Enterprise Education in Initial Teacher Education in Ireland

Abstract: The purpose of this paper is to examine the impact of enterprise education on students' understanding of and attitudes to entrepreneurship and enterprise education in initial teacher education. This paper builds on current literature by introducing student teachers to the theory and practice of entrepreneurship and enterprise education, with a particular focus on experience based approaches. Quantitative and qualitative data are used to evaluate student understanding and attitudes. Findings indicate that exposing student teachers to entrepreneurship and enterprise education specifically targeted at their subject area greatly increases their understanding of its importance and relevance. Students developed their ability to think and act in enterprising ways while recognising the benefits of incorporating enterprise education into their classrooms of the future. While literature on the value of entrepreneurship and enterprise education outside of business contexts is widespread, relatively few studies have been conducted which examine the impact of interventions in initial teacher education. This paper provides a unique look at the implementation of an entrepreneurship in education module and its impact on student teachers.

Keywords: Entrepreneurship – Enterprise Education - Teacher Education

1. Introduction and context

Many scholars argue that an enterprising mind-set can benefit students from all areas of study (Rae, 2008; Gibb, 2007; Gibb, 2011). In addition to support from high-level European Union policy documentation (for example: European Commission, 2000; European Commission, 2003; European Commission, 2011), research indicates that enterprise education impacts positively on students career aspirations (Matlay, 2008), and society as a whole. The "profound transformations in the economic and social environment" (Kanter, 1984:354) present "new realities" (Drucker, 1989) in which "enterprising qualities are viewed as being essential in relieving the stress of some of the societal issues that have emerged" (Jones & Iredale, 2010:8) by increasing awareness and receptiveness to the entrepreneurship process (Hynes, 1996). Enterprise education can improve students' ability to assess and manage risk (Z. Solesvik *et al.,* 2013), and provide students with the skills to deal with a changing society by equiping them with "the creativity and adaptability to thrive in an every-changing world" (Scottish Executive, 2001). To date, little research has been conducted in Ireland on the impact of Enterprise Education on student teachers' attitudes towards it, and its place in initial teacher education. This is in spite of the Entrepreneurship in Ireland report (2014) highlighting the development and enhancement of enterprise education programmes as critical actions for the future (Government of Ireland, 2014). Research conducted elsewhere indicates that schools and teachers are critical stakeholders in the development of students' enterprising skills (Leffler & Näsström, 2014; Matlay 2011) and that teachers' exposure to enterprise education and the ways in which it is taught are crucial in influencing their future practice and their propensity to be innovators in their own right in the field of education (Lepistö & Ronkko, 2013; Ruskovaara & Pihkala, 2013).

Enterprise Education refers to the development of transferable attributes, skills and behviours which enable students to act in innovative ways in a variety of contexts (Bridge *et al., 2010*). Key among these skills are: opportunity recognition and exploitation (Rae, 2007); building and initiating (Kirby, 2004); tolerance for ambiguity and uncertainty (Kirby, 2007); creativity and innovation (Seelig, 2012); Risk-taking (Caird, 1991); initative (Hegarty & Jones, 2008); and the confidence to propose ideas (Gibb, 2007). Importantly, Allinson *et al.* (2000) conclude that these behaviours can be learned. Enterprise Education is seen as the foundation of entrepreneurship education (Gibb, 1987), where the latter is concerned with promoting awareness and orientation towards entrepreneurship and business creation (Kirby, 2004), with the purpose of equipping students with the knowledge, attributes and capabilities required to set up a new venture or business (Jones *et al.* 2014; Jones & Iredale, 2010). However, the overlapping nature of enterprise education and entrepreneurship

education may lead to confusion (Hannon, 2005:6; Pittaway & Cope, 2007). For example, Kirby (2004) argues that while there is no universally accepted definition of an entrepreneur, equating one solely with new venture creation is too narrow a paradigm. An entrepreneur should instead be viewed as someone who sees and acts upon opportunity in a variety of contexts such as academic, civic, social and technological. Others identify entrepreneurs as individuals with enterprising skills and behaviours that enable them to act in innovative ways. Thus, authors such as Gibb (1993) contend that the terms entrepreneurship education and enterprise education are conceptually the same but contextually different. This is exemplified by Lepistö & Ronkko (2013) and their perception of entrepreneurship education as part of holistic growth which aims to contribute to students' life management skills. This paper takes the view that student teachers should view themselves as innovators and enterprising in their own right, and as such an appreciation for the value of enterprising skills in the field of education is of value to them.

