship are all high on the agenda of HEI's (Sewell and Dacre Pool, 2010). Constructivist approaches are seen as particularly suitable for entrepreneurship and enterprise education, as it requires participants to actively engage in the construction of their knowledge, encouraging the development of higher order skills that are associated with entrepreneurship and enterprise. It has been argued that active learning approaches can address many of the limitations of didactic teaching approaches (Caldwell, 2007; Knight and Wood, 2005), including greater knowledge retention and the development of behavioural skills such as problem solving skills (Bligh, 2000; Grimley et al., 2011; Snyder, 2003). In addition, recent research suggests that graduate identity plays a part in employability (Holmes, 2013; Tomlinson, 2012) and this can be strengthened and defended through authentic constructivist experiential experience.

Paper 1 sought to unpack the link between entrepreneurial attributes and the likelihood of employment in a professional/management field six months after graduation. If such attributes increase the likelihood of professional/management employment, this would provide evidence that entrepreneurial/enterprising attributes that could be developed through constructivist approaches would indeed be advantageous. The research concluded that the overall model was statistically associated with the level of employment and furthermore the entrepreneurial variables proactiveness and achievement motivation were individually statistically associated. This research provides evidence that

entrepreneurial/enterprise skills that can be developed through constructivist approaches can impact the employability of graduates. This paper offers support for the use of constructivist approaches (including active and experiential learning) alongside didactic teaching approaches. In conclusion, enterprise education can be viewed as a mixture of didactic teaching and the application of constructivist learning environments designed to develop experiential knowledge and skills through both experience and reflection.

5.2. What is the relationship between constructivist learning environments and the development of enterprising graduates?

This portfolio presents a wide range of active and experiential approaches to develop enterprising and entrepreneurial skills and, in general, the results have been highly encouraging. This provides support for previous research that has reported a positive connection between constructivist learning environments and academic outcomes when compared to didactic teaching approaches (e.g. Alt, 2015).

Paper 5 studied the outcome of traditionally-taught sessions blended with applied group activities that increased in length and complexity. This gave the HND participants the opportunity to practice and develop their enterprise skills, reinforcing the taught material. The students worked in groups, which also gave them the opportunity to develop their communication and personal skills. At the end of the module, the students reflected on how their experiences had changed their behaviours and attitudes with regard to four key indicators (innovativeness, proactiveness, risk taking and self-efficacy).

Results indicated that the experiential opportunity had given the students the opportunity to develop their innovativeness, proactiveness, attitude to risk and self-efficacy behaviours and skills. The increase in self-efficacy was particularly noticeable in the group, as was the attitude to risk taking and innovation in some members. The experience gave students the opportunity to be creative and innovative in undertaking their projects. Student satisfaction and engagement were high and students liked the hands-on experience of handling money and undertaking the project. This reflects the importance of the experience being authentic (Kolb, 2014) and that constructivist approaches can produce increased student engagement and motivation (Löbner, 2006). Students offered suggestions as to how the experience could be

improved which included group selection, group size and so-called 'freeloading'. In addition, students suggested that previously produced business plans or worked examples might have helped them to understand the complexities of the process. These suggestions will be considered in more detail in the next section. Some students found the lack of formal structure unsettling. This can be allayed by periodic deadlines and formative feedback which can help to scaffold the process.

Papers 6 and 7 offered students studying different subjects at a HEI the opportunity to participate in an extracurricular experiential process in which they developed an idea and produced a business plan, with the chance to pitch the plan to experts and win funding for a venture start-up. Teaching, mentoring and direct contact with professionals were offered to the students, who were considered to be highly motivated but who lacked the money and opportunity to start a venture. Feedback was obtained at each stage and analysed.

The results indicated that experience helped to develop both enterprising and entrepreneurial skills, by building self-efficacy and the belief that they could undertake the process now that it had been de-mystified. Working with experts, mentors and team members also helped the students to gain confidence and develop more enhanced communication and networking skills. Students were able to benefit from the mentors who could offer guidance that could stimulate reflection, learning, and the development of new ideas. The final stage of the process offered the winning team the opportunity to develop other skills such as strategic thinking, creativity, negotiation, time management, co-operation, empathy and forward planning.

Once again, the authentic feel of the experience impressed the students who gained confidence from doing the 'real thing' and talking to experts and mentors. This reflects the belief that entrepreneurship education should be linked to life practice and should appear useful (Arvanites et al., 2006). The competitive element can add both a hook and excitement to the process (Ahamer, 2004). The findings of this research support the premise that entrepreneurship linked to constructivist experiential practice can encourage the development of entrepreneurial and enterprising skills.

Paper 7 focused on the benefits to students and external stakeholders, and the associated impact on faculty, from an extracurricular entrepreneurial learning approach that focuses on networking, mentoring, and venture creation, similar to those that take place in an

entrepreneurship centre. The student experience was similarly positive regardless of department of study. From the faculty point of view, the event took time and effort to make the arrangements with stakeholders, arrange advertising and actually run the event. However, it was agreed that this would be less time consuming in the future, having developed contacts with stakeholders and having learned from the experience the first time round. The faculty were excited about repeating the event having seen the results and were pleased with the key contacts and networks that were developed. This was a positive outcome that offered future potential and could be developed in to a key attribute. Indeed, it is an objective of HEI's to develop closer links with industry as part of their regional agendas.

Paper 4 investigated the concerns and expectations of students participating in SAPs. Although this research focused on concerns and violated expectations, the feedback was generally positive, indicating that the students benefitted from the experiential process. The main focus of this paper was to identify the concerns and expectations of students, in order to help them maximise the benefits that come from SAPs, including enterprise skills such as leadership, self-confidence, independence, decision making, problem solving and open-mindedness (Black and Duhon, 2006; Ingraham and Peterson, 2004; Sachau et al., 2010). This paper was directed towards the scaffolding process that can be provided through the home and host HEIs. The process can range from the development of realistic expectations before departure to 'student buddies' abroad to provide local guidance and assistance. The use of scaffolding is a temporary measure to enable students to engage in complex tasks (Hmelo-Silver et al., 2006) by making them more manageable or accessible.

Paper 3 looked to develop a more effective and less intimidating way to teach research methods. Didactic approaches to this subject have often been focused on theory rather than the application of research and were delivered using passive teaching methods. Many students struggle to make the perceptual links that they require to undertake research (Benson and Blackman, 2006). Students need to develop critical thinking skills to enable them to evaluate and undertake research projects. This requires both critical thinking and the use of enterprising skills such as evaluation, creativity and problem solving.

The research concluded that the new, student-centred approach produced scores which were statistically higher than with the didactic teaching approach and which were more in line with the average overall course scores of students (although the standard deviation was greater).

Faculty feedback indicated that students were more effectively able to overcome the perceptual link between theory and practice, had a greater understanding of their research approach, and took more enthusiastic ownership of their research topics. These results suggested that the new constructivist approach was generally successful, although routine post-course satisfaction surveys suggested similar levels of satisfaction. This together with the greater standard deviation in the results may suggest that the new format did not necessarily suit all students. It has been suggested that although group learning should benefit weaker students by supporting their self-esteem and facilitating their learning (Crooks, 1988), some student groupings may find it difficult to actively participate in group learning. Differences in pedagogical and cultural backgrounds can result in a number of difficulties such as dissatisfaction and stress (Kirby, 2008; Selvarajah, 2006). Active learning environments that require active participation may be particularly challenging and some students may require more language training and more meta-communication on learning styles and expectations (Gram et al., 2013).

Paper 2 investigated the impact of critical thinking disposition on learning using computer business simulations. The development of critical thinking skills is high on the agendas of HEI's (Kovalik and Kovalik, 2007; Roth, 2010). Such active learning approaches can help to develop the cognitive higher order thinking skills (e.g. Madhuri et al., 2012), of analysis evaluation and synthesis which are important in creative problem solving and decision making. Simulations can provide a framework in which participants make decisions to achieve their goals, whilst considering the effect that other participants' choices may have on their choices (Lainema and Nurmi, 2006). They can also reinforce learning through feedback and discussion, which can lead to reflection and learning.

The research found a positive correlation between critical thinking disposition and learning. The engagement dimension, defined as the disposition to use reasoning skills, solve problems, make decisions and communicate the rationale, was the most influential dimension. This suggests that students who already possess good reasoning skills, problem solving skills and decision making skills are more likely to meet the learning outcomes. Thus not all students will necessarily benefit from the use of such computer simulations. It is essential that computer simulations target specific cohorts, and some scaffolding may be appropriate in some cases. Previous research suggests that approaches to develop critical thinking skills,

such as computer simulations, can improve critical thinking disposition over time (Tishman and Andrade, 1996).

In conclusion, this portfolio provides support for the relationship and benefits of a range of curricular and extracurricular constructivist learning approaches which include the development of entrepreneurial/enterprise skills, which can potentially lead to a general increase in employability (Rae, 2007); a positive relationship with cognitive and affective learning outcomes (Kim, 2015; Margianti et al., 2001); an increase in student engagement and motivation (Löbler, 2006), and a positive impact on interpersonal skills, such as networking (Mathews, 2007). In addition, many of the approaches resulted in high levels of satisfaction.

A summary of the findings from the papers within the portfolio in relation to the impact constructivist learning environments have on the development of enterprising graduates can be found in appendix 2.

5.3. How can learning environments be created and implemented to effectively support the development of enterprising graduates?

Having found that constructivist learning environments can encourage and support the development of enterprising graduates, the creation and implementation of such environments will now be considered in the light of the research conducted in this portfolio.

The research on educational simulations (Paper 2) highlights two important points. The first is the importance of discussion, evaluation, feedback and reflection within the learning process. Making sense of situations can be aided by structured reflection (Platzer et al., 1997), which gives students the opportunity to consider new information against existing beliefs in order to come to a new and improved understanding of what has taken place (Mezirow, 1990). In the case of such business simulations, the benefit can be enhanced by discussions, analysis, feedback and revisiting the decision making processes (Arellano et al., 2001). This is an essential stage in all constructivist approaches and is highlighted in Kolb's experiential theory (1984). The role of the educator is crucial and involves being a facilitator of reflection and encouraging discussion and reflection on experiences in a trusting and open environment.

Secondly, when creating and implementing a constructivist experiential approach it is important that simulations target student cohorts that have the appropriate level of critical thinking (and disposition) to benefit from the process. Otherwise, scaffolding may be required until the students are able to fully engage with the process. This again is crucial to all constructivist approaches that rely on learners being engaged in constructing their own knowledge (Mayer, 2004). Mayer (2004) warns against the use of constructivist teaching techniques that do not require students to be cognitively active during the learning process.

Paper 4 also highlighted how scaffolding can help students studying abroad, particularly with pre-departure concerns, settling in abroad and the different arrangements and customs in the host HEI. The home HEI can prepare students and give them a realistic expectation of their SAP and the host HEI can arrange ongoing support for students, social support and help to develop intercultural competences through cultural immersion (Doyle et al. 2010). This paper provided an insight into a range of potential violations of expectations that scaffolding could help to ameliorate.

Paper 3 highlighted a greater standard deviation in the results obtained from the constructivist group active learning approach compared to both a didactic approach and students overall scores. This, together with similar satisfaction scores, may suggest that active learning group approaches may not be as popular or efficacious for all students. This may be the case for certain groups of students who may find it difficult to participate in group active learning approaches.

Paper 5 highlighted further potential problems in group active learning. Despite high levels of satisfaction and engagement, student feedback suggested changes in group selection, group size and incentives/penalties to prevent freeloading. Many of these problems can be resolved by reducing the group sizes, though this may involve greater organization, have greater cost implications, and may require more instructor resources. Research suggests that an ideal group size is around three or four members (Simon and Hamilton, 1994; Davies, 2009), allowing for greater accountability and adequate division of labour. The request for worked examples of business plans for guidance in the process, is noteworthy. The constructivist approach allows the students free rein using taught principles and does not seek to direct them along pre-ordained paths. Learning involves the active interpretation of experience by the learner. In order to develop enterprising/entrepreneurial skills students should be given

the opportunity to work in unstructured and uncertain environments. Some structure may however be required as a form of scaffolding to the process.

Paper 7 investigates the benefits to students and external stakeholders, and the associated impact on faculty, from an extracurricular entrepreneurial learning approach that focuses on networking, mentoring, and venture creation, similar to those that take place in an entrepreneurship centre. The student experience was similarly positive regardless of department of study. The benefits included greater knowledge of the venture creation process and increased confidence and drive to subsequently take on entrepreneurial ventures in the future. The faculty observed that the event took extra time and effort. Indeed, constructivist approaches can be more time consuming and complex to organise than didactic approaches. However, it was agreed that the time burden would lessen with future iterations, as contacts with stakeholders had already been developed. The faculty were excited about repeating the event, having seen the positive results and having developed contacts in industry networks. This was a positive outcome that offered future potential and could be developed in the future.

Finally, papers 5 and 6 highlighted the value of realistic or more authentic EL opportunities (Kolb, 2014). Authentic experiential learning can provide deep learning, increased motivation, engagement and improved learning outcomes (Macht and Ball, 2016). Collaboration with outside agencies can help to deliver this approach. Indeed, socially interacting with experts can both foster and stimulate learning and can help the learners appreciate the culture of the profession (Gardner, 2011). This in turn can enhance the graduate identity of a graduate which can increase the likelihood of employment (Holmes, 2001).

A summary of the findings from the papers within the portfolio in relation to the design and implementation of effective constructivist learning environments can be found in appendix 2.

6. Portfolio Conclusions

This portfolio brings together a series of constructivist pedagogic interventions from different educational settings and across a range of academic levels, subjects and disciplines, to explore their ability to develop enterprising skills and furthermore, how they can be created and implemented to effectively support the development of enterprising skills in HEI's to promote employability.

The research in this portfolio makes a strong case for the use of constructivist approaches in developing the entrepreneurial and enterprise skills that graduates require to enhance their employability. Reported feedback indicated the levels of enterprise skills including a proactive disposition, achievement motivation, self-efficacy; interpersonal skills, team working, communication skills, planning, attitude to risk, leadership and the preference for innovation were all potentially enhanceable by the constructivist approaches used in this portfolio. Many of these are regarded as enterprise skills that promote employability. In addition, students were also reported to be enthusiastic, motivated and took greater ownership of their research topics. The portfolio also provided direct empirical evidence of a link between entrepreneurial/enterprise skills and employability outcome.

Based on previous research and the findings within this portfolio there is a strong case for the use of constructivist approaches which are based on active and experiential learning involving learning through experience and reflection. Therefore, enterprise education can be viewed as a fusion of didactic transmission to provide a basis of theoretical education and the application of constructivist educational approaches. It is important, however, that constructivist education is underpinned by constructivist learning theory to ensure that the optimal possible constructivist learning environments and outcomes are achieved.

In general, students responded positively to these approaches and satisfaction levels were high. This included the experiential approaches that students considered as real or more authentic which highlights the importance of students feeling the experience is of value and useful e.g. in developing business plans with experts. In the research methods paper, however, satisfaction was similar to the didactic approach the year before although the average result was higher and more in line with the students' other grades.

This study highlights a number of important features for the development and implementation of constructivist approaches in general. These include the important role of discussion, evaluation and feedback which need to be planned in by the facilitator; adequate scaffolding is available to ensure participants are able to undertake the learning process, and that similarly, participants have the required critical thinking skills and disposition (otherwise some scaffolding may be required). In addition, the study highlighted the need to consider group selection, group size, and freeloading in group work, and the importance of participants being given sufficient free rein alongside taught principles to actively engage and learn through the active interpretation of their experience.

In addition, this portfolio has highlighted the value of authentic experiential learning and the possibility of providing this through active cooperation with outside agencies, which can provide opportunities for all partners concerned. Indeed, the process of replicating the benefits of networking, mentoring and venture creation that are normally provided by entrepreneurship centres is discussed in detail in the portfolio.

The research has also highlighted how working alongside experts can enthuse and motivate students and result in an increase in confidence and self- efficacy. It can also provide a window as to how a profession works and how things are done, what is expected and why. Recent research suggests that these are important in terms of graduate identity and employability.

It is important that all students within a cohort are able to take advantage of the constructivist learning opportunities, which may involve some students requiring additional scaffolding and support. Differences in both pedagogical and cultural backgrounds may result in some students finding the constructivist approaches more challenging. Overcoming these problems might require the alignment of students' expectations and supporting the meta-communication of learning styles.

Finally, the research highlights the crucial importance of the educator in the constructivist approach. Constructivist approaches require pedagogic competence and an understanding of the structure, the environment, the practice and the various roles of the educator. It is essential that, as in all teaching, the process is constructively aligned (Biggs 1996), that is the instruction, learning, and assessment methods are consistently aligned to produce effective higher-order learning.

It is worth noting that educators must be enthused as well as having the understanding of the processes of constructive learning environments and practices. Educators must also be supported in developing and delivering constructivist learning environments. A lack of resources, training and the perception that constructivist environments are time consuming, both in preparation and in the process, may result in some educators preferring to revert to didactic approaches. It is acknowledged that teaching methods can be constrained by contextual factors, which include social, economic, political and educational policies, or can result from simple expediency. However, with the right pedagogic approach, support, and curriculum alignment, constructivist approaches can add much to the didactic approaches adopted in HEIs, in terms of the development of enterprising and employable graduates.

7. References

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Appendix 1: Skills/Attributes Considered in Each Paper and their Link to Enterprise/Entrepreneurship and Employability

Paper	Skills/Attributes Considered	Link to Enterprise/Entrepreneurship	Link to Employability
1. Unpacking the link between entrepreneurialism and employability	Entrepreneurial drive; High levels of entrepreneurial drive are often related to high achievement, high self-efficacy, questioning the status quo and a preference for innovative solutions.	Entrepreneurial drive is based on innovation, self-efficacy, non-conformity, proactivity and achievement motivation. These have all been connected with enterprise and entrepreneurship in the literature e.g. innovation (Drucker, 1985; Lumpkin and Dess, 1996; Robinson et al., 1991), self-efficacy (Chen et al., 1998; Krueger, 2000; Pillis and Reardon, 2007; Zhao et al., 2005), non-conformity (Mudd, 1996; Rosenfelt et al., 1993), proactivity (Davis et al., 1991; Lumpkin and Dess, 1996) and achievement motivation (Florin et al., 2007; Hornaday, 1982)	Nabi and Holden (2008) suggested that enterprise and entrepreneurship should be considered as a dimension, which range from generic skills (for employment) to more specific and specialised skills for entrepreneurs. Graduates should possess an entrepreneurial spirit and be flexible and eager to obtain results (Kivinen et al., 2000).
2. The impact of critical thinking disposition on learning using business simulations	Management skills; Problem solving, strategic and analytical thinking, planning and personnel management.	Enterprise skills include “initiative, independence, creativity, problem solving, identifying and working on opportunities, leadership acting resourcefully and responding to challenges” (Rae, 2007 p.611).	The ability to manage others, the assumption of responsibility, for making decisions and planning, coordinating and organising can all be considered to be generic employability skills (Sewell and Dacre Pool, 2010).
3. The continuing search to find a more effective and less intimidating way to teach research methods	Research skills; Evaluating the quality of research and proposing a research project.	Entrepreneurship is based on opportunity recognition and is an exploratory process (Jack and Anderson, 1999). Entrepreneurship and enterprise requires evaluation and problem solving skills. Opportunity discovery can be regarded as the gatekeeper to entrepreneurial activity (Ardichivili et al., 2003; Levie and Autio, 2008).	Problem solving is one type of critical thinking which is often used in employability and skill graduate attribute statements (Hammer and Green, 2011). Many employers desire graduates with the capacity to think critically and analytically (Hancock et al., 2009).
4. Concerns and expectations of students participating in	Study abroad skills; Self-confidence, independence, proactiveness, problem	Initiative, problem solving and independence can all be considered as enterprising skills (Rae, 2008).	Study abroad programs can impact students by increasing self-confidence, developing leadership and problem solving skills, fostering open mindedness

study abroad programmes	solving skills, cross cultural skills.		and developing cross cultural skills (Black and Duhon, 2006; Ingraham and Peterson, 2004; Sachau et al., 2010). This can help to prepare students for employment in global and multicultural environments (Hallows et al., 2011; Mor-Bark, 2011).
5. Developing the next generation of entrepreneurs	Enterprise and entrepreneurship skills and attributes; Innovation, risk taking, proactiveness and self-efficacy.	Enterprise and entrepreneurship skills and attributes have been widely researched in the literature e.g. innovation (Drucker, 1985; Lumpkin and Dess, 1996; Robinson et al., 1991), risk taking (Lumpkin and Dess, 1996; Davis et al 1991; Aldrich and Martinez, 2007), proactivity (Davis et al., 1991; Lumpkin and Dess, 1996) and self-efficacy (Pruett et al., 2009; Florin et al., 2007; Gelderen et al., 2008)	Enterprise and entrepreneurship education can help to develop students' self-efficacy and to acquire business and technical knowledge and skills (Baum and Locke, 2004; Lüthju and Franke, 2003).
6. An enterprise opportunity for entrepreneurial students & 7. Replicating the networking, mentoring and venture creation benefits of entrepreneurship centres	Entrepreneurship skills; Business start-up and planning skills.	Business start-up requires a range of skills and attributes, which include self-efficacy, proactivity, innovation, business planning and networking. Entrepreneurship skills have been widely discussed in the literature e.g. self-efficacy (Florin et al., 2007; Chen et al., 1998; Krueger, 2000; Pillis and Reardon, 2007; Zhao et al., 2005), proactivity (Davis et al., 1991; Lumpkin and Dess, 1996), innovation (Drucker, 1985; Lumpkin and Dess, 1996; Robinson et al., 1991), business planning (Burns, 2011; Zimmerer and Scarborough, 1996) and networking (Korsgaard and Anderson, 2011).	Nabi and Holden (2008) suggested that enterprise and entrepreneurship should be considered as a dimension, which range from generic skills (for employment) to more specific and specialised skills for entrepreneurs. Networking and business planning are considered important for both entrepreneurs and existing businesses (Korsgaard and Anderson, 2011)

Appendix 2: Overview of the Constructivist Learning Environment, Data Collection and Analysis and the Findings in Relation to the Portfolio

Paper Title	Constructivist Learning Environment Details	Data Collection & Analysis	Impact of Constructivist Learning Environments (student)	Effective Design of Constructivist Learning Environment (educator)
1. Unpacking the link between entrepreneurialism and employability: An assessment of the relationship between entrepreneurial attitudes and likelihood of graduate employment in a professional field	N/A	<ul style="list-style-type: none"> • Entrepreneurial Drive questionnaire • Employment questionnaire • Factor analysis • Binary logistic regression 	N/A	It has been suggested that enterprising/entrepreneurial skills/attributes are important in job searching, preparing for the market and presenting one's abilities. This research suggests that education that focuses on entrepreneurial skills including proactive disposition and achievement motivation may be particularly advantageous.
2. The impact of critical thinking disposition on learning using business simulations	<ul style="list-style-type: none"> • Change management computer simulation undertaken across 2 week • Groups of approximately four students • Scaffolding reduced after week 1 • Learning based on action and reflection 	<ul style="list-style-type: none"> • Questionnaire measuring critical thinking disposition and achievement of simulation learning outcomes • Factor analysis • Multiple regression 	The results of this research indicated that the level of critical thinking disposition is positively related to the students learning when using computer simulations as a learning tool. The results suggest that those students who are more open minded to the opinions and views of others and have a greater awareness of the complexity of problem solving are better able to learn from simulations.	<p>The implications of this research suggest that educators should consider the level of student's critical thinking disposition when targeting specific cohorts. The research suggests progressive use of simulations at an appropriate level may help to further develop student's critical thinking.</p> <p>The benefits of computer simulations can be maximised by analysis, feedback and revisiting the decision making process.</p>

<p>3. The continuing search to find a more effective and less intimidating way to teach research methods</p>	<ul style="list-style-type: none"> • New student-centred module delivered using an active learning approach in an intensive format • Students were encouraged to develop constructive and reflective practices • Curriculum presented with a focus on developing students research projects • Scaffolding reduced as students moved through the module and started their research projects 	<ul style="list-style-type: none"> • Student assignment grades • T-Tests (independent and paired samples) • Interviews with research project (dissertation) supervisors 	<p>The new intensive format together with an active learning focus on independent learning resulted in improved assessment scores and a greater ability of students to apply learning to their research projects. Students were able to apply their learning through an improved perceptual link between theory and practice, a key barrier to the understanding of research methods. Post-course satisfaction surveys indicated similar levels of satisfaction.</p>	<p>Supervisors should be available to discuss proposals on a regular basis to provide feedback and encourage reflection. They should also be prepared to play a scaffolding role within the process. Although the mean scores were higher than with the didactic approach the standard deviation of results was larger. This may indicate that the process did not necessarily suit all students which may be due to a lack of engagement in the active learning process in some students.</p>
<p>4. Concerns and expectations of students participating in study abroad programmes</p>	<ul style="list-style-type: none"> • Study abroad program • Experiential learning supported by a reflective blog • Support before and during the start of experience, removed after the first weeks abroad 	<ul style="list-style-type: none"> • Student-authored blogs • Interpretative phenomenological analysis 	<p>Overall, postings were positive which indicated that in general participants benefited from their experience and from their pre-departure briefings. A range of concerns were highlighted which included domestics, different cultural aspects and educational styles. Students did generally enjoy the experience of meeting other study abroad students.</p>	<p>The importance of scaffolding before departure to prepare students for their time abroad is well documented Feedback can be used to re-evaluate how pre- and post-departure assistance can be adjusted to maximise the benefits of study abroad programs and manage the expectations of participants. Students enjoyed using blogs to report their experiences and all eschewed anonymity and chose to share the blogs.</p>
<p>5. Developing the next generation of</p>	<ul style="list-style-type: none"> • New Higher National Diploma (HND) 	<ul style="list-style-type: none"> • Student reflective essays 	<p>The design of the course resulted in both a high level of engagement</p>	<p>Students fed back suggestions on how the course could be improved. These</p>

<p>entrepreneurs: Giving students the opportunity to gain experience and thrive</p>	<p>entrepreneurship module</p> <ul style="list-style-type: none"> • Applied group activities increasing in complexity and with reduced scaffolding • Facilitator provided content in bite-sized pieces and encouraged reflection 	<ul style="list-style-type: none"> • Top down thematic analysis 	<p>and of student satisfaction. All four entrepreneurial skills were found to be positively influenced with the development of self-efficacy being particularly noticeable.</p>	<p>included comments on group size, group formation and the setting of penalties/incentives to increase accountability and individual participation. This feedback can be used by faculty to improve the overall experience.</p>
<p>6. An enterprise opportunity for entrepreneurial students: Student enterprise development and experience assessed through the student voice</p>	<ul style="list-style-type: none"> • Extracurricular experience supporting students to develop an entrepreneurial idea • Scaffolding provided by consultant mentors and faculty and removed during the competition • Assessment of student's ideas through business plans and presentations • Students had the option to work in groups or individually 	<ul style="list-style-type: none"> • Semi structured interviews students after stage 1 • Semi structured interviews with students after stage 2 • Semi structured interviews with the winning group before and after running their retail business • Thematic analysis 	<p>The research found that the experience helped to develop both enterprising and entrepreneurial skills, particularly building confidence and self-belief in their ability to undertake the process. This was enhanced by the real life experience of meeting and networking with experts to undertake the process. Students reported how they had developed interpersonal skills working together, with the mentors and experts, and the external stakeholders. The final stage imparted students with more enterprising skills including communication and negotiation skills. These findings support the premise that entrepreneurship linked to experiential practice can encourage the development of entrepreneurial skills.</p>	<p>The use of consultant (external) mentors helped make the students more confident and developed affirmation and self-efficacy. The use of real bank business plan templates demystified the process and students felt networking with business professionals was valuable. The role of the mentor plays an important part in such active constructivist approaches and can include facilitating reflection and helping the student to act on those reflections. The inclusion of students from cross disciplinary backgrounds provided the opportunity for cross-fertilisation of ideas. The competitive nature of the process, helped to engage students in the experience.</p>

