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Sustainability: what the entrepreneurship educators think

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Abstract

Purpose – The purpose of this paper is to consider the understanding and presence of sustainability within entrepreneurship education. The extant literature on sustainability within the entrepreneurship discipline remains extremely limited. Previously, sustainability within an entrepreneurship context has related to economic viability as opposed to sustainability in its broadest sense. This study explores, through a survey of entrepreneurship educators, three key research questions, namely, how entrepreneurship educators believe that entrepreneurs can contribute to solving sustainability problems. Second, to what extent education about sustainability is integrated within existing entrepreneurship curricula. Finally, what considerations are being made to include sustainability within future programmes.

Design/methodology/approach – This study represented part of a larger university project exploring the associations between the sustainability and entrepreneurship disciplines. This part of the study involved a web-based survey from entrepreneurship academics drawn from Australia, New Zealand, UK, and the USA which provided 54 completed questionnaires.

Findings – The study uncovered much good practice led by “champions” within the entrepreneurship discipline. However, embedded sustainability practice was typically limited and it was more typically regarded as an “add-on” to traditional entrepreneurial teaching.

Practical implications – The study proposes three ways in which sustainability might be more meaningfully integrated into entrepreneurship programmes. First, the QAA (2012) guidelines for enterprise and entrepreneurship need to be reconsidered to encapsulate the sustainability agenda. Second, for entrepreneurship educators to reconsider their pedagogical approaches to encapsulate systems thinking as more holistic educational perspective. Finally, the authors call for entrepreneurship educators to revise their programmes to embed the core facets of social, environmental, economic, and more recently ethical sustainability.

Originality/value – The study offers a novel insight into entrepreneurship educators attitudes to sustainability and their approach to it within their curricula. This study provides an initial benchmark regarding the levels of sustainability provision within entrepreneurship curricula which will be of interest to the entrepreneurship academic community, the sustainability community, and policy makers.

Keywords Education, Entrepreneurship, Sustainability Paper type Research paper

1. Introduction

With the escalating social, environmental, and economic challenges that face humanity and the planet, many believe that business has a pivotal role to play in shifting society towards a more sustainable future (Hall *et al.*, 2010; Baumann-Pauly *et al.*, 2013). In recent years, businesses around the globe have acknowledged that sustainability, and its forerunner corporate social responsibility, is “everybody’s business”

(Rake and Grayson, 2009, p. 395). The concept of the “triple P” bottom line, where business accountability addresses people, planet, and profit has spread far and wide, and there is growing recognition that businesses must learn to understand and adhere to sustainability concepts, including the ethics and sustainability of supply chain management and labour sources, resource management, energy consumption, carbon emissions, and climate change mitigation and adaptation (Elkington, 1997; Bos-Brouwers, 2010). There is also mounting evidence of a practical shift in businesses towards engaging in more systematic change to address issues relating to societal change (Loorbach and Wijsman, 2013).

Entrepreneurs are perceived to hold a particular role in innovating and bringing about societal change, traditionally from a macro-economic perspective (Wennekers *et al.*, 2002). Yet, despite this potential for transformation, from within the field and practice of sustainability, there is a general mistrust of entrepreneurs, who are viewed as an ongoing part of the problem rather than a solution, being concerned solely with profit, and associated with greed, capitalism, and unnecessary consumerism. This situation is further exacerbated in a pedagogical comparison between entrepreneurship education (EE) and education for sustainability education (ESD). To date, dialogue between the two camps remains extremely limited with virtually no exchange of knowledge or expertise. This research attempts to address this lacuna and initiate new conversations and academic debate between EE and sustainability educators (ESD); specifically, this paper explores the perspectives of entrepreneurship educators on sustainability and its current and potential place within the entrepreneurship curriculum. The authors propose that a broader sense of sustainability should underpin EE programmes in universities and that the field might benefit from adopting a more pluralistic approach. The next section will present the key literature in the disciplines of EE and sustainability. Thereafter, the methodology used within this study is presented followed by the key findings. The discussion section considers the key research questions and the paper concludes by considering the implications of the study for policy and practice.

2. Literature: EE and sustainability

Since the industrial revolution, business behaviour in the developed world has been predicated on attaining economic growth as the underlying basis of a capitalist society (Schumpeter, 1934). Economic growth has traditionally been attributed to the accumulation of human and physical capital, and increased productivity arising from ongoing technological innovation (Lucas, 1988). Consequently, business education provision in the higher education (HE) sector globally has been built on the same foundations (Wolf, 2002).

Sustainable development emerged both as a concept and a global goal nearly 30 years ago, with the publishing of the Brundtland report “Our Common Future”, by the United Nations’ World Commission on Environment and Development in 1987. The report stated that in order to ensure equity between nations and generations, a global shift was required towards a new approach to economic development, sustainable development, which “meets the needs of the present without compromising the ability of future generations to meet their needs” (World Commission for Environment and Development, 1987). The approach gained further traction at the United Nations’ Conference on Environment and Development that took place in Rio de Janeiro in 1992 in which many global leaders confirmed their support for the goal (Dresner, 2002).

Since that time, sustainable development has been heavily contested with many arguing it is an irreconcilable goal (Robinson, 2004). Despite its ongoing ambiguity, the discourse of sustainable development continues to hold an important and influential position within current business practices and policy.

Over the past two decades, it has been acknowledged that the HE sector has a vital part to play in the societal shift towards more sustainable models of living, and institutions across the globe have generated a proliferation of “greening the campus” initiatives and sustainable development strategies (Wyness and Sterling, 2015). Alongside these developments, there has been growing appreciation that HE institutions represent critical spaces for engendering graduates who possess the knowledge, skills, and attitudes required to bring about sustainable solutions to the key challenges of twenty-first century society (HEFCE, 2005; Jones *et al.*, 2010; Sterling *et al.*, 2013). The field of sustainability education, most commonly known as ESD, has advocated for the integration of sustainability into curricula across primary, secondary, and tertiary education sectors. In addition to promoting the inclusion of sustainability-related content, ESD scholars have argued for a paradigm shift in education, towards teaching and learning models and pedagogies that foster the development of active and critical citizens who can understand, negotiate, and thrive within growing uncertainty and complexity (Wals, 2012).