While the debate surrounding whether or not enterprise skills can be taught has largely been settled (Leffler & Näsström, 2014; Hindle, 2007), there is still much variation in how this is done. There are a range of teaching methods and approaches which can be adopted in the teaching of enterprise education. Traditional lectures and other didactic methods can be used to tackle the cognitive aspects of enterprise education (Hynes, 1996). More action and experiential oriented activities such as problem solving, project work (Ruskovaara & Pihkala, 2013) and selling ideas (Blenker *et al.,* 2011) are effective at the development of enterprising skills and behaviours, especially when collaboration and reflection are built in as part of the process (Gibb, 2005). Guest speakers, discussion and case studies are also used to give context and foster links between students' perceptions and the real world (Solomon, 2007). However, in their review of entrepreneurship and enterprise education Samwel Mwasalwiba (2010) points out that the most commonly used methods are lectures, case studies and group discussion, with active and experiential methods being far less common. Hindle (2007) argues that attention needs to be paid to the development of skills and behaviours by adopting an imaginative approach to teaching which promotes the development of students' analytical *and* lateral thinking (Kirby, 2004). Additionally, rather than consisting of generic content, research indicates that enterprise education should be contextually relevant to the students and take into consideration the students' field of study and their future career aspirations (Hynes, 1996; Jones & Iredale, 2010). The role of the teacher is of critical importance to enterprise education because it is the teacher who manages the relationship between the learner and knowledge within the learning environment, facilitating shifts between teacher controlled knowledge, shared knowledge, and student created knowledge (McAuliffe & Winter, 2013). This is important in the context of enterprise education as teachers must guide their students through the entrepreneurship

process, allowing them the opportunity to think and act independently (Jones & Iredale, 2010). Future teachers should be exposed to entrepreneurship education as part of their initial training in order to internalise entrepreneurship and incorporate it into their teaching in the future (Lepistö & Ronkko, 2013).

Enterprise education poses challenges for educators. On the one hand it is concerned with empowering students to think innovatively in their own right, meaning educators must create learning environments that promote enterprise in its broadest sense. In the contest of this study, it also has the dual purpose of exposing future teachers to enterprise education methods which encourage them to design approaches which empower their students to 'design, build and innovate' rather than regurgitate information (Berry, 2011). This paper examines the impact of enterprise education on future educators own attitudes, and its potential impact on their future teaching practices.

2. Methodology

2.1 Sample

This study was carried out in the School of Education Studies at DCU, Ireland, with a class of 86 undergraduate students. Students were completing the module 'entrepreneurship in Education' during semester two of year one on their BSc in Education and Training. This was a compulsory module, taught by the author, two hours per week.

2.2 The module

The module is designed to give students an understanding of the theory and practice of entrepreneurship and enterprise education. Students are encouraged to develop their own skills, attitudes and behaviours, and consider these approaches for use as teachers in the future. Module topics were 'what is entrepreneurship', 'opportunity recognition and exploitation', 'creativity and innovation', 'developing an enterprising culture in the classroom', and 'teachers and trainers as entrepreneurs'.

2.3 Description of process

The purpose of the module was to increase students understanding of, and experience with entrepreneurship and enterprise education. To achieve this, a range of strategies were put in place. First, lectures were divided into a number of sections containing: Theory, which looked at topics from a historical, contextual and contemporary perspective; Case studies, demonstrating attitudes, attributes, and behaviours associated with enterprise and entrepreneurship in a variety of real world

contexts, focussing particularly on education; Discussion, which reflected on case studies and theoretical information, encouraging students to link their understanding of enterprise and entrepreneurship to its application in education; Group activities, where students worked together in small groups to tackle problems, identify opportunities and discuss approaches for integrating enterprise education into the classroom; Finally, short reflective activities took place at the end of each lecture to consolidate learning by examining the links between theory, case studies and practical work.