<p>7. Replicating the networking, mentoring and venture creation benefits of entrepreneurship centres: A student-centred approach to entrepreneurship education and venture creation</p>	<ul style="list-style-type: none"> • Extracurricular experience supporting students to develop an entrepreneurial idea • Scaffolding provided by consultant mentors and faculty and removed during the competition • Assessment of student's ideas through business plans and presentations • Students had the option to work in groups or individually 	<ul style="list-style-type: none"> • Semi structured interviews students after stage 1 • Semi structured interviews and follow up interviews faculty • Semi structured interviews with students after stage 2 • Semi structured interviews with the winning group before and after their experience • Thematic analysis • Document analysis of press releases from stakeholders 	<p>Entrants came from across the university but all were similarly positive about the experience. The major benefits were the greater knowledge and demystification of the process and increased confidence and drive to take on entrepreneurial ventures. Importantly, students felt they would be capable of undertaking the process on their own.</p>	<p>The event required time to make arrangements with stakeholders and arrange advertising pre and during the event although this would be easier in the future. At first, students were hesitant in talking to the consultant mentors but as they gained confidence these barriers were broken down. The development of enhanced links and networks with local businesses were a positive outcome which offered future potential and could be developed into a key attribute.</p>
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Appendix 3: Background and Diversity of Respondents in Papers

Paper Title	Level of Study	Year of Study	Number of Participants	Percentage of Cohort with English as a Second Language
1. Unpacking the link between entrepreneurialism and employability: An assessment of the relationship between entrepreneurial attitudes and likelihood of graduate employment in a professional field	Bachelor	3 rd Year & Graduates	162 3rd Years 105 Employed Graduates	Data Not Available
2. The impact of critical thinking disposition on learning using business simulations	Bachelor	3 rd Year	173	25.4% (44)
3. The continuing search to find a more effective and less intimidating way to teach research methods	Masters	N/A	45 New Format 51 Old Format	New Format 80% (36) Old Format 76% (39)
4. Concerns and expectations of students participating in study abroad programmes	Bachelor	2 nd Year	16	50% (8)
5. Developing the next generation of entrepreneurs: Giving students the opportunity to gain experience and thrive	Higher National Diploma	2 nd Year	27	11.% (3)
6. An enterprise opportunity for entrepreneurial students: Student enterprise development and experience assessed through the student voice	Undergraduates	All Years	32	56% (18)
7. Replicating the networking, mentoring and venture creation benefits of entrepreneurship centres: A student-centred approach to entrepreneurship education and venture creation	Undergraduates	All Years	32	50% (16)

Appendix 4: Summary of Journal and Paper Impact

Paper Title	Year of Publication	Journal	Scopus/Scimargo Ranking (2015)	Number of Citations of the Paper (as of 10/10/2017)	
				Google Scholar	Scopus
1. Unpacking the link between entrepreneurialism and employability: An assessment of the relationship between entrepreneurial attitudes and likelihood of graduate employment in a professional field	2016	Education + Training	Education: (Q2) 307 out of 1066 journals	15	3
2. The impact of critical thinking disposition on learning using business simulations	2015	International Journal of Management Education	Education: (Q3) 590 out of 1066 journals	14	4
3. The continuing search to find a more effective and less intimidating way to teach research methods	2016	Innovations in Education and Teaching International	Education: (Q2) 353 out of 1066 journals	5	0
4. Concerns and expectations of students participating in study abroad programmes	2016	Journal of Research in International Education	Education: (Q2) 303 out of 1066 journals	0	0
5. Developing the next generation of entrepreneurs: Giving students the opportunity to gain experience and thrive	2015	International Journal of Management Education	Education: (Q3) 590 out of 1066 journals	18	5
6. An enterprise opportunity for entrepreneurial students: Student enterprise development and experience assessed through the student voice	2016	Education + Training	Education: (Q2) 307 out of 1066 journals	2	1
7. Replicating the networking, mentoring and venture creation benefits of entrepreneurship centres: A student-centred approach to entrepreneurship education and venture creation	2016	Industry & Higher Education	N/A	0	0

Unpacking the link between Entrepreneurialism and Employability: An assessment of the relationship between entrepreneurial attitudes and likelihood of graduate employment in a professional field

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Abstract

Purpose

This research investigates the relationship between students' entrepreneurial attitudes and traits and their classification of employment six months after university graduation. It aims to identify what specific attitudes and traits of entrepreneurial graduates are linked to employability in a professional or managerial field.

Design/Methodology

The research adopts a quantitative approach to measure the entrepreneurial drive of final-year undergraduate business school students and regresses this measurement against the employment level of the same students six months after their graduation. The employment classification of each respondent was classified as 'professional/managerial' or 'non-professional/non-managerial', in line with the Standard Occupational Classification (SOC) 2010.

Findings

The research found that both proactive disposition and achievement motivation were statistically linked to the likelihood of graduates being employed in a professional or managerial position six months after graduation.

Originality/Value

This research goes beyond existing literature linking entrepreneurship to employability to quantitatively examine what specific attitudes and traits can be linked to employability in recent graduates. By identifying the aspects of entrepreneurialism that have a relationship with employability, more information is available for educators who are designing entrepreneurial education programs and allows for greater focus on aspects that may be of greatest benefit to all students.

Keywords

Graduate Employability, Entrepreneurship, Entrepreneurial Drive, Entrepreneurial Measurement, Entrepreneurship Education

Introduction

Student employability is high on the agendas of business schools (Avramenko 2012; Hay 2008) and higher education establishments (Rae, 2007; Sewell and Pool, 2010). The educational process in business schools has been criticised for not adequately developing student employability skills (Neubaum et al., 2009; Bennis and O'Toole, 2005). Harvey et al. (1997) concluded that employers want graduates to possess knowledge, intellect, a willingness to learn, self-management skills, good communicational and interpersonal skills, and the ability to be a team player.

As universities seek to improve graduate employability, they have also placed importance on the development of the next generation of entrepreneurs. While the debate continues on the efficacy of entrepreneurship education, the literature has acknowledged employability and entrepreneurialism as complimentary skills. For example, Kivinen et al. (2000) highlighted the importance, in a competitive job market, of an entrepreneurial spirit, flexibility, and an eagerness to achieve results. An entrepreneurial attitude has been argued to aid job searching, preparing for the market, and presenting one's abilities (Smith et al., 2006). It often involves the identification of opportunities and taking action to make things happen (Davis et al., 1991). However, the way to best encourage both entrepreneurialism and employability in students is still under debate and linkages between specific aspects of entrepreneurialism and employability have not yet been identified.

Research Aim

This research aims to determine if a relationship exists between the specific entrepreneurial drive dimensions of students and the relative likelihood of students being employed six months after graduation in professional or managerial employment. This research furthers the study of entrepreneurship education, which has previously argued in favour of a positive relationship between entrepreneurship and employability, by identifying which specific dimensions of entrepreneurship have the greatest relationship to graduate employment in a professional or managerial field six months after graduation.

Literature Review

The Relationship between Employability and Higher Education

Yorke (2004 p.8) defined employability as "a set of skills, knowledge, and personal attributes that make an individual more likely to secure and be successful in their chosen occupation to the benefit of themselves, the workforce, the community and the economy." This 'supply-side' definition of employability has been expanded upon in some employment policy literature to include 'demand-side,' external aspects such as labour market conditions (McQuaid et al., 2005). This research, which

focuses on relationship between entrepreneurial skills of graduates and employment, will adopt the Yorke definition. While a theoretical working definition of employability may be reached, it must be acknowledged that an employer's choices when hiring an individual are influenced by more than these factors. Teichler (2009) found that employers' perceptions of potential employees with the same qualifications vary, depending on the employers' traditions, social biases, and the existence of nepotism, which may determine an employer's hiring choice more than do qualifications (Jaskiewicz et al., 2013)

The theoretical framework for the relationship between education and employability has been examined in economics literature, and education has been viewed as both a 'signal' to employers of ability (Spence, 1973; Stiglitz, 1975) and as a developer of abilities and skills, that is, 'human capital' (Cai, 2013, Schultz, 1961, Becker, 1962). Spence (1973) looked at education as an indicator or signal of abilities and skills. Individuals invest time and money in education in order to 'signal' to employers that they possess the requisite skills, lessening the perceived risk an employer feels during the hiring process (Stiglitz, 1975). The education itself is a proxy for ability, rather than a process through which ability is developed.

A contrary view is that knowledge and skill are the result of an investment in developing human capital, which the OECD (2001) defines as "productive wealth embodied in labor, skills and knowledge." Education is a source of this human capital development, as it provides the opportunity for students to gain marketable skills and increase their job-relevant abilities (Schultz, 1961 and Becker, 1962). The educated individual is more skilled and thus more attractive and more successful in the labour market (Marginson, 1989).

Since both models put forth a positive relationship between education and employability, it can be argued that the two models cannot be empirically distinguished (Lang and Kropp, 1986). A recent survey of employers in the UK revealed that graduates entering the workforce are expected to have developed both the competences encapsulated in their degree program and a range of soft skills, such as team-working, communication, critical thinking, problem solving and leadership (Lowden et al., 2011). Whether these skills are the result of the university experience or are skills inherent in (i.e., signalled by) students who are able to both afford and complete a degree program, the end effect is that education is increasingly demanded by students who want to enhance their employability. Indeed, the years following the 2008 financial crisis saw both an increase in unemployment and a surge in university enrolment (Long, 2015).

Despite the differing theories on the role of education in producing employable graduates, higher education institutions have responded to the increased demand in education by working towards producing highly employable graduates (Sewell and Pool, 2010). A 2011 report by the UK

Department for Business Education and Skills highlighted that it is increasingly expected that courses offer value, that is, skills that increase employability, for the money students invest in them. Universities' commitment to this agenda has led to the development of strategies directed at enhancing graduates' employability skills, including soft skills, introducing new courses, modifying existing courses, and offering work experience opportunities (Anderson et al., 2008; Finch et al., 2013). The aspects that can be developed in university-level students to increase their employability are a line of study that has calls for more research (Finch et al. 2013).

Another priority of higher education in the twenty-first century is developing graduates who will become entrepreneurs, as entrepreneurship is perceived as a key element in increasing a country's competitiveness and stimulating growth (Martinez et al., 2010, O'Connor, 2013). The relationships between entrepreneurship and employability in graduates will be explored in the next section. This will be followed by an overview of the attitudes and traits that make a student 'entrepreneurial'.

Employability and Entrepreneurship

The development of entrepreneurship as an academic subject has seen considerable growth since the turn of the century, which has ushered in changes in overall employment structure (O'Connor, 2013). Economic realities such as downsizing, labour-force shifts, and restructuring mean that the path from higher education to sustainable employment is less direct than in previous years (Duval-Couetil, 2013; Kirby, 2004). As a result, graduates may not be adequately equipped if they are armed only with employment skills to take on a shifting world in which entrepreneurial start-ups are considered a key factor of modern economic growth (Duval-Couetil, 2013; Minniti, 2006).

It has been argued that a business education with a strong focus on entrepreneurial skills can enable students to develop their self-efficacy and acquire the required knowledge and skills to develop new initiatives (Baum and Locke, 2004; Luthje and Franke, 2003). The literature on the efficacy of entrepreneurship education is not conclusive, with Henry, Hill, and Leitch (2005) arguing that while entrepreneurship skills can be taught, entrepreneurship is also partially an 'art,' that cannot be imparted. However, a number of recent studies have argued that entrepreneurial teaching programs have positively impacted students' entrepreneurialism (Athayde, 2009; Bell, 2015; Fayolle and Gally, 2015; Karlsson and Moberg, 2013).

While the focus of entrepreneurial education may not be on enhancing graduate employability (Duval-Couetil, 2013), the literature has shown that the two subjects are related. According to Rae (2007), enterprising students and graduates are generally regarded as being more employable than those without enterprise skills. Since many of the enterprise skills can be regarded as entrepreneurial behaviours, this would suggest that students with a higher entrepreneurial spirit

would be more enterprising, more employable, and consequently more likely to obtain higher level graduate employment. Reinforcing this, Laguador and Ramos (2014) found that employers prefer graduates who have entrepreneurial skills. Charney and Libecap (2000) found in a comparative study between entrepreneurship and non-entrepreneurship graduates that entrepreneurship graduates, that is, students whose course of study had a focus on entrepreneurship modules, employed within organisations were more likely to be employed on a full time basis and were, on the whole, more satisfied with their employment opportunities.

If it can be shown that a students' entrepreneurialism can be developed to some extent, and that there is a positive link between graduates' entrepreneurial tendencies and their employability (Rae, 2007; Laguador and Ramos, 2014; Charney and Libecap, 2000), what remains to be uncovered is what is it about entrepreneurial students that makes them more successful and employable in the employment market? To examine this topic requires distinction of what makes a student 'entrepreneurial' and exploration of those aspects that can be examined/measured.

Measuring Entrepreneurship in Students

The study of entrepreneurialism in students differs from studying entrepreneurs, as many students have not yet begun their employment and/or entrepreneurial pursuits, meaning that the instruments used to identify differences between working-level entrepreneurs and non-entrepreneurs based on their behaviour (i.e., engaging in entrepreneurial activities) may not be appropriate. However, an attitudinal approach has been argued to be able to discern entrepreneurial characteristics in students, as attitude and personality can be used to predict behaviour (Hatten and Ruhland, 1995). From this perspective, the literature has identified entrepreneurial skills, attitudes, and traits that are able to be developed in students, developed from studies on entrepreneurs in the workplace. The attitudinal approach to the study of entrepreneurship resulted in intention models that have been used as a means of measuring intention or attitude towards entrepreneurial behaviour, pursuant to Ajzen's (2002) theory of planned behaviour (Fayolle and Gally, 2015).

Florin et al. (2007) developed a comprehensive model dedicated to measuring the entrepreneurial drive (ED) of students. The ED model's approach is based on affect (feelings), cognition (beliefs and thoughts), and conation (intention to behave in a certain way) (Robinson et al, 1991). Florin et al. (2007, p. 26) defined ED as "an individual's perception of the desirability and feasibility to proactively pursue opportunities and creatively respond to challenges, tasks, needs, and obstacles in innovative ways." The model replaces or modifies items specific to practicing entrepreneurs to create a measurement instrument appropriate for students. The five latent constructs that form the

basis of ED are: preference for innovation, self-efficacy, non-conformity, proactive disposition, and achievement motivation.

Innovation refers to creativity, experimentation, creation, and creative destruction, which are key traits of entrepreneurs (Schumpeter, 1942). Innovation can also be considered in terms of developing and introducing new products and services, as well as perceiving and acting upon activities in new and unique ways (Lumpkin and Dess, 2001; Robinson et al., 1991). Students can show a preference for innovation by displaying creative and original thinking when completing class assignments and other extracurricular activities (Florin et al., 2007)

Self-efficacy is a belief in one's ability to successfully complete a task or attain a desired goal (Bandura, 1977). As such, it is a useful construct with which to predict an entrepreneur's behavioural persistence and effectiveness (Chen et al., 1998). It has been argued that differences in work interest and performance can often be traced back to differences in self-efficacy, which affects individual persistence, initiative and performance (Krueger, 2000). Students' self-efficacy can be observed by looking at their extracurricular activities; students with high self-efficacy will be more likely to be involved in the creation and running of student organizations (Florin et al., 2007).

Non-conformity means challenging the norms or accepted rules using originality and creative thinking (Mudd, 1996; Rosenfeld et al., 1993). Students who desire personal control over outcomes are more likely not to conform to others rules and regulations, and as a result will exhibit a higher level of non-conformity (Seibert et al., 2001).

Proactiveness focuses on implementation and on initiative to make things happen, using whatever means may be necessary (Davis et al., 1991). A proactive disposition is linked with career success (Seibert et al., 2001). It may involve seeking opportunities, looking forward, and anticipating the future actions of competitors (Lumpkin and Dess, 2001).

Entrepreneurs hold achievement as an important goal (Hornaday, 1982). Motivation to achieve has a positive effect on the performance of the enterprise (Stewart et al., 1999). Florin et al. (2007) argued that promoting achievement motivation in students can be approached by providing positive feedback regarding potential or realized entrepreneurial activities.

Methodology

Data Collection Methods

Data was collected from undergraduate students (some of whom later graduated) from a UK business school via two self-administered questionnaires that were disseminated electronically to students via a web link embedded in an email. All participation was voluntary and students were assured their anonymity would be maintained throughout the study. The students were all

undertaking a business-related course of study, and all students had completed a mandatory first-year enterprise and entrepreneurship module. The business school did not offer a specialist entrepreneurship program of study, so the students had all been exposed to similar levels of entrepreneurship education throughout their studies. It was an aspect of all of their undergraduate education rather than the focus.

A questionnaire measuring entrepreneurial drive (ED questionnaire) was sent to all full-time undergraduate students enrolled at the business school. The ED questionnaire consisted of 42 questions. Students were asked to rate themselves on a scale of one (strongly disagree) to five (strongly agree) against the questions based on the entrepreneurial dimensions in the student context. The scale questions can be found in Table Four. The questionnaire also included eleven demographic/background questions. The ED questionnaire produced a total of 340 responses across the three different years of undergraduate study. The questionnaire produced 91, 87, and 162 responses from first, second, and third years, respectively.

From the ED questionnaire responses, the 162 third-year respondents were sent the second questionnaire measuring their level of employment (employment questionnaire) six months after they had graduated. The employment questionnaire asked students to self-categorize their employment, describe their responsibilities, and give their job title. The self-categorization question included descriptions of job categorizations based on the Standard Occupational Classification (SOC) (Office for National Statistics, 2010). The SOC criteria includes nine employment groups, based on skill level and required qualifications and experience. These groups were then divided into a managerial/professional category and a non-managerial/non-professional category, in line with criteria used by the UK Higher Education Statistics Agency to categorize graduate employment from data collected six months after graduation.

To support the robustness of the classification process, the employment classification used in this study was developed from a triangulation of the respondent's self-categorization (based on SOC descriptions), their job title, and a brief job description. The employment questionnaire produced a total of 113 responses, 8 of which were removed from the data set as the graduates were unemployed. Table 1 shows a breakdown of the responses.

Table 1 Respondents Job Category and Gender Breakdown

	Gender		Total
	Male	Female	
Non Professional or Managerial Job	27	33	60
Professional or Managerial Job	20	25	45
Unemployed	5	3	8
Total (Gender)	52	61	113

Statistical Analysis

The questionnaires were used such that the data collected could be subjected to statistical analysis to determine if any relationship existed between students' entrepreneurial attitudes and traits and their employment level. The data collected from the ED questionnaire were tested to ensure the sample size was suitable for principle component analysis, which was then used to confirm the ED factors to be tested. The data were then divided into respective respondents' year of study in order to confirm the validity of the ED measurement instrument in the UK context through the use of concurrent validity testing. Binary logistic regression was conducted to determine whether the factors from the ED questionnaire could explain the likelihood of graduate respondents' job category in the employment questionnaire.

The subscales measuring each component of ED were subjected to MANOVA analysis for differences based on the current study year of the respondents and the gender of the respondents. The latter was used to control for gender differences.

The data from the employment questionnaire was paired with the corresponding student respondent's final-year ED factor scores from the ED questionnaire (using the students' ID numbers and email addresses). The data were quantitatively analysed to test whether generalizations could be made about the relationships of the two data sets. The data were correlated and then regressed using binary logistic regression to determine if a relationship could be identified between the individual ED dimension scores and the two employment classifications. Binary logic regression allowed the research to show whether an increase in any of the ED dimensions was related to an increased likelihood that students would be employed in a professional/managerial line of work.¹

¹ Because this research looks at two categories of employment (i.e., two outcomes), binary logistic regression is the most appropriate approach. Logistic regression allows the predicting of categorical outcomes from continuous predictors. The ED dimensions are used as predictors and are in this research being treated as continuous scale variables.

Data Analysis and Results

Principle Component Analysis

The Kaiser-Meyer-Olkin (KMO) test was conducted on the ED questionnaire to ensure the sample size was suitable for principle component analysis. The results indicated that the sample size was suitable, producing a score of .832. The principle component analysis produced five distinct factors in line with the work of Florin et al. (2007), which are shown in Tables 2 and 3. Loadings below .4 were suppressed (Stevens, 2002). Two of the questions that were associated with the preference for innovation factor did not exhibit a loading of .4 or greater and were removed (“I usually take control in unstructured situations” and “I believe that to arrive at a good solution to a problem, it is important to question the assumptions made in defining the problem”), supporting a clean factor structure. The total variance explained by the 5 factors was 49.52% (see table 2). The Cronbach Alpha scores contained in Table 3 indicate that the internal consistency for all five factors is acceptable².

Table 2 Total Variance Explained in Principle Component Analysis of Scale Items Measuring Entrepreneurial Drive Dimensions

Factor	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.767	14.418	14.418	4.979	12.447	12.447
2	5.100	12.751	27.169	4.404	11.011	23.458
3	4.150	10.376	37.545	4.176	10.440	33.898
4	2.721	6.803	44.349	3.358	8.394	42.292
5	2.070	5.176	49.524	2.893	7.232	49.524

Extraction method: Principle component

² Cronbach Alpha scores of greater than 0.7 are generally regarded as satisfactory in terms of internal validity (Bland and Altman, 1997).

Table 3 Rotated Factor Matrix

Dimensions	Item Description	Factor				
		1	2	3	4	5
Proactive Disposition $\alpha=.887$	No matter what the odds, if I believe in something I will make it happen	.768				
	I get a thrill out of doing new, unusual things at university or work	.763				
	I am constantly on the lookout for new ways to improve my life	.761				
	I excel at identifying opportunities	.752				
	I can spot a good opportunity long before others can	.725				
	I love being a champion for my ideas, even against others' opposition	.704				
	I am always looking for better ways to do things	.658				
	Nothing is more exciting than seeing my ideas turn into reality	.653				
Preference for Innovation $\alpha=.834$	If I see something I don't like, I fix it	.629				
	I believe it is important to approach opportunities in unique ways		.742			
	I get excited when I am able to approach tasks in unusual ways		.706			
	I enjoy finding good solutions to problems that nobody has looked at yet		.676			
	I usually seek out colleagues who are excited about exploring new ways of doing things		.621			
	I believe that to be successful one must sometimes do things in ways that could seem unusual at first glance		.602			
	I often approach university tasks in unique ways		.596			
	I believe that when pursuing goals or objectives, the final result is far more important than following the accepted procedures		.593			
	I enjoy being the catalyst for change in school or work affairs		.574			
	I enjoy being able to do things in new ways		.532			
	I believe it is important to continually look for new ways to do things at university or work		.496			
	I get really excited when I think of new ideas to stimulate my group's performance in university assignments		.492			
I usually take control in unstructured situations		-				
I believe that to arrive at a good solution to a problem, it is important to question the		-				

Self-Efficacy* $\alpha=.852$	assumptions made in defining the problem	
	I feel very self-conscious when making university presentations	.778
	I often feel badly about the quality of work I do	.767
	I never persist very long on a difficult job before giving up	.767
	I feel self-conscious when I am with very successful people	.763
	I seem to spend a lot of time looking for someone who can tell me how to solve all my university problems	.753
	I often put on a show to impress the people I work with	.575
	I feel uncomfortable when I'm unsure of what my team members think of me	.568
Achievement Motivation $\alpha=.769$	I feel inferior to most people I work with	.508
	I believe it is important to analyse your own weaknesses	.726
	I feel good when I have worked hard to improve my assignments	.658
	I make a conscientious effort to get the most out of my available resources	.651
	I do every job as thoroughly as possible	.635
	I believe that to be successful a person must spend time planning the future	.587
	I feel proud when I look at the results I have achieved in my university activities	.525
Non-Conformity* $\alpha=.771$	For achievement to be successful I believe it is important to use your time wisely	.508
	I always follow accepted practices in the dealings I have with others	.763
	I rarely question the value of established procedures	.725
	I feel best about my work when I know I have followed accepted procedures	.719
	I believe that currently accepted regulations at university were established for a good reason	.703
	I believe that in order to succeed, one must conform to accepted practices	.595

MANOVA Analysis

The results indicate that, overall (for the five ED dimensions), there is a statistical difference between the ED of the participants based on their year of study. Based on the previous work of Florin et al. (2007) and Bolton and Lane (2012) in the United States, it would be expected that the students' entrepreneurial attitudes and traits would be greater in each progressive year of study. The mean score of all the ED dimensions increased between year 1 and year 2, and similarly between year 2 and year 3, except for the non-conformity score which decreased between year 1 and 2. This suggests that ED increases as the number of years of study increases. The results help to demonstrate concurrent validity and confirm that the measurement instrument is valid in a UK higher education setting to accurately measure the ED level of the graduates. When gender is considered against the year of study, no statistical difference appeared between the overall scores.

Binary Logistic Regression

A binary logistic regression analysis was undertaken. The model produced was statistically significant³ and was able to explain 20.6% (Nagelkerke R²) of the variance in employment category, a reasonable percentage, as it can be expected that many factors will affect the employability of graduates. As shown in Table Four, only Proactive Disposition and Achievement Motivation made a statistically significant contribution to predicting an increased likelihood of graduates being employed in a professional role six months after graduation⁴. The other three ED dimensions did not make a statistically significant contribution to predicting likelihood of employment category.

Table 4 Binary Logistic Regression Predicting Likelihood of Employment in a Professional/Managerial Job Role Six Month after Graduation

	Beta	S.E.	Wald	df	Sig.	Odds Ratio (Exp B)
Proactive Disposition	.644	.271	5.649	1	.017*	1.904
Preference for Innovation	.390	.280	1.937	1	.164	1.477
Self-efficacy	.309	.261	1.411	1	.235	1.363
Achievement Motivation	.674	.292	5.335	1	.021*	1.962
Non-conformity	-.041	.218	.035	1	.852	.960

* Significant at a 95% Confidence Level

³ χ^2 (5, n=105) = 17.53, p < .005.

⁴ (Proactive Disposition Exp (B) 1.90; Achievement Motivation Exp (B) 1.96)

Discussion

As existing literature shows that relationships exist between entrepreneurialism and employability, this study seeks to further research in this field by identifying which individual entrepreneurial dimensions and traits have a relationship with employability. As HEIs respond to the dual mandate of producing highly employable and entrepreneurial graduates, it is useful to know how these two fields intersect and what teaching aspects can develop entrepreneurialism and employability.

Complimentary to existing literature on entrepreneurialism and employability, this study found a relationship between two ED dimensions and employment categorization. Proactive Disposition and Achievement Motivation were statistically significant for having an influence on the likelihood of individual graduates being employed in managerial or professional employment. The Preference for Innovation, Self-Efficacy, and Non-conformity constructs were found to be statistically insignificant.

When examining the reasons behind the findings, some inferences can be drawn as to why Proactive Disposition and Achievement Motivation had a positive impact on likelihood of managerial or professional employment. A proactive attitude can help an individual to actively search out opportunities, prepare for the market, and to present and express one's abilities and competences (Kivinen et al., 2000). Proactiveness focuses on action, implementation, and making things happen, by whatever means necessary (Davis et al., 1991). Proactive behaviours can result in increased socialisation, the active elicitation of feedback, improved career management and the ability to cope with stress (Crant, 2000).

