

Constructive Misalignment? Learning outcomes and effectiveness in teamwork-based experiential entrepreneurship education assessment

Jonathan M. Scott, Reader, Centre for Strategy & Leadership
Teesside University, Middlesbrough, Tees Valley, TS1 3BA,
e: j.scott@tees.ac.uk t: 07500 708539 w: www.tees.ac.uk/schools/sssbl/research.cfm

John L. Thompson, Emeritus Professor, the Business School, University of Huddersfield

Andy Penaluna, Professor, Research Director of the International Institute
for Creative Entrepreneurship, University of Wales Trinity St David

Key words: Learning Outcomes; Effectiveness; Experiential; Entrepreneurship Education; Assessment

Abstract

Objectives: Despite extensive research on experiential entrepreneurship education (EEE), we know little about how these approaches contribute towards effective achievement of learning outcomes (LOs), particularly in terms of opportunity discovery and exploitation. We critically appraised how experiential approaches enhance the achievement of learning outcomes (LOs) in teamwork-based entrepreneurship education assessment.

Prior Work: Extant EEE research tends to focus upon “good practice”, rather than establishing its impact upon students. The argument for *experiential* approaches is two-fold but with a missing third fold (Scott et al, 2016): (1) ‘Traditional’ programmes, which rely upon lectures or other directed, non-experiential approaches to entrepreneurship education, are not effectively achieving their objectives, or these objectives are not ambitious enough to achieve effective outcomes; (2) Experiential approaches are an interactive, participative, realistic, viable and potentially more effective alternative to these ‘traditional’ approaches and include, for example, simulation etc; and (3) There is a lack of evidence on their effectiveness, though with some relatively recent exceptions, alongside a continuing debate about whether entrepreneurship can even be taught.

Approach: We adopted an *exploratory* qualitative analysis of reflective diaries to achieve our objectives. Data were gathered from a purposive and convenience sample of reflective diaries, an individual assessment element of three Masters-level modules (modules 1, 2 and 3), in which there are also group business ideas generation presentations and a report. We subjected the text to rigorous *content analysis* (Silverman, 2004, 2010; Eriksson and Kovalainen, 2008; Curtis and Curtis, 2011), which often adds a positivistic epistemological flavour to qualitative research, and our text was partially quantified to enable in-depth qualitative analysis.

Results: Our analysis of student reflective diaries revealed that, while a number of LOs were met in relation to teamwork and communication, those related to innovation (i.e. generating a business idea) were much more modest. Yet, students experienced negative aspects which have become learning opportunities, such as linguistic-cultural challenges and overcoming nonparticipation/freeriding. Although Biggs (2003) has argued the need for constructive alignment in course design, in fact some of these unexpected LOs suggest the possibility that constructive misalignment could, in certain circumstances (e.g. experiential entrepreneurship education), be a positive pedagogical outcome.

Implications and Value: There is, however, still little evidence that EEE is more effective than other approaches that have traditionally been adopted.

1. Introduction

Despite extensive research into entrepreneurship education (Dainow, 1986; Solomon et al, 1994; Gorman et al, 1997; Vesper and Gartner, 1997; Leitch and Harrison, 1999; Laukkanen, 2000; Hannon et al, 2004; Hytti and Kuopusjärvi, 2004a, b; Bécharde and Grégoire, 2005; Henry et al 2005a, b; Akola and Heinonen, 2006; Hannon, 2005; Hannon et al, 2006; Botham and Mason, 2007; Hannon, 2007; Pittaway and Cope, 2007; Solomon, 2007; Pittaway et al, 2009; Hussain et al, 2010; Martin et al, 2013; Mason and Arshed, 2013), many studies focus upon “good practice”, rather than establishing its effectiveness. Entrepreneurship education can potentially be appraised or evaluated to establish whether it meets its objectives. In this paper, therefore, we have critically appraised how experiential approaches (defined as real-life, experience-based pedagogies in which students learn by experience) can more effectively enhance the achievement of learning outcomes (LOs) in teamwork-based entrepreneurship education assessment. In doing so, we seek to address Pittaway and Edwards’ (2012: 794) call for “more careful consideration of assessment practice in entrepreneurship education ... particular forms of assessment practice (e.g. reflective and peer assessment) more deeply with a need to explore what value they provide.” We do so by analysing reflective diaries which have been analysed in prior studies (such as Heinonen and Poikkijoki, 2006; Mason and Arshed, 2013; Pavlovich, 2007) to examine whether the curriculum is constructively aligned (Biggs, 2003) in applying such methods.

We have previously argued that, in terms of articulating the rationale for this research we need to establish the effectiveness of experiential approaches so that investment in these by Government and universities may be justified and that the argument for experiential entrepreneurship approaches is under-developed in that it launches well, continues to rise impressively, but then fails to “land” because of a lack of evidence of its effectiveness (Scott et al, 2016, forthcoming). Thus the argument for experiential approaches is two-fold but with a missing third fold. First, ‘traditional’ programmes – which rely upon lectures or other directed, non-experiential approaches to entrepreneurship education – are not effectively achieving their objectives, or these objectives are not ambitious enough to achieve effective outcomes. Second, experiential approaches are an interactive, participative, realistic, viable, and potentially more effective, alternative to these ‘traditional’ approaches and include, for example, simulation and other experiential approaches. Third, there is a lack of evidence on their effectiveness. The literature on entrepreneurship education, therefore, provides much argumentation – and ‘good practice’ documentation – on experiential approaches. These are assumed to be more effective than ‘traditional’ approaches. However, the underlying philosophy behind these approaches is not constructed upon how effective they are. In particular, we do not know enough about whether these approaches more effectively enable students to achieve desired learning outcomes, because these are ‘proving elusive’ (Matlay and Carey, 2007: 252). The above research rationale leads, consequently, to our research aim, i.e. how experiential approaches can more effectively enhance the achievement of desired learning outcomes in entrepreneurship education. Hence building on prior evaluations of student journals (e.g. Pavlovich, 2007), this paper has used students’ reflective diaries to match desired learning outcomes to the actual learning outcomes achieved and thus has critically appraised how experiential approaches (defined as real-life, experience-based pedagogies in which students learn by experience) can more effectively enhance the achievement of learning outcomes (LOs) in teamwork-based entrepreneurship education assessment.

The paper is structured as follows. The methodology is documented in Section 2 followed by a literature review to establish the ‘state of the art’ in EEE and its effectiveness in Section 3. Next we have utilized students’ reflective diaries to establish the effectiveness of these experiential approaches in Section 4 and have offered conclusions and recommendations in Section 5.

2. Literature Review

The paucity of ‘evaluations of effectiveness’, or ‘how learning strategies influence the development of entrepreneurial competences’, and the ‘need to evaluate programmes’ (Henry et al, 2003), necessitates further research upon this topic. This section focuses upon experiential approaches and their effectiveness in terms of LOs. A large body of research in the last two decades, particularly so in the last decade, has focused upon entrepreneurship education, with major literature reviews (Dainow, 1986; Gorman et al, 1997; Hannon et al, 2004; Pittaway and Cope, 2007; Solomon et al, 1994) with other studies involving either mapping of its existence (e.g. Hannon et al, 2006; Hannon, 2007; McKeown et al, 2006; Solomon, 2007; Rae et al, 2010) or reviews of good practice (for example, Botham and Mason, 2007), and evidence of an upward trajectory of programmes (Kuratko, 2005; Solomon and Weaver, 1994; Hannon et al, 2006; Rae et al, 2010).

