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# Enterprise education: towards a framework for effective engagement with the learners of today

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**Enterprise education: Towards a framework for effective engagement with the learners of today**

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## Enterprise education: Towards a framework for effective engagement with the learners of today

### Abstract

**Purpose:** The aims of this exploratory research are to examine young learner attitudes towards enterprise education within the context of a University led initiative to construct a sustainable framework which benefits identified stakeholders.

**Design/methodology/approach:** The research used self-completed questionnaires with 117 Business Studies students in Stages S4, S5 and S6<sup>1</sup> from secondary schools across Dundee and Business students from Years 1, 2, 3 and 4<sup>2</sup> at one University in Dundee, Scotland.

**Findings:** The research reveals that respondents positively engage with enterprise education and felt that their project management, creative thinking, communication skills and confidence were enhanced by the activity of real-world business challenges. The findings support the notion that an enterprising spine embedded in the academic curriculum better equip the learner with the necessary hard and soft skills required for the employment market but not necessarily to be entrepreneurial.

**Practical and social implications:** As an exploratory study which informs a wider comparative study into enterprise education, the research examines learner's perspectives and the measures they feel are required for effective engagement with enterprise education activities in schools and Universities. The findings should assist education providers deliver a better learning experience and the learners with improved enterprising and social skills, particularly the building of confidence.

**Originality/value:** The research should prove useful to educational establishments who are considering the implementation of, or further engagement with, enterprise education and involvement with the business community and how such activities impact on their learners.

**Keywords:** enterprise education; entrepreneurial education; teaching methods.

**Article type:** Research paper.

### Introduction

Dorothy Law Nolte is perhaps not a name we would readily associate with enterprise education, however her poem should resonate with all academics and practitioners in the area and is the basis upon which this research is founded. In Nolte's (1998) poem 'Children learn what they live' we can observe the correlation between how children are treated and its influence on their social and intellectual development (Nolte and Harris, 1998). If children are encouraged to express themselves in a supportive learning environment, and allowed the freedom to be creative, imaginative and to see failure as a positive and not necessarily as a negative outcome, they may become more skilled and productive members of society (Taylor, 2013). Reviews of educational policy and practice demonstrate the crucial role that a skilled workforce can play in the economy and society (Wojdyło-Preisner and Zawadzki, 2015; Potter and Watts, 2014; Sanghi *et al.*, 2012). However, the approaches used in educational institutions to develop this skilled workforce has arguably changed little over the last 200 years which raises the question, are the traditional educational methods appropriate for today's classrooms and employment market? The digital disruption observed in business has not yet been fully realised in education meaning that learners are not necessarily being taught the contemporary skills necessary for life and employment in today's disrupted society. This research will explore the themes around how learners currently learn, what they are learning and provide some insight into what and how they perhaps should be learning. Supported by quantitative analysis the research will

<sup>1</sup> Scottish secondary schools have 6 years of study. In S4 students undertake subjects called Nationals (previously called O Grades), in S5 students study Highers and in S6 students can study Highers or Advanced Highers. Highers take 1 year to complete.

<sup>2</sup> Universities in Scotland have 4 years of study, 3 years for a degree and 1 additional year for Honours.

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examine young learner attitudes towards enterprise education within the context of a University led initiative, a real-world business challenge.

### Literature review

Although by no means an absolute, in many countries where students have limited access to education, enterprise and entrepreneurial activity continues to thrive (ILO, 2013) whereas in countries like the UK where education is more established, such activities have rather more stagnated (Smialek, 2015). This observation raises the question, are educational institutions in their current form more of an inhibitor than an enabler to innovative practices, with students being educated ‘out’ of creativity and innovation (Robinson, 2006). As the global marketplace becomes increasingly unpredictable with employment opportunities becoming more competitive worldwide (GEDI, 2016) there is an argument that many of the traditionally perceived economic powers could gradually decline through a lack of innovation and growth (Smialek, 2015). This possible future should provide an impetus for countries like the UK to encourage innovation and enterprise in educational institutions, to enhance the knowledge-based economy. However, there is also a more fundamental reason to make the educational pedagogy more engaging for its learners (Taylor, 2013; Jones and Iredale, 2010), so they enjoy and benefit from the learning experience.