Individuals who display high achievement motivation have traditionally been characterized as willing and able to face challenges in order to acquire success. The motivation to achieve will drive an individual to set "difficult yet attainable goals, strive for performance, calculate risks, face uncertainties, and tolerate ambiguity, find novel and creative solutions for problems, and assume personal responsibility for the consequences of his/her behaviour" (Deshpandé et al., 2013). The association of the ED dimensions with increased likelihood of finding professional/managerial jobs may have as much to do with finding, working towards, and seizing opportunities in a competitive job market as it does with making the candidate more desirable to employers.

Business schools may employ teaching and learning methods that encourage individuals to behave proactively. Examples include student led approaches (Fiet, 2001) and experiential learning such as business simulations and scenarios (Avramenko, 2012; Solomon, 2008). Achievement motivation has been argued by Florin et al. (2007) to be a the most difficult entrepreneurial trait for educators to develop, yet the literature suggests that it can be encouraged by including in the curricula guest speakers who are entrepreneurs and business leaders (Dinis et al., 2013; Williams et al., 2013),

attendance at entrepreneurship and business forums (Sherman et al., 2008), business visits, realistic class exercises (Solomon, 2008), and engaging in business simulations (Avramenko, 2012).

Non-conformity, Innovativeness and self-efficacy were shown not to have a statistically significant relationship to the likelihood of a graduate attaining professional/managerial level employment six months after graduation. The non-conformity and innovativeness traits are similar in nature and some entrepreneurial literature pairs the two when deconstructing the entrepreneurial elements. The literature supports the notion that these two constructs may not aid in making a candidate employable within a traditional or managerial track of work. Entrepreneurship literature often argues that managers are more adaptive than innovative and tend to be rewarded and reward others for conformity and competence at carrying out tasks rather than innovating new ideas or taking a non-conformist approach (Buttner and Gryskiewicz, 1993; Carland and Carland, 1991; Schein, 1985).

As suggested by Teichler (2009) and Jaskiewicz et al. (2013) hiring managers choose candidates based on a number of criteria external to the applicant's qualifications, and non-conformity and innovativeness traits may create perceived distance between the applicant and the hiring manager and thus impact employability. To encourage these entrepreneurial attitudes while still working towards employability, educators may look to ensure students understand that non-conformist traits may need to be carefully conveyed, if not mollified, during entry-level employment. Educators may encourage students to accompany these attitudes with constructive ideas, as suggested by Seibert et al. (2001).

Conclusions

This study has furthered the literature on student entrepreneurship and graduate employability by identifying two ED factors that may impact the likelihood of professional/managerial employment, as well as identifying ED factors that had no impact. As universities respond to calls for increasing graduate employability and entrepreneurialism, they also must respond to students' expectations that their 'human capital' will increase in a way that will make them more marketable after graduation in a competitive job market. The literature has shown that entrepreneurial students are equipped both with the tools for enterprise creation and with increased employability, and this study shows that some linkages exist between specific entrepreneurial traits and employment classification.

Entrepreneurial education is a developing research field and no best teaching method has been identified, with many arguing for more innovative, active, and experiential teaching methods (Winkel, 2013; Jones and English, 2004; Gibb, 2002). The best means by which educators should

approach entrepreneurship education is beyond the scope of this paper. However, by identifying the aspects of entrepreneurialism that also make a graduate more employable, more information is available for educators who are designing entrepreneurial education programs and allows for greater focus on aspects that may be of greatest benefit to all students (not just future entrepreneurs).

Limitations and Further Research

While this research has found that two ED dimensions have impacted the likelihood that graduates will be employed in a managerial/professional role within a six month period, future research could further investigate whether there was additional impact based on field, industry, and firm size. In addition, repeating this study with a larger sample size to help confirm and develop the generalizability of the findings of this research. Studies on students in other university courses of study could also be considered.

Although some researchers have highlighted the difficulties in measuring employability outcomes six months after graduation (Harvey et al., 2002), this timeframe is in line with the DLHE early survey, managed by the HESA. Future research could investigate the job categories over a longer timeframe to offer further insights. For this study, the six month timeframe may well be suitable, as it ensured that a reasonable response for the questionnaires was achieved, as students may discontinue use of their university email address as time goes on.

The levels of ED measured in this study are inevitably influenced by other external factors, such as an increase in maturity, extra curricula activities, or outside work experience. However, as higher education institutions aim to prepare students for employment by developing their enterprise/entrepreneurship skills, it is the combination of influences within the university experience that helps to meet this aim.

Criticisms based on the different academic backgrounds of the graduates in employment studies, including potential advantage of some graduates from more prestigious universities (Brown and Scase, 1994; Hesketh, 2000) are addressed in this research by the use of graduates from the same institution.

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The Impact of Critical Thinking Disposition on Learning using Business Simulations

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Abstract

This research seeks to determine the relationship between students' critical thinking disposition and their learning while engaging in a business simulation at a UK higher education institution (HEI). The research informs educators making decisions about the use of simulations as to the value of considering critical thinking dispositions. Previous research has found that simulations are an effective way for students to engage actively in learning, bridging the gap between theory and practice. It has also been found that such simulations can develop students' critical thinking skills. However, hitherto no research has been undertaken into the role that existing critical thinking disposition has on the learning of students, as measured by the degree to which students perceived that they met the module's intended learning outcomes. This research offers insights into the role and importance of critical thinking disposition and its component dimensions and how this impacts student learning. The results indicate that the level of critical thinking disposition is positively related to the students' learning. The implications of the research suggest educators should target business simulations at specific cohorts of students. The relative importance of the critical thinking disposition constructs and the practical educational implications of these findings are discussed.

Keywords

Business Simulation, Critical Thinking, Critical Thinking Dispositions.

Critical Thinking Skills and Critical Thinking Disposition

The term critical thinking is widely used in the fields of education, psychology, and philosophy, and there have been repeated attempts to define the concept in order to increase the understanding of how this cognitive ability can be utilised (Friedel et al., 2008).

An early definition by Dewey (1933, p.118) described critical thinking as “active persistent and careful consideration of a belief or supposed form of knowledge in light of the grounds that support it, and the further conclusions to which it tends.” More recently, critical thinking has been defined as being the “purposeful, self-regulatory judgement, which results in interpretation, analysis, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgement is based” (Facione, 1990 p2). Halpern (1996, p. 5) defined critical thinking as “thinking that is purposeful, reasoned and goal directed – the kind of thinking involved in solving problems, formulating inferences, calculating likelihood, and making decisions.” Critical thinking is essential as a tool of enquiry (Facione, 1990) and has been argued to be under-emphasized at the business school level (Örtenbald et al., 2013). It is believed to be vital for individuals to achieve their full potential (Meyers 1986) and to be one of the most valuable attributes for success in the twenty-first century (Huitt, 1998).

Critical thinking skills, however, are not stand-alone abilities. An individual requires the appropriate critical thinking disposition to use those skills (Friedel et al., 2008; Tishman et al., 1993). A critical thinking disposition can be defined as the consistent internal motivation to engage problems and make decisions through the use of critical thinking (Facione et al., 1996) and is a measure of the tendency towards critical thinking (Stedman and Andenoro, 2007).

Critical-thinking dispositions are attitudinal and can be developed, although their development may take longer than the development of critical thinking skills. Approaches that develop critical thinking skills can also improve critical thinking disposition (Tishman and Andrade, 1996). Research has suggested that, being inherently linked, both critical thinking skills and disposition should be developed together (Kitchener and King 1994). This was supported by Facione et al. (1995), who argued that, as skills and dispositions are mutually reinforced, they should be modelled and taught together. Importantly, critical thinking dispositions are precursors and gateways to critical thinking activity. A lower disposition is less likely to result in meaningful critical thinking that leads to problem solving, solutions, and decision making, whilst a higher disposition would be more likely to lead to these outcomes (Irani et al., 2007).

Two frequently adopted measurement instruments for critical thinking dispositions are the California Critical Thinking Disposition Inventory (CCTI) (Facione, 2001), and the University of Florida Engagement, Cognitive Maturity and Innovativeness assessment (UF-EMI) (Irani et al., 2007), which was developed from the former.

The UF-EMI instrument has been used to investigate critical thinking disposition across a wide range of academic study, including emotional intelligence (Stedman and Andenoro, 2007), the development of study programs (Lamm et al., 2011), and problem solving (Friedel et al., 2008). It will be adopted in this research and consists of 26 items based on three constructs, namely, engagement, cognitive maturity, and innovativeness. The three dimensions (constructs) of critical thinking disposition are described (Irani et al., 2007; Ricketts and Rudd, 2004) below.

Engagement is the predisposition to look for and anticipate situations that require reasoning, the use of reasoning skills, and confidence in one's belief to reason, solve problems, and make decisions. Engagement results in a desire to use reasoning and communicate the reasoning process used to come to a decision (Irani et al., 2007).

Cognitive maturity is the predisposition to be aware of the complexity of problems, open to the viewpoints of others, aware of predispositions and biases of one self and others, and to consider these factors objectively before making decisions. Cognitive maturity results in an acceptance that problems are often more complex than they may first seem and as such there may be more than one appropriate solution.

Innovativeness is the predisposition to seek out new knowledge, be intellectually curious, and seek out the truth. Individuals displaying innovativeness want to know more about their profession, their life and the world around them, even if this is at odds with their own beliefs and opinions. They are constantly seeking new knowledge (Irani et al., 2007; Ricketts and Rudd, 2004).

Business Simulations in Higher Education

The development of critical thinking skills is high on the agenda for HE establishments (Stassen et al., 2011; Roth 2010: Kovalik and Kovalik, 2007; Halpern, 1998), and educators' teaching methods need to be adapted carefully to build on the students' current critical thinking skills in order to develop them further. Educators increasingly use virtual learning environments as a way to communicate effectively with students. Morris and Chikwa (2013) found that students who utilized e-learning to supplement their classroom-based studies experienced increased academic performance. The use

of computer simulations provides an e-learning medium for active engagement and the utilization of critical thinking skills in a risk-free environment. Business simulation games are a form of computer simulation that have become increasingly popular for business studies in higher education establishments, enabling educators to provide a bridge between theory and practice via active engagement.

Computer-based simulations aim to provide an operating representation of the central features of reality (Guetzkow, 1963) by imitating a system, entity, process, or phenomenon (Lean et al., 2006). The use of simulations as an educational tool has grown considerably over the last forty years. Encouraged by the widespread availability of computers and the Internet, they have become an important part in business education (Faria et al., 2009). Increases in computer power, availability, and graphic capability have all played a part in this rapid development (Kirriemuir, 2002; Neps et al., 1997) and the increase in the sophistication of computer technology has now enabled the simulation of realistic situations in computer programs (Martin and McEvoy, 2003).

A business computer simulation is, in essence, a model or software program that requires participants to make business decisions. The most popular business computer simulations used in business and management education are gaming simulations (Adobor and Daneshfar, 2006). Computer simulations have been classified in several ways, including on the basis of their use, e.g., gaming, training and modelling (Lean et al., 2002) or on the underlying model of the simulation, i.e., discrete, continuous, or combined event (Feinstein et al., 2002).

Simulations can play a role in two areas of development. Firstly, they can provide a teaching framework in which participants make decisions to achieve their final goal, taking into consideration how the other participants' decisions will affect their own choices (Lainema and Nurmi, 2006). An individual's cognitive style, referring to the different but consistent way in which an individual perceives, thinks, solves problems, and relates to others (Witkin et al., 1977; Armstrong and Hird, 2009), has been shown to have an impact on decision styles (Taggart et al., 1985) and task orientations (Foxall et al., 1990). In addition, it has been argued that cognitive style influences adaptive behaviour and level of risk taking and conflict (Kirton, 1984).

Secondly, the simulation process can reinforce learning through feedback after the results are obtained and the students' decisions discussed, allowing participants to reflect on and improve their strategies after the simulation experience (Arellano et al., 2001). The first area provides a simulation bridge between theory and practice, which allows students the opportunity to gain experience through engagement and learning through the actions they take and their consequences. The

second area provides an opportunity for reflection and the development of reasoning and critical thinking skills.

Approximately one third of matriculated undergraduate business school students have experienced a simulation as part of their learning experience (Jackson, 2014). The reported benefits of business simulations include increased motivation (Fripp, 1997), experiential learning (Adobor and Daneshfar, 2006; Feinstein et al., 2002), integration of diverse student populations (Piercy and Caldwell, 2011) the development of critical thinking skills (Springer and Borthick, 2004; Martin and McEvoy, 2003; Doyle and Brown, 2000), a risk free environment (Fripp, 1997), a simplified real world (Doyle and Brown, 2000), the development of team working skills (King and Newman, 2009), and the acquisition of time management skills (Doyle and Brown, 2000). Business simulations allow students to make strategic decisions based on their theoretical knowledge in a safe environment (Adobor and Daneshfar, 2006). Despite a wide consensus over what pedagogic advantages simulations can provide (e.g. Faria & Wellington, 2004; Lean et al., 2006), research into the barriers to the introduction of gaming simulations into business schools has highlighted a number of concerns expressed by educators. These include the resources required (both in capital expenditure and ongoing administrative and technical costs), a lack of fit with courses being taught, a lack of information regarding simulations, a preference for alternative pedagogic approaches, and the amount of class time required (Faria and Wellington, 2004).

The reported shortcomings of computer business simulations include the lack of suitability for gaining theoretical knowledge (Whiteley and Faria, 1989), the requirement for other traditional teaching required in combination (Doyle and Brown, 2000), the risk that an oversimplified or unrealistic simulation may result in some participants 'switching off' (Adobor and Daneshfar, 2006; Curry and Moutinho, 1992), team conflict and freeloading of some participants (Adobor and Daneshfar, 2006; Jehn and Mannix, 2001), a lack of flexibility (Morgan 2009), and a lack of effectiveness in general (Anderson and Lawton, 2009).

While some argue that the potential complexity of computer-based simulations could be a shortcoming (Anderson and Lawton, 2009; Lean et al., 2006), students are increasingly comfortable with many aspects of e-learning systems. E-learning systems in general are now a common part of the higher education experience and often viewed positively by students, which results in increasing use (Ituma, 2011; Ogba, Saul and Coated, 2011). In addition, Pryjmachuk et al. (2012) have shown that introducing students to e-learning via study skills courses can increase student comfort with the concept, leading to fewer obstacles to including computer simulations as part of study.

Simulations and Intended Learning Outcomes

Intended learning outcomes (ILOs) predict what students will gain as a result of successful learning. The importance of ensuring that simulations are aligned with the achievement of ILOs is highlighted widely in the literature (Moizer et al., 2009, Ellington, 2004; Feinstein et al., 2002). Feinstein et al. (2002) concludes that computer simulations are “not an educational panacea”, and the choice of teaching format should be chosen with the teaching objectives and learning outcomes in mind. The literature further stresses that consideration should be paid to the suitability, maturity, and experience of the student cohort for whom the simulation is being considered (Moizer et al., 2009; Sutcliffe, 2002). Considerations may include: computer skills required for the simulation, the background theoretical knowledge required to complete the simulation, and the complexity of the simulation. Greater complexity may enable a more realistic simulation, but it may also reduce the ability of students to learn if they are overwhelmed by it (Moizer et al., 2009; Dempsey et al., 2002). Control-value theory suggests that students will be more motivated to engage with a learning activity if they perceive it as an appropriate challenge for their skill level, such that they have some level of control over the outcome of the activity (Cordova and Lepper, 1996; Pekrun et al., 2010).

Overall, business simulations can provide a valuable tool to supplement the more traditional methods of teaching (Avramenko, 2012; Anderson and Lawton, 2009; Lean et al., 2006; Doyle and Brown, 2000). They provide the opportunity to develop higher order thinking skills (Springer and Borthwick, 2004) through the development of critical and strategic thinking skills (Doyle and Brown, 2000; Lane, 1995) and generate insights in a risk free environment (Fripp, 1997). As such, they can be particularly useful for integrative courses (Moizer et al., 2009; Sutcliffe, 2002) and for teaching general management skills (Adobor and Daneshfar, 2006).

This research will use the UF-EMI instrument to investigate the impact of the critical thinking disposition of individual students on the benefits to learning obtained from the simulation as measured by the degree to which the ILOs were met.

Research Questions

This research aims to determine whether learning through business simulations is affected by students’ critical thinking disposition. Existing literature has highlighted the fact that educators should consider the experience and knowledge of their students and the complexity of the activity when using simulations to achieve ILOs. This research will examine whether educators when making

decisions regarding the use of simulations should also consider critical thinking dispositions. The research will measure learning by the degree to which students perceived that they met the ILOs of the module. If the success of business simulations in meeting the ILOs is independent of critical thinking disposition, it is likely that business simulations can be used successfully across a wide range of students. Conversely, if those students with lower critical thinking disposition less successfully meet the ILOs, then it may be more important and appropriate to target specific business simulations at specific cohorts of students. In addition, this research will seek to investigate the relative importance of the constructs within the critical thinking disposition measurement instrument, namely engagement, cognitive maturity and innovativeness, on the perceptions of the students in meeting the ILOs.

The research questions that this research seeks to answer are as follows:

What is the impact of students' critical thinking dispositions on student learning during business simulations?

What is the relative importance of the individual critical thinking disposition dimensions in students' success in meeting ILOs?

From the above research question, the following hypothesis has been produced.

H1. Business students with greater critical thinking dispositions achieve better learning outcomes from business simulations.

Methodology

The sample consisted of 173 final year students who undertook a change management simulation as part of a module entitled 'Enhancing Organizations' at a British higher education institute (HEI). The module was run within the university's business school and all the students enrolled were undertaking a business-related major. Adopting a sampling frame consisting of students within one department, at the same level and year of study, and at the same HEI, should help to minimize the potential for wide variations in student motivation and academic abilities. The students were taught in five classes with the support of one instructor. Teams of approximately four students were required to introduce changes into the operations of the simulated organization to make and design products which were more green and environmentally friendly and to address environmental waste issues. Success was measured by each group's ability to achieve the greatest number of adopters of

the change agenda within the organization, using the fewest resources to do so. Learning was based on action during the simulation and reflection on action after the simulation period. The simulation was undertaken across two weekly three hour sessions, each of which was followed by an instructor-led three hour reflective debrief. Structured approaches to the reflective stages can enhance the active interpretation of experience (Platzer et al 1997; Mezirow, 1990). Reflective debriefing is the point at which students analyze and uncover what they have learned through the simulation and thus is a crucial part of the learning process for students (Arellano et al., 2001; Cannice, 2014).

Data was collected through a self-administered Likert-style questionnaire that was distributed to all students upon completion of the simulation. Respondents were encouraged to consider the full range of the answer scales when completing the questionnaire, both verbally and within the printed instructions on the front page of the questionnaire. Completion of the forty-question questionnaire was voluntary and a total of 173 completed questionnaires were returned, representing a questionnaire completion rate of 65.8 percent. The questionnaire consisted of three parts: the respondents' demographics, an assessment of the degree to which the respondents perceive they met the ILOs through the simulation, and questions designed to measure the respondents' critical thinking disposition.

Measurement Scales

The respondents' critical thinking disposition was measured by the UF-EMI instrument (Irani et al., 2007), developed to measure the critical thinking disposition of students. The measurement instrument contains eleven questions to measure the engagement construct, eight questions to measure the cognitive maturity construct, and seven questions to measure the innovativeness construct. The overall critical thinking disposition score can then be calculated by summing the three construct scores, or the individual constructs can be tested (Irani et al., 2007; Ricketts and Rudd, 2004). This measurement instrument was selected as it has been used widely in higher education populations (e.g. Friedel et al., 2008; Lamm et al., 2011; Stedman and Andenoro, 2007; Ricketts and Rudd, 2004), and has previously been determined as reliable and valid (Lamm et al., 2011; Stedman and Andenoro, 2007; Ricketts and Rudd, 2004).

The business simulation was designed to bridge the gap between management theory and practice, while simultaneously developing their critical thinking and reasoning skills. The ILOs for the simulation are based on this intent. The students were asked on a scale of 1-5 how much they thought, 'The simulation has enabled me to' achieve each of the ILOs. The six ILO outcome questions for the simulation can be found in Table One.

Table 1 Questions to Measure the Intended Learning Outcomes of the Business Simulation

Questions to Measure the Intended Learning Outcomes

The simulation has enabled me to:

1. Practice my diagnostic skills in regards to leading strategic change.
 2. Practice my action planning skills in regards to leading strategic change.
 3. Gain insight into why individuals and groups might resist change and how to overcome that resistance.
 4. Develop an appreciation for key contextual factors when implementing change.
 5. Improve my ability to develop and apply appropriate change strategies and/ or tactics
 6. Identify actions of successful/effective organisational change agents
-

Data Analysis and Results

In the first stage of the data analysis, the critical thinking disposition data produced from the UF-EMI measurement instrument was subjected to principle component analysis. This was conducted in order to help validate the measurement instruments in the field of UK higher education.

A principal component analysis with Varimax rotation was conducted on the data collected. In order to obtain clear factor structures, only items with a minimum loading of .4 were retained. From this, factor scores were then created around the emergent factors encompassing the latent variables for each of the critical thinking disposition dimensions identified.

The emergent critical thinking disposition dimension factor scores were then added together to create the overall critical thinking disposition score for each participant. The responses to the questions measuring the six ILOs were also added together to create an overall ILO score.

Finally, the overall critical thinking disposition score and the individual critical thinking disposition dimension score were correlated and regressed against the overall ILO score to test whether the overall critical thinking score and the individual critical thinking disposition scores could predict the ILO score.

Factor Analysis of Critical Thinking Disposition

A KMO test was conducted and produced a measure of .853, confirming that the data sample was suitable for principle component analysis⁵. Scale purification and item reduction, which was based on the removal of items demonstrating factor loadings below .4, produced (through the principle component analysis process) three subscales based on 25 items with significant factor loadings (see

⁵ Kaiser (1974) recommended a bare minimum of .5, with values between .5 and .7 being mediocre, values between .7 and .8 being good and values between .8 and .9 are very good (Hutcheson and Sofroniou, 1999).

Table Two and Three). All of the original UF-EMI questions were correlated at the .4 level except 'I keep on working on things until I get them right.'

Table 2 Total Variance Explained in Principle Component Analysis of Scale Items Measuring Independent Variables

Factor	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.526	28.947	28.947	4.590	17.655	17.655
2	2.218	8.532	37.479	3.655	14.056	31.711
3	1.497	5.756	43.236	2.996	11.525	43.236

Extraction method: Principle component

The three-factor structure accounted for 43.24 percent of the variance. The resultant emergent factors (dimensions) Engagement (28.95 percent), Cognitive Maturity (8.53 percent) and Innovation (5.76 percent) were in line with the work of Irani et al. (2007), which helped to demonstrate validity of the measurement instrument in the UK higher education setting.

The Cronbach Alpha score measures the internal consistency of the answers given to scale questions and provides evidence for the reliability of the scales. The scores for each individual factor that emerged from the principle component analysis are contained within Table Three. All of the dimensions exhibit a Cronbach Alpha score greater than .7, indicating that the internal consistency for all of the factors to be tested is acceptable⁶.

The rotated factor structure for the critical thinking dispositions is presented in Table Three.

⁶ Cronbach Alpha scores of greater than 0.7 are generally regarded as satisfactory in terms of internal validity (Bland and Altman, 1997). According to Sekaran (2003), reliabilities less than 0.6 are considered poor, those in the 0.7 range acceptable, and those over 0.8 good.

Table 3 Rotated Factor Matrix

Dimensions	Item Description	Factor		
		1	2	3
Engagement $\alpha=.859$	I am a good problem solver	.758		
	I am confident that I can reach a reasonable conclusion	.709		
	I am able to relate to a wide variety of issues	.677		
	I am able to explain things clearly	.668		
	I am able to apply my knowledge to a wide variety of issues	.668		
	I present issues in a clear and precise manner	.616		
	I enjoy finding answers to challenging questions	.567		
	I am interested in many issues	.496		
	I look for opportunities to solve problems	.459		
	I ask focused questions when trying to clarify a solution	.427		
Cognitive Maturity $\alpha=.779$	It is important to be well informed	.412		
	I listen carefully to the opinions of others even when they disagree with me		.770	
	I believe that most problems have more than one solution		.599	
	I ask many questions when making a decision		.591	
	I consider how my own biases affect my opinions		.586	
	I try to consider the facts without letting my biases affect my decisions		.561	
	I try to find multiple solutions to problems		.551	
	I can get along with people who do not share my opinions		.543	
Innovation $\alpha=.731$	I am likely to change my opinion when I am given new information that conflicts with my current opinion		.496	
	I enjoy learning about many topics			.691
	I will go out of my way to find the right answers to a problem			.616
	I search for the truth even when it makes me uncomfortable			.585
	I ask lots of questions in a learning environment			.553
	I enjoy learning even when I am not in University			.505
	I enjoy solving problems			.491

Extraction method: Principle component analysis. Rotation method: Varimax with Kaiser normalization

Regression and Correlation Analysis

The Impact of Overall Critical Thinking Disposition

Correlation analysis between the overall critical thinking disposition score developed and the ILO score was undertaken. The analysis indicated there was a significant correlation between the two

variables at a 99 percent confidence level. Regression analysis was then undertaken between the two variables, the results of which can be found in Table Four.

Table 4 Regression Model Predicting Learning Outcome from the Overall Critical Thinking Disposition Score

	SE	Beta	t	Sig.
Overall Critical Thinking Disposition	.038	.506	7.663	.000*
* Significant at a 95% Confidence Level	R ² = .256			

The results indicate that there was a significant positive relationship between the overall critical thinking disposition of the respondents and their ILO score at a 95 percent confidence level. The overall critical thinking disposition score is able to explain 25.6 percent (R²) of the variance within the ILO score.

The Impact of the Individual Critical Thinking Dimensions

Further analysis was undertaken to determine which dimensions within the critical thinking disposition were most influential in predicting the ILO score. Correlation analysis was undertaken between the individual critical thinking disposition dimensions to determine if any of the individual dimensions were significantly correlated to the ILO score. It was determined that that both the Engagement Factor Score and the Cognitive Maturity Factor Scores were correlated with the ILO score at a 99 percent confidence level (see table 5). Accordingly, these two dimensions were taken forward for regression analysis. The Innovation dimension was found not to be statistically correlated with the ILO score at a 99 or 95 percent confidence level.

Table 5 Correlations Statistics between the Individual Component Factor Scores

	Engagement Factor Score	Cognitive Maturity Score	Innovation Factor Score	Learning Outcomes Factor Score
Engagement Factor Score	-			
Cognitive Maturity Factor Score	.000	-		
Innovation Factor Score	.000	.000	-	
Learning Outcomes Factor Score	.435**	.292**	.149	-

** Correlation is significant at the .01 level (2 tailed)

* Correlation is significant at the .05 level (2 tailed)

Stepwise regression analysis using the Engagement Factor Score and the Cognitive Maturity Factor Scores as independent variables and the ILO score as the dependent variable produced two models as shown in Table 6.

Table 6 Regression Models Predicting Learning Outcome from the Individual Component Factor Scores

	SE	Beta	t	Sig.
Model 1				
Engagement Factor Score	.069	.435	6.315	.000*
Model 2				
Engagement Factor Score	.065	.435	6.655	.000*
Cognitive Maturity Factor Score	.065	.292	4.467	.000*

The results indicate that an increase in both the Engagement and the Cognitive Maturity dimensions are able to predict an increase in the ILO score. The Engagement dimension has the biggest impact on the ILO score, explaining 18.9 percent (R^2) of the variance in the ILO score. The Cognitive Maturity dimension supports this dimension and together they are able to explain 27.4 percent (R^2) of the variance in the ILO score.