Unfortunately, the adoption of a more sustainability-orientated curriculum has been a slow and fraught process (Jones *et al.*, 2010; Winter and Cotton, 2012). In general, sustainability lingers in “pockets” of provision in HE institutions, either in specialised modules, such as sustainable construction or engineering, in core or optional modules within programmes, or in discrete lectures or teaching sessions within a module. Even with an expanding scholarship in ESD and the creation of resources made available for university educators (e.g. the Future Fit Framework from the Higher Education Academy), there has been minimal progress made towards the embedded provision of institutional-wide sustainability-focused curricula, which is deemed essential to tackle the century’s pressing issues (Tilbury and Ryan, 2011). Recognising this institutional stalemate, the Quality Assurance Agency (QAA) has recently published guidelines on Education for Sustainable Development (Quality Assurance Agency (QAA), 2014), which make a strong case for embedding “knowledge, understanding and awareness of sustainable development across the curriculum” (QAA, 2014, p. 4).

Meanwhile, there has been a recent surge in the provision of EE globally owing to its potential to create educational benefits, social and economic growth, and to alleviate poverty (Acs, 2006; Fayolle, 2008; Russell *et al.*, 2008; Jones and Jones, 2014). Within the UK in recent years, several reports have emerged to encourage the university sector to undertake more entrepreneurial activity and business collaboration (Wilson, 2012; Witty, 2013; Young, 2014). This has intensified as a result of the recent global economic recession that has led to high graduate unemployment and left graduates considering alternative career choices, such as business start-ups (Henry and Treanor, 2010). Many influential thinkers believe that entrepreneurship itself could be “a significant conduit for bringing about a transformation to sustainable products and processes” and propose it to be a “panacea” for many social and environmental challenges facing the world today (Hall *et al.*, 2010, p. 439). Debate continues in the literature of entrepreneurship around how the entrepreneurial “identity” is created and, within EE, understanding of how people “learn” to become entrepreneurs is still limited (Sardana and Scott-Kemmis, 2010, p. 743). Despite scholarly criticism of the more traditional content-led educational approach to business management and entrepreneurship, the

pedagogies most commonly utilised within even “state-of-the-art” entrepreneurial education in the USA are still lectures, business plan creation, guest speakers, and class discussions (Solomon, 2007; Jones and Jones, 2011). Within the UK, this increased interest led to the QAA producing enterprise and entrepreneurship-specific guidelines for the university sector (Quality Assurance Agency (QAA), 2012), which present a key reference point to any university for the provision and design of any EE curriculum at undergraduate level.

Despite this undercurrent of optimism, the inclusion of sustainability into entrepreneurial activity remains a niche topic within the entrepreneurship literature, ensuring it has remained a supplementary rather than integrative aspect of entrepreneurship (Baumann-Pauly *et al.*, 2013). Much corporate sustainability research has focused on the economic and environmental dimension of sustainability, particularly the latter (Adeoti, 2000; Friedman *et al.*, 2000; Klapper and Upham, 2015). As Crals and Vereeck (2011) noted, it remains far from clear whether small businesses have the time required to follow any of the sustainability certification processes and guides available. One of the few studies that have explored sustainability issues in a holistic manner was conducted by Klapper and Upham (2015). They examined how the everyday practices of micro-firms simultaneously achieve the multiple dimensions of sustainable development. They created a model that connects micro-firm entrepreneurship and value creation to the economic, social, and environmental aspects of sustainable development. Arguably, micro-firms without strategizing may contribute to realising the three dimensions of sustainable development without the use of codified knowledge tools. These firms are driven by the owner manager’s values, which find their expression in monetary and non-monetary value creation. Building on this theorisation, Klapper and Upham (2015) suggest that the agendas, practices, and discourses of commitment to value and quality may offer more effective entry points for furthering the sustainability agenda than codified standards, certification processes, and decision-support tools.

To date, the contribution of business to the social dimension of sustainable development has primarily been explored through several indicators (Bell *et al.*, 2000; MacGillivray *et al.*, 2000) and a focus on social enterprise and social entrepreneurship has emerged. However, despite this growing interest (Social Enterprise UK, 2011; Social Enterprise UK, 2012a, b, 2013; UnLtd, 2014) social entrepreneurs are considered within the literature as a “special breed” (Pache and Chowdhury, 2012), who possess distinct sustainability-orientated motivations and passion (Kuckertz and Wagner, 2010; Parrish, 2010) and, for this reason, this study does not encompass the growing sub-field of social entrepreneurship that holds social sustainability at the heart of its mission. Rather, this study is concerned with the extent to which sustainability, in a holistic manner, holds a position within general EE practice, both within the UK and internationally.

In their recent and comprehensive review of the research concerned with sustainable development and entrepreneurship, Hall *et al.* (2010) found that there was still a limited understanding of how entrepreneurs identified and seized opportunities related to sustainability that “lie beyond the pull of existing markets” (439). The identification of opportunities, and the fostering of “entrepreneurial intentions” towards sustainability-related endeavours, is considered to be of immediate and crucial concern to entrepreneurship educators (Kuckertz and Wagner, 2010, p. 527), yet it remains under-represented in the literature. It would appear, then, that there is potential for the revision and redesign of entrepreneurial education programmes in HE institutions worldwide to integrate sustainability principles and to address the urgent need for

graduates equipped with creative, critical, and compassionate skills to generate sustainable solutions.

Part of a wider project about pedagogical approaches to entrepreneurship and sustainability education, this research phase explores the current state of EE programmes across the UK and internationally, and examines educators' perceptions of the role of entrepreneurship in sustainability. Thus the key research questions addressed in this study are:

RQ1. How entrepreneurship educators believe that entrepreneurs can contribute to solving sustainability problems?

The authors of this study felt that it was important to gauge perceptions of sustainability and to explore how educators believe entrepreneurs can contribute to the sustainability agenda and whether they offer potential solutions:

RQ2. To what extent entrepreneurship programmes in universities across the UK and beyond are currently making reference to environmental, social, economic, and ethical sustainability in their programmes?

It was recognised that there was a need to benchmark the current levels of sustainability provision within existing EE curricula as there was no literature on current levels of deployment available within the extant literature:

RQ3. What considerations are being made to include sustainability in future programmes?

The final question was designed to question whether consideration was being made regarding future deployment of sustainability within the EE curricula to identify the development path.