#### *UK<sup>3</sup> education challenges*

The contribution of education to society has not diminished, education is still viewed as fundamentally important to an individual’s personal and professional life (Santiago, 2016). The balance and focus of that education may, however, not be changing quickly enough to adapt to the particularly fluid social, economic and political environment affecting learners today (Barbour, Barbour and Scully, 2010). Taylor (2016) notes that in the UK, the education system is not dealing particularly well with the ever changing needs of its consumers with some young learners arriving in the country having to wait for up to a year to secure a place at school. The challenges facing the UK education system do not however finish there, with debate over how long students are in class (Tait, 2016; OECD, 2014; Burgess, 2013; OECD, 2013), the relevance of what is being taught whilst in class (Tait, 2016; Roberts, 2014) and how in-class teaching prepares learners for the employment market (Thompson, 2016; Thompson, 2014; Roberts, 2014).

The challenges facing the UK education system have been observed in other regions of the world with similar discussions conducted across Europe, the US, the Middle East and the Asian-Pacific surrounding the appropriateness of education today and whether it is furnishing learners with the necessary set of skills to compete in the employment market (Belwal, Al Balushi and Belwal, 2015; Svitak, 2015; Vukovic, 2015; OECD, 2014; Parinduri, 2014; Strauss, 2014; Van Damme, 2014; Wright, 2013; Jones, *et al*, 2008; Hytti and O’Gorman, 2004; Lewis and Massey, 2003). One of the themes to emerge from these discussions is the need for education to better prepare learners for the real-world and include more internships, business engagement and knowledge-evaluating projects, collectively known as ‘learning by doing’ (Svitak, 2015; Strauss, 2014; Edwards and Muir, 2012). Arguably educational institutions need to stimulate a learner’s creativity, curiosity and allow them to experience failure (Taylor, 2013; Wright, 2013) so that innovation, which has been historically fundamental to business success, is encouraged to grow (Schumpeter, 2008). The ability to do

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<sup>3</sup> Although we refer to the UK system and acknowledge the differences between the Scottish education system and the rest of the UK (OECD, 1999), particularly since the introduction of the new curriculum in 2010 (Anon, 2016b), it is fair to assert, based on existing literature (Jones and Colwill, 2013; Department for Education and Skills, 2012; Draycott, Rae and Vause, 2011; Birdthistle, Hynes and Fleming, 2007), that the issues surrounding enterprise education are the same across the UK and therefore the perspectives of the Scottish learners in this study are representative of the UK.

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3 and see things differently, to be innovative, enterprising and entrepreneurial are arguably the  
4 qualities which will make the graduates of tomorrow more employable (Vukovic, 2015;  
5 Wright, 2013; Sánchez, 2011).  
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8 The importance of enterprising and entrepreneurial activity for the economic growth of  
9 countries is well established (Sánchez, 2011) and has been the subject of a recent review by  
10 the London School of Economics (LSE), (2014). Based on the findings of the 2014 Global  
11 Entrepreneurship and Development Index (GEDI), the UK has fallen from 6<sup>th</sup> to 9<sup>th</sup> in the  
12 standings as a result of, in their opinion, a lack of ambition and negative attitudes (LSE, 2014).  
13 These comments should however be taken in context, as observed in a recent article from  
14 Anderson (2015), the number of business start-up's in the UK has observed sizable increases  
15 every year since 2011 so the lack of ambition and negative attitude comments attributed by the  
16 LSE (2014) are presumably not directed at the entrepreneurs themselves, rather other  
17 stakeholders involved in enterprising and entrepreneurial activity in the UK, which would  
18 include the government, the business community, the media and educational establishments.  
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### 22 *Stakeholders in curriculum change*