Discussion and Conclusion

The results of this research indicate that an increase in the critical thinking disposition, as measured by the UF-EMI measure instrument, was able to predict an increase in the ILO score. The results support the hypothesis that students with greater critical thinking dispositions achieve better learning outcomes from business simulations. It is widely acknowledged that the content of the simulation should be suitable for the student cohort in terms of experience, knowledge, and complexity (Moizer et al 2009, Sutcliffe, 2002), for the students to benefit the most from the simulation and achieve the required ILOs. This research suggests that critical thinking disposition should also be considered. The existing literature suggests that critical thinking skills can be developed and that business simulations can play a part in developing these skills (Springer and Borthick, 2004; Martin and McEvoy, 2003; Doyle and Brown, 2000). It is also widely accepted that, in developing critical thinking skills, critical thinking disposition can be improved, although the process may take longer (Tishman and Andrade, 1996). Indeed, it has been argued that critical thinking disposition is reinforced with the development of critical thinking skills (Facione et al., 1995). This argument suggests that the progressive use of simulations at an appropriate level (where students have a sufficient level of existing knowledge and critical thinking skills) may help to further develop

not only the critical thinking skills of students further but, over time, may also develop their critical thinking dispositions.

Upon analysis, it was found that the Engagement dimension was the most influential critical thinking disposition dimension in students' level of success at achieving the ILOs. Engagement is the disposition to use reasoning skills, solve problems, make decisions and communicate the rationale thereto (Irani et al., 2007). The study's finding suggests that individuals who already exhibit good reasoning, problem solving, and decision making skills are in a better position to meet the ILOs from simulations.

The Engagement dimension was statistically supported by the Cognitive Maturity dimension in predicting an increase in the ILO score. Cognitive maturity is the disposition to be aware of the complexity of problems, to be open to the viewpoints of others, to be aware of internal and external predispositions and biases, and to consider biases objectively before making decisions (Irani et al., 2007). The results of this research suggest that those students who are more open minded to the opinions and views of others and have a greater awareness of the complexity of problem solving are better able to learn from simulations.

These two findings highlight the importance and value of the discussion, evaluation, and feedback stages to the simulation process. Engagement and Cognitive Maturity can be actively encouraged through discussion, the exchange of viewpoints, analysis, a review of decision making, and reflection on how things could have been done better. All participants should be actively encouraged to take part, listen, contribute, and reflect. Research suggests that making sense of situations can be enhanced by structured approaches to reflection (Platzer et al., 1997), giving individuals the opportunities to challenge existing beliefs and mind-sets and to come to a better understanding of what has taken place (Mezirow, 1990). Encouragement of the development of these two dimensions will have a beneficial effect on the development of the critical thinking disposition.

The Innovation dimension was not found to be statistically related to the ILO scores achieved in this research. Innovativeness was defined as the disposition to be intellectually curious and to seek new knowledge (Irani et al., 2007). Although innovation may play a part in critical thinking disposition, no association could be identified with the ILOs score in this research. The finding may be a result of innovation's focus on seeking out new knowledge, whereas, during the simulation, the required knowledge and information is given to students, and much of the learning benefit comes from the discussions, feedback and reflection at the end of the process. In short, this finding may be influenced by the specific requirements or demands that the simulation used in this research made

on the individual students. Further research using different simulations may shed further light on this aspect.

It has been highlighted that the benefits from simulations can be maximized by discussions, analysis, feedback and revisiting the decision making process (Arellano et al., 2001), all of which could be considered to improve the depth of learning. These processes may well encourage and further develop critical thinking disposition and the component dimensions over time.

Limitations and Future Research

In common with all research, this project has limitations. The data collected for this project was based on a sample size of 173 participants undertaking one simulation exercise; however, the participants involved in the study had not previously undertaken a business simulation while studying their current degree program. Consequently, the participants all had equal exposure to business simulations and had similar levels of knowledge and experience of simulations while completing the simulation and questionnaire. Similarly, whilst the research only considered one-year group, the homogeneity of the group should ensure similar levels of business knowledge and university experience. Future research could be directed towards conducting similar research with larger sample sizes across different year groups to investigate the variation that the year and level of study might have on student learning during business simulations. It could be argued that the students' self-assessment of how the simulation met the ILOs may be less accurate than a formative or summative assessment result; however, such approaches have deficiencies which include the impact of potential external and unforeseen factors, whilst self-assessment allows individual respondents to take these potential factors into account when making their assessment. An interesting line of enquiry would be to test the critical thinking disposition of participants longitudinally over time after the same group of participants had undertaken a series of business simulations. Past research suggests that approaches to develop critical thinking skills (such as simulations) can also improve critical thinking disposition (Tishman and Andrade, 1996), and that critical thinking disposition is mutually reinforced along with the development of critical thinking skills (Facione et al., 1995). A study of this kind would not only provide evidence of this mutual reinforcement but would also provide useful information about the value of simulation formats.

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The Continuing Search to Find a More Effective and Less Intimidating Way to Teach Research Methods in Higher Education

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Abstract

Existing literature examining the teaching of research methods highlights difficulties students face when developing research competencies. Studies of student-centered teaching approaches have found increased student performance and improved confidence in undertaking research projects. To develop a student-centered approach, it could be beneficial to teach students through active participation, with the development of their research agendas as the basis for progression. To develop this goal, the research methods module for graduate students at a UK business school was restructured into a two-week block utilizing a student-centered approach. The performance of the students was then compared to the performance of students who undertook the same course material presented in a traditional semester-long module and the results were then statistically analyzed. The results of this study provide new and interesting evidence of increased student achievement and understanding through the new format and provide new avenues for future research.

Keywords

Research Methods, Intensive Course, Active Learning Environments

Introduction

Existing literature acknowledges that university students find courses in research methods difficult and challenging, and students often perform poorly (Edwards & Thatcher, 2004). Research methods courses are often unpopular with students because the course material is perceived to be complex and technical in nature, resulting in low student interest in the material (Ball & Pelco, 2006) and a belief that learning research methods is difficult and irrelevant (Hubbell, 1994). Research has indicated that students struggle in research methods courses with developing 'intangible' aspects of research skills, including the development of a research disposition (Van der Rijst, Visser-Wijnveen, Verloop & Van Driel, 2013).

In addition, courses are often focused on teaching theory rather than the application of research and are often delivered using a passive, lecture-based format (Benson & Blackman, 2003). Students may thus form a poor perceptual link between learning research methods as an academic subject and the application of their learning to future studies (Benson & Blackman, 2003). In addition, students may lack the skills necessary for the selection and use of qualitative and quantitative data collection and analysis procedures (Edwards & Thatcher, 2004).

Nevertheless, the mastery of research methods is a critical skill in higher education, both to prepare students to undertake original research and to enable them to critically analyze research findings (Doyle & Buckley, 2014; Zablotzky, 2001). Recent research has suggested that teaching research methods using passive, lecture-based approaches has met with limited success and can result in decreased student motivation and interest (Ball & Pelco, 2006; Edwards & Thatcher, 2004). As a result, attempts have been made to develop new approaches that students may find more accessible (Ball & Pelco, 2006; Benson & Blackman, 2003; Edwards & Thatcher, 2004).

A UK business school has similarly observed that students struggle with understanding research methods and applying them to their own research and final-year dissertations. The business school accordingly adopted a new teaching approach that was designed to combine the advantages of an intensive format with increased participant engagement and a focus on independent learning. The new format was designed to help students increase their understanding of the subject matter and its applicability to their research and ultimately to improve grades in research methods courses.

Literature review

The advantages of intensive course design formats and active participant engagement are well described in the literature. This literature review considers these benefits and how they can aid in the development of effective course design.

Intensive course design

Intensive courses have become increasingly common in universities to meet changing needs, including increasing numbers of non-traditional students seeking higher education (Austin & Gustafson, 2006). The courses are usually structured in condensed formats that may include weekend and evening classes and work-based programs (Wlodkowski, 2003).

Scott (2003) suggested that, under the right conditions, which include an enthusiastic and experienced instructor, an active-learning and collegial atmosphere, classroom interaction, good course organization, student input, and a relaxed learning environment, intensive courses could have many benefits over a traditional format. These benefits include more focused learning, greater in-depth discussion, less procrastination, and stronger academic performance. The benefits may also encourage faculty to improve levels of interaction and discussion, which can increase student motivation and achievement (Kucsera & Zimmaro, 2010).

Scott and Conrad (1992) reviewed fifty studies comparing intensive courses to traditional-length courses in many disciplines. They concluded that intensive courses resulted in largely equal or superior learning outcomes. Similarly, Van Scyoc and Gleason (1993) compared the outcomes of economics learning in a quantitative study and concluded that students taking a three-week course scored better than those taking a fourteen-week course, although there appeared to be no difference in knowledge retention. A review of the literature by Daniel (2000) compared intensive courses with traditional courses and concluded that intensive courses appear to yield equivalent or superior long- and short-term academic performance, with students expressing greater satisfaction with the intensive courses. Austin and Gustafson (2006) examined a database of 45,000 observations to conclude that intensive courses resulted in higher grades than did sixteen-week courses. They found that the benefit to students of an intensive course peaked at four weeks. By considering future performance, they showed that the higher grades were due to increased knowledge and not a lowering of standards during the shortened sessions.

Many reasons have been cited as to why intensive courses produce similar or superior outcomes to traditional formats. One reason is that students enrolled in intensive courses might be more highly motivated or develop a higher level of motivation than those in traditional courses (Windish, 1993). Another reason may be student preference. In a study comparing the effectiveness of intensive and traditional courses, Kucsera and Zimmaro (2010) found that while intensive courses did not significantly differ from traditional courses in students' instructor ratings, intensive courses received significantly higher course ratings overall, after controlling for class size and probable course grade.

Intensive courses have been criticized as being too compressed to achieve consistent educational value. Another criticism is that they sacrifice breadth and depth, resulting in poorly-developed learning (Shafer, 1995). Doubts remain that intensive courses can produce the same results in less

time than traditional education formats, based on the belief that longer face-to-face classroom meeting time produces a more effective learning experience (Reardon, Payan, Miller & Alexander, 2008). Other arguments against intensive courses include insufficient time to cover syllabi, reduced contact time with instructors that is necessary for analysis of the taught content, decreased academic rigor, and the risk of increased stress and reduced student satisfaction. It has also been argued that higher education institutions may adopt intensive courses for student convenience and to increase enrolment, rather than to improve students' learning experience (Scott, 2003; Wlodkowski, 2003). Nevertheless, evidence suggests that intensive course formats can provide outcomes equally effective to, if not more effective than, traditional formats (Wlodkowski & Westover, 1999).

Active learning environments

The literature suggests that students learn research methods best by actively engaging in the subject matter. Nixon and Williams (2014) found effective curriculum design to be a crucial aspect of student engagement. Hubbell (1994) found that statistical formulae and theoretical concepts meant little to students who lacked an environment in which they could actively participate. This sentiment was echoed by Fallows and Ahmet (1999), who argued that students could most effectively learn when their involvement, participation, and interaction with module materials and concepts were maximized. Research suggests that a more student-centered approach, can result in improved student performance and increased student satisfaction, with students reporting they felt more stimulated and better prepared to conduct research in the future (Ball & Pelco, 2006; Edwards & Thatcher, 2004). Edwards and Thatcher (2004) found that active engagement via seminars and the opportunity for continual assessment throughout the course by instructors contributed to improved student performance.

Ames (1992) argued that students would be more likely to fully engage in learning if they perceived meaningful reasons for participating in an activity. Meaningful reasons include developing an understanding of the activity content and improving or gaining new skills. Students are also more likely to fully engage in their learning when they find assignments and presentations meaningful and personally relevant (Meece, 1991). Piercy (2013) found that students perceive an applied workshop experience to be both engaging and personally relevant, providing a better incentive to learn than the traditional lecture format.

In order to move towards an active-participant learning environment, it is necessary to adapt the role of the instructor. Instructors should initiate, encourage, and support student ownership of their learning processes (Benson & Blackman, 2003) and be encouraged to undertake activity-based

learning. By implementing a program that allows space for reflection and feedback via peer groups, instructors will encourage and aid students' learning (Beveridge, 1997). Structured approaches to reflection can enhance the process (Platzer, Snelling, & Blake, 1997).

Instructors frequently use group work and group presentations to engage students, and an extensive body of literature supports their benefits in higher education (Nordberg, 2008; Plastow, Spiliotopoulou, & Prior, 2010). These benefits include the ability to develop transferable and subject-specific skills (Wisker, 1994) and the active involvement they provide in the student learning process (Matveev & Milter, 2010). Whilst some studies have suggested that students responded positively to group activities (Cadiz Dyball, Reid, Ross, & Schoch, 2007), others have suggested that students were less satisfied with their group work experiences (Shah, 2013).

The literature outlines the benefits of an intensive course design which include increased student performance (Austin & Gustafson, 2006; Daniel, 2000; Scott & Conrad, 1992; Van Scyoc & Gleason, 1993) and increased student satisfaction (Kucsera & Zimmaro, 2010; Windish, 1993). Furthermore, research has found that students are better able to learn research methods in an active learning environment (Ball & Pelco, 2006; Edwards & Thatcher, 2004; Hubbell, 1994; Nixon & Williams, 2014). This research aims to combine the potential advantages of an intensive format with student-centered learning and active engagement in research methods education. The features of the new course design are detailed in Table 1.

Table 1. Course Design Considerations Based on Existing Literature

Issues	Potential Solutions	Feature of New Course Design
<i>Research Methods Course Design</i>		
Passive teaching approaches	Active participation in course	Students worked with peer groups based on their topics of interest
Theory-based course design	Activity-based learning incorporating constructive and reflective practices	Learning and group discussions centered around students' individual research ideas
Often taught over the course of a semester, which can hinder the comprehension of a complete picture	Teach research methods in a more compact/integrated format	Two-week intensive course to deliver integrated sessions and provide a focused learning environment
<i>Student Understanding of the Research Methods Process</i>		
Research methods course material perceived as difficult and technical	Use small groups learning to increase student interaction	Students received peer feedback regularly and undertook two formative assessments
Difficulty in identifying appropriate quantitative and qualitative data collection/analysis techniques	Practical application of data collection and analysis to 'real' projects	Students taught theoretical strengths/weaknesses of different methods and were expected to justify their choice
Students inadequately prepared to undertake dissertation research	Provide the opportunity for students to discuss and develop their own research ideas in a supported environment	Students discussed their proposals with subject specialists daily, increasing feedback and reflection

Research design

Instructors of research methods courses at a UK business school observed that students struggled with the course content and the perceived complexity of the course material, which was delivered via weekly lectures and seminars over a 12-week period. Students struggled with conceptualizing the course content and applying it to their research projects. Subsequently, students often received relatively low grades on their two assignments. Drawing from existing research (Fallows & Ahmet,

1999; Matveev & Milter, 2010; Piercy, 2013) the business school implemented a new, intensive course format, aiming to increase student participation, increase the relevancy of the teaching, and promote independent learning in a less formal and more collegiate environment. Importantly, students were encouraged to develop constructive and reflective practices by allowing time for reflection and feedback throughout the process, as discussed by Beveridge (1997). The new teaching format condensed the course teaching into a two-week intensive block, conducted before the start of the second semester. The intended learning outcomes and details of the summative assessment are detailed in Table 2.

Table 2. Intended Learning Outcomes & Module Assessments

Intended Learning Outcomes

To be able to:

1. Evaluate the strengths and weaknesses of particular research approaches and methodologies
2. Formulate research questions and aims/hypotheses as appropriate
3. Design research methods to achieve stated research aims
4. Critically evaluate research methods against given aims/hypotheses

Summative Module Assessment

		Intended Learning Outcome Assessed
Assignment 1 – Research Critique	Evaluation of a published peer reviewed paper	1,4
Assignment 2 – Research Proposal	Development of a research proposal	2,3

The first stage of course development required the written course material to be sent to the students electronically to allow them to review it prior to the start of the course. The teaching was then carried out over a two-week period in fifteen- to twenty-minute instructor-led presentations that were followed by a practical activity wherein students developed a set of methods suitable for their own research project. Their methodological decisions were discussed within small peer groups and then with the entire class. Two optional sessions with an instructor were available for the students to individually discuss their proposals and check that their methodological approaches were appropriate. Sample research questions were available for reference during the optional sessions to aid any student struggling with conceptualizing his/her own research question.

This format covered the entire syllabus and took students through each stage of the research process, enabling them to critically analyze many research approaches. Instructors helped students understand why some approaches and methods were more suitable and why other approaches and methods were less suitable. Students were thus better able to develop the research methods most suitable for their dissertations. A further advantage of this approach was that the students were able

to obtain feedback and learn from their errors after each stage of the process by interacting regularly with their groups and instructors.

The outcome of the change in course format was measured by a quantitative analysis of the grades achieved from the two assessments, which were compared to grades from the previous year's courses. In addition, qualitative feedback was obtained from the students' dissertation supervisors regarding students' preparedness to conduct their research.

Research ethics

The project was conducted using best ethical practice. Student performance was recorded anonymously using student's numbers, stored in accordance with the United Kingdom Data Protection Act 1998, and care was taken to ensure a fair and accurate representation of the results (Saunders, Lewis, & Thornhill, 2011). The ethics of changing teaching methods warranted consideration; however, the changes were introduced to bring student performance to a desired standard. Hopkins (2008) suggests that, while improvement through innovation should be supported, improving teaching should be the primary objective and research should not hinder education of the students. Sound reasons from the literature supported the belief that the new format would enhance student learning.

Methodology and results

The new, intensive, two-week research methods course was run for the 2012-13 academic year (n= 45). The overall module grade for each participant (calculated from the two course assignments) was then compared to grades obtained in the previous academic year by students completing the same two assignments within the traditional 12-week course (n= 51). The assessment scores used in the analysis were both internally and externally moderated, which should ensure consistency between the scores over the two years. The data was then subjected to an independent sample t-test to determine whether a significant difference existed between the mean score of the intensive course students and the score from the previous year. A summary of the results is shown in Table 3 and Table 4.

Table 3. Independent Sample t-test Group Statistics

Course Studied	N	Mean	Std. Deviation	Std. Error Mean
New Format Class Score (2012/13)	45	56.47	11.23	1.67
Traditional Class Score (2012/13)	51	51.18	9.33	1.31

Table 4. Independent Sample t-Test Results

	Levene's Test		t-Test for Equality of Mean							
	F	Sig.	T	df	Sig. (2 Tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval		
								Lower	Upper	
Grade - Equal Variances Assumed	2.57	.11	2.52	94	.013	5.29	2.10	.12	9.46	

The results in Table 4 indicate that a significant difference at a 95% confidence level exists between the overall scores achieved in the new class format and those in the traditional format. The results in Table 3 confirm that the mean score for the new format (56.47) is greater than that for the traditional format (51.18) in this sample. Interestingly, the standard deviation of scores is greater in the new format than the traditional format. This may be a characteristic of the cohorts or could indicate that some students benefited from the new format whilst others struggled.

To provide a deeper analysis of the scores, paired t-tests were undertaken between the individual student scores and the average scores for the other previous courses each student had sat as part of their program of study. The tests highlight how students performed on the research methods module compared to other courses, which were delivered in a variety of formats. The test considered the ability of individual students and gave an indication of achievement against individual ability, as measured across a range of previous courses. The results of the paired t-tests are shown in tables 5-8.

Table 5. Paired Samples t-test Group Statistics – New Format

Score	N	Mean	Std. Deviation	Std. Error Mean
Research Methods Score	45	56.47	11.23	1.67
Average Score	45	55.61	7.80	1.16

Table 6. Paired Samples t-Test Results – New Format

	Paired Differences				T	Df	Sig. (2 tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval			
				Lower Upper			
Research Methods Score – Average Score	.85	9.14	1.36	-1.89 3.60	.626	44	.534

Table 7. Paired Samples t-test Group Statistics – Traditional Format

Score	N	Mean	Std. Deviation	Std. Error Mean
Research Methods Score	51	51.18	9.33	1.31
Average Score	51	57.55	5.84	.82

Table 8. Paired Samples t-Test Results – Traditional Format

	Paired Differences				T	Df	Sig. (2 tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval			
				Lower Upper			
Research Methods Score – Average Score	-6.37	7.31	1.02	-8.43 -4.31	-6.22	50	.000

The results indicate the following. With regard to the traditional course, there was a significant difference between the research methods scores and the students' overall average scores (51.18 against 57.55). There was also a larger standard deviation in the scores from the research methods course compared to the average grade scores. Regarding the new course format, it was found that no statistical difference existed between the research methods and the students' average overall scores (56.47 against 55.61). Once again, the standard deviation in the research methods course scores was larger than for the average student scores. Based on these findings, it would appear that whilst the average overall scores have remained relatively similar (2011-12, 57.55 against 2012-13, 55.61), the research methods scores have shown a statistically significant increase for the new

format (2011-12, 51.18 against 2012-13, 56.47). The data suggest that the students performed better in the newly formatted research methods module when compared to the traditional format, and more in line with the students' overall average scores.

Additional evidence was collected from interviews following the intensive courses with five faculty members who supervised the students' research projects (dissertations). The interviewees had also supervised the research projects of students who had undertaken the traditional research methods during the previous year. The interviews elicited the faculty members' views regarding students' preparedness to conduct research and general understanding of research methods. The main points emerging from the interviews are summarized below:

Positive comments:

- Students came prepared with ideas to discuss, making the initial meeting more productive.
- The proposed methods could be defended and justified, reflecting deeper knowledge and understanding.
- Projects were outlined, and students had a realistic idea of what was required regarding the stages and timing.
- Students had a better understanding of their proposed research topics.
- Students were enthusiastic and took greater ownership of their projects.

Negative Comments

- Some students had difficulty thinking up new ideas.
- Students found it difficult to deviate from a linear path and overcome obstacles.
- Proposed project topics were too similar between students.
- Students were often set on their proposed ideas and seemed resistant to change.

Analysis and Conclusions

The desired outcome of the new format was to improve assignment scores, enable a more comprehensive understanding of the course material, and, enable students to produce better dissertations. The following tentative conclusions can be drawn from the findings. The new format produced scores that were at least as good as the traditional format and which were more closely aligned with students' average overall course scores. Subsequently, students were often able to come to their initial supervisory meetings prepared with ideas regarding their research plans. They had a clearer idea of the research process and were often enthusiastic and more prepared to take ownership of their project. The findings provide additional evidence to support existing research

arguing that an intensive format and high levels of participant engagement are advantageous to the learning process.

The improvements in the students' performance on their assignments may be attributed to the compressed format and focused learning, which helped students to make the perceptual link between the taught content and an applied project. The active learning environment enabled greater in-depth discussion, shown by Kucsera and Zimmaro (2010) to increase student achievement, and gave students the opportunity to apply their learning throughout the course.

The feedback from the interviews suggests that the students were better able to overcome the perceptual link between learning research methods as a subject and then using the knowledge in practice. This was a key barrier to students' understanding of research methods, identified by Benson and Blackman (2003). Overcoming this barrier could decrease the perception that learning research methods is irrelevant and difficult (Hubbell, 1994).

There was, however, a greater standard deviation in the new course format scores than with both the traditional format course and the average course scores. This could be a reflection on the cohort samples or may signify a larger variation in how students responded to the new format, suggesting that certain students may benefit more greatly from this format whilst others may find it more difficult. Although group learning can be beneficial to weaker students by helping to support their self-esteem and facilitating their learning (Crooks, 1988), certain student groupings may still find it difficult to participate in active engagement. This may, in part, reflect the variation in the results reported in the literature regarding the attitude of students towards group activities (Cadiz Dyball et al., 2007; Shah, 2013; & Piercy, 2013). Due to the limited size of this project, it is not possible to investigate this further.

Other concerns expressed included the difficulty in moving away from a linear thought path and a resistance to different approaches and ideas. The concerns could reflect a less developed understanding and knowledge of alternative options, which may develop once the student clarifies his/her idea. This highlights the importance of teaching and engaging students on the whole syllabus to ensure overall understanding of the subject matter.

In common with all research, this project has several limitations. While increasing the size of the groups would have produced stronger and more generalizable evidence, the statistical analysis provides a sound basis for future research to extend the principles and conclusions drawn from this research. Similarly, this research was conducted across two years, which may have made the results less comparable. Additionally, this research only considered the effects of the changes in terms of student achievement and did not account for the students' experience and satisfaction, which could have highlighted the particular aspects that students found difficult and could have been used to

make amendments to the teaching format in the future. However, interestingly, it should be noted that routine post course student satisfaction surveys conducted at the end of both courses indicated similar levels of student satisfaction. Finally, by introducing a number of changes at the same time in a teaching program, it is not possible to pinpoint which of the individual changes had the greatest impact on the student achievement. However, since the objective of this research was to combine the potential advantages of an intensive format, a high level of active engagement, and a focus on independent learning, this does not weaken the conclusions of this research.

In conclusion, after a research methods course was redesigned to combine the advantages of an intensive format with an active learning environment focused on participant engagement, it appears to have, resulted in improved assessment scores and a greater ability of students to apply their learning to research projects. Furthermore, the new format adopted in the research study provides new and interesting avenues for future research.

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Concerns and expectations of students participating in study abroad programs: Blogging to reveal the dynamic student voice

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Abstract

Study abroad programmes (SAP) have become increasingly popular with university students and within academia. They are often seen as an experiential opportunity to expand student learning and development, including increases in global, international, and intercultural competences. However, despite the increasing popularity of and participation in study abroad programmes, many student concerns and uncertainties remain. This research investigates initial pre-departure concerns and apprehensions of students undertaking a one-semester study abroad programme and uses these as context for an examination of violated expectations of students during their programme. The research uses interpretative phenomenological analysis to interpret data collected from regularly-updated blogs composed by students throughout their SAP experience. The process of using blogs to collect data is less formalised than many other approaches of interpretative phenomenological analysis, enabling 'in the moment' feedback during the SAP and lending greater depth to the understanding of student perceptions.

Key Words

Study Aboard, Erasmus, Student Expectations, Student Blogs

Introduction

Study abroad programmes (SAPs) are an experiential opportunity to expand student learning and development (Paige & Fry, 2010). SAPs can be defined as “all educational programmes that take place outside the geographical boundaries of the country of origin” (Kitsantas, 2004). As globalization has internationalized many processes and operations, education is no exception; as a result, universities are increasingly promoting international study (Ahn, 2014). The potential benefits of participation in SAPs include increased appreciation of global issues and intercultural awareness (Douglas & Jones-Ridders, 2001), greater sensitivity to new and different cultures (Wright & Clarke, 2010), understanding of global interdependence (Sutton and Rubin, 2004), and increased intercultural communication skills (Wright & Clarke, 2010). SAPs have been shown to have a broad and long-lasting impact on students’ lives (Paige et al, 2009), increasing self-confidence, leadership skills and problem-solving skills, and fostering open-mindedness (Ingraham & Peterson, 2004; Black & Duhon, 2006; Sachau et al, 2010). SAPs may also positively impact the early stages of career development (Potts, 2015), giving students a competitive edge when seeking employment (Peacock 2005) and preparing students to work in a global and multicultural environment (Mor-Barak, 2011).