3. Methodology

This study reports on one phase of a wider 18-month research project, which aims to identify and examine the synergies between EE and ESD and to evaluate the potential for sharing effective pedagogical practices, critically informed by best practice in both fields. The authoring team were drawn from both disciplines; one from a sustainability education background, the other an entrepreneurship educator and a third with an educational background in both disciplines. The research starts from the premise that it is becoming vital for future business leaders and entrepreneurs to understand and work with sustainability principles, enabling them to tackle the most pressing environmental and social challenges in the twenty-first century, and mitigate the risk associated with an unsustainable and unstable society (Dyllick and Hockerts, 2002). Equally, the authors recognise that future sustainability leaders and change agents require the entrepreneurial mind-set and skills necessary to bring about a rapid step change. The project employs a variety of methods including the mapping of the literatures in both fields, surveys to educators delivering EE and ESD programmes both nationally and internationally, semi-structured interviews of thought leaders, student focus groups, and participant observation in pedagogical contexts. This study focuses on the EE survey phase of the project.

4. Data collection

For the purposes of this study, the data collection process involved a web survey undertaken with respondents drawn from the EE academic community. Web surveys

have become an increasingly popular method of data collection for management research (Cook *et al.*, 2000). Respondents were identified from EE academics who had previously attended and presented a paper at an EE conference, namely, the Institute of Small Business and Entrepreneurship or the Enterprise Educators conference. In total, 143 entrepreneurship academics were identified from universities in Australia, New Zealand, UK, and the USA. Participants had to be individuals teaching entrepreneurship and typically have entrepreneurship in their job title. All members of this population were entered into a database and their e-mail details confirmed by checking their contact details on their university web page. Thereafter, each academic was individually e-mailed by the entrepreneurship academic co-authoring this study. The e-mails adopted a personal tone with each individual addressed on a first name person basis. The academics e-mailed were asked to complete a questionnaire which was attached through an embedded web link (Porter and Whitcomb, 2005). The web survey was developed using SurveyMonkey® software and piloted with a group of EE and ESD academics prior to its launch to test its construction and design (Collins, 2003). In total, 54 complete questionnaires were returned giving an acceptable response rate of 38 per cent.

5. Research instrument

The questionnaire was developed out of a literature survey surrounding the research themes of EE, ESD, and pedagogical approaches and involved five sections. The first section explored the respondent's attitudes to entrepreneurship including key competencies and drivers for entrepreneurship. The second section explored the respondent's EE level of teaching activity and their understanding of the discipline. Section 3 related to the respondent's pedagogical approach. The fourth section evaluated the respondent's knowledge of sustainability and its association with entrepreneurial activity. The final section explored the respondent's intention to include sustainability within their EE teaching.

6. Data analysis

To analyse the qualitative data collected from the survey in a logical manner, a coding system was adopted to categorise the collected data (Jones and Jones, 2014). This involved a process of data reduction, display and conclusion drawing and verification based on the protocol proposed by Miles and Huberman (1994). Within this process, the data were sorted into groups relating to the research themes developed from the literature, namely EE, ESD, and pedagogical approaches (Smith, 1991). This axial coding narrative text approach was adopted to enable an accurate description of the data as related to the issue of sustainability and its association with EE (Strauss and Corbin, 1990). This interpretation process involved multiple reviews by the researchers in order to explicate and refine the understanding of each case (Baskerville and Pries- Heje, 2001). The following section explores the findings from three key questions within the EE survey and considers the value that EE might accrue by engaging with the field of ESD.

7. Findings

7.1 *How do EE feel that entrepreneurs can contribute to solving sustainability problems?*

As part of the survey sent out to entrepreneurship educators, the question was asked "How do you feel that entrepreneurs can contribute to solving sustainability problems?" In total, 42 replies were received and 12 respondents did not answer. The responses can be divided into five key themes.

7.1.1 Social EE removes the need to include sustainability. First, for just two respondents (5 per cent), the existence of the sub-field of entrepreneurship that is known as social entrepreneurship precluded the need for general entrepreneurs to be involved in addressing sustainability problems. Many HE institutions now offer a stand-alone module (if not entire masters programmes) in social entrepreneurship and the respondents had not considered the inclusion of sustainability into their own entrepreneurship programmes as they were aware that a specific course was offered elsewhere in the department, which they considered sufficient. Here, sustainability is not considered something with which generic entrepreneurship should be concerned, this topic being left for the “special” EE who are particularly interested in, or have more passion, for sustainability issues.

7.1.2 Sustainability teaching as add-on to business-as-usual. The second theme of responses can be classified as the addition of sustainability to “business-as-usual” entrepreneurship programmes. For nearly a quarter of the respondents (ten replies, 29 per cent), they described how changes could be made to the status quo of business to improve environmental and social sustainability; examples included rethinking elements of the already-functioning business, finding solutions to inefficiency in systems, or redesigning packaging or transportation processes, the closer study of supply chain management, the reduction of emissions, and the introduction of auditing processes.

7.1.3 Sustainability as opportunity to address societal problems. The largest proportion of respondents (13 replies, 37 per cent) emerged in the third theme and viewed sustainability as “just another problem to be solved”. Here, the discourse of entrepreneurs as problem-solvers seems to dovetail neatly into the requirement for solutions to sustainability issues or challenges, as the complex issues of sustainability require both persistence and creative problem solving. At the same time, like entrepreneurship, sustainability was linked to the notion of opportunities, which often emerge where societal problems of an environmental, economic, social, and/or ethical nature need addressing. Spotting and addressing opportunities grounded in sustainability requires a similar skill set to starting a company. Among this group of respondents there was a strong sentiment that traditional practices were no longer appropriate, and that the entrepreneur was needed to bring about the necessary change. As respondents said:

I think that some will and some will not (contribute to solving sustainability issues), as more opportunities arise that show that sustainability works for enterprise, more entrepreneurs will move in this direction, I believe that this is already happening across all age ranges (No. 1).

I don't feel there is any difference between sustainability problems and other problems. Starting a company to address sustainability problems requires the same skill set as a company that does not address these issues (No. 10).

Given that an entrepreneur is someone solving a problem where a new opportunity exists – who else is going to solve them? Old solutions are institutionalised and, by their very nature, do not work (or there would not be an issue) (No. 41).

In these responses, there is a sense in which this is what entrepreneurs do. Generating and proposing creative responses to problems are the lifeblood of entrepreneurship, and turning that creative power towards sustainability (rather than profit maximisation, for example) is a potential route open to entrepreneurs.