Second, as a means of deeply embedding enterprising skills into the module, assessment tasks were divided into three distinct areas. Task one 'connect and combine' (adapted from: Seelig, 2012) was a group task designed to increase students ability to think creatively and innovatively. Students were challenged with creating a new learning experience by combining two university activities (subject, club, society, facility), into a unique subject, way of learning, or approach to teaching. Task one was assessed using a presentaiton format similar to 'crits' (Penaluna & Penaluna, 2008) where students presented their work to peers and academic staff. Students were graded on their ability to develop an innovative idea (Rae, 2007) and articulate this in a convicing manner (Biggs, 2003:800). Task two 'challenge assumptions' (adapted from: Seelig, 2012) was a group task designed to increase students creativity and problem solving. Students were asked to tackle a problem in education and develop one hundred solutions to that problem, before presenting the most effective one. Task two was again asssessed using a presentation format where students presented their work to peers and academic staff. Students were graded on their ability to explore multiple solutions to a problem before making their decision and justifying this selection (Penaluna & Penaluna, 2008). Both task one and two were action oriented, included group collaboration, and required reflection on work completed by requiring groups to answer questions during their presetation (Kirby, 2007). Task three consisted of a standard written assignment discussing the question: entrepreneurship; its place in education, and was completed individually.

2.4 Instruments

Data collection was carried out using an anonymous written questionnaire. Data gathered was a mixture of qualitative and quantitative information. A series of open and closed questions were asked where students firstly indicated their level of agreement with a statement by circling along a five point scale (1=strongly disagree, 2=somewhat disagree, 3=neither disagree nor agree, 4=somewhat agree, 5=strongly agree), this was then followed with qualitative data to support their selection. Questions were asked with the following themes in mind: 1) What impact did the module have on students understanding of entrepreneurship, particularly in the context of education? 2)

What impact did the assignment tasks have on students' ability to think creatively, solve problems, and present their ideas? And 3) Since taking the module, are students more likely to engage with entrepreneurship and enterprise education or embedding this in their classrooms of the future?

In the first category, the impact of the module on students understanding of entrepreneurship, students were asked a series of questions around their understanding of entrepreneurship, their ability to think creatively, their ability to look at problems in new ways, and their thoughts on teaching strategies employed. In the second category, the impact of the assignment tasks, students were asked how these tasks impacted on their ability to solve problems, think in creative and innovative ways, and present their ideas. In the final category, likelihood of implementing entrepreneurship and enterprise education in the future, students' were asked if the module increased their likelihood of teaching in this manner, and the reasons for this.

2.5 Procedure

Students attended the module over one semester as part of their overall study. The questionnaire was distributed at the end of semester, and students completed this anonymously. Out of the 86 students, 47 completed questionnaires were returned, giving a response rate of 55%.

2.6 Data Analysis

The data collected for this inquiry was analysed in two ways. Quantitative data (closed questions) were analysed using simple statistical analysis. In an effort to understand how students interpret the world (Maykut & Morehouse 1994), qualitative data was analysed using the constant comparative method (Glaser & Strauss 1967 in Maykut & Morehouse 1994:126). This process involved analysing the data for patterns in the words and phrases in student responses. Responses often contained multiple pieces of data, which were coded and grouped together as initial categories. As categories emerged, rules of inclusion were developed to ensure consistency in each category. If a piece of data did not meet the rules for inclusion, a new category was created. This process was repeated until clear categories were present. Finally, propositional statements were developed to capture the essence of each category they represented.

In an effort to test the viability and credibility of these categories and the findings within them, the author drew on Guba's (1978:56-57) work for testing the robustness of qualitative data. First, data was checked for internal and external plausibility, ensuring consistency within categories and cohesion among separate categories. Second, the data was checked to ensure it was inclusive of the data and information that was available for study. Third, data was tested to establish connections to previous work in the field, and its contribution to this enquiry. Finally, a detailed record of the

analysis, coding, categorising and presentation of data was kept so that the data was reproducible by another competent judge.

3. Findings and Discussions

Key themes and findings are now presented using quantitative data and extracts from qualitative responses, to address the three themes outlined previously. This is followed by overall conclusions and recommendations drawn from the inquiry. As stated in the methodology section, data was analysed using the constant comparative method, and as such will now be presented using propositional statements in an effort to portray the overall meaning of the data categories.

3.1 Impact on students understanding of entrepreneurship and enterprise education

In this section, students' understanding of entrepreneurship is discussed. The impact of lectures, case studies, discussions and activities on students' general understanding of entreprenurship is discussed first, followed by the impact on developing enterprise skills, and finally the impact on students' understanding of enterprise education.