23 The stimulus for change to the way learners learn could come from learners themselves, the  
24 government and/or educational establishments individually or more likely collectively. With  
25 regards to learners, the potential for them to become enterprising is arguably against a backdrop  
26 of inter-related socio-economic, socio-cultural, individual and psychological factors which  
27 compete against each other to engender the decision to work for oneself or for others, i.e. to  
28 become self-employed or an employee (Wamba and Hikkerova, 2014; Edwards and Muir,  
29 2012). A lack of employment opportunities and a greater reliance on temporary and low skilled  
30 work may result in the youth of tomorrow seeking employment prospects 'from within', i.e.  
31 working for family and friends (ILO, 2013). These factors may combine to provide a more  
32 fertile environment for youngsters to consider or pursue enterprising and entrepreneurial  
33 activity. Indeed, if a recent study by The RSE (2015) is anything to go by this may be the case,  
34 but it requires institutional support. Kew *et al.*, (2013) observed that young people saw a  
35 number of obstacles to becoming enterprising, with around 59% of youngsters perceiving a  
36 lack of capital as a barrier, with 43% citing a fear of failure and 42% indicating the economic  
37 climate as a potential barrier. These barriers have to be addressed by the government and  
38 educational institutions if the UK is to fully harness the enterprising spirit among its young  
39 people.  
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45 With regards to the government, there is a need to establish supportive networks to encourage  
46 entrepreneurial and enterprising activity (The RSE, 2015) building upon previous UK  
47 government intervention over the past 25 years (Jones and Iredale, 2014) and the current  
48 apparatus which includes Business Gateway, Enterprise Partnerships, Young Enterprise,  
49 Institute of Enterprise and Entrepreneurs and Interface. In Scotland, where this research was  
50 conducted, there appears to be a concerted effort to encourage not only enterprising values  
51 among young people but to support an enterprising culture with appropriate funding (The  
52 Scottish government, 2016). The Scottish government acknowledges the importance of  
53 educational establishments in this enterprising culture, identifying them as key partners to  
54 ensure a sustainable platform for enterprising and entrepreneurial potential to grow,  
55 encouraging learners to see self-employment as a viable career option throughout their  
56 educational journey (The Scottish government, 2016).  
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60 With regards to educational institutions, where this research is primarily focused, there needs  
to be a paradigm shift to encourage learners to see employment and self-employment as equally

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3 viable alternatives (Jones and Iredale, 2014). There needs to be less focus on encouraging  
4 University enrolment and discouraging those wishing to leave school early (Roth and Thum,  
5 2010) as a blanket policy and rather be more discerning as such options are not necessarily  
6 appropriate for everyone and this practice may be having a negative effect on the enterprising  
7 mind set of learners (Jones and Iredale, 2014; Roth and Thum, 2010; Robinson, 2006). In an  
8 environment facing digital disruption and economic uncertainty educational providers have a  
9 responsibility to assist learners navigate their way to employment and present them with  
10 appropriate alternatives which reflect trends in the marketplace, specifically the growing  
11 number of business start-ups and growth in enterprising activity (Anderson, 2015; Burn-  
12 Callander, 2014). There also needs to be further changes in the teaching, learning and  
13 assessment practices in educational institutions (Draycott and Rae, 2011; Draycott, Rae and  
14 Vause, 2011; Birdthistle, Hynes and Fleming, 2007) to move away from the focus on exam  
15 performance and the production of intangible theoretical output towards applied learning,  
16 developing enterprising and employability skills (Kwong *et al.*, 2012) and the production of  
17 more tangible, measurable output.  
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22 There is a clear need for enterprise education but also a requirement for more fundamental  
23 training in literacy and problem solving in the UK (OECD, 2013; Harte and Stewart, 2012).  
24 According to the UKCES (2012) young people in the UK have a poor work ethic and attitude  
25 towards work which exacerbates the skills gap and may encourage employers to look abroad  
26 for their employees. These observations underline the problem facing the UK economy,  
27 learners and educational establishments that it is not simply a case of changing the mind-set or  
28 the curriculum to be more fashionable or reflect which teaching pedagogies are en vogue, it is  
29 becoming an economic necessity for all stakeholders to challenge the established approaches  
30 towards the education of learners (Boyer and Blazy, 2014).  
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#### 34 *Enterprising and/or entrepreneurial education*