7.1.4 Entrepreneurs as change agents. In the fourth theme, entrepreneurs are perceived to be change agents with regards to sustainability. In this limited set of responses (four replies, 11 per cent), the entrepreneurship educators took a further step

and suggested that not only were entrepreneurs in possession of creative problem-solving attributes, but that they were very much change agents in their own right at the vanguard of society. Comments such as “I personally feel that entrepreneurs are key” (No. 4) and “I think they are the driving force of change towards a sustainable society” (No. 24) lean towards the proposal of a new function for entrepreneurs in society. It is in the “nature” of entrepreneurs to look for new opportunities, as the previous theme describes, and a respondent suggested that “they can bring the energy of today to yesterday’s problems” (No. 27). There was one caveat, however, that in order for entrepreneurs to push societal change forward, they required a conducive policy environment and regulatory procedures in place.

7.1.5 Transformative/transformational entrepreneurship as key. Finally, there were six respondents (17 per cent) who outlined a more radical and transformative potential for entrepreneurs, which claimed a noticeable shift away from profit maximisation and towards solutions that are socially and environmental positive. Focus here was

on values, personal and professional, entrepreneurial attitude and ethics that would go beyond the “business-as-usual” approach and could potentially lead to the development of new business models which combine both profit and social dimensions:

By developing a sustainability ethos within themselves and their business’ (No. 14) and build it in from the beginning – make it a core value (No. 16).

If coupled with attitudes and ethics and applied appropriately [entrepreneurs] can be directed to improving situations. Sometimes this is a non-commercial organisation or activity, while other times – and in many cases – it is within the context of profit-oriented business (so profit and social contribution are not mutually exclusive) (No. 38).

Using the transformative/transformational power of the entrepreneur in courses that are positioned at the interface between entrepreneurship and sustainability represents huge educational opportunities. As one of the respondents suggested: “If students are set free to work with problems they really care about they never care for money, but always for broad societal problems like: sustainability, loneliness, waste, racism” (No. 13).

These comments signify the importance of building in opportunities for students to explore their own values and to actively examine the values most aligned to working towards a more equitable, sustainable society. Furthermore, this suggests the potential for change in the student generation which needs harnessing by present and future generations of entrepreneurship educators who understand and are ready to promote the interrelationality between entrepreneurship and sustainability education.

Finally, it is worth noting that it was not only the entrepreneur who was viewed as the agent who enables change. The respondents also noted the crucial role of educators in this shift:

Entrepreneurs are where the action is at – we (educators) just need to make sure we encourage the ones that contribute to the common good (socially productive entrepreneurs) (No. 40).

As educators we have to help our prospective entrepreneurs realize there are significant opportunities (No. 20).

Entrepreneurship educators were actively allocated a role as the ones crucial in the awareness raising process but also as encouraging and motivating others. These comments highlight the entrepreneurship educator’s role as the facilitator and enabler, as the one who brings entrepreneurship and sustainability into the classroom.

7.1.6 *Non-response as indicator.* As mentioned previously, 12 people (22 per cent) chose not answer this question. This study can only speculate on their non-response reasons. Perhaps the EE did not feel qualified to answer this question due to a lack of knowledge about ESD-related issues. Alternatively, maybe they did identify the link between the two disciplines, beyond the most obvious example of social enterprise (Table I).

7.2 *The incidence of sustainability in EE programmes*

The second question considered in this study asked the respondents to what extent their entrepreneurship programmes were making reference to sustainability in its broadest

Themes	% responses	Representative quotations
Social entrepreneurship education obviates need for sustainability inclusion	5	
Sustainability teaching as add-on to business-as-usual	29	
Sustainability as opportunity to societal problems	37	<p>"I think that some will and some will not (contribute to solving sustainability issues), as more opportunities arise that show that sustainability works for enterprise, more entrepreneurs will move in this direction, I believe that this is already happening across all age ranges" (No. 1)</p> <p>"I don't feel there is any difference between sustainability problems and other problems. Starting a company to address sustainability problems requires the same skill set as a company that does not address these issues" (No. 10)</p> <p>"Given that an entrepreneur is someone solving a problem where a new opportunity exists – who else is going to solve them? Old solutions are institutionalised and, by their very nature, do not work (or there would not be an issue)" (No. 41)</p>
Entrepreneurs as change agents	11	<p>"I personally feel that entrepreneurs are key" (No. 4)</p> <p>"I think they are the driving force of change towards a sustainable society" (No. 24) "[...] they can bring the energy of today to yesterday's problems". (No. 27)</p>
Transformational entrepreneurship as key	17	<p>"By developing a sustainability ethos within themselves and their business (No. 14) and build it in from the beginning– make it a core value" (No. 16)</p> <p>"If coupled with attitudes and ethics and applied appropriately [entrepreneurs] can be directed to improving situations. Sometimes this is a non-commercial organisation or activity, while other times – and in many cases – it is within the context of profit-oriented business (so profit and social contribution are not mutually exclusive)" (No. 38)</p>
Non-response	22	

sense of environment, society, and economy (Table II). The survey elicited 43 responses with 11 people skipping the question. If the non-respondents are combined with those who stated “no” to the question, this results in a third of respondents (33 per cent) who do not include sustainability in any form in their entrepreneurship programmes, leaving two-thirds (66 per cent) of survey respondents who do include reference to sustainability to one degree or other. Within this latter portion, a full spectrum of “inclusion” of sustainability is revealed, which ranges from no reference to sustainability at the very extreme end, followed by sustainability in a “small way”, through the conventional “bolt-on” inclusion of sustainability principles and case studies, to the far rarer fully embedded approach at the other end of the spectrum.

In total, 13 respondents (24 per cent) answered in the affirmative, but offered minimal or no detail regarding how or where sustainability is included in their teaching. A further 11 respondents (20 per cent) stated that they made reference to sustainability within their teaching through the use of teaching materials, such as videos, journal articles, books, point of discussion and debate (e.g. around ethical values and good governance), and the use of examples and case studies of “sustainable businesses”. Further across the spectrum, seven respondents (13 per cent) described a range of ways in which they included sustainability – for example, through optional modules offered to students who may be interested in sustainability, the inclusion of “models” or “tools” associated with sustainability (such as the triple bottom line, environmental auditing, business model canvas), and in onecase:

I devote one class session to discussing the role of social enterprise, and how it relates to conventional for-profit enterprise (No. 19).

This “bolt-on” category also included the covering of sustainability issues within specific and stand-alone social entrepreneurship courses or session. The fifth category denotes a shift towards a more systemic approach to the inclusion of sustainability in entrepreneurship programmes, in which business values and ethics, and sustainability credentials or criteria, are incorporated into all projects. There were four respondents in this category (7 per cent) and one said they made reference to sustainability in “an effort to encourage the setting up of a business that carries positive social benefits”. Finally, there was one example (02 per cent) of a newly reworked and designed interdisciplinary course that weaves sustainability into its foundations.