EEE originates from thinking on experiential learning (Dewey, 1938), psychological (Lewin, 1942) and reflective learning (Kolb, 1984). Whilst the ‘entrepreneurial-directed approach’ imbues students with ‘entrepreneurial skills and behaviours’ and widens their ‘perspectives’ (Heinonen and Poikkijoki, 2006), entrepreneurial ‘skills and competencies’, which are socio-psychological in nature, can be learned through experiential ‘pragmatic real life development projects’ (Tautila, 2010). Indeed, Cooper et al (2004: 11) found that ‘traditional lecture-based, didactic methods of teaching and learning’ to be inadequate, whereas experiential approaches enable ‘students to “see, touch and feel” entrepreneurship at first hand by working alongside practising entrepreneurs’.

Ramsey and Fitzgibbons (2005, p. 335) agree, arguing that experiential learning is more holistic and involves students as partners in the learning process, “learning with” rather than the more usual “doing something to” students that lecturing involves. This experimentation perspective aligns with current thinking that entrepreneurship can actually be taught (Jack and Anderson, 1999; Henry et al, 2003; 2005a, b); and indeed, are more ‘effective’ given their relevance and the impact of ‘real world examples’ upon the student learning process (Mason and Arshed, 2013). Similarly, technology use, business plan writing and interactive class participation rather than traditional didactic lectures are amongst methods used (Solomon, 2007), supported by other evidence (Kuratko, 1989; Ibrahim and Soufani, 2002; Hannon et al, 2006; Lewis and Massey, 2003; Rae et al, 2010; Leitch and Harrison, 1999; Edelman et al, 2008; Hindle, 2001; Desplaces et al, 2009; Mitchell and Chesteen, 1995; Heinonen, 2007; Tunstall, 2010; Tan and Ng, 2006; Shepherd, 2004; Tracey and Phillips, 2007). Yet, these studies suggest that experiential approaches ‘might’ improve entrepreneurial outcomes with LOs proxied by some kind of learning and competency development. Neck et al (2014) provide various activities to support a practice-based approach to teaching entrepreneurship (as a behaviour) to all students. In contrast, Morland and Thompson (2013) discuss the effectiveness of reflection in a (niche) undergraduate ‘venture creation programme’ where students are required to start and run their own real business.

Although theory development has also been influential in terms of entrepreneurship education (Fayolle and Gailly, 2008; Hjorth, 2011), Béchard and Grégoire (2005) observed a lack of “social-cognitive, psycho-cognitive, and spiritualist or ethical theories”. Yet, cognitive dimensions have recently been addressed (e.g. Krueger, 2007; Kickul et al, 2010), suggesting that more creatively cognitive students are more likely to intend to start a business (Hamidi et al, 2008), perhaps with creativity and neuroscientific insights (Penaluna and Penaluna, 2008, 2009a, b; Penaluna et al, 2010). Evidence suggests a ‘mismatch’ between what entrepreneurs need and the ‘actual outcomes’ of entrepreneurship education (Matlay, 2008), a “skill expectations”-“skill acquisition” discrepancy (Cheng et al, 2009) and that the ‘underpinning philosophy’ of entrepreneurship education influences its outcomes (Hannon, 2005). Studies lack focus upon ‘competence’ (rather on ‘knowledge’), or on ‘small group learning methods’ (Garavan and O’Cinneide, 1994: 3), business plans (Russell et al, 2008: 123), while Honig (2004: 258), noted that many approaches are not experiential. Different identified measures of effectiveness (e.g. Pittaway and Cope, 2007; Peterman and Kennedy, 2003; McMullan and Gillin, 1998; Vij and Ball, 2010; Gundry and Kickul, 1996) being achieved could enhance students’ ability to discover and exploit opportunities, e.g. by working alongside, and learning from, actual entrepreneurs and thus building their competencies (Collins et al, 2006) of both ‘art’ and the ‘science’ (Anderson and Jack, 2008: 259; Jones and English, 2004; Henry et al, 2005b; Carey and Matlay, 2010).¹ Whilst ‘traditional’ learning and teaching approaches within business schools are less effective, such that ‘entrepreneurial skills, knowledge and behaviour’ are more likely to be developed through ‘co-learning’ (Hannon et al, 2005), – confirming Daly’s (2001) analysis of satisfaction surveys and ‘reflection papers’ – the literature appears to rely upon conceptual papers and ‘good practice’ opinion pieces, with a lack of empirical studies. Hence the argument for experiential approaches is two-fold but with a missing third fold (Scott et al, 2016). First, ‘traditional’ programmes, which rely upon lectures or other directed, non-experiential approaches to entrepreneurship education, are not effectively achieving their objectives, or these objectives are not ambitious enough to achieve effective outcomes (Leitch and Harrison, 1999; Cooper et al, 2004; Hannon et al, 2005; Blenker et al, 2008; Akola and Heinonen, 2006). Second, experiential approaches are an interactive, participative, realistic, viable, and potentially more effective, alternative to these ‘traditional’ approaches (Leitch and Harrison, 1999; Hindle, 2001; Cooper et al, 2004; Heinonen and Poikkijoki, 2006; Fayolle, 2008; Taatila, 2010; Mason and Arshed, 2013) and include, for example, simulation (Pittaway and Cope, 2007; Neck and Greene, 2011) and other experiential approaches (e.g. Mitchell and Chesteen, 1995; Heinonen, 2007; Tracey and Phillips, 2007; Desplaces et al, 2009; Tunstall and Lynch, 2010). Third, and finally, there is a lack of evidence on their effectiveness (Garavan and O’Cinneide, 1994; Henry et al, 2003; Hytti, 2001; Hytti and Kuopusjärvi, 2004a, b), though with some relatively recent exceptions (Gundry and Kickul, 1996; Daly, 2001; Peterman and Kennedy, 2003; Honig, 2004; Hytti and O’Gorman, 2004; Collins et al, 2006; Pittaway and Cope, 2007; Matlay, 2008; Russell et al, 2008; Hytti et al, 2010; Vij and Ball, 2010; Vij, 2014). Whilst extant argumentation for experiential approaches assumes them to be more effective than ‘traditional’ approaches, the underlying philosophy behind these approaches is not constructed upon how effective they are. In particular, we do not know enough about whether these approaches more effectively enable students to achieve LOs, because these are ‘proving elusive’ (Matlay and Carey, 2007: 252). Given that Pittaway et al (2009) highlighted the importance of linking LOs and assessment methods, we attempt to measure EEE effectiveness by utilizing reflective diaries (see also Heinonen and Poikkijoki, 2006; Mason and Arshed, 2013; Pavlovich, 2007), a promising way of measuring outcomes. Hence we aim to establish stronger links between the achieved LOs and the reflection process in order that this evaluation is transparent. The reflective process involves an historic review of past actions and is a self-narrative that brings personal lived experience to the surface in order to critique their own assumptions, reactions, role and actions in a broader context (Cunliffe, 2004).

¹ ‘Graduating enterprise students must be innovative and creative to satisfy the need for entrepreneurial novelty - the art ... [and] competent and multifunctional managers - the science’ (Jack and Anderson, 1999: 110), the ‘art’ involves methods of assessing ideas generation within the creative disciplines’ that are adaptable to entrepreneurship education (Carey and Matlay, 2010).