In an increasingly global environment, the ability to communicate effectively with those of different cultures is becoming a vital requisite in many fields including marketing (Jones, 2003), engineering (Klahr and Ratti, 2000), and business (Tarrant, 2010; Hallows et al., 2011). International and more diverse workplaces demand employees with international and intercultural skills (Hallows et al, 2011). As such, cross-cultural skills are required both by organisations and by students competing in the employment market (Williams 2005). Indeed, the development of attractive and high-quality exchange programs is often seen as an aid to university student recruitment (European Commission [EC], 2013). The number of American and European college students participating in SAPs has been increasing (Bandyopadhyay and Bandyopadhyay, 2015; EC, 2013). Nevertheless, only 10 percent of American or European Union (EU) university undergraduates currently undertake SAPs (Redden 2014; EC, 2013; European Union, 2013). The small percentage of students participating in SAPs, despite increased focus and support, suggests that there is room for further investigation of factors that concern students before and during their study abroad.

This research draws from student blogs to investigate student concerns and expectations before and during their SAP experience.

Study Abroad

The Choice to Study Abroad

To explore the perceived concerns and expectations that create barriers to studying abroad, it is useful to examine the theoretical frameworks that influence a student's choice to study abroad. Human capital theory, which suggests that students can improve their individual capacities through investment in education, is argued to influence students' educational choices (Salisbury et al, 2009). Supporting this is Thirolf's (2014) study that found that many students forgo SAPs because they would rather focus their energy on experiences that they believe will enhance their résumés with concrete outcomes in order to secure employment, meaning students may perceive workplace experience and internships as more valuable and capital-building than study-abroad experiences.

Perna (2006) argues that students make decisions regarding their higher education by weighing expected benefits and costs, which is influenced by, *inter alia*, their values and beliefs, and Salisbury et al (2009) suggest that this 'student-choice construct' can be applied to study abroad choices. These choices are also subject to cultural and social capital levels, which would indicate that access to information, resources, and interaction with other participating individuals may influence student choices.

Potential barriers to participation can include cost (Foster, 2014), difficulties with transferring credits between universities, delaying graduation (Shaftel et al, 2007), work, academic scheduling, family, and financial considerations (Lenz and Wister, 2008). Interestingly, it has been argued that students who benefit from Erasmus schemes (student exchange programme that provides scholarships for European Union students to study abroad) perceive similar barriers to study abroad as do their non-Erasmus European student counterparts (Beerkens et al, 2016), suggesting that reducing financial barriers may not in itself increase student participation in SAPs.

Study Abroad Programme Concerns and Expectations

Research has suggested that addressing the concerns of students can play an important role in influencing their decision to study abroad (Maringe & Carter, 2007). Findlay et al (2006) consider the significance of financial factors in student decision-making, and Klahr and Ratti (2000) identify barriers perceived by students to engaging in SAPs, including academic prerequisites and qualifications for the foreign university that students either do not understand or do not meet, differences in academic year structures, a lack of foreign language skills, information on local living conditions, and knowledge about local accommodation. Other perceived barriers described in the literature include a lack of support from home university faculty and staff, particularly from academic advisors who could help students understand how an SAP could fit into their academic journey, and a lack of information about studying abroad (Matthews et al, 1998). The perception of barriers varies among individual students; while learning a foreign language may intimidate some students, for instance, it may motivate others (Nilsson 2014). For some students, the concerns emanating from perceived barriers may be overcome, or at least reduced, by the provision of appropriate information, guidance, and preparation, which requires planning on the part of universities (Lillyman & Bennett, 2014).

Engle and Engle (2003) noted that success in university SAPs often was measured by how many students studied abroad rather than on the quality of the SAP and its contribution to students' development. They developed a system for categorizing SAPs on the basis of the level of students' immersion in the host culture. This approach allows student needs to be matched to appropriate SAPs in decision-making, as well as appropriate preparation beforehand. Such preparation can help students to have more realistic expectations, leading to a more positive experience (McLeod and Wainwright 2009). McLeod and Wainwright (2009), using post-SAP focus group data, found that expectations, both met and unmet, were significantly related to how students viewed their SAP experiences.

Expectation Violation Theory

Expectation Violation Theory (EVT) (Burgoon, 1978) was developed to explain how people respond to unexpected communication and will be used in this study as a theoretical framework to understand students' SAP experience. EVT originally focused on non-verbal behaviour, but has since been extended to include verbal behaviours. Expectation can be

defined as “an enduring pattern of anticipated behaviour that may be either generalized or person specific” (Burgoon & Walthers, 1990, p. 235). Using this theoretical framework, expectations derive from communicator, relationship, and contextual characteristics (cultural and situational). Norms and values are thus based on the social and cultural environment as well as on past experiences. Individuals expect that others will follow the same set of norms and values (Burgoon and Walthers, 1990). However, norms, rules, and expectations vary between cultures, and are easy to violate due to a lack of understanding (Burgoon, 1995). Human interaction is driven by learned expectations, and variations thereto may elicit reaction. The greater the negative variation with an interaction or experience, the greater can be the potential for doubt, uncertainty, anxiety a disillusionment. Similarly, positive interactions relative to expectations lead to more favourable outcomes (Burgoon et al, 1995). Analysing data on SAPs through the lens of EVT can offer an informative background to students’ perceptions and experiences during a SAP in a ‘foreign’ environment. Differences in local customs, teaching, and communication styles hold the potential to create dissatisfaction and uncertainty.

Blogging to Reveal the Student Voice

Research in the use of social media and blogs in education is relatively new, given that the technology is also in its early stages. Blogs and other forms of social media have been argued to be easily-accessible, user-friendly means of networking, collaborating, communicating, and gathering information (Schroeder et al, 2010). Blogs are increasingly used in higher education, allowing for greater interaction among and between students and instructors, and creating real-time notifications of information and feedback, as well as a chronological record of interactions (Yueh et al, 2014; Bausch et al, 2002). The sense of control over the structure of an individual blog has been found to create an atmosphere of comfort, facilitating reflection (Karger and Quan, 2004) and thus supporting social and individual learning (Lin et al., 2006). Tolmie and Boyle (2000) and Pena-Shaff et al (2005) suggested that online forums such as blogs give individuals a sense of ownership, increasing the likelihood of successful communication between students and faculty and/or peers and reducing anxiety about participating in online communication.

Blogs have been found to elicit an affective response in students, resulting in the sharing of personal information (Leslie & Murphy, 2008). Students may prefer to post about their lives

rather than share factual information (Leslie & Murphy, 2008). A social need for personal connections may motivate the high level of self-disclosure seen in blogs (Ma et al, 2006; Leslie & Murphy, 2008). Kim (2008) applied Lawler's (1973) theory that motivation is influenced by the expectation of outcomes to argue that individuals are motivated to increase their participation in blogging by seeing feedback to their blog posts.

The Research: Aim and Methodology

The continual review and assessment of SAPs ensures students' learning and development needs are met, thus maintaining the credibility of programs (Williams, 2005; McLeod & Wainwright, 2009). In line with recommendations by Engle and Engle (2003) and McLeod and Wainwright (2009), this research sought to develop an understanding of students' concerns and expectations prior to and while taking part in a SAP, to add depth to the literature on developing preparations and ongoing support which will help students realize the benefits of studying abroad (Behrnd & Porzelt 2012).

Qualitative data were collected from student-authored blogs narrating their individual experiences before, during, and after their SAP. Sixteen students preparing for a one-semester SAP volunteered to participate, agreeing to write six blog posts throughout their experience on directed topics to enable reflection and development. The students in the study were European and came from the same home university in the United Kingdom. Because they had access to Erasmus scheme funding, students had a stipend to cover their living costs while abroad and paid no additional tuition fees. The SAP placements were all voluntary and provided transferable credits. Students studied abroad at six different institutions. The SAP placements were all undertaken within Western Europe, in non-English speaking countries, while academic instruction was in English. Students chose their modules during the SAP based on their course of study, so there was no fixed 'programme' at any of the universities for international students and all students mixed into regular classes with peers on similar courses of study. While some of the students in the study went to the same foreign university, they were not in the same programmes of study and thus were in different modules during the SAP.

Students were asked by the researcher (a faculty member charged with providing academic advice for SAP students, but who was not the students' instructor) to write an initial blog post before departing for their SAP, detailing their concerns and expectations regarding

their time studying abroad. The students were encouraged to write at least four posts throughout their SAP experience to provide an ongoing narrative of their experiences. Students were asked to reflect, upon or just before their return, and then blog on their original concerns and expectations and their overall experiences in light of these. The timeline of the blog posts was left to the individual students, allowing students to write whenever they were 'in the moment.'

Students were assured that their blog posts would remain anonymous for the purpose of the research and were given suggestions of free blog-hosting websites. They were allowed to choose whether to share their blogs with friends and family. The narratives collected from the blogs were collated and interpretative phenomenological analysis (IPA) was used to analyse the findings. Blogs were an ideal data source for this analysis; allowing the subjects the opportunity to detail their views and thoughts freely in their own time, rather than in a more formal, semi-structured 'after the event' interview setting that has typically been used for IPA (Braun and Clarke, 2013; Smith, 1995). Linked to the fact that the goal of this study was to create a real-time archive of affective responses to the study-abroad process, the use of blogs allowed for ongoing data points and reduced the retrieval and memory problems associated with ex-post interviews (Tourangeau, 1984).

In line with arguments that blogs fulfil a need for social connection with others and elicit sharing of personal information (Ma et al, 2006; Leslie and Murphy, 2008), all of the students eschewed anonymity and chose to share their blog entries. Many posted links to their blog entries to social media outlets (e.g. Facebook) and elicited comments and 'likes' in response to their posts. All students composed more blog entries than were requested by the researchers. In addition, students embraced their blogs and the concept of their being read by others; nearly all of the students began them blogs with introductions of themselves for their readers.

Findings

Initial postings: Pre-departure expectations and concerns

The first blog posts by the students provided the lens through which the participants' later postings could be viewed, thus providing insights into their pre-departure assumptions and expectations (Braun and Clarke, 2013). This lens allowed the researchers to better interpret students' reactions to their SAP experiences. Postings before departure focused on hopes and expectations, and concerns and anxieties. Students expressed optimism and excitement at the concept of moving away from their home country (all for the first time) and immersing themselves in a wholly new culture. Responses indicated that students believed they would return from their experience more cultured and worldly, often with greater fluency in a foreign language. The use of emoticons to convey hope and happiness was strong in these initial posts. Students focused on how the experience would shape and change them in a positive way. For example:

“dreams of spur-of-the-moment train rides ... getting lost in the cobblestones with nothing to do but absorb everything.”

“It's a big step towards independence”

“New, amazing city, new experience, have a mini fresh start.”

“I am sure it's a life changing experience and that I will definitely regret if I won't take this opportunity, so off we go!”

Students appeared cognizant that they were being offered something special in the SAP; they judged the opportunity to be rare and special. Students seemed confident that their SAP experience would not be a great challenge and felt they were prepared to live in another culture. Initial blog posts held predictions of future success in another culture and often 'invited' the reader to follow their blog postings. The language was light and peppered with positive emotions and an aura of cultural invincibility that they felt could benefit or impress readers.

Despite this optimism about the 'big picture', analysis indicated pre-departure concerns intermixed with enthusiasm. Students were both worried and excited about making new friends. This seemed to be an unknown that was not fully grasped:

“No exchange programme experience can be fun without people with who[m] you can hang out and spend time together ... really looking forward to meeting new people with who[m] I can share my experiences and discoveries.”

Loneliness and isolation during SAPs has been highlighted by several authors, including Sawir et al (2008), Nilsson (2014), and Robertson et al (2000). However, while previous studies have often focused on both distance from loved ones and making new friends, only one student expressed concern about being far from her family. Indeed, this study's blogs may help explain the shift towards being more concerned about new friends. Increased internet access, enabling free or inexpensive communication with friends and family, may mitigate these concerns ex ante.

Logistically, students expressed concerns about luggage size, packing for a semester abroad, and navigating transportation stations by themselves to arrive at their new home. While this matter is not often highlighted in the SAP literature, these pre-departure blog posts may have captured concerns long forgotten after the SAP experience. In contrast with previous studies (e.g. Luethge, 2004), concerns about money stemmed from how they would access their funds from foreign banks, and credit card acceptance. The availability of Erasmus funding likely mitigated most money concerns. Most students at the time of the first blog had not secured housing and accommodations were a primary concern. The host universities provided students with information on housing and suggested companies ahead of their arrival, but ultimately the students were responsible for securing their own place to live for the semester. Students worried about finding a permanent place to live and the cost of rent, as well as their future roommates and the quality of the accommodation. The perception of a lack of suitable or affordable accommodation, and unknowns regarding the host country's living conditions, are highlighted in the literature as potential barriers to the undertaking of SAPs (e.g. Klahr & Ratti, 2000). For example:

“I am really freaked out about the place I am going to stay for a semester.”

Academically, students wondered how they would fit into their new classes, and while many were excited to learn a new language, one student was concerned with being understood in

her new country. Others presumed English would be spoken widely. Concern was expressed with how their classes would be taught and their ability to adapt to a new educational style.

“How will the lectures be? What about teachers? Will I understand? Oh no~! Assignments~!?”

During the SAP: Violated Expectations

The tone of the blog postings changed during the students’ SAP experience. They reported a number of frustrations or violated expectations, both about their domiciles and their education.

Violated Social Expectations

Data collected indicated a perceived lack of cultural immersion compared to original expectations. While courses were taught in English, during groupwork domestic students would often revert to their own language, which continued after class, resulting in the SAP students feeling disengaged and like outsiders. Students appeared more focused on the ‘international experience’ rather than on integrating with the existing culture. Data reflected friendship circles mainly consisting of international students. The tone of postings indicated pride in making multicultural friendship bases with others who were not from the host country, be it on study-abroad programmes or who were expatriates living in the country long-term, and few comments were made about friendships with domestic students. Students wrote that they related better to other international students, reducing some of the opportunities for experiential learning that can come from cultural immersion (Jones, 2003; Bandyopadhyay and Bandyopadhyay, 2015). A feeling of isolation or time spent largely with other expatriates can reduce the potential benefits that the SAPs can offer (Doyle et al., 2010).

Students reported with pride their preference for friendships with other SAP students, who came from many different countries, seeing these friendships as a mark of their burgeoning worldliness, and often listing the number or names of countries from which their new friends came. Comments about friendships with domestic students were often part of another narrative rather than the topic of the post. It should be noted that the shared

nature of the blogs may have impacted this, as students may have wanted to focus on the more romantic and 'international' aspects of their SAP for their readers.

While students had focused, pre-departure, on the adventure of living in a new culture, they may have found the day-to-day nature of the new domicile disappointing. Students bemoaned slow internet connections and technological differences, soliciting advice from other SAP students because they felt it was rude to ask a local. This theme continued when students expressed disillusionment with their new neighbourhoods. While some reported that they "could not believe it each day when I looked out the door" in reference to the idyllic scenery, others were aghast at the homeless population, the litter in locations previously believed to be iconic, and level of customer service:

"Basically all these things are slower than in the UK. Additionally you may have to push to get things done. Get used to waiting."

Central to Expectation Violation Theory is the role that existing expectations play (Burgoon & Hubbard, 2005). Students responded to violated expectations by associating with other international students. The data suggested that students felt they could empathize regarding violated expectations of the SAP. While Ruben and Kealey's (1979) "U-curve" culture shock cycle argued that feelings of isolation and alienation are followed by a retreat to the home culture, the path these students followed may be more closely aligned with the work of Brein and David (1971), who argued that the cultural adjustment process is aided by developing interpersonal relationships based on mutual understanding. The SAPs were a semester long or "long-term" (Carley, Stuart & Dailey, 2011), and the data indicates that effective cultural immersion may take longer than this, though a semester does allow for meaningful cross-cultural interaction.

Another violated expectation noted in blog postings was disappointment in not developing foreign language skills, often one of the main incentives for students to participate in SAPs (Nilsson 2014). The initial violated expectations regarding lifestyle and customer service may have led to the preference for associating with other international students, which may have exacerbated this problem. In addition, English language was reported to be often used in casual conversation with other international students since it was spoken by everyone, often as a second language and often more fluently than the host-country language. Wright

and Schartner (2013) similarly found that frustration with levels of social interaction during an SAP coincided with students' reluctance to interact with the host country culture.

Violated academic expectations

It was clear that students felt conflicted about their struggles with different academic systems, and at different times referred to these systems as both "refreshing" and "impossible". Students admitted that there was an adjustment needed to different teaching and learning styles at their new institution. Early postings celebrated students' ability to adapt. As the semester progressed, students may have felt at a loss to explain how the academic systems were different, and they would reconcile the new teaching style by categorizing it as "experience-based" or "theory-based". As the semester moved towards exams, discomfort with these differences was emphasized.

A different communication style with faculty than they were used to made students uncomfortable. Confusion was expressed at needing appointments for face-to-face meetings rather than communicating primarily by email. Postings reflected anxiety when faculty did not immediately respond to email messages, and discomfort with in-person meetings, with tones reflecting that these universities were 'behind' their home institution. SAPs can help to improve problem-solving skills, the ability to cope with the unfamiliar, and open-mindedness (Ingraham & Peterson, 2004; Black & Duhon, 2006). Learning to adapt to institutional differences can be argued to be a long-term benefit of SAPs. In the short term, however, students clearly felt their expectations of faculty to be violated.

The language style changed when frustrations were at their highest with the new teaching style: close to examination time. Students no longer spoke as an individual; they now formed part of a collective with fellow SAP students:

"Most of us are likely to fail."

"Recently we have often found parts of the exchange program to have been pretty unmanageable."

A tone of abandonment was clear in many later postings. Students expressed indignation that they had not been given a fair chance to pass the modules and had experienced

substandard teaching. This occurred for at least three of the different universities students attended. Students complained of cancelled lectures, being unprepared for examinations, inadequate teaching, and faculty apathy, all of which they felt would be to blame if they did not pass their examinations. These examples provide important insights into how initial worries and concerns can play out, and how unmet expectations can result in dissatisfaction and disappointment.

The negativity expressed towards the education system may also be linked to the students' lack of connection to the university. While friendships at the university level are argued to influence academic performance and satisfaction (Ashwin, 2003), so too does the level of connection with the university community (Pittman & Richmond, 2008). The focus on connections with other international students may undermine the university connection necessary to realize the benefits of a new learning style.

Discussion and Conclusions

This research sought to develop an understanding of student concerns and apprehensions prior to a study abroad programme, and to follow their experiences in order to gain understanding of what expectations were violated. It was hoped that the informal use of blogs would capture a rich source of 'in the moment' detail that could otherwise be lost over time, but that would be useful in future SAP preparation. The greatest source of pre-departure anxiety was accommodation. Once abroad, most students felt their expectations were violated in some way, often with respect to their new domicile, including technology access and customer service. Overall, a greater emphasis was placed on living an 'international' lifestyle rather than integrating into the host country's culture. Academically, students experienced most anxiety through the different communication, teaching, and assessment styles and reacted often by blaming the hosts. While these blogs offer only a snapshot of the student experience, they provide a useful perspective to ongoing SAP research.

Doyle et al. (2010) concluded that ongoing support for students, social support abroad and help in developing intercultural competence through interaction and relationships with others in the host country (i.e. immersion) will all benefit students and promote the uptake of placements abroad. Reviewing and learning from research such as this can enable universities to prepare students and impart realistic expectations. Altered expectations may

then mitigate some of the affective responses of students to their new home, resulting in a more enriching SAP experience. SAP student blogs may serve as a record of experiences highlighting adjustments to accommodation, cultural, educational and communication differences. Shao and Crook (2015) found group blogs to be beneficial among student cohorts studying abroad. These blogs that address major issues and concerns could aid prospective SAP students and be preserved as an archive for future student and faculty reference.

Analysis of the blogs indicated that, for many students, entering the unknown can be a stressful experience. Despite this study's analytic emphasis on violated expectations, postings were positive overall, indicating benefits from the experience, in line with previous research (e.g. Paige et al., 2009). The information in this study can be used to re-evaluate how universities provide pre- and post-departure assistance. The purpose of this research is not to encourage the impossible extinguishment of the romantic hopes associated with SAPs, but rather to provide insight on which of these can result in problems when students study abroad.

It is worth noting that in addition to the natural variation to be found in the concerns and expectations between individual students from any given educational establishment, the outcome of the experience relative to the expectancy will be coloured by the students' experiences at their home university. Additionally, the use of blogs as a data source for IPA is a new phenomenon and its full range of limitations is yet to be discovered, which may include social desirability bias, that is, an inherent bias towards what an individual believes to be a socially desirable response (Maccoby & Maccoby, 1954). In addition, blogs may not be an appropriate research tool for all demographics, with the students in the study having grown up in the UK with computer and internet access. While blogs have been shown to give students a sense of control and ownership, more research into the validity of the data verses the interviews traditionally used for IPA would bring more depth and perspective to the topic.

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Developing the Next Generation of Entrepreneurs: Giving Students the Opportunity to Gain Experience and Thrive

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Abstract

Higher Education Institutions (HEIs) have increasingly utilized experiential approaches in business education; however, some researchers have suggested that further research is required to investigate the effectiveness and student reaction to such approaches. The aim of this study is to determine the impact of an experiential learning approach on the perceived development of entrepreneurial traits and to measure the level of both student engagement and satisfaction. The approach was designed and tested during a Higher National Diploma (HND) entrepreneurship module in a British HEI. Traditional taught sessions were blended with applied activities that required students to utilize the skills they learned to complete steps of the activities, which increased in length and complexity. Results found both a high level of student satisfaction and engagement and the belief that the module's experiential approach had, in many instances, helped to develop entrepreneurial traits. Successful practice and modifications are discussed.

Keywords

Entrepreneurship Education, Experiential Learning, Entrepreneurial Traits

Introduction

Within the last two decades, higher education has seen considerable growth in both the development of entrepreneurship as a subject and in the number of entrepreneurship courses offered. Entrepreneurship courses are mainly found in business schools within higher education institutions (HEIs) (Collins et al., 2006), and are often taught alongside traditional business disciplines, including management, marketing and finance. Entrepreneurship education can be defined as the development of attitudes, behaviours, and capabilities that can be applied during an individual's career as an entrepreneur (Wilson, 2008). However, entrepreneurship is a complex phenomenon that requires decision making across all aspects of business activity in situations where there are high levels of uncertainty in a global and dynamic socio-technical context (Timmons et al., 2011). This has led to considerable debate in the literature regarding the most appropriate teaching methods to develop entrepreneurial knowledge and stimulate learning (Balan and Metcalfe, 2012). Past research has suggested that the success of entrepreneurship education has been mixed, with some research reporting positive outcomes (e.g. Fayolle et al., 2006; Athayde, 2009; Karlsson and Moberg, 2012), and other research reporting less favorable outcomes (e.g. von Graevenitz et al., 2010; Oosterbeek et al., 2010). The lack of consistency in the findings may be due, in part, to methodological weaknesses. It may also be attributed to a general lack of agreement on a conceptual model for the analysis of entrepreneurial education (von Graevenitz et al., 2010).

Academic support has been increasing for the use of non-traditional higher education learning environments in the study of entrepreneurship (Gibb, 2002; Jones and English, 2004). As a result, many entrepreneurship educators have adopted approaches based on Kolb's experiential learning cycle (Kolb, 1984), which draws on earlier works that emphasize the central role experience plays in learning and development (Dewey, 1963; Piaget, 1950) to develop a dynamic, holistic model of an experience-based learning process (Kolb and Kolb, 2009). This approach departs from traditional lecturer-led passive learning, increasing the emphasis on action-orientated or active experiential learning, problem solving, project-based learning and peer evaluation. This has led to a wide range of new active and creative problem solving and learning by doing experiential approaches being adopted. New approaches have included business simulations, meeting and interviewing entrepreneurs, developing business plans, and attending entrepreneurship forums. Piercy (2013) argues however, that while experiential approaches have become an increasingly favoured form of pedagogy for business educators, student reactions to experiential approaches require further investigation.

The qualitative research herein builds on previous research by exploring how experiential learning in an applied setting supports the development of four key entrepreneurial behaviours or characteristics. The teaching approach required participants to be actively involved in planning, developing, and implementing two student-led events. The students then reported via reflective essays on how, and whether, the four key behaviours had been utilised, and how they could have been used and developed further. Additional qualitative feedback was collected through a series of interviews. Finally, students' module evaluations were analysed to discern student satisfaction with these experiential approaches.

Literature Review

Active and Experiential Learning

The development of students' critical thinking skills is one of the main goals of higher education. This encourages the movement beyond knowledge comprehension and towards the higher order skills of analysis, synthesis and evaluation (Bloom et al., 1956). The core elements of active learning are student activity and student engagement in the learning process, in contrast to traditional lecture formats where content is passively transmitted from the lecturer to the students (Prince, 2004). In this process, active learning should involve the use of the higher order thinking skills of analysis, synthesis and evaluation. In the past, it has been argued that higher education institutions have done little to foster active learning aimed at developing the critical thinking and creativity of business students. As a result, corporations have reported that entry-level graduates have been lacking in these skills (Snyder, 2003).

Business schools have increased their focus on developing the skills required for business, marketing and entrepreneurship, and instructors are exploring new and inventive ways to introduce active and experiential approaches that can help to prepare students for their future careers. Experiential learning can be described as a participatory form of learning that involves participants in using a range of mental processes to synthesize information in an active and immersive environment (Feinstein et al., 2002).

Kolb (1984 p6) described the importance of participants being "able to involve themselves fully, openly, and without bias in new experiences; they must be able to observe and reflect on these experiences from many perspectives; they must be able to create concepts that integrate their

observations into logically sound theories; and they must be able to use these theories to make decisions and solve problems”.

Experiential Learning Theory has had a major impact on both the design and delivery of educational programs in management training and development, and formal management education (Kolb and Kolb, 2009). Many business school educators have accordingly adopted approaches based on Kolb's (1984) experiential learning cycle to develop a dynamic, holistic model of an experience-based learning process. It is a process through which knowledge is created through the transformation of experience (Kolb, 1984 p 41), and as such involves an active interpretation of experience. Reflection is an important element in this approach and structured approaches to the reflective stage can enhance this process (Platzer et al., 1997).

As academic literature has increasingly recognized the value of non-traditional higher education learning environments (emphasizing action-orientated experiential learning), new approaches have been introduced within the HEI system to reap the benefits of experiential learning. It has been argued that such active learning approaches address many of traditional teaching approaches' limitations (Ruben, 1999; Lean et al., 2006; Caldwell, 2007; Knight and Wood, 2005; Makienko and Bernard, 2012; Mahajan, 2012), and generally result in improved knowledge retention, increased problem solving skills and increased motivation for future learning (Snyder, 2003; Rhem, 1998; Bonwell and Elson, 1991). Importantly, it has been argued that whilst lectures are a useful vehicle for imparting knowledge, they do not lead to thought or attitude adjustment and the development of behavioural skills or inspire interest in the subject (Grimley et al., 2011). However, active engagement in an activity together with enjoyment of the experience can significantly increase both motivation and learning (Karns, 2005; Elam and Spotts, 2004). It is, perhaps, not surprising that active experiential learning approaches are increasingly being introduced into syllabi to supplement traditional teaching formats (Piercy, 2013; Karns, 2005; Daly, 2001). While studies on student satisfaction with experiential learning are varied, Piercy and Caldwell (2011) found, in a multicultural study, that students reported high levels of satisfaction with experiential learning.