7.3 Next steps to develop sustainability in EE programmes

The final question requested respondents to indicate any observations, ideas or plans they may have for further developing aspects of sustainability within their course or modules. Again, there were a range of responses which convey a variety of

%	Type of integration of SD into entrepreneurship education
33	No response or no integration
24	Yes integrated approach, but minimal explanation of how
20	Integration through teaching materials, e.g. cases, videos
13	Optional modules including models and tools, dedicated class to social enterprise
7	Systemic approach to integrating SD and EE
2	Interdisciplinary approach to SD and EE

Table II.
Summary of findings

perspectives on the perceived “importance” or centrality of sustainability in entrepreneurship. First, of the 34 responses to this question, there were seven respondents (21 per cent) who were clear that they had no plans to build sustainability into their courses or modules, adopting a “business-as-usual” approach. Next, there were six replies (18 per cent) which, whilst there were no firm plans to include sustainability on the programme horizon, demonstrated a general awareness of the potential for sustainability within EE or acknowledged that it was likely to become increasingly important to society:

Sustainability is certainly a hot topic and needs to be included (No. 3).

The middle ground (11 responses, 32 per cent) was occupied by educators who were thinking about, or intending to introduce a new element of sustainability into their existing programmes. Examples included placing greater emphasis on the environment within resource discussions, giving more examples of social entrepreneurship in class, introducing a new focus on social enterprise, encouraging student reflection on sustainability, and the inclusion of sustainability issues into business plans. The next theme identified specific sustainability provision arising from the analysis came from those respondents (11 per cent) who had identified a need for an entirely new module or course, or who were in the process of designing and introducing a new module. Finally, there were six respondents (17 per cent) who described no plans for further developing their sustainability provision, but rather included what they were currently doing, or stated that sustainability was already embedded (Table III).

8. Discussion

The study provided the following evidence towards the research questions identified previously.

8.1 How entrepreneurship educators believe that entrepreneurs can contribute to solving sustainability problems?

The evidence of how entrepreneurs could contribute to solving sustainability problems was mixed, with several different themes apparent. First, there was limited acknowledgement of the sub-field of social entrepreneurship which considers many sustainable issues (Pache and Chowdhury, 2012). In the second theme, which was more prominent with respondents, sustainability was used to enhance existing business models. The third theme, which proved the most popular, identified sustainability as “just” another business problem to be overcome. Whilst somewhat dismissive towards the significance of sustainability this response draws on the inherent problem-solving

% of responses	Intentions to develop aspects of sustainability in course/module
21	No plans, business-as-usual approach
18	No firm plans but general awareness of potential for sustainability in entrepreneurship education
32	Thinking about/intending to introduce a new element of sustainability in existing courses
11	Identified need for new module/course
17	Already included in module/course

Table III.
Summary of pedagogical intentions

qualities of the entrepreneur to provide appropriate solutions to the problem which confirms Hall *et al.* (2010) study. In the fourth theme, a minority of respondents suggested that entrepreneurs were recognised as change agents capable of making a significant difference to the sustainability agenda with transformative business models. Overall, these results are disappointing suggesting that the attitudes of entrepreneurship educators towards sustainability mirror those of Jones *et al.* (2010), Tilbury and Ryan (2011), and Winter and Cotton (2012), namely that sustainability is still an emergent theme within the EE discipline. The results also demonstrated that very few educators are working in an interdisciplinary way, i.e. are considering the links between entrepreneurship and sustainability, which is a somewhat narrow approach to understanding entrepreneurship. There was some recognition that entrepreneurial activity potentially does offer some solutions to the sustainability problem although this was the exception rather than the norm.

8.2 *Towhat extent entrepreneurship programmes in universities across the UK are currently making reference to environmental, social, and economic sustainability in their programmes*

Overall, 33 per cent of respondents did not respond or answered negatively to whether their courses included a reference to sustainability issues. Of the 67 per cent that responded positively, a spectrum of deployment was apparent ranging from a limited to a fully embedded approach. Such a range of deployment is perhaps unsurprising and confirms Baumann-Pauly *et al.* (2013) claims that sustainability remains a supplementary rather than an underpinning emphasis within the EE discipline. Figure 1 provides a diagrammatical representation of the different approaches to integrating sustainability issues into EE. At the very extreme (left hand side) of the figure no/minimal integration between the two disciplines is positioned; on the right hand side we find the systemic and full integration of sustainability in EE.

8.3 *What considerations are being made to include sustainability in future programmes?*

This question again achieved somewhat mixed results with a spectrum of responses indicating a limited commitment to increased sustainability within their respective curriculum. From a positive perspective, 32 per cent of respondents identified an intention to increase their sustainability provision. This suggests that a certain proportion of the entrepreneurship educator community is aware of the sustainability agenda and recognises the need to include it within their curricula. This is an encouraging finding. However, further research needs to establish what is necessary to

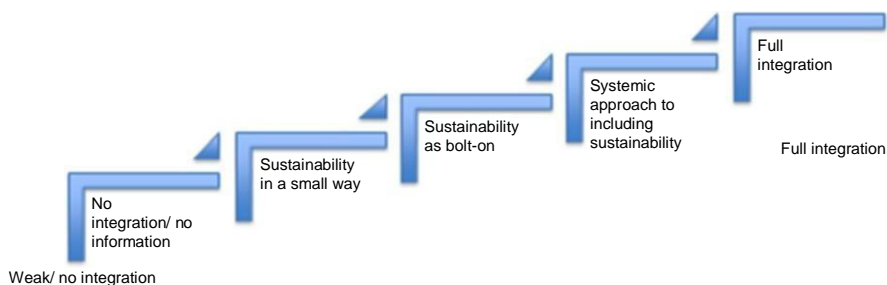


Figure 1.
Spectrum of
sustainability
deployment in EE

move from awareness into realisation/proactive integration. What are possible incentives to get these educators to implement sustainability issues into their EE provision? What are the obstacles that they may be experiencing at their respective institutions, which discourage them from being proactive? How can these be overcome? Hostile administrative systems, high workloads and/or insufficient sustainability knowledge may all be common factors in inhibiting the integration of both disciplines. Ultimately, it is also down to the commitment of the individual EE educator and their institution.