3. Methodology and Methods

Given increasing interest in the evaluation of effectiveness, especially of educational initiatives (Cohen et al, 2007: 41), we adopted an *exploratory* qualitative analysis of reflective diaries to achieve our objectives. Data were gathered from a purposive and convenience sample of reflective diaries, an individual assessment element of three **full-time** Masters-level modules (modules 1, 2 and 3), in which there are also group business ideas generation presentations and a report. Although the diaries are texts (Krippendorf et al, 2004: 30) – that ‘can construct their own kinds of ‘reality’ and are not influenced by interviewer subjectivity (Atkinson and Coffey, 2004: 73), nonetheless we must be aware that problematically the very nature of interpretation of the journals is subjective. While the group assessment was designed to enable students to learn how to discover (and plan the exploitation of) a business idea in teams, the individual reflective diary, on the other hand, aims to enable students to reflect on what they have learned, as well as their experience of working in teams. However, this theory has not yet been tested exhaustively in the field, because of the difficulty in assigning *causality* of experiential approaches to such complex *shorter-term phenomena* as LOs in EEE (not to mention longer-term entrepreneurial outcomes, such as intention to start a business, *de facto* start up, or enhanced performance – or even just survival – in its later stages. Indeed, we were utilizing the diaries to examine declared learning outcomes, not whether any specified objectives (or intended outcomes) for entrepreneurial learning had been met, which suggests in these experiential approaches ‘constructive alignment’ (Biggs, 2003) may not occur. However, we have addressed the problem of causality by stating that these learning outcomes of EEE were self-reported and based on the participants’ own lived experiences as documented within their reflective diaries rather than being the response to pre-designed questions that were based on intended learning outcomes.

We subjected the text to rigorous *content analysis* (Silverman, 2004, 2010; Eriksson and Kovalainen, 2008; Curtis and Curtis, 2011), which often adds a positivistic epistemological flavour to qualitative research, and our text was partially quantified to enable in-depth qualitative analysis. Content analysis, ‘unobtrusive’ (Krippendorf, 2004: 40) and ‘verifiable’ (Cohen et al: 475), is the ‘process of summarizing and reporting written data – the main contents of data and their messages’ (ibid: 475), or defined by Silverman (2010: 433) as ‘establishing categories and systematic linkages between them, and then counting the number of instances when those categories are used in a particular item of text’. Although we note a number of limitations below, we adopted Cohen’s (2007: 476-483) content analysis protocol:

| Generic Step (Cohen, 2007) | Specific Customization |
|---|---|
| 1 “Define research question” | Evaluate effectiveness of EEE in achieving LOs |
| 2 “Define population – people and text” | Master students’ reflective diaries |
| 3 “Define the sample” | Convenience, purposive sample |
| 4 “Define context of generation of document (how generated, who involved, how recorded etc)” | Self-generated by students in class |
| 5 “Define <i>unit of analysis</i> : word, phrase, sentence, paragraph, whole text” | a series of sentences and paragraphs extracted from reflective logs |
| 6 “Decide analytical codes” | dis/advantages of experiential approach (group idea generation) achieving LOs |
| 7 “Construct <i>categories</i> ” [‘higher-level concepts’ (Corbin and Strauss, 2008: 159)] [“for analysis, constructs or <i>domains</i> ” (‘category including other categories’ (Cohen et al, 2007: 479))] | Also two codes analysed in this category |
| 8 “Conduct coding and categorization of data” [codes defined as a ‘label for a piece of text’ and a node ‘a concept, idea, process etc’ (ibid: 479)] | Labelling particular themes throughout both categories, and then counting frequency in which these appeared |
| 9 “Conduct data analysis by counting frequency of code in text, and number of words in category” | Ditto |
| 10 “Summarize main features of the situation so far” | Section 4 |
| 11 “Make speculative inferences” | Section 5 |

While seeking to ensure quality of data, methods and analysis (Silverman, 2004b), particularly its validity in terms of subjectivity, that it is controllable, replicable, and predictable (Cohen et al, 2007: 133-134), the convenience/purposive sample restricts generalizability. To ensure validity we used 'in-vivo codes' (Corbin and Strauss, 2008: 65). Data reliability, defined as 'the degree of consistency' between categories, replicability etc (Hammersley, 1992: 67), may be hampered by the impact of textual data being generated for another reason from the analysis that is being conducted. While texts may also be 'more reliable than observations' (Hammersley, 1992: 67), at the same time there are risks to reliability in terms of not having 'consistent use of codes and categories' and to validity due to the need for 'precise counts' (Silverman, 2006; 255).

We sought to follow an *appropriate* method that is transparent, and not just generate a list (Silverman, 2006, 2010) or introduce anecdotalism rather than objective truth into qualitative research (Silverman, 2006) as well as not under- or over-theorizing (Silverman, 2010). Judging by the categories, the study is reliable and valid but had three main limitations:

- (i) the data utilized in the analysis were pre-existing reflective diaries which had not been designed for analytical purposes;
- (ii) as a result, the intended in-depth quantitative content analysis was not possible and thus a more qualitative approach to content analysis was adopted; and
- (iii) the findings of the study are less generalizable than was previously hoped for the reasons above.

4. Analysis and Discussion

4.1 Advantages – an indication of effectiveness

Teamwork. In order to balance the disadvantages that have been identified above, a number of advantages of this experiential approach have also been identified, as analysed below. Not surprisingly, students reported that the overwhelming LO being achieved by the experiential approach was in relation to teamwork in the business idea generation process (83% of students, and 54% of stated aspects). In fact, that was likely to be because students tended to focus upon the benefits of the group experience rather than their individual leaving. Nonetheless, other aspects included innovation (19% / 12%), communication (15% / 9%), research (6% / 4%), time management (6% / 4%), with an additional ten LOs being identified.

Highlights of key LOs that students have achieved in relation to teamwork included the first example of a student who, despite a personal preference for individual working, has learned valuable lessons from teamwork that will be applied in future employment: *"From this experience I have learnt it is difficult to get a team together to work on a specific task. It has been better to allow the team to create their own individual parts. Personally I prefer working individually to working in team because I am not a fan of confrontation. When working individually it is easier to know what parts of the report have been completed and what parts need doing. This said I believe I have grown from this experience and I look forward to completing a similar task once employed by a business."* (AD).

Differential aspects: hard and soft. Although other students offered more general comments about "how well" the group had performed, another student contrasted the soft (i.e. friendship and fun) and hard (problem-solving and experiential learning through sharing each other's experiences) aspects of teamwork (I). Similarly, a LO related to working in co-operatively and collaboratively: *"We have learned how to work collaboratively in a small team and how to develop an effective cooperation. We have learned lot from each other during those times of team work and we are able to bring all the facts together and to find out what "I" need to attach importance to, what "I" can do to the team. We are able to work with challenge and to learn of taking advantage of solving all kinds of problem."* (AO). Another student had a more positive view of group work, as well as learning from the experiences of older classmates: *"a personal learning curve as it has changed my completely negative view of group work for the better. However, I still maintain that taking control is sometimes for the best if I feel most passionate about succeeding. I learnt a lot through interactions with mature and more experienced students who I may not have necessarily spoken to outside of the task."* (AJ)

Communication and backgrounds. Communicating and working with other students from "different backgrounds" in order to develop a business idea was highlighted by other students (AB, AG, Z), and these students clearly learned from the diverse perspectives of their peers. Students also learned about the way in which the individual experiences, opinions, perspectives and ideas of each member of the team were combined in order to generate an overall business idea (AF, G, AS, AN), e.g. *"In our group, all the guys like to state their own thinking. This makes us to come out a lot of ideas."* (AS). Understanding different members' strengths and weaknesses was also relevant (M, AE, AL, R, AK). Despite the concerns (and evidence above) about nonparticipation and freeriding, these students have learned how entrepreneurial teams can combine their strengths – and overcome their weaknesses – to develop a viable business idea.