35 Schøtt, Kew and Cheraghi (2015) and Geldhof *et al.*, (2014) argue there is a need for  
36 appropriate training of learners to encourage and/or support their innovative and  
37 entrepreneurial spirit but should that training be enterprising or entrepreneurial? It would  
38 appear from the literature that the two phrases are interchangeable (Edwards and Muir, 2012;  
39 Jones and Iredale, 2010) with the majority of articles (Athayde, 2012; Edwards and Muir, 2012;  
40 Draycott and Rae, 2011; Draycott, Rae and Vause, 2011; Jones and Iredale, 2010; Birdthistle,  
41 Hynes and Fleming, 2007) making reference to enterprise education. But are the two phrases  
42 truly interchangeable or is there a distinct difference between the two? With regards  
43 entrepreneurship there arguably needs to be the motivating variables of creativity and  
44 innovation (Schumpeter, 2008), and if we are to accept the proposition of Drucker (1985ab) and  
45 later by Vesper and Gartner (1997) entrepreneurship can be learned which means that  
46 entrepreneurs can be intrinsically motivated (Jensen, 2008). However according to McClelland  
47 (1999) some individuals do not possess the necessary intrinsic motivation to acquire the  
48 required learned knowledge to become entrepreneurial and therefore supports the argument  
49 from Hills (1988) that entrepreneurship is difficult to train (Hills, 1988). In contrast being  
50 enterprising is more than simply being entrepreneurial, being enterprising involves the  
51 application of “a broader set of enterprise skills to the particular challenges of setting up a  
52 business” (Zatyka, 2013, n/p) with entrepreneurship part of having an enterprising mind set  
53 (QAA, 2012). In other words entrepreneurship is arguably one subset of being enterprising  
54 (Zatyka, 2013), with creativity and innovation (Schumpeter, 2008) only two skills associated to  
55 being enterprising in an educational context, others being collaboration, communication,  
56 confidence, problem-solving, decision-making, leadership, resolving conflict, reflection,  
57 organisation and management (Department for Business Innovation and Skills, 2015; Barbar,  
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2014; Chell, 2013; Fiala, Gertler and Carney, 2014; Department for Education and Skills, 2012; QAA, 2012). The QAA (2012) attempted to categorise enterprise education into firstly enterprising behaviours; secondly attributes; and thirdly skills, categories which form the basis upon which this research developed the questions for the survey. This portfolio of skills can arguably be learned to varying degrees depending upon the motivation of the individual (Jensen, 2008; McClelland, 1999; Hills, 1988) and, as we will see later in this paper, has been integrated into some educational curriculum at secondary and tertiary levels.

The fact that enterprise education is more of an all-encompassing phrase, i.e. being entrepreneurial is one skill in a portfolio of enterprising skills, allied to the fact that the majority of academics in the area write in the context of enterprise education are the main reasons why this research contextualises itself in terms of enterprise education rather than entrepreneurial education which was the focus of research by Pittaway and Cope (2007), Fayolle, Gailly and Lassas-Clerc (2006), Kuratko (2004), Solomon, Duffy and Tarabishy (2002).

### *Enterprise education*

Enterprising education is not a new concept, having been prevalent in UK education in some shape or form for the past 30 years (Jones and Iredale, 2010). Although incorporated into University curriculums it appears to be more prevalent in secondary schools (Jones and Iredale, 2014; Draycott, Rae and Vause, 2011; Jones and Iredale, 2010). It should be noted however that this practice still needs to become more widely used across schools in the UK (Draycott, Rae and Vause, 2011). The rationale behind enterprise education is not specifically to make students enterprising or entrepreneurial (Rodov and Truong, 2015) but rather to empower learners, giving them more control over their learning. Having learners as active participants in their own learning should have a positive impact on the social aspects of their lives, enhancing their ability to develop and maintain relationships, communicate better and ultimately improve their career prospects and readiness for an ever changing workplace (Jones and Iredale, 2014; Wilson and Mariotti, 2009; Galloway, *et al.*, 2005). Such an approach to education underlines the importance and value of having links to business (Wilson, 2012; Jones and Iredale, 2010) and develops the capabilities, hard skills (project management, communication, creative thinking, problem solving and leadership) and soft skills (confidence, communication and reflection) of learners (Department for Business Innovation and Skills, 2015; Barbar, 2014; Fiala, Gertler and Carney, 2014; Draycott and Rae, 2011; Jones and Iredale, 2010). According to Jones and Iredale (2010, p.12) there needs to be “exchange, experiment, positive mistake-making, calculated risk-taking, creative problem-solving and interaction with the outside world” developed through learner engagement with real-world business challenges, business scenarios and business simulations (Kassean, *et al.*, 2015; Avramenko, 2012; Ehiyazaryan and Barraclough, 2009; Pongpanich, Krabuanrat and Tan, 2009; Wood, Beckmann and Birney, 2009). The results of such education appear to be encouraging with examples of good practice observed in Wales and Ireland where the majority of participating learners were positive about their experiences and in many cases, encouraged to be more enterprising as a result (Jones and Colwill, 2013; Athayde, 2012; Birdthistle, Hynes and Fleming, 2007). At secondary and primary school level we can already observe the creation of a more integrated and collaborative approach with some schools in the UK embedding enterprising activities into the curriculum, for example the ‘Primary Inspiration through Enterprise’ project (PIE, 2016), ‘The Fiver Challenge’ (Young, 2014; Gillie, 2012) and teaching about micro-enterprises (Vukovic, 2015). But these practices need to be more widely embraced and more importantly, sustained (Harte and Stewart, 2012; Birdthistle, Hynes and Fleming, 2007) across schools, Colleges and Universities.