3.1.1 Students displayed a broader understanding of entrepreneurship and what it means to be enterprising

Students' understanding of entrepreneurship appears to have greatly increased, with 89% (n=42) of students either somewhat or strongly agreeing that the module increased their understanding in the area. Student comments indicate a much broader understanding of the concept of entrepreneurship and what it means to be an enterprising person in a variety of contexts. 54% (n=22) of student comments indicated that their general understanding of entrepreneurship, and what it means to be enterprising had improved and broadened. Students said that they 'learned a great deal about entrepreneurship' when compared with the 'narrow opinion' they held previously. They said the content 'opened their eyes' and gave them a 'clearer insight into what it means to be an entrepreneur'. Students pointed to a number of key factors which aided this development. For example six emphasised the value of receiving knowledge about entrepreneurship in an academic way, commenting that they felt informed 'in an educational way' and that the information was 'insightful' with 'clear definitions' and 'useful information' provided. Also evident was a broadening of students understanding of the role entrepreneurship plays in all contexts, with five students saying they now believe entrepreneurship is 'not just about business' but that it 'impacts on society and everyday life'. Encouragingly, 27% (n=11) of student comments indicated that they now saw the applicability of enterprising attitudes, attributes and skills in their role as future educators. They said

they now see how entrepreneurship 'can apply in an educational setting' and that they have a better 'understanding of entrepreneurship in education' seeing how 'creativity and practicality' can be applied when 'teaching a subject to stimulate students' creativity and cognitive processes'. 20% (n=8) of students also felt that being an entrepreneur involved developing ideas, with students commenting that they now realised there is 'so much out there to work on and develop into new things' seeing how part of being an entrepreneur is coming 'up with new ideas', 'thinking on your toes', 'being innovative', and 'acting on ideas'.

This data suggests that by exposing students to entrepreneurship as it relates to their own discipline, they begin to view the concept in its fullest sense, appreciating that while it has a place in business disciplines, it also has a place in education; where students see the importance of being enterprising in the development and implementation of new teaching approaches.

3.1.2 Students feel more able to think creatively and tackle problems

Students perceptions of their ability to think creatively and solve problems, also increased, with 87% (n=41) and 81% (n=38) of students respectively either somewhat or strongly agreeing that the module had a positive impact on these areas. Their comments indicate that the variety of activities and enterprising methodologies employed had a positive impact on their creative thinking. 41% (n=16) of comments indicate that students now feel more comfortable thinking outside the box and coming up with new ideas. Students commented that the module 'helped them use the creative side of their brain and not just go with the first solution'. Others commented that it helped them to 'think outside the box', use their 'imagination', 'think in different ways', and 'use their own initiative on what ideas to create'. In addition to simply thinking more creatively, 18% (n=7) of students also felt that the assessment exercises helped them to become more confident in presenting these ideas. They commented how they now felt confident to 'show their creative side', and that presenting to others helped them 'exercise their creativity' and become better at 'thinking on their feet'. It appears from students comments that it was the interactive and active nature of the lectures that afforded them these opportunities and helped them to improve their ability to think creatively. 38% (n=15) of comments spoke about the importance of the in-class exercises and activities in developing these skills. Students commented that the group work 'forced us to think outside the box', and that they had to 'think creatively for the exercises'. In particular the process of 'collaborating with others' and 'presenting to the group', seemed to encourage students to develop their creativity.

In terms of problem solving ability, the reasons for the positive impact appear to sit firmly in two areas. First, 49% (n=19) of comments suggested that students acquired the techniques necessary to tackle problems they may 'face in the future'. Students said they now had the 'necessary skills and

thought processes to do this', and their ability to 'think outside the box' had increased. Many of the comments in this category mentioned specific skills acquired to solve problems. Students commented that they now look at problems 'from different perspectives' and 'explore several solutions' before deciding on the best approach. Second, 49% (n=19) was the ability to practice these techniques in the learning environment. Students commented that the classroom activities made it 'a lot easier' to come up with 'solutions to problems' as they could 'work as a team to help each other'.

This data suggests that providing students with the opportunity, support, and encouragement to engage in creative activities and come up with their own solutions to problems, empowers them to do just that. Students seem willing to display their creative side, and enjoy being able to display these skills in lecture settings.

3.1.3 Students have a broader understanding of entrepreneurship and enterprise education

Of particular interest in the context of this study was understanding not only students understanding of entrepreneurship, but understanding if there had been any change to students understanding of enterprise education. 37% (n=13) of students comments suggested that the provision of general information about enterprise education supported their understanding. They commented that lectures provided 'useful' and 'detailed information' on the 'theory and practice' of enterprise education, helping to understand what it meant in the context of teaching and learning. The 'varied content' encouraged them to 'read and learn about it', resulting in an improved understanding. However, 63% (n=22) of comments suggested that the use of a variety of active learning methodologies helped to hold students attention and increase their understanding of these methodoligies in practice. The use of discussion, classroom activities, and concrete examples led students to comment that lectures were 'very engaging', 'practical' and 'involving' which allowed them 'to understand better'. Students spoke specifically that class discussion and debate on topics 'created active thought', took on board 'everyone's views' which made discussion 'very enlightening' and helped to 'gain a better understanding of the topic'. They also spoke about the use of in class activities saying that they helped them to 'understand more', 'work together' and that the 'variety of activities' aided in understanding and made the topic 'more interesting'. Students also specifically mentioned the use of practical examples, saying that examples were 'practical' and that they helped to link 'theory and practice', helping with 'concentration' and focussing students' attention.