Skills. Negotiation, problem-solving, co-operation/collaboration, learning from others' experiences, developing a more positive view of groupwork, communicating with those from different backgrounds, learning from individual experiences, opinions, perspectives and ideas, and understanding how to deal with individual strengths and weaknesses were amongst the LOs achieved related to teamwork. Given that the purpose of the assessment related to developing a business idea, LOs related to innovation (i.e. applying an invention in practice – relating to creativity) were involved. These are considerably easier to summarise below; for example: *"Our group has very good imagination. Secondly, we think things completely. We pick up an idea not only explain how to use it, but also think about after service."* (B). Other students summarized this LO in a nutshell, i.e. that "creative skills have improved" (AA), "create a great idea for an innovative product" (Y), "generate ideas through healthy discussion" (AR) and "creative abilities (AQ). Another student learned how innovation comes about (AH), while another drew upon varied experiences to develop a business idea, and for others (O) the art and the science (see footnote 1) of entrepreneurship were also involved in this learning: *"It made me think about the approach of starting something new such as a business (how to be innovative, and how to distinguish from competition). I also had to think about some practical issues (where to begin, with what methodology, what to do with the collected information, how to present it, how to market the business, how to plan the finances?). Furthermore, I was the one with the main ideas and I had to persuade the other members of the group: explaining why my ideas were good."* (O). Although we find evidence of experiential learning related to innovation, it appears, on the basis of the evidence, that it is not as major as anticipated.

Communication. Related to the teamwork process, which provided a number of skills related to collaboration and negotiation, the individual students learned how to communicate within the group setting, while attempting to discover and exploit a business opportunity or idea; partly, this communication was linguistic (Y). Indeed, the importance of communication, in terms of respecting and honouring others' opinions and achieving trust, was also observed: *"You have to be able to share and consider opinions, establish trust, and resolve any conflicts that may arise."* (AB). Hence various types of communication LOs were achieved, especially in terms with the linguistic challenges of working with students from other countries. Students learned research skills, such as "finding articles, journals, academic books, and internet" (C) and "how to do the research and how to find the useful information for our assessment." (G). By collaborating on research for the assessment, individual students learned much more than they would have done otherwise. Because of the assessment's time pressures: *"I could learn to work diligently within the stipulated time in co-ordination with the team members"* (AA); and: *"I learnt about how can I manage time to work on the project"* (Y). Another perspective was: *"In conclusion, the time spent on the preparation of the report was a very fruitful one. The group report was very explicit on the points to be covered. Although, with more time and opportunity to write more words in the future, I would strive to produce a much better report."* (L). Although these issues have been written already in the education literature, future research will examine what is different about entrepreneurship and learning.

4.2 Disadvantages: possibly making this approach less effective

Analysis of the reflective journals demonstrated that nonparticipation by other students in the team (29%) and language and cultural challenges (23%) were the major difficulties. These are familiar solutions. There are then some negative aspects related to different academic standards amongst students in the groups (8%), students acting as individuals rather than group members (6%), and various other problems.

Nonparticipation. While the problem of nonparticipation or freeriding is familiar, this negative aspect also related to students acting as individuals rather than group members. Indeed, there were even cases where a group member failed to take part in the assessment and then left the group to do an individual assessment (A, N): *"After the initial deliberations on choosing a topic, a member refused to do any work. Whenever we met to calculate our progress, he would come with nothing ... He was given an option to improve and at the last minute, he opted to do an independent work."* (L).

However, the other problems with groupwork nonparticipation were much more about the attempt by other students to convince their fellow students to work together in harmony. If nothing, this exercise illustrated the importance of management or at least some form of leadership. Although this problem is perhaps not unusual where groupwork is involved and highlights that, although these are negative aspects, at least it was an experiential learning process for the students that, if they do in the future get involved in a 'team' starting up a small business, they will need to ensure that their team members are committed and actually participate. The following quote demonstrates at length the frustrations faced, and solution engineered, by committed, and participating, students who quickly identified tactics to ensure the participation of nonparticipants. They have used a 'stick' approach which would involve the nonparticipants splitting from this group and having to work on their own assessment, which is a tactic which has been most effective.

Other problems of nonparticipation, whilst no doubt problematic for the group, are perhaps understandable given students' choice (or, indeed, need) to work and with transport issues and the family and other commitment that they have. The issues below were resolved by some groups 'working smart', by planning who was doing which tasks and actually managing to work together despite some members not attending meetings. However, one group experienced the non-attendance of some members leading to deadlines being missed and pressure being put on them all (AD). Another group had a nonattender who was ultimately not a nonparticipator, since he contributed well to the report (AP). Whilst familiar scenarios occurred (e.g. freeriding, deadlines being missed, and issues of group leadership/organization/management), some students named did not participate to the required standard and, as a result, Q reported that s/he had to contribute 90% of the report.

Language and culture. The second most frequent negative aspect identified by students in their reflective diaries related to language and cultural problems. Indeed, with another emphasis upon turning "negative into positive", it could be argued that dealing with language barriers is an important aspect of learning for students entering the business world, particularly when they may have at least some international interactions in the future. Despite communication challenges, the relationship of one UK student with Chinese students developed as she began to understand and befriend them: "*Within our group there were two Chinese girls and although they were incredibly helpful and asked continuously on what they could be doing to help sometimes the language barriers made it hard for me to understand them at the beginning. However after working with them more and getting to know them better I have started to understand those more which has been a personal advantage to me of working in a team*" (AN). For other students, trying to communicate their opinions and ideas to other students was a major difficulty, as well as trying to organize and co-ordinate the completion of the assessment. Despite this challenge, arguably the need to communicate in precise English in order to understand each other may have enhanced the creative process; then again, it may have diverted their attention from the task at hand. Nonetheless, students managed to overcome what may have initially seemed to some as a nuisance or impediment, thus – having developed listening and comprehension abilities – they discovered the richness of the ideas, opinions and perspectives of other students, thus potentially enhancing the outcome of the group collaboration process. Somewhat counterintuitively, these students learned from this experience (designed to mirror the 'real world' experiences of dealing with international collaboration in the entrepreneurial realm).

'Academic' standards. Although only mentioned by 8% of students, differing 'academic' standards caused some tensions within some groups. Clearly, these are students who are, or at least perceive themselves to be, more conscientious than their peers and, as a result, were dissatisfied with the quality or standards of work completed by other students. The ability to work with people who not only may be less (or more) committed and also less (or more) competent than oneself, is a particular competence that can be developed, as indeed is a certain degree of diplomacy. In addition, differential levels of tenacity and resilience could be at play here. A total of 6% observed that some fellow students were acting as individuals rather than as members of a coherent and cohesive group. Clearly, it is rather important in the 'real world' to act as part of a team where appropriate, and yet self-interest will often play a role in individual employees' or entrepreneurs' actions, as with students: "*everyone will focus on their own part and seldom become concerned about the remaining parts; it caused some conflicts. There are also some similar conflicts in the market part and the financial part, after several discussions, we basically united our ideas.*" (H). Indeed, such a contradiction would be noted and penalized by the academic marking the work. Whilst learning from other students, a level of independent learning may be required to achieve the best LOs from the experiential approach. In other words, freeriders – and those who go along with others' ideas and do not contribute as much to the process as others – will perhaps learn much less. Indeed, a key aspect to be learned by students was that they are all individuals with different approaches, opinions and perspectives, which makes working as a group all the more challenging. Nevertheless, despite these challenges, the students (all full-time, mainly in their early 20s) learned from those from different cultural backgrounds, or even those from a similar background to their own.