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3 Although education contributes to the employability of individuals (Anon, 2016a), it is no  
4 longer the guarantee of employment that it perhaps once was. In a congested marketplace  
5 complicated by any number of economic and socio-economic factors (Edwards and Muir,  
6 2012) enterprise education can assist learners to not only 'stand-out' but give themselves  
7 options. Building on current literature in enterprise education (Athayde, 2012; Edwards and  
8 Muir, 2012; Draycott and Rae, 2011; Draycott, Rae and Vause, 2011; Jones and Iredale, 2010;  
9 Birdthistle, Hynes and Fleming, 2007) this research will investigate the perceptions and  
10 effectiveness of enterprise education engagement. Using real-world business challenges which  
11 embody the various facets of enterprise education, the research will assess the learning  
12 outcomes of both secondary and tertiary students in a Scottish context and thus contribute to  
13 an identified gap in the literature, specifically learners perspectives of such enterprising  
14 activities as discussed in the work of Jones and Colwill (2013), Draycott and Rae (2011) and  
15 Birdthistle, Hynes and Fleming (2007).  
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### 20 Methodology

21 In November 2015 the research used face-to-face self-completed questionnaires, which took  
22 approximately 5 minutes to complete, with 117 Business Studies students in Stages S4, S5 and  
23 S6<sup>4</sup> from secondary schools across Dundee and Business students from Years 1, 2, 3 and 4<sup>5</sup> at  
24 one University in Dundee, Scotland. As the research was questioning respondents under the age  
25 of 18, the research liaised with the secondary schools to ensure appropriate ethical procedures  
26 were followed and implemented. The research used quota sampling because this approach  
27 appeared more viable and more representative of the population (Malhotra and Birks, 2006),  
28 able to "produce a quality, representative sample" (McGivern, 2003, p.179). It is acknowledged  
29 however that by using this approach the research could not calculate the sampling errors and  
30 confidence intervals (Hague and Harris, 1993, Churchill, 1991), this limitation was partially  
31 addressed by using an interlocked approach which reduces bias and increases the  
32 representativeness of the sample (McGivern, 2003). A further limitation of this research was  
33 the sample size, which although representative of the pupil and student cohorts at the particular  
34 time of data collection, and is suitable for an exploratory study, the research would have  
35 benefitted from being both larger and complimented by more of a qualitative dimension beyond  
36 the inclusion of open-ended questions. Such limitations are being addressed in a larger study  
37 which, as explained in the conclusion section of this paper, intends to build on the themes to  
38 emerge from this study and take research forward in the area of enterprise education.  
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43 To ensure the research was both reliable and valid a pilot study was conducted with 10 students,  
44 this pilot confirmed both clarity and appropriateness of questions, as well as respondent's  
45 interpretation of the logic behind the sequence of questions (Zikmund, 2003). In order to  
46 measure the internal consistency of the questionnaire a Cronbach's Alpha coefficient was used,  
47 the test revealed a figure of 0.948, which represents a good scale and valid test model (Malhotra  
48 and Birks, 2006).  
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### 52 Analysis and discussion

53 In terms of respondent's demographics, they were aged between 15 and 24 with the majority  
54 being female. With regards the educational background of respondents, 38 came from  
55 secondary schools<sup>6</sup> in Dundee, 17 came from Year 1 at University, 40 came from Year 2 at  
56 University, 13 came from Year 3 and 9 came from Year 4. Although these figures vary between  
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59 <sup>4</sup> Scottish secondary schools have 6 years of study. In S4 students undertake subjects called Nationals (previously called O Grades), in S5  
60 students study Highers and in S6 students can study Highers or Advanced Highers. Highers take 1 year to complete.

<sup>5</sup> Universities in Scotland have 4 years of study, 3 years for a degree and 1 additional year for Honours.

<sup>6</sup> Each secondary school in Dundee sent a S4, S5 and S6 pupil to represent their school at a real-world business challenge event, entitled the GR Donald Enterprise Challenge.



stages of education they do represent the number of individuals the research had access to, specifically Business Studies pupils participating in an enterprise challenge for Tayside<sup>7</sup> schools and undergraduate students studying Business at a University in Dundee.

#### *Attitudes towards enterprising business led activities*

To investigate attitudes towards enterprise education respondents were asked, through a mixture of quantitative and qualitative questions, their perceptions of enterprising activities, which in the context of this research were couched in terms of real-world business challenges, and the role they play in a student's understanding of business and developing their entrepreneurial and enterprising skills (see *Table 1*). The variable, stage of educational development, which was tested for significance using multiple regression, proved significant with learners at secondary school more likely to agree with statements concerning enjoying real-world business challenges, the challenges improving their understanding of business and improving their entrepreneurial skills.