9. Conclusions

This study has provided an initial indicative benchmark regarding the levels of sustainability provision within UK EE curricula. The results indicate limited sophisticated deployment of sustainability within EE curricula, which can be currently understood within a spectrum of provision and inclusion (Figure 1). Positively, examples are forthcoming of sustainability featuring as an additional or supplementary “topic”. On a less salutary note, there is scant evidence of coherent, embedded approaches to the teaching about and for sustainability and barely one example where sustainability forms the underpinning ethos to an EE programme.

The authors believe that this situation needs to change if entrepreneurs are to make a more significant and longer-lasting contribution towards the future well-being and sustainability of humanity. To this end, we propose that sustainability in its very broadest sense must be placed at the heart of EE programmes and we conclude this study with a brief consideration of what implications this might have. Based on the findings from our survey, and mindful of the varying degrees of energy, vision, and support for sustainability present amongst entrepreneurship educators, this study proposes four archetypes of educators who deal (or not) with sustainability in different ways (Figure 2). First, for the more timid (timid educators), or for those more critical or dubious of the sustainability agenda (weak sustainability in strong EE), it should be feasible to incorporate some elucidation or critique of sustainability principles into all entrepreneurship programmes. The authors appreciate that sustainability is often conceived as an ill-defined, ambiguous subject that is difficult to build into an entrepreneurial course that focuses on the bottom line. However, the world is changing rapidly and significantly, and the needs of our future entrepreneurs cannot be met solely within elective modules, such as social entrepreneurship or sustainability in business courses, which are delivered by sustainability enthusiasts and chosen only by those students who possess already-existing interest or “passion” in the issues. EE is not alone in this scenario; these findings are mirrored in the ESD world, where practitioners have been frustrated for many years about the perceived sluggishness of addressing sustainability in a more holistic manner (Wyness and Sterling, 2015). If it is not sufficient to leave sustainability in the hands of the “champions”, and enthusiasm for the subject is not forthcoming from other educators, then a gentle “nudge” could be delivered through the quality assurance route. The QAA (2012) guidelines must be commended for providing clear guidance and leading edge entrepreneurial knowledge to the discipline. However, despite purporting to “reflect current thinking in enterprise and EE”, the latest guidance (QAA, 2012) contains no mention of sustainability (other than the long-term economic viability of a business), sustainable development, or even ethics (QAA, 2012, p. 2). We propose that a working party be convened to address the revision of this guidance, to ensure that future iterations of the document contain far more overt descriptors that call for entrepreneurship to engage more proactively with issues of sustainability.

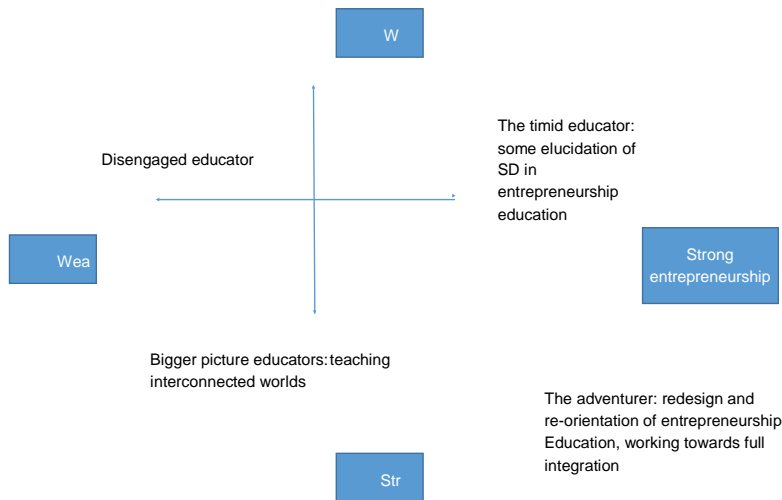


Figure 2. Archetypes of sustainability in entrepreneurship education

Second, we suggest the type of the “bigger picture educator”. It is not a little surprising that more EE educators are not “entrepreneurial” in their teaching and course design and have not been able to identify the rising potential of sustainability as both an opportunity and a problem to be solved. How will the entrepreneurs of tomorrow identify the vast number of opportunities that will exist in the shift towards a more sustainable society, if they have not been exposed to the foundations of sustainability in their education programmes? EE programmes already generally include horizon-scanning and opportunity identification and the authors argue that students who are taught the fundamental premise and principles of sustainability will be more likely to understand the bigger picture and exploit such opportunities. It has become increasingly acknowledged that our world is characterised by risk, uncertainty, complexity, contingency, and interconnection (Beck, 1992) and yet many scholars within the ESD field argue that the current education system is failing to produce human beings who can think in an integrated way, through its centuries-old emphasis on disciplines and reductionist thinking (Orr, 2004). Mindful of this development, ESD scholars have called for a greater appreciation of the interconnectedness of the world’s systems and processes, both natural and human and, at very least, an acknowledgment of the complex interaction between the two. Students in sustainability-related courses will undoubtedly be introduced to the concept of systems theory at some point in their studies and be encouraged to view the world through the lens of systems thinking – looking for the connections between phenomena, seeking deeper meaning beneath, and viewing concept and process from a more holistic perspective. By employing a more systemic approach within EE, students would be in a more advantageous position to seize the opportunities as they arise and to guard against the “unintended” consequences of business enterprises. There may also be a need for universities to provide education and training in sustainability to enhance its further deployment within the curricula.

Third, we would like to call upon EE educators to consider, an arguably more adventurous, possibly pioneering, scenario that comprises the fundamental

redesign and reorientation of their EE programmes to embed the core facets of social, environmental, ethical economic sustainability. We call this educator the entrepreneurship/sustainability adventurer/pioneer. Within this scenario, a student-centred, transformative approach could be developed with an emphasis on the emergence of the entrepreneurial “identity” through deeper exploration of personal and societal values. In this regard, entrepreneurship could certainly borrow from values-based learning within ESD that draws upon the work of Schwarz (2012), who identifies a common set of human values (Murray, 2011). This might include the examination and acknowledgement of the values of benevolence and universalism that are not often associated with the entrepreneurship “affective” realm (Shepherd, 2008). Finally, there is the educator whose teaching is characterised by an approach that is weak in both its sustainability and entrepreneurship contents. We call this type of educator a “disengaged educator”, hoping that this theoretical scenario is less common in practice. These archetypes are summarised in Figure 2.

The development of both EE and ESD is strongly influenced by institutional mission. With robust strategic direction and management, there is exciting potential for forward-thinking universities to make a very distinctive offer through carefully conceived and designed entrepreneurship educational programmes, which draw upon innovative pedagogies and content and provide a transformative, future-facing learning experience to their students, the entrepreneurs of a very uncertain future.