5. Conclusions and Implications

This paper has conducted a critical appraisal of how experiential approaches *can* potentially more effectively enhance the achievement of LOs in teamwork-based entrepreneurship education assessment. The literature review established that, although there is a large body of research on experiential approaches towards entrepreneurship education, we know little about how these approaches can potentially contribute towards the effective achievement of LOs, particularly in terms of opportunity discovery and exploitation. Indeed, whilst it is argued in the literature that such approaches are effective because they are experiential, such assertions are not supported by sufficient robust evidence. Although the recommendations are provided below, in terms of 'So What?', the content analysis of 48 reflective diaries (from modules 1, 2 and 3) highlighted negative and positive aspects of the experiential approach that has been studied, as outlined below. Here we must again clarify that we attempted to identify that learning has taken place. In more traditional pedagogic approaches, we might expect learning outcomes to be constructively aligned (Biggs, 2003). However, in these more experiential approaches, it can be that there is variance – or constructive misalignment – where we found that the declared or stated learning outcomes did not necessarily align with expected outcomes of these modules.

Negative aspects or disadvantages that may make the approach less effective included nonparticipation or freeriding, with creative tactics to solve problems (including splitting the group), and yet the learning gained from this exercise, particularly where students within groups managed to adapt to this challenge or resolve it, can be a valuable future competence that can be used in an entrepreneurial setting. Language and cultural problems arose, which again students were able to overcome by simply making more of an effort (with resilience and tenacity possibly being reliable and useful indicators of entrepreneurial capacity development), and – although it may have diverted their attention – learned from this experience, which is designed to mirror the ‘real world’ experiences of dealing with international collaboration in the entrepreneurial realm. Differing academic standards of the contribution to the presentation and report was noted by some students, as was the tendency of some to operate as ‘individuals’ rather than members of a team.

Advantages or positive aspects that indicated the effectiveness of the experiential approach in enabling students to achieve particular LOs were also identified. These aspects have been proxied as LOs which, although they are not all explicitly listed in the module handbooks and specifications as either objectives or desired intended learning outcomes in a constructively aligned course design (Biggs, 2003), were nonetheless the predominant LOs students reported achieving. The key LOs achieved included teamwork in the business idea generation process relating specifically to negotiation, problem-solving, co-operation/collaboration, learning from others’ experiences, developing a more positive view of groupwork, communicating with those from different backgrounds, learning from individual experiences, opinions, perspectives and ideas, and understanding how to deal with individual strengths and weaknesses. Other predominant, and yet less important, LOs included the innovation involved in generating a business idea, and communication, especially linguistically with those from other countries.

While there are a number of clear LOs being met in relation to teamwork and communication that related specifically to innovation (i.e. generating a business idea) is much more modest. As above, this appraisal is outcome-led – whereas experience and process-led evaluation strategies might be more appropriate to experiential approaches to entrepreneurship education. And yet, students have experienced some negative aspects which, in themselves, have become significant learning opportunities, such as linguistic-cultural challenges and overcoming nonparticipation and freeriding. There is little evidence here, therefore, that EEE is especially more effective than other approaches that have traditionally been adopted – although it does have some key LOs (possibly impinged on by other aspects that we are not aware of), in many ways these are more generic teamwork-based aspects rather than being specifically related to entrepreneurship or the process of discovering and exploiting opportunities and business ideas. We now critique some of the underlying thinking behind EEE assessment as well as offering some implications for practice.

First, it is a fair question to ask: why use LOs as a measure of effectiveness at all? Effectiveness relates to purpose and also to creating perceived value for people who care – and the implication is all the people involved in the teaching and learning care. So we have to ask: *why* are we teaching this module, for *whom* and *what* is it they are looking for? We are implicitly assuming here that entrepreneurial outcomes matter and that those involved actually believe this to be the case. It is the answers to these questions that should drive the learning outcomes if they are to be used to measure effectiveness. But in practice are any intended learning outcomes more likely to be based on academic assumptions and preferences. It can also be argued that creativity and innovation can only be evidenced in contexts, and that a student’s learning environment will impact on the essential ingredient of newness. What may be new to one individual, group or society, may well be well-trodden ground to another. Learning outcomes might also relate more readily to measures of **efficacy** (does the module deliver the intended learning objectives) and **efficiency** (can the objectives or intended learning outcomes be delivered with the resources available basically?). It is also an interesting question as to whether the relevant objectives are generic and relevant for experiential entrepreneurship modules ‘anywhere’ or whether (and how much) they are location-specific and thus vary from programme to programme depending on local needs. Is there any risk that a module is really valuable for students in developing entrepreneurial orientation or entrepreneurship skills (which are both laudable and relevant outcomes), and it is delivered well by capable staff, but it fails to meet poorly specified learning objectives, so it is not judged effective? Here we have evidence of ‘constructive misalignment’.

The nature of experiential learning is that there is broad purpose and direction but an unclear route – participants (educators as well as students) learn as they go along about the value and relevance of particular choices and actions. There are, therefore, two themes – learning about specific cause and effect themes within the context of the purpose – and a broader purpose of refining behaviour and judgement capabilities. The educator’s role is fundamentally to provide opportunities for students to experience and to learn. How specific can we realistically be about just what they learn however? They all commence from different starting points, so we have to query how well we are setting the learning objectives (before we begin delivering a module) if we are using them as a measure of effectiveness. We could consider what we believe experiential learning in the context of entrepreneurship is really about and whether the intended learning outcomes (objectives) we

traditionally employ truly 'stack up'. Second, when developing LOs to differentiate more effectively between the art and the science elements (although both are required), should we evaluate specific aspects of student performance through the lenses of implementation or innovation? Recalling that, a new idea or new initiative that takes advantage of complex or confusing environments will be by its very nature, unpredictable, utilising performance measures that are reliant on 'known knowns' becomes problematic. Conversely, skills relating to the generation of alternative ideas and the ability to see multiple solutions, so as to become adaptable flexible thinkers who demonstrate initiative, independence and innovation, become the imperative. This is not to say that retaining knowledge that is measurable against accepted norms and knowns should be discarded, far from it, however making distinctions between learning for 'innovation' and learning for 'implementation' help to define the dissimilar nature of these learning requirements.

Although Biggs (2003) has argued the need for constructive alignment in course design, in fact some of these unexpected LOs suggest the possibility that constructive misalignment could, in certain circumstances (e.g. experiential entrepreneurship education), be a positive pedagogical outcome.

Given the limitations of this study's method and dataset, however, future in-depth research is required based on a more robust research design. The speculative inferences made from the analysis are much less speculative than other studies, because the students have been quite explicit about their experiences, both negative and positive, and thus the learning outcomes that have been achieved can be inferred from the analysis of the reflective logs and, in particular, are evidenced by the selective quotations that have been provided. It is rather impossible, without further evidence on the effectiveness of EEE, to recommend changing the approach adopted further based upon the modest effectiveness that the analysis and critical assessment within this paper. The lead author, at least, started this research study with the presupposition that an experiential approach was *the* effective alternative to traditional lecturing approaches to entrepreneurship. Whilst the findings suggest that it is more effective, it is not clear whether it realistically simulates the business ideas generation process and so future research ought to address this aspect.