Question	Percentage of those of strongly agreed/agreed	Percentage of those who were neutral	Percentage of those who strongly disagreed/disagreed	Significant variables
I enjoy real-world business challenges	82%	9%	9%	Stage of educational development $p < .001$
These types of challenges improve my understanding of business	86%	9%	5%	Stage of educational development $p < .003$
These types of challenges improve my entrepreneurial skills	69%	24%	7%	Stage of educational development $p < .001$
These types of challenges improve my employability skills	75%	21%	4%	None

**Table 1: Statistics relating to attitudes towards real-world business challenges**

Respondents had a high degree of agreement to statements, with 82% agreeing and strongly agreeing that they enjoyed the real-world business challenges which reflects the research findings of, Jones and Colwill (2013) who found that participants on the 'Young Enterprise Wales' initiative were positive about their experiences on the course. In terms of real-world business challenges improving their understanding of business 86% agreed and strongly agreed and 75% agreed and strongly agreed that these types of challenges improved their employability skills. It should be noted however that in comparison, levels of agreement were slightly lower when respondents were asked whether these types of challenges improved their entrepreneurial skills, with 69% agreeing and strongly agreeing, 24% neutral and 7% disagreeing and strongly disagreeing. The reason for this comparatively lower level of agreement could be explained by the fact that in contrast to the wider portfolio of enterprising skills, entrepreneurial skills may be more difficult to train and teach (Hills, 1988) because some individuals may not possess the necessary intrinsic motivation to acquire the necessary learned knowledge (McClelland 1999). Another partial explanation for this comparatively lower level of agreement can be found in the qualitative component of the research where the majority of respondents, who provided a comment, in Years 2, 3 and 4 of their University education, considered entrepreneurial activity

<sup>7</sup> The geographical region Dundee is situated in.

as less likely upon completion of their studies, favouring instead a career in business, with a typical response being “I’ll probably be a manager, its less risky that setting up a business on your own”. This is in contrast to the majority of school pupils and Year 1 University students who expressed an opinion, that they were more open to self-employment and were keeping their options open with a typical response being “I don’t know, am keeping my options open as it depends on whether I stay on [at school or University] or get a job”. In other words, as individuals considered a career as an entrepreneur less likely as they progressed through the education system, they perhaps thought as a consequence that those entrepreneurial skills would also be less likely to be needed. This finding that learners considered a career as an entrepreneur less likely as they progressed through the education system is supported by Robinson (2006) who argues that Universities may be playing a role in reducing the entrepreneurial aspirations of learners and raises the question on whether schools, Colleges and Universities should do more to encourage learners to see employment and self-employment as equally viable alternatives (Jones and Iredale, 2014).

With regards to the hard skills these types of real-world business challenges develop and encourage, the majority of respondents agreed and strongly agreed (see *Table 2*) that they improved their project management skills (90% agreement and strong agreement), their communication skills (88% agreement and strong agreement), their creative thinking skills (84% agreement and strong agreement) and their problem solving skills (83% agreement and strong agreement), results broadly supported by Jones and Colwill (2013). However, respondents were less agreeable when it came to the ability of these challenges to improve their leadership skills (69% agreement and strong agreement). The variable, stage of educational development, which was tested for significance using multiple regression, proved significant with learners at secondary school more likely to agree with statements when compared to their University counterparts.

Question	Percentage of those who strongly agreed/agreed	Percentage of those who were neutral	Percentage of those who strongly disagreed/disagreed	Significant variables
These types of challenges improve my project management skills	90%	7%	3%	None
These types of challenges improve my communication skills	88%	10%	2%	Stage of educational development $p < .009$
These types of challenges improve my creative thinking skills	84%	13%	3%	Stage of educational development $p < .001$
These types of challenges improve my problem solving skills	83%	14%	3%	Stage of educational development $p < .002$
These types of challenges improve my leadership skills	69%	26%	5%	None

**Table 2: Statistics relating to the harder skills engendered by real-world business challenges**

When the research considers the responses collectively, with the exception of leadership skills, the levels of agreement to questions relating to real-world business challenges capacity to