Working within Groups

Working within groups on a project provides a forum for experiential learning, enabling a student-centred focus in the classroom that creates an active learning experience (Patel, 2003). A cooperative learning experience can enhance student success by enabling students to share understanding and support one another. It may increase student motivation, as students may feel a

sense of accountability (Ormrod, 2008). Tsay and Brady (2012) found that involvement in cooperative learning is a positive predictor of academic performance. Johnson and Johnson (1986) found that students involved in cooperative learning retained information for longer and achieved higher levels of thought than their peers who worked alone. Students have also been shown to develop their higher-order critical thinking skills as a result of cooperative learning (Gokhale, 1995).

Entrepreneurial Education

It is now generally accepted that entrepreneurship, or at least certain facets of it, can be taught and that entrepreneurship is not limited only to those who are born with certain skills, characteristics and attributes (Kuratko, 2005; Robinson et al., 1991; Drucker, 1985). Entrepreneurship is often taught in business schools alongside traditional management disciplines. As a result, educators may use different teaching approaches that are based on the learning objectives and the requirements of students (Van der Sijde, 2008).

Traditional management education can be regarded as being positivistic in nature whilst the entrepreneurial process requires a plethora of skills and is idiosyncratic in its nature (Jack and Anderson, 1999). The entrepreneurial process involves the creation of something, often using new processes or techniques, in order to extract value (Schumpeter, 1942). It is based on opportunity recognition and is necessarily an inductive process, usually involving varying degrees of risk and uncertainty (Jack and Anderson, 1999). This type of education and learning requires exposure to and engagement in the often complex stages of the entrepreneurial process, which requires a different learning environment within the higher education setting (Gibb, 2002; Jones and English, 2004). This involves a departure from traditional lecturer-led passive learning towards an increased emphasis on action-orientated, experiential learning, problem solving, project-based learning and peer evaluation. Zahra and Welter (2008 p.188) have argued, "Entrepreneurial skills are learned in a variety of ways and methods. Some entrepreneurial skills are best learnt by doing and observing others. Whilst lecture based education has its place in the curriculum, the training of future entrepreneurs should also include interactive and action orientated methods."

It has been argued that entrepreneurship education can develop new entrepreneurial skills by including real-life experiences (Arvanites et al., 2006). Jones and Iredale (2010) suggested that entrepreneurship education requires experiential learning styles, creative problem solving and learning by doing in order to engage students. This approach departs from the traditional lecturer-led passive learning, towards a greater emphasis on action-orientated, experiential learning,

problem solving, and project-based learning style of teaching (Jones and English 2004). Support has also been expressed for action-orientated learning by doing activities in group or network contexts (Rasmussen and Sorheim, 2006), and for student led approaches (Fiet, 2001). Some educators have argued for the implementation of experiential approaches such as meeting and interviewing entrepreneurs, developing business plans, and attending entrepreneurship forums (Sherman et al., 2008), computer simulations, business visits, and relevant and realistic class exercises (Soloman, 2008). Other approaches have included social enterprise placements, case study workshops (Bevan and Kipka, 2012), and involvement in business consulting initiatives (Hynes and Richardson, 2007). Bevan and Kipka (2012) suggest that the most commonly adopted experiential learning formats in business schools include team building exercises, simulations, guest speakers and internships.

Key Entrepreneurial Characteristics

Entrepreneurial education can be viewed broadly in terms of both the skills that can be taught and in the characteristics that can be encouraged and developed in individuals (Jones and English, 2004).

Three of the most widely studied and discussed entrepreneurial behaviours or characteristics in the entrepreneurship literature are those of innovativeness, the willingness to take risks, and proactiveness (e.g. Wiklund, 1999; Lumpkin and Dess, 1996; Covin and Slevin, 1989). Based on Miller's (1983) conceptualisation, these three dimensions have been identified and used consistently as a measure of the 'entrepreneurial orientation' of organisations (Rauch et al., 2009), which has emerged as a major construct within the strategic management and entrepreneurship literature over the last twenty years (Tang et al., 2008). Developed into a measurement instrument by Covin and Slevin (1989), to measure the entrepreneurial orientation of organisations, these behaviours have more recently been used to measure entrepreneurial orientation at an academic level (e.g. Bolton and Lane, 2012; Taatila and Down, 2012). Bolton and Lane (2012) developed a measurement instrument based on these three dimensions to measure the entrepreneurial orientation of individual university students, which was found to correlate with entrepreneurial intention. This research will focus on these three characteristics, together with the degree of self-efficacy/esteem/confidence of individual students. The self-efficacy construct has played an important part in in entrepreneur motivation research (Pruett et al., 2009) and has been widely studied as an entrepreneurial behavioural trait in both professionals and students (e.g. Gibson and Harris 2009; Pruettt et al., 2009; Harris et al., 2007; Gelderen et al., 2008; Florin et al., 2007; Louw et al., 2003; Robinson et al., 1991). There is also much empirical evidence of the connection between

perceived self-efficacy and entrepreneurial intentions (Pruett et al., 2009; Sesen, 2013; Zhao et al., 2005). The four characteristics that will be used in this research are now considered briefly.

Innovativeness

Innovation is a constant theme within entrepreneurship literature (Drucker, 1985; Lumpkin and Dess, 1996; Miller, 1983). Lumpkin and Dess (2001) defined innovation in terms of developing and introducing new products and services, whilst Robinson et al. (1991) considered it in terms of perceiving and acting upon activities in new and unique ways. Innovation often involves creation or creative destruction (Schumpeter, 1942). Drucker (1985) argued that innovation and entrepreneurship go hand in hand. Gundrya, Ofsteinb, and Kickulc (2014) suggested that the development of increased perceived creativity during an entrepreneurship module could result in a transfer of innovative skills to the workplace.

Proactiveness

The proactive nature of entrepreneurs has been highlighted by many researchers including Covin and Slevin (1989), Lumpkin and Dess (1996), Miller (1983), and Naman and Slevin (1993). Proactiveness can be considered as the opposite of reactivity and focuses on implementation and on making things happen, using any means necessary (Davis et al., 1991). It may involve opportunity seeking, forward looking and anticipating the future actions of competitors (Lumpkin and Dess, 2001). Crant (2000) defined proactive behaviour as an individual's initiative to improve on or to create entirely new circumstances.

Risk Taking

It has been argued that risk is inherently embodied in the practice of entrepreneurship; the creation of new ventures is inherently a risk-laden process (Aldrich and Martinez, 2007). Evidence that entrepreneurs have a more positive attitude towards risk than non-entrepreneurs has been found by many researchers, including Stewart and Roth (2004), Begley and Boyd (1987), Carland et al. (1995), and Stewart et al. (1999). Davis et al. (1991) highlighted that entrepreneurship involves a balance of the associated risks involved and an attempt to manage those risks. Denslow and Giunipero (2003) have argued that entrepreneurs are prepared to take calculated risks and can

make decisions based on limited information, as they possess an on-going desire to set and obtain increasingly challenging goals. In a business setting, entrepreneurs are generally perceived as more open to risk than managers (Masters and Meier, 1988) because entrepreneurs bear the ultimate responsibility for the decision (Gasse, 1982).

Self-Efficacy

Self-efficacy (also referred to as self-confidence and self-esteem) is a belief in one's ability to successfully complete a task or attain a desired goal, and as such, is a useful construct to predict an entrepreneur's behavioural choice, level of persistence, and overall effectiveness (Chen et al., 1998). It has been argued that differences in work interest and performance can often be linked to differences in self-efficacy, which affects individual persistence, initiative and performance (Krueger, 2000). Entrepreneurial self-efficacy has been widely researched as one of the personality traits that motivates entrepreneurial behaviour (Chen et al., 1998; De Pillis and Reardon, 2007; Karlsson and Moberg, 2012), and enables entrepreneurs to recognize opportunities, manage resources, and juggle the challenges of enterprise management (Kumar, 2007; Shane et al. 2003; Wilson et al., 2007). There is also empirical evidence showing a connection between perceived self-efficacy and entrepreneurial intentions (Zhao et al., 2005).

Research Aim

HEIs have increasingly utilized experiential approaches in business education; however, Piercy (2013) has suggested that further research is required to investigate the effectiveness and student reaction to experiential learning approaches. This paper investigates how experiential learning in an applied setting can aid the development of four key entrepreneurial behaviours identified above. The research identifies successful practice and seeks to explore how the approaches used in the study could be adjusted to improve students learning. Finally, this research seeks to measure the level of both student engagement and satisfaction.

The Course and Methodology

The Course/Module

A new entrepreneurship Higher National Diploma (HND) module was set up at a UK HEI to provide applied 'scaffolded' activities that increased in length and complexity. Twenty-nine students registered for the module, which was conducted over the course of one academic year. The module's taught content consisted of twenty weekly sessions. During the first third of each session, the instructor presented the week's topics and discussed how the topic applied to their group activity. After this, the students applied the day's lesson in small groups, which they organized themselves, as they worked towards the module's two applied activities. The information was thus presented in bite-sized pieces, with ample time for students to reflect and apply what they had just learned within peer groups. Guidance was available from the instructor, as needed. As the semester progressed, students were given greater autonomy and less guidance as they developed their entrepreneurial skills. Structured reflection was built into the applied activities to help students question, make sense of, and come to a better understanding of what had taken place (Ross, 2011; Platzer et al., 1997; Mezirow, 1990). In short, the module provided the basic knowledge about entrepreneurial skills via traditional lectures, experiential opportunities to set up and run a venture, and post-activity reflection on the decisions made and actions taken, allowing learners to identify the areas of strength and weakness, as well as developments made through the module.

Applied Activity 1: Pop-up Shop

Students were assigned the task of organizing a pop-up shop in the city's main shopping centre. The instructor gave students the objective of using the shop to promote the University facilities, focusing on its aspects that could be enjoyed by the public, e.g., the library, sports teams, and museum. Students organized themselves in groups of five, planned their event, and set performance objectives. Each group identified the resources they would need for their shop, with the instructor providing suggestions. After the pop-up shops, students reflected on the activity and made presentations to their classmates outlining their successes, changes they made during the event, and what they would have done differently.

Applied Activity 2: Social Event

Students organized and managed a theme-night event for university students. Less structure was provided for this activity, and students groups were challenged to apply their learning to make their event profitable. For example, groups performed market research during the design phase of their enterprise. The groups composed individual business plans that detailed the management, marketing, and financing of the theme night. They then worked with the instructor to procure resources and with the venue manager to coordinate logistics. Groups carried out their events on consecutive Monday nights at the HEI Student Union.

Student Assessment

Students were assessed at three stages of the module. The first assessment was the group presentation following the pop-up shop. For the second assessment, the instructor evaluated the business plans students developed for the social event for suitability and professionalism, as well as its enactment. Students wrote an essay for the third assessment in which they critically reflected on the module and discussed how the taught content and the applied activities developed their entrepreneurial traits and behaviours. Entrepreneurial behaviours and traits were discussed throughout the module and students were thus prepared to reflect on these by the time they composed their essays. In addition, they were asked what changes could be introduced to make the experiential learning more effective in developing the entrepreneurial traits. Feedback was available throughout the module and after each assessment.

The planned learning and teaching activities and assessments were aligned with the intended learning outcomes, in line with Biggs' (1996) work on constructive alignment. The activities and assessments were thus designed to enable students to construct their own learning. A breakdown of the intended learning outcomes and the module assessments are displayed in table 1.

Table 1: Intended Learning Outcomes & Module Assessments

Intended Learning Outcomes

To be able to:

1. Understand and apply market research in the formulation of a business venture idea.
2. Assess the key resources and capabilities required to launch a new venture.
3. Demonstrate effective presentation skills and business plan development.
4. Understand and apply entrepreneurial skills to the development and enactment of a new venture.
5. Identify and critically analyse the application and development of entrepreneurial skills.

	Summative Module Assessment	Intended Learning Outcome Assessed
Assignment 1 – Pop-Up Shop	Pop-up shop reflection presentation	2, 3
Assignment 2 – Social Event	Development of a business plan for the proposed event; Enactment of the proposed event	1, 2, 3, 4
Assignment 3 – Critical Reflection	Critical reflective analysis of entrepreneurial skill development	5

Methodology

The reflective essays students composed at the end of the module were thematically analysed to determine if and how the activities and sessions had helped to support and develop their entrepreneurial outlooks. Thematic analysis offered a flexible approach to identify reoccurring themes. It provided a top-down perspective to identify and explore how the students’ key entrepreneurial characteristics were developed through their experience. A total of twenty seven complete reflective essays were used for the thematic analysis. This was supplemented by one-to-one feedback from fourteen of the students, as part of the final semester review process. Additional feedback and comments about the module were also collected via the standard university module evaluation process.

Results

The data collected was thematically analysed using a top down approach, using the four key entrepreneurial characteristics previously identified and discussed earlier for classification. In addition, the student feedback and perceptions of the module were identified and discussed. Each entrepreneurial characteristic is considered in terms of how successful the experiential learning approach was in developing the individual characteristic, what was successful within the experiential learning tasks, and what adjustments could be made to improve the learning from the students' perspective.

Preference for Innovation

Almost all students reported that they had a better understanding of the importance of innovation and creativity in the business process as a result of completing the module. Some students reported an increased awareness of the benefits that being open to change could provide.

“For the event night, we did not make a profit; I think if we had spent more time being innovative, we could have done better.”

“The activities helped me understand the importance of being innovative and better understand what I can do to keep improving myself to be more innovative.”

The data highlighted that the tasks in class, wherein students needed to generate innovative business ideas for their enterprises, had helped students understand and appreciate the basis of innovation and how innovative ideas could be constructed. Also, the first enterprise that the students ran (the pop-up shop) had encouraged innovation and making changes “on their feet.” The time-bound nature of the task meant that many of the groups had to make changes to their strategies and approaches during the running of their pop-up shop in order to engage different customers:

“I would have not gone out of my comfort zone this way, if not for the Pop-Up Shop..... I became open to new ways to gain people’s attention and became more confident”

Students also reflected that the time-bound pressure of the second enterprise encouraged them to adopt creative and innovative approaches to planning, advertising and running the event:

“Using Facebook to communicate with other group members helped me to be more open to different ways of communicating within a group..... I found I enjoyed it.”

“The use of social media to advertise our event was very effective and reduced the loss of time advertising the event.”

Students indicated that having to compete with other bars and venues while running their social event forced them to think of innovative ideas in order to offer something different and/or target a different segment in order to make the event a success:

“I felt compelled to come up with ideas that local venues had not already come up with.”

“The event night required us to think on our feet and come up with new ideas along the way as we were planning.”

Students highlighted that the size of the groups had a limiting impact on innovation; in some cases, students felt embarrassed to present their ‘innovative’ ideas to the other group members. It was suggested that smaller groups would allow greater involvement of the individual members and would allow for increased participation in the decision making. Although group learning can be beneficial to weaker students by providing peer support to increase their self-esteem and facilitate their learning (Crooks, 1988), certain student groupings may still find it difficult to participate in

active engagement. Smaller groups may be more advantageous (Kerr, 1983), although this would require greater organisation and greater funding.

It was also highlighted that activities allowing students to consider existing products/services and discussions of the innovative changes/developments could be introduced to provide examples of different bases of innovation. Looking at SME case studies was also highlighted as a way students believed their innovation skills could be improved. This could be introduced as part of the course material either before or during the module.

Proactive Disposition

The influence of the module on students' proactive disposition was mixed. Some students felt that they were already proactive and the module did little to develop it further. Other students reported that the module made them aware that they needed to be more proactive to be successful at the applied activities. Students reported that:

"This set back in the event has allowed me to reconsider how proactive I actually am."

"I had the opportunities to be proactive but did not take them."

It was widely reported that the two enterprises made students think and plan ahead in order to make the arrangements, order the materials required, and market the events. For example, one group polled their peers to gauge interest in different event night themes to ensure students would be interested in attending. Students also widely reported that working within groups increased their perceived accountability, which increased their proactiveness, as many of the students did not want to let their group down.

Students reported that increased competition between the groups and incentives would have increased the motivation and further encouraged their proactive. This is an interesting point; the creation of specific goals along with a sense of competition can create student engagement with an activity (Ahamer, 2004). Whilst the students were divided into two groups for the second event,

competition between the two groups was not actively encouraged. This is an element that could be considered for future such modules.

A reoccurring theme emerged that students felt if they had seen business plans previously produced by other students for similar activities, they would have understood the complexity and expectations of the enterprises. Students felt these examples would have helped them act more proactively. However, the goal of the exercise was to allow the students free reign and not restrict or direct them, instead allowing them to find their own way to apply the taught principles. Entrepreneurial learning involves not only avoiding the mistakes of others and repeating what others have successfully done in the past, but an active interpretation of experience by the learner (Man, 2006). It is debateable whether students would learn more with a format to reference or whether this would restrict their ideas and creativity.

Self-Efficacy

Self-efficacy was the most widely reported entrepreneurial behaviour to be developed through the course of the module. Almost all students reported an increase in entrepreneurial confidence after completing the two enterprises, leading to a sense of achievement and worthiness. An increased confidence in self-promotion was also widely reported upon completion of the module. This came from completing several activities throughout the course of the module, including presenting and pitching ideas, overcoming setbacks and challenges, being part of a group, and developing and running an event from scratch. Comments included:

“At the end of the event my self-efficacy had dramatically increased as I did not believe we would be able to pull off an event as big as this one.”

“I took more leadership than I ever have before and that gave me the skills needed to be successful and confident for the event night.”

“Presenting individually to my peers is good practice for a future career in business.”

Suggestions as to how students' self-efficacy could be improved further were largely based on increased individual accountability. It was suggested that this could have drawn out quieter members of the group, who were at the periphery of the activities. One suggestion was that everyone should present their ideas individually and individual tasks could have been delegated not within the group, but by the instructor. Another suggestion to have the instructor assign group members, rather than allowing the students to choose their own groups. Students believed this would have taken students out of their comfort zones and developed individual self-efficacy. All of these suggestions could easily be incorporated in future modules. Indeed, Oakley et al. (2004) stresses the importance of forming effective groups, as it allows for students to gain improved communication skills and the ability to learn at a deeper level. Hansen (2006) argues that instructor organised groups are more effective than randomized group formations.

Interestingly, the feedback seemed to suggest that self-efficacy was a driver for some of the other dimensions. One example was:

"Due to the various activities on the module, my confidence has been enhanced and I now have a stronger belief in my ability to complete tasks, demonstrate my abilities and not be afraid to be innovative."

Attitude to Risk Taking

Many of the students found that their attitude towards risk had changed significantly. It was apparent that many of students had never considered entrepreneurial risk taking and the enterprise activities had helped them to reflect on the benefits of taking calculated risks.

"I am more likely to take risks now..... I now see risk taking as more positive than negative."

"I learnt that risks can bring rewards and they can be calculated to be an asset to an entrepreneur."

“I always thought risk was a bad thing. I am now much more open to take risks as long as I have some base of information that offers less probability of failing.”

Organizing and carrying out the events entailed ongoing decision-making, and this was a new experience for many students, particularly those who previously had not been involved in assessing risk and making decisions. A reoccurring theme which came out of the data was that students had an increased realisation that running a business didn't involve taking just one risk, but rather a series of interlinked decisions were required in order to balance risk.

“How to allocate our budget, and what to buy etc. involved a lot of risk but we were able to calculate them so they paid off.”

After reflection, students suggested that other activities which might help develop their attitudes and approach to risk included speaking with real life entrepreneurs about the risks they had taken and the risks well-known businesses had taken to get started. It was also suggested that a risk analysis of setting up a business would make students more aware of the practical risks and decisions that would have to be made in the initial set-up of a business post-graduation. Many of these suggestions have previously been discussed in the literature (e.g. Sherman et al., 2008).

Student Feedback

Based on student module evaluation, the module received positive module feedback, with 92.9% of students either strongly agreeing or agreeing that 'they would recommend the module to a friend'. All of the students either strongly agreed or agreed that they 'felt fully engaged with this module'. Positive comments about the experiential learning opportunity that this module provided included:

“I thought having £250 of cash was an excellent idea as we were actually dealing with real money and not just pound figures on paper. It did make the ideas more real, and deciding what to buy with real money rather than paper or imitation money helped with making business decisions and the figures.”

Through the student feedback comments, it was clear that many of the students enjoyed the practical 'hands-on' nature of the module and enjoyed the freedom and creativity that it offered. However, it was also evident that whilst some of the students enjoyed and appreciated the independence the module offered, other students would have preferred more structure and guidance on setting up the enterprises. Some students found the module and assignments were unstructured compared to what they were used to.

In a traditional lecture environment, instructors present concepts in a straightforward manner; however, the aim of the module was to encourage students to take control of their learning (Freeman, 2012), their decisions, and to create a need for them to be proactive while completing tasks. Based on the student reflections, many were happy with the arrangements and felt they rose to the occasion. However, some students found this more challenging, and some suggested they had deliberately sought to benefit from others' work (so-called freeloading). This led some students to suggest that more individual accountability would be useful through individual assessments. Other cited problems included lack of attendance to student arranged meetings, which resulted in delayed decision-making that affected their timelines.

Many of these concerns can be addressed by reducing the size of the groups, although this may involve more organization and have cost implications and may require more of the instructors' resources. Latane's social impact theory (1973), suggests that as group size increases, pressure on the individual diminishes, and the effect of individual non-contribution on the group decreases. Kerr (1983) argued that group size has a direct effect on the motivation of individual group members, with increasing group size contributing to episodes of social loafing, decreasing individual motivation. Simon and Hamilton (1994) suggest that a four-member group is optimal, as it will increase an individual's accountability while allowing for adequate division of responsibilities. Davies (2009) mirrored this contention, finding that forming groups of three to four students allowed for better delegation of work and better results. In practice, resources, time, and practicalities may determine the group sizes used.

Conclusion

Experiential approaches to business and entrepreneurship education have become increasingly popular in recent years and now are often seen alongside more traditional approaches. Approaches

are increasingly action-orientated, emphasizing a learning by doing approach (Rasmussen and Sorheim 2006) that can encourage experiential learning by allowing students to actively participate in the entrepreneurial process (Jones and English, 2004). Research suggests that active participation in knowledge creation through group activity or simulation can result in better learning (Frontczak and Kelly, 2000) and furthermore, the challenge of active involvement together with enjoyment of the activity can significantly increase the motivation and learning of students (Elam and Spotts, 2004; Karns, 2005). Entrepreneurship education can thus benefit from experiential learning styles, creative problem solving, and learning by doing in order to engage students (Jones and Iredale, 2010). However, it has been argued that further investigation into the effectiveness and student reactions to experiential approaches is required (Piercy, 2013).

The approach adopted in this project involved a combination of traditional lectures and active participation in group settings to aid learning and develop basic entrepreneurial skills. The aim of this research was to investigate how experiential learning in this applied setting could help in the development of four key entrepreneurial behaviours identified from the literature. The research also sought to identify successful practice and explore how such approaches could be adjusted to improve student learning. Finally, this research sought to measure the level of both student engagement and satisfaction.

Based on the student reflections and student feedback, the experiential learning approach adopted in this research provided an opportunity to develop each of the four entrepreneurial skills. However, the development of self-efficacy was particularly noticeable. The module's requirement to pitch ideas, present findings and reflections, and liaise with members of the wider community seemed to encourage the development of self-efficacy. Overall, as the students developed and enacted their venture ideas, they also developed self-efficacy. It was also interesting to note that the perceptions of attitude to risk and innovation had also positively changed in some cases, as in an understanding of the concept of calculated risks and the use of social media as a communication platform. Interestingly, this approach gave students the opportunity to be creative and innovative, for example, through the advertising and promotion of their events. In contrast, the development of a proactive disposition was met with mixed results, with some students believing they were already proactive, and the module had done little to develop it further, whilst for others the module had highlighted that they needed to be more proactive to be successful.

Student feedback indicated a high level of engagement and a high level of student satisfaction. Student suggestions on how to refine the experiential tasks and thus further support the student learning have been considered and discussed in the text. This project has raised several issues that

include the consideration of factors such as group size, group formation and the setting of penalties and incentives to make sure all group members are accountable and actively participate. It is worth noting that since some students or cohorts may find the lack of formal structure in this type of approach unsettling, the introduction of some periodic formal deadlines and periodic feedback may be advantageous.

Limitations and Future Research

In common with other research, this study has limitations. It was based on one group of HND students undertaking one module consisting of two active experiential projects. The experiences of different cohorts undertaking different projects may vary. Although some of the data was collected from critical reflective essays, they were submitted and marked anonymously, which should reduce social desirability bias. Post-course feedback was also collected anonymously.

Future research can investigate different academic levels of cohorts and more complex active experiential projects. New innovative projects can be developed to provide new entrepreneurial insights and challenges to different levels of cohorts.

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An Enterprise Opportunity for Entrepreneurial Students: Student Enterprise Development and Experience Assessed through the Student Voice

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Abstract

Purpose

This research investigates the effectiveness of an experiential learning approach, available to students in all disciplines that combined a hands-on entrepreneurial and enterprise experience with professional consultant mentoring by using a competition to win business start-up funding.

Design/methodology/approach

Students at a UK university had the chance to enter a competition in which they developed an entrepreneurial idea and then designed and presented a business plan to win business start-up capital. Students who were entrepreneurially motivated, but who lacked capital to start up their business, were targeted, as these students have been argued to benefit the most from a combination of business plan training and entrepreneurial development. Feedback and data was obtained from the students at each stage of the process and was thematically analysed to assess the development of students' entrepreneurial skills and knowledge through the experience.

Findings

The research found that the benefits gained from this approach included both enterprising and entrepreneurial skills, with the greatest impact being on student confidence and belief in their ability to start a business. The practical skills had a 'demystifying' effect on students that made them feel like entrepreneurship and enterprise start-up were attainable.

Research limitations/implications

The research focused on students at one UK University and centered on entrepreneurship in a retail business. The competition thus appealed mainly to students who were interested in retail start-up, thus leaving out some enterprising students whose feedback may have been different. In addition, while entrepreneurial skills are assessed in the data, the students who would be interested in the competition would be assumed to be proactive, and this skill was not able to be analyzed. This research is a single case, and thus could be enhanced by more cases and looking at other enterprise start-up means beyond retail.

Originality/value

This research makes a case that, in light of literature critical of the use of business plan training in entrepreneurship education, certain students are appropriate candidates for this approach. Specific skills and knowledge can be developed in university students using a live enterprise experience, supported by entrepreneurial mentoring. By making the event extracurricular, the study sought to capture the feedback of students who self-selected into the program, who can benefit most from combined entrepreneurial and business-plan development experience.

Keywords

Entrepreneurship; Enterprise; Mentoring; Active Learning; Experiential Learning

Introduction

There has been a marked global interest in developing business and entrepreneurial education, in part because entrepreneurship has been seen as a generator of national prosperity and competitiveness (Chartered Institute of Personnel and Development [CIPD], 2015; European Commission [EC], 2013; Quality Assurance Agency for Higher Education [QAA], 2012; Martinez et al. 2010). Indeed, entrepreneurship and innovation are considered to be crucial to sustainable economic development and competitive advantage (EC, 2013; Sine and Lee, 2009). Entrepreneurship and business development have thus become an important focus in education systems as a means to stimulate social, economic, and organizational development (CIPD, 2015; EC, 2013; QAA, 2012; Matlay, 2006). This has led to a considerable growth over the last two decades both in the development of entrepreneurship as an academic subject (Martin et al., 2013; Fayolle, 2013).

Learning about entrepreneurship requires exposure to and engagement with the complex stages of its process. Academic support has been steadily increasing for the use of non-traditional and experiential higher education learning environments to aid the development of entrepreneurship skills and behaviours (Gibb, 2002; Jones and English, 2004; Zahra and Welter, 2008). This research explores the benefits to students of an experiential approach using mentoring, idea development, business plan design, and product 'pitches' in an extracurricular competition available to all interested university students.