In seeking to address Pittaway and Edwards' (2012: 794) call for "more careful consideration of assessment practice in entrepreneurship education ... particular forms of assessment practice (e.g. reflective and peer assessment) more deeply with a need to explore what value they provide", our analysis of students' reflective diaries to match intended learning outcomes to the actual learning outcomes achieved still provides little evidence that experiential entrepreneurship education is more effective than other approaches that have traditionally been adopted, a large-scale longitudinal quantitative study would provide generalizable results to explore further this topic. In addition, future research avenues might include the dichotomy between less entrepreneurially oriented people and more entrepreneurially oriented people and the extent to which learning outcomes in experiential entrepreneurship education is effective for either group. Building upon calls for more 'mixed methods' research in entrepreneurship education (Blenker et al, 2014; Vij, 2014), future research could include robust in-depth qualitative interpretive analyses, but also need to be supported by equally rigorous and more generalizable quantitative methods. Combining these methods in one study would help to address some of the still unanswered questions in this theme that have been identified by various prior studies.

Acknowledgments

We are grateful to Professor Kathryn Pavlovich, Professor Luke Pittaway and Dr Vijay Vij for their comments on earlier drafts of this paper, and the track chair Professor Collette Henry for helpful and constructive suggestions. In particular, we wish to thank full-time Master's students for agreeing to data from their reflective diaries being included in this paper.

References

- Akola, E. & Heinonen, J. (2006) 'How to support learning of entrepreneurs? A study of training programmes for entrepreneurs in five European countries', Paper presented at the RENT XX conference, Brussels, November.
- Anderson, A.R. and Jack, S.L. (2008) 'Role typologies for enterprising education: the professional artisan?', *Journal of Small Business and Enterprise Development*, Vol. 15, No. 2, pp. 259-273.
- Béchar, J-P. and Grégoire, D. (2005) 'Entrepreneurship education research revisited: the case of higher education', *Academy of Management Learning & Education*, Vol. 4, No. 1, pp. 22-43.
- Biggs, J. (2003) *Teaching for Quality Learning at University – What the Student Does*, Open University Press: Buckingham.

- Blenker, P., Dreisler, P. Meibom Faergemann, H. and Kjeldsen, J. (2008) 'A framework for developing entrepreneurship education in a university context', *International Journal of Entrepreneurship and Small Business*, Vol. 5, No. 1, p. 45-63.
- Blenker, P., Elmholdt, S.T., Frederiksen, S.H., Korsgaard, S. and Wagner, K. (2014) 'Methods in entrepreneurship education research: a review and integrative framework', *Education + Training*, Vol. 56, No 8/9, pp. 697-715.
- Botham, R. & Mason, C. (2007) 'Good Practice in Enterprise Development in UK Higher Education', Research Report 004/2007. Birmingham: National Council for Graduate Entrepreneurship.
- Carayannis, E.G., Evans, D. and Hanson, M. (2003) 'A cross-cultural learning strategy for entrepreneurship education: outline of key concepts and lessons learned from a comparative study of entrepreneurship students in France and the US', *Technovation*, Vol. 23, No.9, pp. 757-771.
- Carey, C. and Matlay, H. (2010) 'Creative disciplines education: a model for assessing ideas in entrepreneurship education?', *Education + Training*, Vol. 52, No. 8/9, pp. 694-709.
- Carver, R. (1996) 'Theory for practice: A framework for thinking about experiential education', *Journal of Experiential Education*, Vol. 19, No. 1, pp. 8-13.
- Cheng, M.Y., Chan, W.S. and Mahmood, A. (2009) 'The effectiveness of entrepreneurship education in Malaysia', *Education + Training*, Vol. 51, No. 7, pp. 555-566.
- Collins, L.A., Smith, A.J. and Hannon, P.D. (2006) 'Applying a synergistic learning approach in entrepreneurship education', *Management Learning*, Vol. 37, No. 3, pp. 335-354.
- Cooper, S., Bottomley, C. and Gordon, J. (2004) 'Stepping out of the classroom and up the ladder of learning: An experiential learning approach to entrepreneurship education', *Industry and Higher Education*, Vol. 18, No. 1, pp. 11-22.
- Cunliffe, A.L. (2004) 'On becoming a critically reflexive practitioner'. *Journal of Management Education*, Vol. 28, No. 4, pp. 407-426.
- Dainow, W. (1986) 'Training and education of Entrepreneurs: The current state of the literature', *Journal of Small Business and Entrepreneurship*, Vol. 3, No. 4, pp. 10-23.
- Daly, S.P. (2001) 'Student-operated internet businesses: True experiential learning in entrepreneurship and retail management', *Journal of Marketing Education*, Vol. 23, No. 3, pp. 204-215.
- Desplaces, D.E., Wergeles, F. And McGuigan, P. (2009) 'Economic gardening through entrepreneurship education: A service-learning approach', *Industry and Higher Education*, Vol. 23, No. 6, pp. 473-484.
- Dewey, J. (1938) *Experience and Education*, New York: Collier.
- Edelman, L.F., Manolova, T.S. and Brush, C.G. (2008) 'Entrepreneurship education: Correspondence between practices of nascent entrepreneurs and textbook prescriptions for success', *The Academy of Management Learning and Education*, Vol. 7, No. 1, pp. 56-70.
- European Commission (2012) *Effects and Impact of Entrepreneurship Programmes in Higher Education*, Directorate-general for Enterprise and Industry / European Commission. Brussels.
- Fayolle, A. (2008) 'Three types of learning processes in entrepreneurship education', *International Journal of Business and Globalisation*, Vol. 2, No. 2, pp. 198-207.
- Fayolle, A. and Gailly, B. (2008) 'From craft to science: Teaching models and learning processes in entrepreneurship education', *Journal of European Industrial Training*, Vol. 32, No. 7, pp. 569-593.
- Fayolle, A., Gailly, B. and Lassas-Clerc, N. (2006) 'Assessing the impact of entrepreneurship education programmes: a new methodology', *Journal of European Industrial Training*, Vol. 30, No. 9, pp. 701-720.
- Garavan, T.N. and O'Cinneide, B. (1994) 'Entrepreneurship education and training programmes: a review and