10. Further research

The authors of this study recognise that there is a need for further inquiry into this area. In terms of this project, the authors will undertake qualitative interviews with thought leaders in both fields of EE and ESD, and further work on suggested pedagogical frameworks of best practice. More generally, the issue of sustainability is not going to disappear and the entrepreneurship discipline must act as a thought leader and example to other subject disciplines in embedding best practice at the core of its activities. There is also a need to educate and benchmark the small business community in effective sustainability practice. Finally, there is also a need for EE to review and evolve its pedagogical approaches in light of the sustainability agenda (Sterling and Scott, 2008). With the need to rethink EE, and mindful that many entrepreneurship educators do not have a background in educational theory, how can the pedagogies favoured within sustainability education be incorporated into the EE programmes? By adopting a pluralistic view of pedagogy and “educations”, there is a clear potential for entrepreneurship educators to draw inspiration from the field of education for sustainability or sustainable development (ESD), and indeed vice versa.

References

- Acs, Z.J. (2006), “How is entrepreneurship good for economic growth?”, *Innovations*, Vol. 1 No. 1, pp. 97-107.
- Adeoti, J.O. (2000), “Small enterprise promotion and sustainable development: an attempt at integration”, *Journal of Developmental Entrepreneurship*, Vol. 5 No. 1, pp. 57-72.
- Baskerville, R. and Pries-Heje, J. (2001), “A multiple-theory analysis of a diffusion of information technology case”, *Information Systems Journal*, Vol. 11 No. 3, pp. 181-212.

-
- Baumann-Pauly, C., Wickert, S.L. and Scherer, A.G. (2013), "Organizing corporate social responsibility in small and large firms: size matters", *Journal of Business Ethics*, Vol. 115 No. 4, pp. 693-705.
- Beck, U. (1992), *Risk Society: Towards a New Modernity*, Sage Publications, London, Newbury Park, CA and New Delhi.
- Bell, S., Morse, S. and Nunan, F. (2000), "Sustainability indicators: measuring the immeasurable", *Local Government Studies*, Vol. 26 No. 2, pp. 138-140.
- Bos-Brouwers, H.E.J. (2010), "Corporate sustainability and innovation in SMEs: evidence of themes and activities in practice", *Business Strategy and the Environment*, Vol. 19 No. 7, pp. 417-435.
- Collins, D. (2003), "Pretesting survey instruments: an overview of cognitive methods", *Quality of Life Research*, Vol. 12 No. 3, pp. 229-238.
- Cook, C., Heath, F. and Thompson, R. (2000), "A meta-analysis of response rates in web- or internet-based surveys", *Educational and Psychological Measurement*, Vol. 60 No. 6, pp. 821-836.
- Crals, E. and Vereeck, L. (2011), "Sustainable entrepreneurship in SMEs. Theory and practice", available at: www.scribd.com/doc/48311365/Sustainable-entrepreneurship-in-SMEs (accessed 10 September 2015).
- Dresner, S. (2002), *The Principles of Sustainability*, Earthscan, London and Sterling, VA.
- Dyllick, T. and Hockerts, K. (2002), "Beyond the business case for corporate sustainability", *Business Strategy and the Environment*, Vol. 11 No. 2, pp. 130-141.
- Elkington, J. (1997), *Cannibals with Forks*, Capstone, Oxford.
- Fayolle, A. (2008), "Entrepreneurship education at a crossroads: towards a more mature teaching field", *Journal of Enterprising Culture*, Vol. 16 No. 4, pp. 325-337.
- Friedman, A.L., Miles, S. and Adams, C. (2000), "Small and medium sized enterprises and the environment: evaluation of a specific initiative aimed at all small and medium sized enterprises", *Journal of Small Business and Enterprise Development*, Vol. 7 No. 4, pp. 325-338.
- Hall, J.K., Daneke, G.A. and Lenox, M.J. (2010), "Sustainable development and entrepreneurship: past contributions and future directions", *Journal of Business Venturing*, Vol. 25 No. 5, pp. 439-448.
- HEFCE (2005), *Sustainable Development in Higher Education – Statement of Policy*, Higher Education Funding Council for England, Bristol.
- Henry, C. and Treanor, L. (2010), "Entrepreneurship education and veterinary medicine: enhancing employable skills", *Education + Training*, Vol. 52 Nos 8/9, pp. 607-623.
- Jones, A. and Jones, P. (2011), "Making an impact: a profile of a business planning competition in a university", *Education + Training*, Vol. 53 Nos 8/9, pp. 704-721.
- Jones, P. and Jones, A. (2014), "Attitudes of sports development and sports management undergraduate students towards entrepreneurship", *Education + Training*, Vol. 56 Nos 8/9, pp. 716-732.
- Jones, P., Selby, D. and Sterling, S. (2010), *Sustainability Education: Perspectives and Practice Across Higher Education*, Earthscan, London and Washington, DC.
- Klapper, R.G. and Upham, P. (2015), "The impact of micro-firm everyday practices on sustainable development in local communities", in Kyro, P. (Ed.), *Handbook of Entrepreneurship and Sustainable Development Research*, Edward Elgar Publishing, Cheltenham and Glos, pp. 275-299.