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3 improve a learners hard skills are high. One of the reasons for this lower rate of agreement  
4 towards these types of challenges improving a respondents leadership skills could be linked to  
5 the earlier observation that the majority of respondents at Years 2, 3 and 4 of University,  
6 perhaps encouraged by education providers (Jones and Iredale, 2014), preferred a career  
7 working for someone else rather than for themselves (Wamba and Hikkerova, 2014; Edwards  
8 and Muir, 2012), a career choice where arguably the skill of leadership plays less of a role.  
9 Equally the reason for a lower level of agreement among respondents could be because they  
10 had not experienced or been exposed to many situations where they had to use their leadership  
11 skills or perhaps many respondents did not want to be leaders which has obvious implications  
12 for being enterprising and entrepreneurial. Similarly, perhaps respondents simply did not think  
13 these types of enterprise activities developed their leadership skills. It should be noted however  
14 that if we were to accept the last of these suppositions, this would not explain the high level of  
15 agreement to the statement concerning these types of activities improving a student's project  
16 management skills with leadership a component of project management.  
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21 The quantitative results are broadly supported by the qualitative component of the research,  
22 with the majority of respondents indicating that they thought real-world business challenges  
23 improved their communication skills, creative thinking, problem solving and project  
24 management skills in particular. The phrases were used in combination by many respondents  
25 with typical responses being "I developed my creative thinking, working to tight deadlines and  
26 under pressure", "developing communication, confidence, creativity and teamwork" and  
27 "improving my problem solving and communication [skills]". With regards communication  
28 skills, the majority of respondents made reference to improving their speaking in public and a  
29 minority of respondents made reference to interacting with others, both of which developed  
30 their confidence, a soft skill which will be discussed later in this paper. Typical responses were  
31 "my presenting skills, speaking in public which gave me confidence" and "working in a group  
32 of people you don't usually interact with gave me more confidence". Although no respondent  
33 explicitly used the phrase 'project management', with the exception of one respondent who  
34 identified the "building up an event" as a key skill developed by these challenges, there were  
35 phrases used which are associated to the skills required in project management. Of those  
36 remaining respondents who expressed an opinion, the majority, regardless of whether they were  
37 from school or university, identified the skills, team working and working under pressure and  
38 to deadlines. Many respondents simply provided the words "team working" and "working to  
39 deadlines/tight deadlines" but of those who provided a fuller response a typical reaction was  
40 being given the opportunity to "work under pressure, working as a team, meeting time  
41 schedules".  
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47 In terms of the softer skills these types of real-world business challenges cultivate, the majority  
48 of respondents agreed and strongly agreed (see *Table 3*) that they improved their ability to  
49 reflect on decisions (75% agreement and strong agreement), improved confidence in their own  
50 abilities (71% agreement and strong agreement) and their ability to resolve group conflict (68%  
51 agreement and strong agreement). The variable, stage of educational development, which was  
52 tested for significance using multiple regression, again proved significant with learners at  
53 secondary school more likely to agree with statements when compared to their University  
54 counterparts.  
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Question	Percentage of those of strongly agreed/agreed	Percentage of those who were neutral	Percentage of those who strongly disagreed/disagreed	Significant variables
These types of challenges improve my ability to reflect on decisions	75%	20%	5%	Stage of educational development $p < .003$
These types of challenges improve the confidence I have in my abilities	71%	22%	7%	Stage of educational development $p < .001$
These types of challenges improve my ability to resolve group conflict	68%	27%	5%	Stage of educational development $p < .001$

**Table 3: Statistics relating to the softer skills engendered by real-world business challenges**

It is with regards to their ability to resolve group conflict that we observe the lowest level of agreement, which in part links to the comparatively (in contrast to the levels of agreement and strong agreement to other statements) low level of agreement and strong agreement to the statement relating to the challenges ability to improve leadership skills, as part of being a leader involves dealing with conflict and resolving conflict within groups. Given the high level of neutrality (27%) to this statement one could also argue that in the process of participating in these types of challenges there was little conflict within groups and therefore there was no opportunity for respondents to improve these particular skills. The quantitative results are broadly supported by the qualitative component of the research where the majority of respondents, who expressed an opinion, and regardless of their stage of education, cited confidence and not reflecting on decisions as the main skill they improved while participating in these types of enterprising activities. The phrase ‘confidence’ was the most frequently used word in response to the qualitative questions and was not simply used in generic terms, with a typical response being “it gave me confidence”. There also appears to be two further dimensions to this confidence, confidence generated in one’s own abilities with a typical response being “it gives me confidence and self-belief” and confidence related to public speaking, developed through speaking in front of others with a typical response being “confidence presenting in front of a panel of judges, building confidence”. These findings are specifically supported by previous research (Jones and Colwill, 2013; Birdthistle, Hynes and Fleming, 2007) and more broadly supported by the work of Draycott and Rae (2011) in the context of developing personal capabilities. The findings underline the importance of enterprise education as a means to enhance the employability skills of learners underpinned by engagement with real business and real-world business situations (Kassean, *et al.*, 2015; Wilson, 2012; Jones and Iredale, 2010).