- evaluation – Part 1', *Journal of European Industrial Training*, Vol. 18, No. 8, pp. 3-12.
- Gorman, G., Hanlon, D. and King, W. (1997) 'Some research perspectives on entrepreneurial education, entrepreneurship education and education for small business management: a ten year review', *International Small Business Journal*, Vol. 15, No. 3, pp. 56-77.
- Graevenitz, G. von, Harhoff, D. and Weber, R. (2010) 'The effects of entrepreneurship education', *Journal of Economic Behavior & Organization*, Vol. 76, No. 1, pp. 90-112.
- Gundry, L.K. and Kickul, J.R. (1996) 'Flights of imagination: Fostering creativity through experiential learning', *Simulation & Gaming*, Vol. 27, No. 3, pp. 334-349.
- Hamidi, D.Y., Wennberg, K. and Berglund, H. (2008) 'Creativity in entrepreneurship education', *Journal of Small Business and Enterprise Development*, Vol. 15, No. 2, pp. 304-320.
- Hannon, P. (2007) 'Enterprise for all? The fragility of enterprise provision across England's HEIs', *Journal of Small Business and Enterprise Development*, Vol. 14, No. 2, pp. 183-210.
- Hannon, P., Brooksbank, D., Gray, C., Fuller, T., Jarvis, R, Keogh, B., Kirby, D. & Sear, L. (2004) *Making the Journey from Student to Entrepreneur: A Review of the Existing Research into Graduate Entrepreneurship*. Birmingham: National Council for Graduate Entrepreneurship.
- Hannon, P., Scott, J.M., Reddy, S. and Millman, C. 2006. 'The state of education provision for enterprise and entrepreneurship: A mapping study of England's HEIs', *International Journal of Entrepreneurship Education*, Vol. 4, pp. 41-72.
- Hannon, P.D. (2005) 'Philosophies of enterprise and entrepreneurship education and challenges for higher education in the UK', *International Journal of Entrepreneurship and Innovation*, Vol. 6, No. 2, pp. 105-114.
- Hannon, P.D., Collins, L.A. and Smith, A.J. (2005) 'Exploring graduate entrepreneurship: a collaborative, co-learning based approach for students, entrepreneurs and educators', *Industry and Higher Education*, Vol. 19, No. 1, pp. 11-23.
- Heinonen, J. (2007) 'An entrepreneurial-directed approach to teaching corporate entrepreneurship at university level', *Education + Training*, Vol. 49, No. 4, pp. 310-324.
- Heinonen, J. and Poikkijoki, S-A. (2006) 'An entrepreneurial-directed approach to entrepreneurship education: mission impossible?', *Journal of Management Development*, Vol. 25, No. 1, pp.80-94.
- Henry, C., Hill, F. and Leitch, C. (2003) *Entrepreneurship Education and Training*. Aldershot: Ashgate.
- Henry, C., Hill, F. and Leitch, C. (2005a) 'Entrepreneurship education and training: Can entrepreneurship be taught? Part I', *Education + Training*, Vol. 47, No. 2, pp. 98-111.
- Henry, C., Hill, F. and Leitch, C. (2005b) 'Entrepreneurship education and training: Can entrepreneurship be taught? Part II', *Education + Training*, Vol. 47, No. 3, pp. 158-169.
- Hindle, K. (2001) 'Entrepreneurship education at university: The Plus Zone challenge', *Small Enterprise Research*, Vol. 9, No. 2, pp. 3-16.
- Hjorth, D. (2011) 'On provocation, education and entrepreneurship', *Entrepreneurship & Regional Development*, Vol. 23, No. 1-2, pp. 49-63.
- Honig, B. (2004) 'Entrepreneurship education: toward a model of contingency-based business planning', *Academy of Management Learning & Education*, Vol. 3, No. 3, pp. 258-273.
- Hussain, J., Scott, J.M. and Matlay, H. (2010) 'The impact of entrepreneurship education on succession in ethnic minority family firms', *Education + Training*, Vol. 52, No. 8/9, pp. 643-659.
- Hytti U., and Kuopusjärvi, P. (2004a) 'Three Perspectives to Evaluating Entrepreneurship Education: Evaluators, Programme Promoters and Policy Makers', Paper presented at the efmd 34th EISB Conference. Turku.
- Hytti U., and Kuopusjärvi, P. (2004b) *Evaluating and Measuring Entrepreneurship and Entrepreneurship education: Methods, Tools and Practices*. Turku: Turku School of Economics.

- Hytti, U. (2001) 'State-of-Art of Entrepreneurship education in Europe - Results from the Entredu project', Turku: Turku School of Economics.
- Hytti, U. and O'Gorman, C. (2004) 'What is "enterprise education"? An analysis of the objectives and methods of enterprise education programmes in four European countries', *Education + Training*, Vol. 46, No. 1, pp. 11-23.
- Hytti, U., Stenholm, P., Heinonen, J. and Seikkula-Leino, J. (2010) 'Perceived learning outcomes in entrepreneurship education: The impact of student motivation and team behaviour', *Education + Training*, Vol. 52, No. 8/9, pp. 587-606.
- Ibrahim, A.B. and Soufani, K. (2002) 'Entrepreneurship education and training in Canada: a critical assessment', *Education + Training*, Vol. 44, No. 8/9, pp. 421-430.
- Itin, C.M. (1999) 'Reasserting the philosophy of experiential education as a vehicle for change in the 21st century', *Journal of Experiential Education*, Vol. 22, No. 2, pp. 91-98.
- Jack, S.L. and Anderson, A.R. (1999) 'Entrepreneurship education within the enterprise culture: Producing reflective practitioners', *International Journal of Entrepreneurial Behaviour & Research*, Vol. 5, No. 3, pp.110-125.
- Jones, C. and English, J. (2004) 'A contemporary approach to entrepreneurship education', *Education + Training*, Vol. 46, No. 8/9, pp. 416-423.
- Kickul, J., Gundry, L.K., Barbosa, S.D. and Simms, S. (2010) 'One style does not fit all: the role of cognitive style in entrepreneurship education', *International Journal of Entrepreneurship and Small Business*, Vol. 9, No. 1, pp. 36-57.
- Kolb, D.A. (1984) *Experiential Learning: Experience as the Source of Learning and Development*. New Jersey: Prentice-Hall.
- Krueger, N. F. (2007) 'What lies beneath? the experiential essence of entrepreneurial thinking', *Entrepreneurship Theory and Practice*, Vol. 31, pp. 123-138.
- Kuratko, D. F. (2005) 'The emergence of entrepreneurship education: development, trends, and challenges', *Entrepreneurship Theory and Practice*, Vol. 29, pp. 577-598.
- Kuratko, D.F. (1989) 'New Venture Creation: A laboratory course for entrepreneurship education', *Journal of Education for Business*, Vol. 64, No. 6, pp. 248-250.
- Laukkanen, M. (2000) 'Exploring alternative approaches in high-level entrepreneurship education: creating micro-mechanisms for endogenous regional growth', *Entrepreneurship & Regional Development*, Vol. 12, pp. 25-47.
- Leitch, C. and Harrison, R.T. (1999) 'A process model for entrepreneurship education and development', *International Journal of Entrepreneurial Behaviour & Research*, Vol. 5, No. 3, pp. 83-109.
- Lewin, K. (1942) 'Field theory and learning' in Cartwright, D. (Ed) *Field Theory in Social Science*. New York: Harper and Row, pp. 60-86.
- Lewis, K. and Massey, C. (2003) 'Delivering enterprise education in New Zealand', *Education + Training*, Vol. 45, No. 4, pp. 197-206.
- Martin, B.C., McNally, J.J. and Kayd, M.J. (2013) 'Examining the formation of human capital in entrepreneurship: A meta-analysis of entrepreneurship education outcomes', *Journal of Business Venturing*, Vol. 28, No. 2, pp. 211-224.
- Mason, C.M. and Arshed, N. (2013) 'Teaching entrepreneurship to university students through experiential learning', *Industry & Higher Education*, Vol. 27, No. 6, pp. 449-463.
- Matlay, H. (2008) 'The impact of entrepreneurship education on entrepreneurial outcomes', *Journal of Small Business and Enterprise Development*, Vol. 15, No. 2, pp. 382-396.