-
- Kuckertz, A. and Wagner, M. (2010), "The influence of sustainability orientation on entrepreneurial intentions: investigating the role of business experience", *Journal of Business Venturing*, Vol. 25 No. 5, pp. 524-539.
- Loorbach, D. and Wijsman, K. (2013), "Business transition management: exploring a new role for business in sustainability transitions", *Journal of Cleaner Production*, Vol. 45, pp. 20-28.
- Lucas, R. (1988), "On the mechanics of economic development", *Journal of Monetary Economics*, Vol. 22 No. 1, pp. 3-42.
- MacGillivray, A., Weston, C., Unsworth, C. and Stott, M. (2000), "Communities count! A step by step guide to community sustainability indicators", *Local Economy*, Vol. 14 No. 4, pp. 375-390.
- Miles, M. and Huberman, A.M. (1994), *Qualitative Data Analysis – An Expanded Sourcebook*, 2nd ed., Sage Publications, London.
- Murray, P. (2011), *The Sustainable Self: A Personal Approach to Sustainability Education*, Earthscan, London and Washington, DC.
- Orr, D.W. (2004), *Earth in Mind: On Education, Environment and the Human Prospect*, Island Press, Washington, DC.
- Pache, A. and Chowdhury, I. (2012), "Social entrepreneurs as institutionally embedded entrepreneurs: toward a new model of social entrepreneurship education", *Academy of Management Learning & Education*, Vol. 11 No. 3, pp. 494-510.
- Parrish, P.D. (2010), "Sustainability-driven entrepreneurship: principles of organization design", *Journal of Business Venturing*, Vol. 25 No. 5, pp. 510-523.
- Porter, S.E. and Whitcomb, M. (2005), "E-mail subject lines and their effect on web survey viewing and response", *Social Science Computer Review*, Vol. 23 No. 3, pp. 380-387.
- Quality Assurance Agency (QAA) (2012), "Enterprise and entrepreneurship education: guidance for UK higher education providers", available at: www.qaa.ac.uk/en/Publications/Documents/enterprise-entrepreneurship-guidance.pdf (accessed 25 February 2015).
- Quality Assurance Agency (QAA) (2014), "Education for sustainable development: guidance for UK higher education providers", available at: www.qaa.ac.uk/en/Publications/Documents/Education-sustainable-development-Guidance-June-14.pdf (accessed 26 May 2015).
- Rake, M. and Grayson, D. (2009), "Embedding corporate responsibility and sustainability – everybody's business", *Corporate Governance: The International Journal of Business in Society*, Vol. 9 No. 4, pp. 395-399.
- Robinson, J. (2004), "Squaring the circle? Some thoughts on the idea of sustainable development", *Ecological Economics*, Vol. 48 No. 4, pp. 369-384.
- 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.
- Sardana, D. and Scott-Kemmis, D. (2010), "Who learns what? A study based on entrepreneurs from biotechnology new ventures", *Journal of Small Business Management*, Vol. 48 No. 3, pp. 441-468.
- Schumpeter, J. (1934), *The Theory of Economic Development*, Harvard University Press, Cambridge, MA.
- Schwartz, S.H. (2012), "An overview of the Schwartz theory of basic values", *Online Readings in Psychology and Culture*, Vol. 2 No. 1, available at: <http://dx.doi.org/10.9707/2307-0919.1116> (accessed 6 February 2015).

-
- Shepherd, K. (2008), "Higher education for sustainability: seeking affective learning outcomes", *International Journal of Sustainability in Higher Education*, Vol. 9 No. 1, pp. 87-98.
- Smith, N. (1991), "The case-study: a vital yet misunderstood research method", in Smith, N. and Stake, R. (Eds), *The Art of Case Study Research*, Sage, London, pp. 145-158.
- Social Enterprise UK (2011), "Fightback Britain: a report on the state of social enterprise survey", Country Report, London, available at: www.socialenterprise.org.uk/uploads/editor/files/Publications/Fightback_Britain.pdf (accessed 10 September 2015).
- Social Enterprise UK (2012a), "Startyoursocialenterprise", available at: www.socialenterprise.org.uk/uploads/files/2012/04/start_your_social_enterprise.pdf (accessed 11 September 2015).
- Social Enterprise UK (2012b), "What makes a social enterprise a social enterprise", available at: www.socialenterprise.org.uk/uploads/files/2012/04/what_makes_a_social_enterprise_a_social_enterprise_april_2012.pdf
- Social Enterprise UK (2013), "The people's business: state of social enterprise survey", available at: www.socialenterprise.org.uk/uploads/files/2013/07/the_peoples_business.pdf (accessed 3 September 2015).
- 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.
- Sterling, S. and Scott, W. (2008), "Higher education and ESD in England: a critical commentary on recent initiatives", *Environmental Education Research*, Vol. 14 No. 4, pp. 386-398.
- Sterling, S., Maxey, L. and Luna, H. (2013), *The Sustainable University: Progress and Prospects*, Routledge, London and New York, NY.
- Strauss, A. and Corbin, J.M. (1990), *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*, Sage Publications Inc., Thousand Oaks, CA.
- Tilbury, D. and Ryan, A. (2011), "Embedding sustainability in the DNA of the university", available at: <http://insight.glos.ac.uk/sustainability/Education/Pages/Publications.aspx> (accessed 20 July 2012).
- UnLtd (2014), "Pushing boundaries: why some social entrepreneurs are using a for-profit legal form for their ventures, and how they are embedding their social mission", available at: http://unltd.org.uk/wpcontent/uploads/2014/04/UnLtd_Research_Publication_Number71.pdf (accessed 5 September 2015).
- Wals, A.E.J. (2012), *Shaping the Education of Tomorrow: 2012 Full-Length Report on the UN Decade of Education for Sustainable Development*, UNESCO, Paris.
- Wennekers, A.R.M., Uhlaner, L.M. and Thurik, A.R. (2002), "Entrepreneurship and its conditions: a macro perspective", *International Journal of Entrepreneurship Education*, Vol. 1 No. 1, pp. 25-64.
- Whitty, A. (2013), "Encouraging a British invention revolution: Sir Andrew Witty's review of universities and growth", available at: www.gov.uk/government/uploads/system/uploads/attachment_data/file/249720/bis-13-1241-encouraging-a-british-invention-revolution-andrew-witty-review-R1.pdf (accessed 25 February 2015).
- Wilson, T. (2012), "A review of business-university collaboration", available at: www.gov.uk/government/uploads/system/uploads/attachment_data/file/32383/12-610-wilson-review-business-university-collaboration.pdf (accessed 25 February 2015).
- Winter, J. and Cotton, D. (2012), "Making the hidden curriculum visible: sustainability literacy in higher education", *Environmental Education Research*, Vol. 18 No. 6, pp. 783-796.
- Wolf, A. (2002), *Does Education Matter: Myths About Education and Economic Growth*, Penguin Books, London.

World Commission for Environment and Development (1987), *Our Common Future*, Oxford University Press, Oxford.

Wyness, L. and Sterling, S. (2015), "Reviewing the sustainability curriculum", *International Journal of Sustainability in Higher Education*, Vol. 16 No. 2, pp. 237-250.

Young, D.L. (2014), "Enterprise for all: the relevance of enterprise in education", available at: www.gov.uk/government/uploads/system/uploads/attachment_data/file/338749/EnterpriseforAll-lowres-200614.pdf(accessed 25 February 2015).

Further reading

O'Connor, A. (2013), "A conceptual framework for entrepreneurship education policy: meeting government and economic purposes", *Journal of Business Venturing*, Vol. 28 No. 4, pp. 546-563.