Active and experiential learning

Experiential learning can be described as a participatory form of learning which involves learners in a range of mental processes to synthesize information in an active and immersive environment (Feinstein et al., 2002). It is a process through which knowledge is created by transforming experiences (Kolb, 1984), and reflection is the means by which the experience is interpreted and transformed. As such, structured approaches to the reflective stage can enhance this process (Platzer et al., 1997). This approach departs from the traditional lecturer-led passive learning, towards a greater emphasis on action-orientated, experiential learning, problem solving, and project-based style of teaching (Jones and English 2004). Many approaches to entrepreneurship education have been influenced by Kolb's experiential learning cycle (Kolb, 1984), which draws on earlier works that emphasize

the central role experience plays in learning and development (Dewey, 1963; Piaget, 1950). The model is a dynamic, holistic experience-based learning process (Kolb and Kolb, 2009). Importantly, it has been argued that whilst lectures are a useful vehicle for imparting knowledge, they do not lead to thought or attitude adjustment and the development of behavioural skills, or inspire interest in the subject (Grimley et al., 2011). However, active engagement in an activity together with enjoyment of the experience can significantly increase both motivation and learning (Karns, 2005; Elam and Spotts, 2004). In addition, it has been argued that the creation of specific goals along with a sense of competition can create student engagement with an activity (Ahamer, 2004). It is, perhaps, not surprising that a wide range of active experiential learning approaches are now increasingly being introduced into syllabi to supplement traditional teaching formats (Piercy, 2013; Bell, 2015; Karns, 2005).

Many active and experiential teaching approaches have thus been enacted and discussed in the literature, including computer simulations, visits to businesses (Solomon, 2008), interviewing entrepreneurs, composing business plans (Sherman et al., 2008), mentoring experiences, involvement in business consulting initiatives, case studies, and social enterprise placements (Chang et al., 2014). It has been argued that these active-learning approaches address many of the limitations of traditional teaching approaches (Lean et al., 2006; Caldwell, 2007; Makienko and Bernard, 2012; Mahajan, 2012), and generally result in improved knowledge retention, increased problem solving skills and increased motivation for future learning (Snyder, 2003; Rhem, 1998; Bonwell and Eison, 1991).

Business Plans in Entrepreneurship Education

The use of business plans has been a subject of debate not only in entrepreneurship education literature (Jones and Penaluna, 2013), but also in general entrepreneurship literature. Burns (2011, p. 376) argues that a business plan is vital, as it is “the first and often the best chance that an entrepreneur has to impress prospective investors with the quality of their investment proposal.” It is also a means to put forth guidelines and a path forward for the successful management of a business (Zimmerer and Scarborough, 1996). The use of a business plan has been credited with encouraging rapid business growth (Kinsella et al., 1993); however, the number of entrepreneurs who create and utilize business plans has not been well defined (Bewayo, 2010).

An argument against focusing on business plans has been put forth by Sarasvathy (2001), who argued that entrepreneurs differ from managers because they prefer 'effective' rather than 'causal' reasoning when beginning a venture. Thus, entrepreneurs strengths can be better realized by not forcing them to identify an ultimate end goal (or set of goals), but rather by allowing goals to develop during the enterprise start-up process. Effective reasoning implies that entrepreneurs do not begin with a specific goal, but rather they start with means, allowing goals to emerge as the entrepreneur engages in risks while exploiting contingencies. Furthermore, negative outcomes from business plan submissions have been argued to discourage otherwise able entrepreneurs from launching their enterprises (Bewayo, 2010). Other paths to business start-up have been put forth advocating exploratory approaches that are more natural and logical than composing business plans (Bridge and Hegarty, 2012).

In line with different approaches to entrepreneurship, many alternative paths to entrepreneurship education have been advocated in the literature that take focus away from the business plan (e.g. Neck and Greene, 2011; Kuehn et al., 2009; Honig, 2004). Honig argues that using conventional business plan development in entrepreneurship education puts forth a linear path towards entrepreneurship, providing analytical skills at the expense of tolerance of risk and the cognitive skills that allow for the many adaptations and changes necessary during the process of enterprise start-up. Neck and Greene's (2011) cognitive approach focuses on helping students think entrepreneurially, addressing both skill development and increased confidence and creativity. In addition, many active and experiential approaches, referred to earlier in this review of the literature, compliment this approach, focusing on practice and learning by doing, rather than learning to do something. A greater focus on the cultivation and identification of opportunity is argued to have a better impact on student learning (Neck and Greene, 2011).

However, when focusing on the needed skills in entrepreneurship education, the need for business plans for some entrepreneurs remains. Entrepreneurs requiring business start-up loans from most large banks will need to create a business plan, regardless of their utilization of said plan in their enterprise, as a requirement of the bank. Nevertheless, not all enterprising or entrepreneurial students will need a business plan to start their venture, and it is thus it becomes difficult in a classroom setting to single out the "ten percent of

students” who will benefit from business plan development (Jones and Penaluna, 2013, p. 808).

Venture Creation Programs

Venture creation programs have existed as an experiential learning technique, and have been discussed in the literature (Lackéus and Williams Middleton, 2015; Ollila and Williams Middleton, 2011; Berggren, 2011). They are an avenue to create ventures from university-level research and have thus been argued to foster budding student entrepreneurs (Berggren, 2011). Venture creation at the university level is often carried out via technology transfer offices, incubators, and science parks (Lackéus and Williams Middleton, 2015). The university spin-off is a firm created at the university level whose purpose is to exploit knowledge/technology/research developed at the university (Pirnay and Surlemont, 2003). The framework proposed by van Burg et al. (2008) to create university spin-offs was used as a basis for this research. The first step is to create awareness of the entrepreneurial opportunities. This is followed by supporting entrepreneurial teams by providing access to mentoring, advice, and training and assisting in the development of social capital by creating network opportunities (investors, advisors, managers). The final aspects are to set clear and supportive rules that ensure fair treatment of all parties, and to reinforce academic entrepreneurship on campus to create a university culture that supports enterprise development.

Mentoring

The mentor adds to the learning experience by providing useful insight based on his/her own experiences. The role of a mentor was argued by Kram (1985) to include psychological functions (reflection, reassurance, motivation), and career-related functions (integration, information support, confrontation, guidance). St-Jean (2011) statistically validated these functions and added an additional role model function.

Mentoring can take many forms, including peer mentoring (Evans et al., 2013), mentoring in the same field, such as pairing successful entrepreneurs with entrepreneurial learners (Lefebvre and Redien-Collot, 2013; Sullivan, 2000), making the learners themselves mentor others as part of the learning process (Gimmon, 2014), or mentoring by experts in another area, such as business or banking (Bisk, 2002). Stead and Wiggins (2004) argued that

mentors to budding entrepreneurs can add value through a more generic (rather than specifically entrepreneurial) process in which skills and learning support is given in different contexts, thus exposing the mentee to different networks and specific skills that may be a part of the entrepreneurial process. This 'consultant mentor' may help in the development of a budding entrepreneur by facilitating reflection and learning from prior experiences and helping a learner to use those reflections to modify future actions (Sullivan, 2000). Bisk (2002) supported this stance, finding that entrepreneurial mentors can add value whether or not they are themselves entrepreneurs or in the same field as the mentee.

Research Aim

This research investigated the impact on students of an experiential learning approach that combined a hands-on entrepreneurial experience with professional consultant mentoring by using a competition to win business start-up funding. It provided volunteer groups of students with the knowledge, tools, and professional guidance to identify enterprise opportunities and develop them with the help of consultant mentors and university faculty in an extracurricular setting, but with full access to university resources.

The goal of the project was to impart students with a realistic knowledge and expectation of entrepreneurship and enterprise start-up that they could utilize going forward. Feedback was obtained at each stage of the process to measure the student reaction and engagement with the project. It was hoped that the approach would provide the opportunity for active engagement and learning through involvement with the project and reflecting on the outcomes. In addition, this approach aimed to motivate and inspire interest in entrepreneurship and that the competitive element would increase both enjoyment and engagement with the project, in line with findings by Ahamer (2004).

While an ideal educational means towards fostering entrepreneurship in students may be to focus on the creative process rather than the business plan, the reality facing many students interested in venture start-up (some of whom would not study entrepreneurship during their university career (Moreland, 2006) is that their success may be dependent on a solid business plan in order to secure start-up funding from a financial institution. Thus, the project aimed to foster the creative and innovative process crucial to entrepreneurs while

imparting the enterprising skills necessary to develop a business plan necessary to secure start-up capital and to begin a business.

The Project and Methodology

The Project

Moreland (2006) highlighted that graduate entrepreneurs come from many disciplines, indicating that entrepreneurial interest may reach beyond business students. Jones, et al. (2012, p. 821) argued that “enterprise/entrepreneurship education should be shared across the university and not owned by any school or faculty.” Accordingly, the project described in this research was open to students from all university departments, while being overseen by faculty from the business school. This allowed a greater cross-fertilization of ideas and the potential for a wide group of students to engage in the learning opportunity. Indeed, some groups came from a mixture of academic backgrounds.

All undergraduate students at the university were informed, via posters, video screens, and word of mouth about an extracurricular competition that promised hands-on experience at developing a business. Within the competition, students worked either individually or with a team to develop their idea and then design and present a business plan for the chance to win £2000 of business start-up funding and the use of a retail unit in the city centre for six weeks to enact their business. The process was carried out under the guidance of business school faculty, with mentoring opportunities from business and banking experts.

The process was designed to give students practical skills and experience in developing their ideas and then turning these ideas into an effective business plan and a presentation or ‘pitch’ for prospective investors. The design allowed the winning students the chance to be familiarised with the steps involved in starting a new enterprise. While other studies have looked at business plan competitions, (e.g., Jones and Jones, 2011; Brooks et al., 2008; Der Foo et al., 2005), by making the event extracurricular and providing mentorship, the study sought to begin at the idea inception stage and foster the creative input argued to be a crucial step towards entrepreneurial development.

The competition was conducted in three stages. All applicants would complete the first stage in which students worked with business school faculty and under the mentorship of business and banking experts to design a business plan. The completed business plans were entered into the competition and the five best plans were brought forward for the second

stage in which the students pitched their ideas to a panel of experts who would pick the top idea to move on to the third stage: the implementation of the business plan. The project was designed to give the students the experience of entering and competing in a competitive market to receive business funding. The three stages are described in greater detail below.

Stage One: Development and Submission of a Business Plan

This first stage of the project attracted thirty two candidates, who developed their ideas and then their business plans while participating in training and mentoring sessions delivered by a mixture of academics and industry experts from the project funding partners. Mentoring was provided by banking experts, who shared insight on the key elements banks seek when considering a business plan, and the managers of a shopping centre, who gave insight into retail operation. Students also worked with business school faculty, who also act as university business consultants, and whose role was to show students the steps needed to turn ideas into sound and holistic business plans. Additional guidance was available on request; however, the process was largely completed by students' in their own time, and it provided an opportunity for students to develop their self-determination.

Within this process, the role of the faculty mentors was to foster idea development, and the consultant mentors grounded students' plans in the reality they observe with business start-ups. Students were encouraged, but also challenged, when presenting their ideas. Mentors focused on guiding students towards realistic approaches to short and long term financial and business goals, market research (customers, competition, etc.), financial forecasting (pricing, profit), promotion, and vendor interaction. Students were encouraged to think of their existing connections when thinking of how to begin their business, and to call vendors they may use in order to get a realistic idea of how to put their ideas into place.

Students submitted their business plans, which were appraised by a panel of business school faculty and the mentors. The five best submissions were progressed to the competition's next stage. All candidates received feedback on their proposals and all candidates were requested to provide feedback on the impact that the experience had had on them, following a period of critical reflection.

Stage Two: Pitching and Selling to the Industry Experts

The winning applicants were invited to further develop their business ideas and present their proposed venture to a panel of experts. The requirements of these product pitches were reviewed with the applicants, and included detailed costings, profit margins, and sales forecasts. The students were advised and mentored by the same faculty and business experts that they worked with in the first stage. Regular meetings took place in which students could share ideas with the mentors, work together in their teams, and practice their pitch delivery.

The students were judged by the merit of their project, its impact on the community, its sustainability and by their presentational skills. The winning group was awarded the grand prize and progressed to the next stage of launching their business. The second and third place groups received £250 each to invest in any prospective business opportunities. Feedback was obtained through interviews with the students in order to identify the personal impact that this stage had made on them. All students received detailed feedback from the judging panel regarding their business plans and presentations after the event. Details of the five entries selected for Stage Two, along with the students' discipline of study, are displayed in Table 1.

Table 1: Shortlisted Business Concepts and Team Composition

<i>Business Concept</i>	<i>Number of Students</i>	<i>Subject Discipline of Students</i>
A contemporary sweet treats bar, consisting of milkshakes, chocolates and other guilty pleasures	1	Education
Salad bar, where customers will be able to create their own unique salad by mixing healthy ingredients.	2	Business Business
An independent clothing company which sells a wide range of products with a modern/vintage look with a personal touch.	1	Business
A shop that sells juices, smoothies, caffeine free teas, salads, fruit salads, soups and other healthy products. Health is a lifestyle. Eat fresh. Drink natural. Purify your body.	1	Sport & Exercise
Independent company that produces high quality t shirt designs and prints, by linking artists and future artists to the market.	3	Business Psychology Creative Arts

Stage Three: Launch of a New Venture

The winning group received £2000 and a six-week lease for a city-centre retail unit to launch their business venture. In addition, the winners were provided with marketing, public relations, and retail consultancy support by the retail management company in order to develop store design, effective branding and promotion of the business. The winners were further supported with ongoing mentoring from local business experts in the run-up to the business launch and throughout its operation. Interviews were carried out with the winners shortly before and after the six-week period.

Methodology

The researchers decided to attract the 'small percentage' of students argued by Jones and Penaluna (2013) to both want to start a small business and require start-up capital from an external source, thus needing to focus both on fostering ideas and business plan design. By making the project extracurricular, the researchers sought to attract students who were already at least somewhat entrepreneurial, as the students would have to have been already thinking about their innovative or creative idea and be proactive enough to engage in the project, with innovativeness and a proactive disposition being two hallmark traits of entrepreneurs (see Bolton and Lane, 2012). While the competition was open to all university students, the researchers acknowledge that not all entrepreneurial students would be attracted to a retail enterprise opportunity. The goal was to use the enterprise development opportunity, inclusive of business plan development, for students who would most benefit from it to gain insight on the impacts of the experience for these students.

The data was collected by the faculty member who was directly involved in the project setup. The faculty member was part of the mentoring process and aided students throughout the process but had no known role as an assessor of the projects. Thus, the researcher was able to speak comfortably and easily with the students, having established a rapport throughout the process. The participants were assured that their participation was voluntary, their anonymity would be maintained, that their answers would have no impact on future stages of the competition. They also had the option to have their responses omitted from the research at any time.

Data was collected via interviews focusing on educational and skills-based benefits students believed they had obtained as a result of their participation in the project. The interviews

were semi-structured, but largely allowed the students to speak about their experience and its impact on them, without asking direct questions about specific learning goals or entrepreneurial traits. Interviews occurred at the end of the first stage (before any students knew if they had made it to the second stage), and at the end of the second stage (after the winner was announced). The winning group was then interviewed before and after their retail business experience. Data was collected from twenty nine of thirty-two participants in Stage One (with the three non-participating students citing pre-existing appointments in conflict with the interview time), all eight participants at Stage Two, and all three group members involved in Stage Three.

The data collected in all stages were thematically analysed by a researcher who was not directly involved in the design of the project or the data collection, as to reduce potential bias by the project designer, to identify the impact that the experience had made on students' learning and development. The data was analysed for themes (Braun and Clarke, 2006) related to entrepreneurial attitudes and traits, enterprising skills, and observed learning.

Results and Discussion

The Impact of Stage One

Analysis of the feedback following the end of Stage One indicated that students perceived the impact to be in two major areas: demystification of the enterprise start-up process and an increase in confidence.

Confidence was reported across all data as net outcome of the project for the participants. The word confidence was widely used in conjunction with a number of phenomenon. For these students, knowledge and demystification of the beginning stages of enterprise start-up was often used in the same context as confidence. The data suggested that their perception of a locus of control had shifted from external, and somewhat mysterious, to internal. Understanding where to start and the steps required was often associated with confidence in the data.

Furthermore, the completion of a business plan itself, while reported as useful, was not as important to students as the fact that the students felt they had completed a *real* business plan in that their business plan reflected the templates used by brick and mortar banks. Students used phrased like "real banks" and "actual business plan" in describing how they

believed they were more confident. The use of the mentors was also viewed as a means to demystify the process, and also made students feel like they were given real experience, which they also equated with confidence, for example, “Speaking to the appropriate people involved in helping business start-ups gave me more confidence.”

Students reported confidence, and indicated feelings of affirmation in conjunction with type of interaction with professionals in the field. The language indicated they felt a sense of self efficacy and affirmation that came from the respect they felt in working with mentors, for example, “They listened and took me seriously.” Supporting this, the data contained language indicating that students trusted their ideas because they had been vetted by experts. The perceived barriers to *real* experts had been lifted, and future assessors of their start-up ideas became more of a perceivable concept.

There was thus a perception that enterprise start-up was attainable to them. “Knowing what a business plan looks like, and what is expected from a bank, makes me realise how achievable it is.” These responses also indicate that students benefitted from an experiential learning experience with greater knowledge of the business-plan route to enterprise start-up. However, the learning spoken of by students was spoken of as a means towards the confidence that was strongly indicated in the data set.

The Impact of Stage Two

Entrepreneurial intent is often examined (especially in students, who may be early in their enterprising journey) by looking for factors relating to the future intent, plans, aspirations, or perceived likelihood that individuals will start a new venture (e.g. Packham et al., 2010; Levenburg and Schwarz 2008). The data collected from students who had participated in the product pitches contained strong, action-oriented language towards future plans for enterprise start-up. Students’ confidence, observed after Stage One, had grown into a more grounded self-efficacy and belief that, according to one student, “this isn’t over...” The students now went beyond just saying that they had confidence in their ability to develop ideas and business plans (although these were also present at this stage), and displayed a more resolute attitude towards enacting entrepreneurial ventures. One student remarked that “now I just want to work and do it, put my idea together,” and another, “we want to try to start another business; we know what we have to do now.”

The self-efficacy, paired with entrepreneurial intention, may also have come from the feeling of legitimacy following making it to the second stage of the competition, for example, "Getting this far has given me the determination to carry it on and see it through." While the use of competition to stimulate learning in entrepreneurialism has been put forth, the impact of winning a completion stage has not been thoroughly investigated and warrants further research. The fact that they had presented in front of an expert panel also added to this sense of achievement and legitimacy.

Some data indicated that students were thinking in terms of Sarasvathy's (2001) effective reasoning. Students spoke of future plans in terms of understanding how to connect people and resources to begin an entrepreneurial process, rather than of making business plans in the future. For example, one student said that he "Learnt so much about the overall process and the steps you have to take - once you know how to do it and who to speak to, all that is left is putting it into action." Another student remarked that obtaining an email address for future contact with one of the mentors was the most valued outcome of the project. The researchers believe this shows development in an entrepreneurial mind-set that was likely already present in the students. What was missing before were the resources and experts who could help the nascent entrepreneurs take their first steps.

The students in the study are assumed to be proactive from their efforts and participation in the extracurricular event, thus, while some of these statements may also appear to suggest a proactive disposition, it is not possible from the data collected to assess whether there was a shift in proactiveness as a result of the project.

Students reported how they had developed interpersonal skills by working together as a group, and communication skills by interacting with external stakeholders. The concept of working in a group was clearly well known to the students, but they had a newfound appreciation for the roles that their teammates played in the group, for example, "We delegated different tasks. We became more organized." As Belbin (1981) highlighted the need for roles in group work, the students appeared to become more cognizant of its role in their enterprise venture.

The Impact of Stage Three

In Stage Three, the winning group (one business student, one creative arts student, and one psychology student) launched and operated a bespoke printing company in a city centre

retail unit for a six-week period. The interviews were conducted at the beginning and end of the award period, with the first interviews taking place after the group had taken the necessary procurement, marketing, and setup steps necessary to open their store. The second interview took place one week after the store's closure.

The skills that the team brought up in both interviews were less entrepreneurial and more enterprising. The first theme found concerned time management and planning. The students highlighted that the experience had required them to hone their scheduling and time management skills, as well as their problem-solving skills when their planned schedules fell through. They felt the need to develop schedules to organize their work with group members, suppliers, and project partners. The group found that ensuring there was enough available staff to manage a reliable delivery of goods a challenge. In addition, trying to plan and manage the project required constant adjustments and complex problem solving, under time constraints, for example, "Managing delays and shortcomings, the expected duration of having everything in place was very different to reality; everything took much longer than expected, " and "Confusion and lack of information with regards to funding and delivery time from suppliers were two challenges that were not only unexpected, but costly for the project."

The theme was addressed not as a skill they felt they had acquired, but rather one that they now knew they would face if doing this again in the future. As the importance of time management and planning was reflected upon, all the group members suggested that the advice they would offer anyone about to set up a retail venture would be to "have an organised approach."

The group observed that they often needed to be reactive as situations developed and problems arose. The students learned quickly that they had not accounted for demographic changes in the city during the summer months. The target audience for this venture was students, whose numbers dropped in the city over the summer vacation. The reduction in footfall (and artists for the project), meant the group needed to think on their feet to develop an adjusted strategy. Both the reactivity theme and the time-management themes contained evidence that students were aware of the enterprising challenges facing new start-ups, while not confirming they were yet felt confident about taking them on in the future. The self-efficacy at this stage in light of these themes could be argued to be somewhat stymied.

The final theme that emerged from the interviews was the requirement and development of communication and negotiation skills. The team needed to communicate with one another and with their external stakeholders, including suppliers and the funding partners. The pressure of time constraints emphasised the importance of effective communication. For example, one student said he learned the importance of “empathising with others and becoming more understanding of time constraints and other peoples problems, working and communicating under pressure.” These aspects imply that students gained not only entrepreneurial knowledge and skills, but also social capital (Bridge and Porter, 2010). While social entrepreneurs may differ from traditional entrepreneurs (Smith et al., 2014), social capital has been argued to be a necessary but often neglected aspect of overall entrepreneurial education (Bridge, 2013).

The communication theme was one with which students appeared more comfortable, and felt they had gained as a skill. The students reported that they felt more confident after process of setting up, launching, and running a venture, supported by business experts and mentors.

Overall, analysis showed that students felt had developed key transferrable skills and an enterprising mind-set through this experience. After the experience, the group reflected pragmatically that starting their business was a very costly affair, both from a time and personal perspective. However, they strongly felt that the experience had been worthwhile. While confidence did not exude in the same way as the first two stages, the business set up by the students continues to trade, although in a different format, trading both online and at selected festivals.

Conclusions

This project was designed to provide an active experiential learning opportunity by enabling students to develop an idea for a business with the help of university academics and industry experts and produce a business plan. The project’s openness to all disciplines gave students the potential to cross-fertilise ideas and work with and learn from peers from other disciplines; however, it may have excluded entrepreneurial students without retail inclinations. The competitive nature of the process offered a ‘hook’ to engage students, and further experiential skill development like competitive pitching. The project also offered the winning team experiential enterprise learning by launching a new venture. Training and

mentoring was provided to students at each step of the process and the process provided all the information required, enabling students with little or no entrepreneurial experience to complete each stage.

This research was undertaken in line with findings from the literature that action-oriented, experiential learning approaches can encourage learning and help students to participate and engage more fully in the entrepreneurial process than they would by only studying it in the classroom (Jones and English 2004; Jones and Iredale, 2010). It has also been argued that entrepreneurship education should be linked to life practice and should appear to the learners to be useful, and as such will encourage the development of new entrepreneurial skills (Arvanites et al., 2006). While the use of business plans is often questioned in entrepreneurship literature, this project sought to target the use of business plans to students who would most benefit from understanding how to compose them, while also emphasizing the entrepreneurial idea development aspect of the process.

The student interviews were undertaken to assess and understand the impact of the project on students, highlighting that students enjoyed and felt they learned from the experience in different ways at different stages. The first stage of the process demystified the entrepreneurial process and helped students understand how an idea can become an enterprise. It helped students feel like they could someday be an entrepreneur, and gave them the affirmation that comes from feeling respected by mentors. In addition, it imparted the enterprising skills needed to complete a business plan. The second stage took students from feeling they could someday be an entrepreneur to feeling like it was a tangible action they would undertake. The role of working in a group and taking on a specific role to facilitate an overall outcome was also observed. The third stage imparted students with enterprising skills that students, in developing their entrepreneurial ideas, may have minimized.

These findings support the premise that entrepreneurship linked to experiential practice can encourage the development of entrepreneurial skills (e.g. Arvanites et al., 2006). The project, by combining enterprising skills like business plan development and business launches with entrepreneurial development, has had the intended impact of being able to impart both skill sets on students. In the debate about business plans in entrepreneurial education, one area that may warrant further research is the combination of business plans with entrepreneurial mentoring and development training for the students who are intent

on starting a business but who lack the necessary capital. For many other students for whom entrepreneurship skills are not inherent, this approach may not be the best option, and thus, the use of the approach in an extra-curricular fashion is especially appropriate for the former and warrants further research.

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Replicating the networking, mentoring and venture creation benefits of entrepreneurship centres on a shoestring: A student-centred approach to entrepreneurship education and venture creation

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Abstract

As support for both university-level entrepreneurial education and the use of experiential learning methods to foster student entrepreneurs increases, so too have the number of university-established or affiliated entrepreneurship centers. The activity at the center of this study aimed to combine experiential learning methods with assets associated with entrepreneurship centers, including venture creation, networking, and mentoring. Students were invited to participate in a competition wherein they were guided through the business creation process and pitched their ideas to investor judges who chose the winner and provided capital start-up funding and consulting. This research puts forth that university faculty at institutions without entrepreneurship centers can organize experiences to provide the benefits of entrepreneurship centers. The study used interviews to find that many of the benefits of entrepreneurship centers were able to be replicated using this method. The project is outlined, outcomes are analyzed, and the results and lessons learned are discussed.

Keywords

Entrepreneurial Mentoring, Entrepreneurial Education, Entrepreneurship Education, Entrepreneurial Support, Entrepreneurship Support

Introduction

Recent literature shows support for experiential university learning environments for the development of learning and entrepreneurial attitudes and traits (Bell, 2015). It is, perhaps, not surprising that a wide range of experiential learning approaches are now increasingly being introduced into syllabi to supplement traditional teaching formats (Piercy, 2013; Karns, 2005). In addition, universities are increasingly establishing entrepreneurship centers to facilitate the growth of entrepreneurship. Entrepreneurship centers are typically university-affiliated institutions that seek the dual goal of supporting entrepreneurs and economic development while acting as business incubators. While the literature provides support for business incubators and campuses globally are increasingly establishing their own incubators (Finkle, et al, 2013; Lackéus and Williams Middleton, 2015; Sandberg and Gatewood, 1991), it is also the case that not all universities have the resources to establish these institutions. A recent study by Finkle et al (2013) reported that universities typically spend over half a million dollars to operate an entrepreneurship center, and this total is enhanced by multi-million dollar endowments. This study contributes to the literature by exploring the benefits of an alternative pathway, one in which entrepreneurship educators are themselves encouraged to be entrepreneurial and find a way to recreate the best aspects of entrepreneurial centers, that is, experience, venture creation, mentoring and support, on a smaller scale without the need for multi-million dollar endowments or six-figure budget requests. One such approach was undertaken at a UK university in which students from all departments were encouraged to take part in a business launching competition. Faculty from the university's business school arranged the competition, which included the same support and mentoring elements that entrepreneurship centers utilize. While many universities have implemented experiential entrepreneurship and venture creation opportunities (see Mandel and Noyes, 2016), this study specifically examined the way in which the benefits of entrepreneurship centers can be realized outside of the entrepreneurship center infrastructure.