- Matlay, H. (2011) 'The influence of stakeholders on developing enterprising graduates in UK HEIs', *International Journal of Entrepreneurial Behaviour & Research*, Vol. 17, No. 2, pp. 166-182.
- Matlay, H. and Carey, C. (2007) 'Entrepreneurship education in the UK: a longitudinal perspective', *Journal of Small Business and Enterprise Development*, Vol. 14, No. 2, pp. 252-263.
- McKeown, J., Millman, C., Reddy Sursani, S., Smith, K. and Martin, L.M. (2006) 'Graduate entrepreneurship education in the United Kingdom', *Education + Training*, Vol. 48, No. 8/9, pp. 597-613.
- McMullan, W.E and Gillin, L.M. (1998) 'Developing technological start-up entrepreneurs: a case study of a graduate entrepreneurship programme at Swinburne University', *Technovation*, Vol. 18, No. 4, pp. 275-286.
- Mitchell, R.K. and Chesteen, S.A. (1995) 'Enhancing entrepreneurial expertise: experiential pedagogy and the new venture expert script', *Simulation & Gaming*, Vol. 26, No. 3, pp. 288-306.
- Morland, L. and Thompson, J.L. (2013) 'How Action Learning Can Support Budding Entrepreneurs and Enterprise Development', 9th Nordic Academy of Management Conference, Reykjavik, August.
- Neck, H.M. and Greene, P.G. (2011) 'Entrepreneurship education: Known worlds and new frontiers', *Journal of Small Business Management*, Vol. 49, pp 55-70.
- Neck, H.M., Greene, P.G. and Brush, C.G. (2014) *Teaching Entrepreneurship: A Practice-Based Approach*, Edward Elgar, Northampton MA.
- Oosterbeek, H., van Praag, M. and Ijsselstein, A. (2010) 'The impact of entrepreneurship education on entrepreneurship skills and motivation', *European Economic Review*, Vol. 54, No. 3, pp. 442-454.
- Packham, G., Jones, J., Miller, C., Pickernell, D. and Thomas, B. (2010) 'Attitudes towards entrepreneurship education: a comparative analysis', *Education + Training*, Vol. 52, No. 8/9, pp. 568-586.
- Pavlovich, K. (2007) 'The development of reflective practice through student journals', *Higher Education Research & Development*, Vol. 26, No. 3, pp. 281-295.
- Penaluna, A. and Penaluna, K. (2008) 'Business paradigms in einstellung: harnessing creative mindsets, a creative industries perspective' *Journal of Small Business and Entrepreneurship*, Vol. 21, No. 2, pp. 231-250.
- Penaluna, A. and Penaluna, K. (2009a) 'Assessing creativity: drawing from the experience of the UK's creative design educators', *Education + Training*, Vol. 51, No. 8/9, pp. 718-732.
- Penaluna, A. and Penaluna, K. (2009b) 'Creativity in business/business in creativity: Transdisciplinary curricula as an enabling strategy in enterprise education', *Industry and Higher Education*, Vol. 23, No. 3, pp. 209-219.
- Penaluna, A., Coates, J. and Penaluna, K. (2010) 'Creativity-based assessment and neural understandings: A discussion and case study analysis', *Education + Training*, Vol. 52, No. 8/9, pp. 660-678.
- Peterman, N.E. and Kennedy, J. (2003) 'Enterprise education: Influencing students' perceptions of entrepreneurship', *Entrepreneurship Theory and Practice*, Vol. 28, No. 129-144.
- Pittaway, L. and Hannon, P. (2008) 'Institutional strategies for developing entrepreneurship education: a review of some concepts and models', *Journal of Small Business and Enterprise Development*, Vol. 15, No. 1, pp. 202-226.
- Pittaway, L., Hannon, P., Gibb, A. and Thompson, J. (2009) 'Assessment practice in entrepreneurship education', *International Journal of Entrepreneurial Behaviour & Research*, Vol. 15, No. 1, pp. 71-93.
- Pittaway, L.A. and Cope, J.P. (2007) 'Simulating entrepreneurial learning: integrating experiential and collaborative approaches to learning', *Management Learning*, Vol. 38, No. 2, pp. 211-233.
- Pittaway, L. and Edwards, C. (2012) 'Assessment: examining practice in entrepreneurship education', *Education + Training*, Vol. 54, No. 8, pp. 778-800.

Quality Assurance Agency for Higher Education (2012) *Enterprise and entrepreneurship education: Guidance for UK higher education providers - Draft for consultation*. Gloucester: Quality Assurance Agency for Higher Education.

Rae, D., Martin, L., Antcliff, V. and Hannon, P. (2010) 'The 2010 Survey of Enterprise and Entrepreneurship in Higher Education', paper presented at the 33rd ISBE conference, London, November.

Ramsey, V.J. and Fitzgibbons, D.E. (2005) 'Being in the classroom', *Journal of Management Education*, Vol. 29, No. 2, pp. 333-356.

Rodrigues, R.G., Raposo, M., Ferreira, J. and Do Paco, A. (2010) 'Entrepreneurship education and the propensity for business creation: testing a structural model', *International Journal of Entrepreneurship and Small Business*, Vol. 9, No. 1, pp. 58-73.

Russell, R., Atchison, M. and Brooks, R. (2008) 'Business plan competitions in tertiary institutions: encouraging entrepreneurship education', *Journal of Higher Education Policy and Management*, Vol. 30, No. 2, pp. 123-138.

Sánchez, J.C. (2011) 'University training for entrepreneurial competencies: Its impact on intention of venture creation', *International Entrepreneurship and Management Journal*, Vol. 7, No. 2, pp. 239-254.

Scott, J.M., Penaluna, A. and Thompson, J.L. (2016) 'A critical perspective on learning outcomes and the effectiveness of experiential approaches in entrepreneurship education: Do we innovate or implement?', *Education + Training*, forthcoming.

Shepherd, D.A. (2004) 'Educating entrepreneurship students about emotion and learning from failure', *Academy of Management Learning & Education*, Vol. 3, No. 3, pp. 274-287.

Solomon, G. (2007) 'An examination of entrepreneurship education in the United States', *Journal of Small Business and Enterprise Development*, Vol. 14, No. 2, pp.168-182.

Solomon, G.T., Weaver, K.M. and Fernald, L.W. (1994) 'A historical examination of small business management and entrepreneurship pedagogy', *Simulation & Gaming*, Vol. 25, No. 3, pp. 338-252.

Tautila, V.P. (2010) 'Learning entrepreneurship in higher education', *Education + Training*, Vol. 52, No. 1, pp. 48-61.

Tan, S. and Ng, F. (2006) 'A problem-based learning approach to entrepreneurship education', *Education + Training*, Vol. 48, No. 6, pp. 416-428.

Thompson, J.L., Scott, J.M. and Martin, F. (2014) *Strategic Management: Awareness and Change, 7th edition*, Cengage Learning: Andover.

Tracey, P. and Phillips, N. (2007) 'The distinctive challenge of educating social entrepreneurs: a postscript and rejoinder to the Special Issue on Entrepreneurship Education', *The Academy of Management Learning and Education*, Vol. 6, No. 2, pp. 264-271.

Tunstall, R. and Lynch, M. (2010) 'The role of simulation case studies in enterprise education', *Education + Training*, Vol. 52, No. 8/9, pp. 624-642.

Vesper, K.H. and Gartner, W.B. (1997) 'Measuring progress in entrepreneurship education', *Journal of Business Venturing*, Vol. 12, No. 5, pp. 403-421.

Vij, V. (2014) *Exploratory Study into Entrepreneurship Education: Awareness and Impact upon Science, Engineering and Technology (SET) Undergraduates*, unpublished PhD thesis, Northumbria University: Newcastle.

Vij, V. and Ball, S. (2010) 'Exploring the impact of entrepreneurship education on university nonbusiness undergraduates', *International Journal of Entrepreneurship and Small Business*, Vol. 9, No. 1, pp. 86-109.