A series of correlations were conducted using Spearman’s Rho, to compare the various skills developed through these types of real-world business challenges and levels of enjoyment. All correlations were statistically significant and positive with the strongest correlation between enjoyment and improving confidence, with  $r=0.628$ ,  $p < .01$ , again highlighting the importance of these types of challenges to building a learners’ confidence. With regards the other identified softer skills, the correlation between enjoyment and improving reflection was  $r=0.491$ ,  $p < .01$  and the correlation between enjoyment and improving the ability to resolve conflict was  $r=0.453$ ,  $p < .01$ . With regards the identified harder skills, the correlation between enjoyment and improving project management skills was  $r=0.566$ ,  $p < .01$ , the correlation between enjoyment and improving communication skills was  $r=0.430$ ,  $p < .01$ , the correlation between enjoyment and improving creative thinking was  $r=0.616$ ,  $p < .01$ , the correlation between

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3 enjoyment and improving problem solving skills was  $r=0.533$ ,  $p<.01$  and the correlation  
4 between enjoyment and improving leadership skills was  $r=0.528$ ,  $p<.01$ . The fact that all  
5 antecedent relationships with levels of enjoyment were statistically significant and positive  
6 indicates that these types of enterprise education activities develop a variety of skills among  
7 respondents, preparing them for the employment market. However, as we have seen earlier in  
8 the findings section such enterprise education activities do not necessarily make respondents  
9 want to become entrepreneurial.  
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### 12 **Conclusion**

13 This exploratory research examined young learners' attitudes towards enterprise education  
14 within the context of real-world business challenges for Business Studies students at secondary  
15 schools and Business students at a University in Dundee. The research made the distinction  
16 between enterprise and entrepreneurial education, consolidating existing literature in enterprise  
17 education (Jones and Colwill, 2013; Draycott and Rae, 2011; Birdthistle, Hynes and Fleming  
18 2007) and taking research forward in terms of identifying the specific skills learners felt they  
19 developed while participating on enterprising activities. The research found that overall  
20 learners were particularly positive about engaging with enterprise education activities, not only  
21 did they enjoy the experience of real-world business challenges, they felt it helped improve  
22 their hard and soft skills, project management, communication, creative thinking, problem  
23 solving, reflection and in particular confidence (confidence in one's own abilities and in  
24 relation to public speaking). However learners did not feel that these types of enterprise  
25 initiatives improved their leadership capabilities, which links to observations regarding  
26 entrepreneurship. Although learners thought such enterprise education initiatives prepared  
27 them for the employment market they were less agreeable to such education initiatives making  
28 them more entrepreneurial. The research reveals that the traditional approach to teaching  
29 business could be improved with regards enterprise and entrepreneurship. As learners  
30 progressed through the education system there appeared to be an inverted relationship between  
31 learning to be enterprising and entrepreneurial and wishing to be entrepreneurial. In other  
32 words as a learner learned the necessary skills to become entrepreneurial they became less  
33 inclined to be entrepreneurial supporting the assertions of Robinson (2006) that Universities  
34 may be playing a role in reducing the entrepreneurial aspirations of learners.  
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41 As an exploratory study the research findings require further investigation and will inform a  
42 more detailed research by the authors across other educational establishments to investigate  
43 commonalities and themes to allow the findings to be more readily generalised across other  
44 schools, Colleges and Universities. In terms of further research themes, it is proposed to  
45 investigate and contrast the perspectives from other stakeholders: staff across primary,  
46 secondary, further and tertiary education; employers, comparing family-run, small-medium  
47 sized enterprises (SMEs) and multi-national corporations (MNCs); and learners, contrasting  
48 perspectives of those who have left education and are now employed and self-employed to  
49 ascertain how the classroom experience influenced and benefitted their current career. Gaining  
50 the perspectives of these stakeholders would provide a more holistic view of enterprise  
51 education. Another area for future research would be to conduct a qualitative diary approach  
52 to allow learners to document their experiences throughout their engagement with enterprise  
53 education, comparing with other subjects and educational situations where this approach to  
54 learning is not used. This should provide insight into whether such an approach to learning  
55 should be more widely embedded into the respective curriculum of secondary, further and  
56 tertiary educational institutions.  
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