The competition was extracurricular and fully supported by university faculty, external consultant mentors, financial institutions, and other supporting organizations. The scheme was collaboratively set up by the university faculty and external stakeholders. It guided students through the entrepreneurial process (not just the business plan design phase), including creative development, business pitches, and business setup. In addition, the

sponsoring organizations benefitted with increased publicity. Overall, improved linkages between external businesses and the university were created, enabling recurrences of the process in future years and creating networks between the the businesses and both the university and the students. The university was able to encourage entrepreneurship across the campus, beyond students studying business, and furthermore was able to provide the resources necessary to support local business creation without the assistance of an institutionalized entrepreneurship center. The process and outcomes are highlighted, and implications for universities and educators are discussed.

Review of the literature

Entrepreneurship education in schools of business

The study of entrepreneurship education is often carried out in schools of business, but with its focus deviating from that of traditional business management education. It refers to developing entrepreneurial characteristics and traits, as well as entrepreneurial skills and competencies (Jones and English, 2004). While management education is often seen as positivistic and management as rules-oriented, entrepreneurship education can be an idiosyncratic process and entrepreneurship results-oriented (Jack and Anderson, 1999; Turnbull and Eickhoff, 2011). The approach to both teaching and evaluating the effectiveness of entrepreneurship education has thus been discussed widely in recent literature, and it has seen its share of support and criticism.

The debate about the ability to ‘teach’ or ‘develop’ entrepreneurs is highlighted in the literature, along with the efficacy of entrepreneurship education, with some sources reporting positive results (e.g. Fayolle et al, 2006; Athayde, 2009; Karlsson and Moberg, 2012) and others reporting less positive outcomes (e.g., von Graevenitz et al, 2010; Oosterbeek et al, 2010). In addition, there are many views in the literature as to the most appropriate teaching methods (Balan and Metcalfe, 2012). The inconsistencies in these findings may due to the field lacking a conceptual model to analyse entrepreneurship education, resulting in overall methodological weakness (von Graveintz et al, 2010).

Despite the debate in the literature, the continued emphasis by policymakers, think tanks, and universities on fostering entrepreneurs at the university level indicates support for the field of thought that entrepreneurs can be developed, or at least encouraged, during the higher education experience. At a government level, policymakers call for increased

emphasis on producing entrepreneurial graduates as part of a strategy to encourage recovery from recession (Rae et al, 2014). In addition, students with certain entrepreneurial attitudes have been shown to have greater success in securing employment in a professional or managerial field six months after completing undergraduate education (Bell, 2016). Entrepreneurship has thus grown as an academic subject at the university level (O'Connor, 2013). Universities are increasing institutionalization in the field by increasing the number of dedicated entrepreneur faculty and seeking more senior candidates (Finkle, 2013). Despite this support, it must be acknowledged that the majority of entrepreneurship modules are taught in conjunction with business curricula and within business schools, which may leave out key candidates for entrepreneurial development.

In line with this documented difference between management education and entrepreneurship education, it has been found that entrepreneurs come from many disciplines, and entrepreneurial interest may be present in students from many university departments (Moreland, 2006). The European Commission (2008) has brought into question the appropriateness of business schools as the main source of entrepreneurship education and cites that, given entrepreneurs' tendency to be creative and innovative, universities may be missing potential entrepreneurs enrolled in more technical and creative courses of study.

Furthermore, Jones et al (2012) have put forth that entrepreneurship education should be university-wide, and not limited to business schools. Katz (2003) argued that growth in entrepreneurship education should be in academic areas other than business. In addition, social entrepreneurs—those whose development of new processes or techniques seeks to increase social value or social capital—have been shown to have different attitudes and traits than traditional entrepreneurs (Smith et al, 2014). This wide range of potentially entrepreneurial individuals with different drivers and goals make the development of entrepreneurial students at the university level a challenge.

Fostering student entrepreneurs

In response to this challenge, the literature has increasingly examined non-traditional, active, and experiential learning approaches to teaching entrepreneurship, in line with Kolb's (1984) experiential learning model. Some of these approaches include meeting with

and interviewing entrepreneurs (Cornell et al, 2013), real-world enterprise placements (Refai and Thompson, 2015) composing mock business plans (Sherman et al, 2008), simulation exercises (Reid et al, 2012), incorporating realistic class exercises into courses (Solomon, 2008), case study workshops (Bevan and Kipka, 2012), and business consulting initiatives (Hynes and Richardson, 2007). The most commonly adopted experiential learning formats in business schools include team-building exercises, simulations, guest speakers and internships (Bevan and Kipka, 2012).

When evaluating entrepreneurship programs of study, an attitudinal approach is often adopted, which lies on the basis that attitudes and traits confirm intention to act. Since studies are often conducted on students with little or no entrepreneurial experience, measuring entrepreneurial attitudes and traits is often argued to be an effective proxy for and predictor of entrepreneurial intention, if not action (Hatten and Ruhland, 1995). In line with Ajzen's (1991) theory of planned behavior, many entrepreneurship studies have created intention models used to measure intention or attitudes towards entrepreneurial behaviour (Fayolle and Gailly, 2015).

Benefits to students from entrepreneurship centers

Entrepreneurship centers are one of many forms of venture creation programs utilized by higher education institutions to foster student entrepreneurs and economic development. Finkle et al (2006) attribute, at least in part, the growth of entrepreneurship education to the existence of entrepreneurship centers at universities.

The services offered by entrepreneurship centers and their foci vary, but overall they offer students opportunities to engage in both for-credit and non-credit entrepreneurial courses and training. They also emphasize research. The ultimate goal is to foster venture creation via knowledge and technology transfer (Lackeus and Williams Middleton, 2015; Sandberg and Gatewood, 1991). One perceived function of entrepreneurship centers is to act as a connecting link between the university and businesses, where meaningful exchange may be mutually beneficial (Katz, 1991). Jones et al (2014) found that just as universities benefit from collaboration with enterprises, so to do micro-sized enterprises benefit from a university's resources. Unlike traditional classroom settings, entrepreneurship centers offer intrinsic opportunity for mentoring and networking through their association with the local

business community. Other benefits include hands-on entrepreneurial experience in venture creation, and the development of entrepreneurial skills and traits.

The ability to network and the mentoring experience have been shown to aid nascent entrepreneurs. Adler and Kwon (2002) and Blundel (2002) have argued that networking provides the key link between an entrepreneur's ideas and their successful business creation. Entrepreneurship centers can link student entrepreneurs with many relevant parties and thus facilitate networking activities (Katz 1991). In line with these external links, mentoring programs are also a key to students' business success (Ragins et al, 2000)

Mentors provide value and insight based on their own experiences and effective mentoring is often identified as an influence on business success (Ragins et al, 2000). Entrepreneurial mentoring has been defined as "a means of supporting new-start entrepreneurs through the provision of 'expert help' and assistance in overcoming problems" (Sullivan, 2000, p.163). Mentoring of nascent entrepreneurs by successful entrepreneurs is an important aspect, and may introduce students to skills and ideas, as well as networks (Sullivan, 2000). However, mentors can take many forms, including faculty, entrepreneurs, and other outside experts, also known as consultant mentors.

The consultant mentor provides support in different and crucial aspects of the venture creation process. Given the many 'nuts and bolts' in the venture creation process and early business management process (see Churchill and Lewis's *The Five Stages of Small Business Growth*, 1985), experts who are not necessarily entrepreneurs provide access to different networks and skills, which include financial, marketing, management, and legal experts (Bisk, 2002). Indeed, a recent survey of U.S. entrepreneurs indicated that preparation, understanding the more minute details of the process, and having a wide range of knowledge and networks were the most crucial elements of success (Alstete, 2008).

Entrepreneurship literature has supported developing entrepreneurs through active experiences in enterprise development (e.g. Higgins and Galloway, 2014) with the establishment of entrepreneurship centers. However, many universities do not have these centers. With limited resources, government budget cutbacks in the United States and European Union, competition for funding in many schools or departments may limit the ability of universities to establish entrepreneurship centers (Martin et al, 2013). Although entrepreneurship centers are widely seen as a way to bring money to the university and add value to research, both startup funding and often external grants or endowments are

necessary to get entrepreneurship centers off the ground. In fact, these centers are often aided by multimillion dollar endowments, with universities spending, on average, over half a million dollars a year to run the centers (Finkle et al, 2013).

The success of programs fostering venture creation has been found in multiple studies to be linked to the support of university faculty. Osiri et al (2013) argued that universities must encourage and develop a strong “entrepreneurial culture” (“a shared set of attitudes, values, goals and practices which encourages and rewards entrepreneurship” [p. 9]) throughout the institution, to include educators and administrators. Another study found that individuals involved in running entrepreneurship centers believe that faculty and administrative support was the key factor influencing an entrepreneurship centers’ success (Bowers et al, 2006).

In addition, while some faculty may support establishing these centers, difficulties may exist because of the lack of long term outcomes. Research in entrepreneurship centers began to increase in the 1980s (Sandberg and Gatewood, 1991), and Finkle et al (2013) found in 2013 that the average age of an entrepreneurship center is just over ten years, with U.S. centers averaging a few years older than others. Similar to much of the entrepreneur education literature, the effectiveness of entrepreneurship centers in creating entrepreneurial students who will continue in the path of venture creation is unclear.

Whether because of limited resources, competition for funding, or simply because some universities lack a large business school infrastructure, other avenues to achieve the same returns to student learning and entrepreneurial development could be explored with a focus on replicating the benefits of an entrepreneurship center. The increase in active and experiential approaches (and studies thereto) to entrepreneurship education speak to the perceived need to find ways to involve students more directly in the entrepreneurial process to make the impact last beyond graduation and translate into venture creation. The study outlined in the following sections will look at an approach used to combine active and experiential learning with the benefits offered to students at entrepreneurship centers in order to better understand the effect on the organizers and student participants.

Research aim

The focus on developing students’ entrepreneurialism during the university experience has been widely studied, with entrepreneurship centers emerging as one way to provide

opportunities for networking, mentoring, skill development, and hands-on experience for students. This research aims to investigate the benefits to students and external stakeholders, and the associated impact on the faculty, from an extracurricular entrepreneurial learning teaching approach that focuses on networking, mentoring, and venture creation as a substitute to activities taking place within an entrepreneurship center infrastructure. This research furthers the literature by looking at a grass-roots approach led by university faculty to provide similar benefits and opportunities to students without the entrepreneurship center infrastructure. In order to replicate some of the benefits offered by entrepreneurship centers, a venture creation program was developed by the university faculty, who operated without a dedicated budget, and external stakeholders, who provided the essential capital and mentoring. The project is described, benefits to students are examined and the outcomes discussed.

The study

A competition was conducted at a university in the United Kingdom wherein students created a business idea and underwent consultant and faculty mentoring, after which they composed a business plan to be judged by an expert panel of entrepreneurs, elected officials, finance managers, and university faculty. Guidance and mentoring was given to students in a scheduled fashion to ensure all students had the opportunity to learn about the entrepreneurial process. The top five entrants were then invited to present their idea in person to the same expert panel at a dedicated event. The three top winners of the competition each received a cash reward to be used as start-up capital, with the top team receiving a larger sum of start-up capital, as well as a summer lease to set up their business in a local shopping center and guidance on marketing and retail set-up to help start their business.

Methodology

The competition participants and university faculty were interviewed for the perceived benefits and areas for improvement. All of the competition participants agreed to be interviewed voluntarily and their anonymity was assured. The interviews were semi-structured, giving participants the opportunity to speak in detail about the aspects that impacted them most. In addition, the competition winners were interviewed both before

and after they had run their summer enterprise and the participants who did not win were also interviewed after the competition. Two faculty members were interviewed as well to understand their perspective of the benefits and challenges of the competition. The results were thematically analyzed, coded to identify areas of success and struggle. In addition, press releases were analyzed for potential benefits to the external stakeholders.

Background

Thirty two students participated in the competition, and entrants came from the fields of education, business, sport and exercise, psychology, and creative arts. Students could enter the competition alone or as part of a team. The mentoring and business plan creation process took place over a six-week period, with mentoring sessions held weekly. Students were also encouraged to network with their mentors and speak to them outside of these scheduled sessions. Five teams were chosen to advance to the second round, which involved business 'pitches' to a panel that included a faculty member from the business school, a member of parliament, a member of the city council, a representative from a retail trade organization, a representative from a property management company, and a member of a retail management company. Further mentoring was provided over a three-week process to the five teams as they prepared to pitch their ideas to the expert panel. The winning team then had approximately six weeks to prepare to run their business and then another six weeks to operate their retail shop.

Setting up the project

The activity was wholly extracurricular. The intention behind this was to extend the opportunity for the support of entrepreneurial venture creation to all university students, including those who had not considered entrepreneurial education to fit into their course of study, but who may have ideas or ambitions for venture creation. In line with the findings by Moreland (2006) and Jones et al (2012), this entrepreneurship development opportunity was open to all undergraduate students enrolled at the university.

To create this program, faculty from the university's business school reached out to local enterprises, both locally-based businesses and national/international businesses with branches in the local area. The project came together after multiple meetings with the would-be stakeholders and discussions on financial and in-kind contributions. The process

was not dissimilar to fund-raising for charitable events, and the donations consisted of both in-kind donations, for example time for consultant mentoring, judging the competition, and for guiding winners through the business set-up process and monetary and capital donations, including of start-up funds and rent space to carry out the business.

The contributions were made on the basis of a verbal agreement. Being that formal and signed agreements would have required major action by the university, the less formal route allowed the process to take place with verbal and email approval from the university leadership, and aspects could be informally reviewed with the relevant department. The informal agreement avenue also allowed the faculty arranging the event to maintain the educational integrity of the event.

The major partners for the project were a retail and property management company, which provided a unit in their retail shop for the summer and marketing support for the winners, and an international financial institution, which provided start-up capital for the winners and runners up. Some smaller local businesses contributed funding to cover the administrative costs associated with the competition, and these contributions were solicited by a crowdfunding website. Each sponsoring organization was given tacit approval to publicize the event and their contribution using any means of media. The sponsoring organizations agreed among themselves to review one another's press releases, and the business school faculty offered to arrange meetings with the university's press office to aid the smaller businesses whose press consisted largely of social media exposure.

It was after these details were outlined that students were informed of the competition. Students were invited from across the university to participate. Students were informed that five entrants would advance to the second stage of the competition, where they would pitch their ideas to an expert panel for a chance to win a cash prize of 2000 pounds and well as use of a retail unit in a shopping center for six weeks, with extra support for marketing, as needed. Two runners up would receive 250 pounds of business start-up funding. The competition was advertised on social media, via posters on campus, and by word of mouth. While innovation and creativity are well known to be essential for the entrepreneurial process (Bolton and Lane, 2012; Lumpkin and Dess, 1996), Alstete (2008, p. 591) observed that "extreme dedication, hard work, and many long working hours are required for individual success of owning and running small businesses." This is in line with literature highlighting entrepreneurial traits, which typically include being proactive and having drive

and determination (Bolton and Lane, 2012; Lumpkin and Dess, 1996; Caird, 1991). Accordingly, the competition was extra-curricular to attract students who already possessed some drive and proactive tendency. Since the project was in a pilot run, it was essential to ensure the students were already interested in the process to make a positive first impression on its sponsors and the university administrators. The innovative and creative process, as well as the nuts-and-bolts business plan development and marketing processes, would be fostered and guided through the competition, but students needed to first show the initiative to enter the competition.

During the first period of the competition, students worked with university faculty and consultant mentors from the retail management company and the financial institution to develop ideas and create business plans. All students entrants were offered the opportunity to have mentoring on multiple dates during the competition at scheduled periods. The faculty guidance focused on the creative process, and how to turn a creative idea into a business plan, as well as ideas for business pitches. The retail and property management mentoring focused on the needs to establish, market, and run a retail shop. The financial institution’s mentoring focused on the aspects of the business plan that their institution expects to be in order when applying for a business loan.

A breakdown of the stages of the competition can be seen Table 1.

Table 1: Stages of the Competition

Stage	Stage 1A: Initial consultant mentoring	Stage 1B: Plan review	Stage 2A: Consultant mentoring for pitches	Stage 2B: Pitches presented	Stage 3A: Mentoring to set up business	Stage 3B: Winner runs business
Duration	Six weeks	One week	Three weeks	One day	Six weeks	Six weeks
Action	Mentoring on: Ideas into businesses, business plan composition	Judges evaluate business plans; five plans chosen	Mentoring on business pitches, market research	Judges evaluate live business pitches; winner chosen	Students order supplies, meet with marketing firm, set up shop	Students run business
Groups Involved	Nine student groups	Three judges	Five student groups	Five groups Eight judges	One group	One group

Data Collected	Interviews with 32 students	Interviews with two faculty members	Follow-up interviews with two faculty members	Interviews with five groups, ten students total	Pre-startup interviews with three group members	Exit interviews with three group members
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Findings

The faculty experience

The faculty involved in the planning and the running of the competition felt the process had met their expectations. When asked if they believed that this is a sustainable way to foster nascent entrepreneurs, the faculty answered positively. They reported the biggest change they saw in the process for students was the increase in the student's confidence in themselves as entrepreneurs. While initially students were hesitant to speak about their questions with the consultant mentors and only spoke quietly to the faculty mentors, by the end of the first stage, the students were speaking openly with all of their mentors. While the students proved overall proactive, the educators began to see that they also were more willing to take risks. Students were initially embarrassed by their mistakes and hesitant to take risks, but by the end were clearly beginning to understand the value in working through their mistakes and learning from them, as well as how better to calculate a risk such that it could be positive to take well-researched chances.

The faculty reported that they needed to dedicate a lot of their own time to the initial set up of the competition. Working with the external stakeholders to determine the process and the contribution of each external party required many meetings and reporting back to university administrators. In addition, designing the promotional materials and answering many questions from students and university staff before the competition began also required additional hours each week. In the future, faculty would ask to have the time for the activity factored into their scheduled work hours for the academic year. However, the faculty acknowledged that subsequent repeating of the project would see fewer hours necessary on the front end of the process. Faculty also acknowledged that, like all innovative processes, there was a degree of risk in not having a formal, signed agreement with the external stakeholders.

Nevertheless, the faculty indicated that, after seeing the positive results, they were excited to repeat the competition in future years. This planned continuation highlights the enhanced link between the university and the surrounding businesses, a key attribute of entrepreneurship centers (Katz, 1991). The university had established key contacts and created networks, and faculty indicated that increased communication would enhance future iterations of the experience, to which the business contacts had already agreed.

The student experience

Entrants came from across the university, but regardless of their course of study, had similarly positive reactions to the experience. The interviews both during and after the competition indicated that the major benefits to students could be divided into two categories: greater knowledge and ‘demystification’ of the venture creation process, and increased confidence and drive to take on entrepreneurial ventures.

Students reported first that their knowledge of the venture start-up process had increased greatly. They highlighted that they felt it was a ‘real’ or ‘serious’ process, as they were completing an identical paperwork process to those who would be applying to the financial institution for a business loan. The process showed them the level of detail “that I would not have thought of before” and that the students needed to be “quite specific and look in depth at things.” Many students observed that they felt they had learned many aspects of designing a business plan that they had not previously known would be important to investors. In addition, the mentoring process was reported to be key in developing the students’ knowledge. The mentors, “helped me understand what they are looking for” and “made me aware of what is required.” In addition, students reported that their communication skills improved from working with the mentors, as they “learned how to talk to people and how to get the right information out of people.” The ability to communicate and interact with the appropriate contacts who are able to help students with start-up is a clear indication that students learned how to network during the competition.

In addition, the students reported throughout the process that they felt they would be capable and willing to repeat the process on their own. The increase in confidence was reported by students who only made it to the first round, as well as students that made it to the second round and pitched their business plans to the expert panel. During the first round, students attributed their confidence overwhelmingly to the mentoring experience,

particularly the respect they felt from the mentors, who “listened and took me seriously” and one student shared that her mentor shared her email address so she could get help outside of the normal mentoring hours. Students suddenly felt like their ideas were taking shape, and that they had worthwhile contributions.

During the second stage, the sense of accomplishment from preparing for and presenting to the expert panel showed one student “by getting this far, I have the determination to carry it on and see it through.” Students, regardless of where they placed in the competition, also felt that they had more options after they graduated, for example “I feel like I can have the option to start my own business if I want because this gave me a chance to test it out and get feedback” and “I understand the opportunities now.” One student reported “I do plan to start my own business in the future. It's given me a head start in knowing how to go about it, what to say, what to include.”

When asked what challenges they felt would lay ahead if they decided to start a business, student answers indicated that they were aware of the initial challenges associated with starting a new business and understood the early hurdles they would face. Students remarked that they would need to be aware of how to best acquire stock, what costs were involved in the overall operation, and how to handle low initial returns on investment. In addition, many responses concerned marketing, “getting ourselves known on the market and creating a customer base” and “getting the shop setup right to get people in the shop.” In line with the benefits that entrepreneurship centers offer, students received the ‘hands on’ experience of turning ideas into ventures, as well as guidance throughout the process. The guidance and mentoring by both university and outside experts mirrored the support available at entrepreneurship centers. Students reported that they were more comfortable communicating with outside experts and had the confidence and capability to initiate communication with these contacts, an indication of networking benefits. As students reported that they felt able to repeat the process on their own, there was a clear linkage in the ability to do so and understanding how to reach out to the right people as they went through the less opaque process on their own.

The external stakeholder experience

The external stakeholders described their experience as wholly positive. Their comments centered on the altruistic portions of the project, like helping students learn and

encouraging nascent entrepreneurs. Both of the main contributors, the retail management company and the financial institution, reported similarly.

Retail management company: "By holding events like [this], we hope to foster the next generation of entrepreneurial talent."

Financial institution: "Working closely with local universities to generate spin out businesses is a great way to identify entrepreneurs of the future."

The businesses indicated interest in repeating the competition, and the process had been restarted during the following academic year. Both businesses also indicated the benefits of finding potential future employees, as well as appreciating the opportunity to forge better connections with a local university, whereby future internships may be created and more opportunities to cooperate may arise. Small and medium enterprises increasingly value graduates with known employment experience (Evans et al, 2015).

Discussion

In a competition open to all students, an interdisciplinary group of participants entered. Assured of guidance and mentoring, even students who were unsure of their own entrepreneurial prowess but with ideas and a proactive drive to offer entered the competition and developed a keen insight into the venture creation process. This finding is in line with works advocating that entrepreneurship education be disseminated beyond the limits of business schools (Moreland, 2006; European Commission, 2008; Jones et al, 2012; Katz, 2003). Interestingly, the most successful team had a robust combination of interdisciplinary members from the schools of business, psychology, and fine arts.

The study showed that educators and faculty are able to recreate a venture creation experience similar to that of an entrepreneurship center for students. The faculty was able to provide a process by which students received guidance, networking, mentoring, and experience in venture creation while having the opportunity to make mistakes and learn from them, in line with the resources available to students in an entrepreneurship center.

The interviews indicated that, regardless of the students' area of study, the benefits students reported were aided in large part by the mentoring experience. In line with the literature on the benefits of mentoring, students reported that the mentors helped them understand the business start-up process, as well as the process by which one takes a creative idea and creates a sustainable business idea. The mentoring added to students'

confidence with interacting with professionals and in their ability to start a business, both by demystifying the process, and by listening to them and giving constructive feedback. The students overall responded positively to the prospect to engaging in the entrepreneurial process in the future and largely attributed this to having been guided through the process by professionals, as well as taking part in real-life activities that were not simulations. They placed great importance on taking part in the actual process that an individual goes through when creating a business plan, including defending the plan in front of an audience of potential investors.

The external stakeholders benefitted from the process; however the overall benefit may be beyond what was gathered from the interviews. While the donating organizations focused in their feedback on the benefits to the community at large and to future leaders, students, and business creators, there were other benefits to the organizations to their corporate philanthropy, which were seen by the faculty and are supported by the literature. For the purpose of this work, corporate philanthropy is considered as part of overall corporate social responsibility, that is, the phenomenon of corporations paying attention and reacting to the impact their work has on society (Barthorpe, 2010).

While individual philanthropy tends to be rooted in altruism, the literature on corporate philanthropy tends to agree that businesses expect a return on their contributions, often reputation and prestige, using the contributions to generate goodwill and improve their image. (Gautier and Pache, 2015; Shaw and Post, 1993; Stendardi, 1992). Corporate philanthropy is sometimes referred to as strategic philanthropy, defined by Thorne et al (2003, p. 360) as being the “synergistic use of a firm’s resources to achieve both organisational and social benefits.” Both sponsoring organizations had good reason to contribute beyond the altruistic benefit to the community. The retail shopping center had weathered the financial crisis but had a number of empty shop units, despite its central location. The competition gave the management company of the shopping center the chance to fill one of its units, while marketing the desirability of the shop spaces and showcasing their contribution to the community.

The financial institution’s show of goodwill, while benefiting the community and helping many students, also benefitted the financial institution itself. Since the financial crisis, many financial institutions have been viewed negatively by society. Their perceived lack of consideration for individuals or the greater good is seen by many as a driver of the financial

crisis (Jamali et al, 2008). The literature has suggested that engaging in corporate philanthropy can impact both the public's and stakeholders' perceptions of financial institutions' performance positively, which can trickle down to positive impacts on share prices (Lourenco et al, 2012; Cormier et al, 2011; Jamali et al, 2008).

Regardless of intention and benefit, it was clear from the willingness to repeat the competition in the following year that the businesses found value in their participation. Overall, the competition appeared to be an effective way to introduce students to entrepreneurialism in a guided and nurturing environment, while offering a real-life opportunity for venture creation and business plan development.

Conclusion

Calls to develop entrepreneurs during the university experience have come from governmental bodies, think tanks, academics, and universities. Some of the answers to this call have come in the form of increasingly creative teaching methods to give students realistic business creation experiences, while the establishment of entrepreneurship centers has put a means to create the entrepreneurial process holistically within reach for universities with the means to establish them. By using a creative and innovative process, undertaken at the faculty level, to give university students the opportunity to participate in the entrepreneurial venture creation process, a university without a dedicated entrepreneurship center was able to give students the mentoring, networking opportunities, and guidance, as well as business startup funding, to develop their entrepreneurial traits. The study shows that the benefits for students of entrepreneurship centers can be offered by other means. While the global economic crisis has strained university resources and possibly inhibited some institutions from investing in entrepreneurship center, it has also increased the need for certain businesses, especially financial institutions, to be seen positively by the community. This has translated into willingness for businesses to engage in corporate philanthropy, to the benefit of university faculty seeking monetary and in-kind donations towards enabling hands-on, holistic entrepreneurial venture start up experiences.

Limitations and future research

Like many studies involving innovative experiential learning techniques, this study would benefit from being replicated in other environments. In addition, because the activity was wholly extracurricular, no formal module feedback was collected such that students' perceptions could be compared with perceptions of entrepreneurial modules. In addition, the competition was limited to retail venture, meaning that the opportunity may have left out entrepreneurial students in other avenues, thus future research could examine the benefits of this approach in another business area.

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