This data suggests that alongside broadening of students understanding of what it means to be enterprising, and improvements to some specific skills, students have also learned specifically about enterprise education, strategies used for its implementation, and the impact of these.

3.2 Impact of experience based assessment tasks

In this section, the impact of the unique experience based assessment tasks on students understanding of enterprise skills will be discussed. Data is gathered on how the tasks impacted on students' way of thinking and ability to present and back up their ideas.

3.2.1 Assessments tasks helped students to be enterprising in their approaches

The addition of practical assessment tasks based on the development of key enterprise skills, appears to have improved students ability to be enterprising in their approaches. When students were asked if the assessment activities encouraged them to think creatively, solve problems and present their ideas, they responded extremely positively, with 89% (n=42) and 87% (n=41) of students either somewhat or strongly agreeing that each of the assessment tasks respectively, had a positive impact on these areas. 49% (n=19) of students comments suggested that the tasks encouraged them to think differently. Not only did students enjoy the 'novelty' of 'combining tasks', this also encouraged them to 'be creative', 'think differently' and not to 'go with the first idea' that came to mind. Students commented that they 'had to think differently' and 'think outside the box' to come up with 'creative solutions', rather than 'something seen before'. They also commented that the activities demonstrated that there are 'many solutions to problems if you really think about it' and that 'you can solve problems' if you put your mind to it. Students (21%, n=8) also seemed to value the practical element of the tasks and the opportunity to try out these skills for themselves. They commented that 'doing them was more effective than trying to understand' and 'because they were practical' it provided them with the opportunity to 'brainstorm' and 'combine ideas' which along with the concepts themselves, 'actually doing it made it easier than it seems'. Interestingly a further 18% (n=7) of comments suggested that the process of working together in groups to present their ideas helped to improve the learning they achieved from the activities. Students commented that 'engaging in teamwork' made them 'experience more ideas' and that 'presenting ideas to the group' encouraged them to try out different tools, with students commenting they 'used things I had never had before'. Finally, some students (13%, n=5) commented that the unique aspect of the activities helped them to focus on the task at hand saying that it was 'fun and creative' and the experience was a good balance of 'fun, creativity and practical experience'.

This data suggests that practical nature of these assessments tasks helped students to experience the particular skills of creative thinking, problems solving and 'selling' their ideas, for themselves.

This seems to have helped students understand what these skills mean in practice and increased their confidence in their own abilities. Alongside this, the group nature of the tasks brought with them valuable lessons in working together to reach goals.

3.3 Impact on future teaching practices

In this section, the impact of the module on students' attitudes to embedding entrepreneurship and enterpise education into their own teaching in will be discussed.

3.3.1 Students are more likely to embed entrepreneurship and enterprise education into their own teaching in the future

Data suggests that since taking part in the module students are far more likely to embed entrepreneurship and enterprise education into their own teaching in the future, both by teaching specific enterprise skills, and through embedding enterprise education in their own classrooms. Students agreed strongly with this idea, with 83% (n=39) either somewhat or strongly agreeing that enterprise education would be part of their future teaching. 36% (n=9) of comments suggest that students now value entrepreneurship and enterprise education, with students saying they will teach it in the future because 'it is a very useful topic', it is 'vital to learn' and they now 'know the importance' of it. 16% (n=4) commented that it will help them to encourage their students to think differently and more openly. They said 'it is something that really gets peoples brains in motion', places an 'emphasis on creativity and problem solving' and helps students to 'think about things from different perspectives'. 12% (n=3) of comments alluded to its relevance to life skills, with students saying 'it helps in real life situations' and that it is important for 'life skills' as it 'effects everyone'. Interestingly, some students (16%, n=4) took this opportunity to speak about how teaching the subject in the future will encourage them to be a better teacher. Students commented that teaching the subject would allow for 'more creativity in education', enabling them to include 'new teaching methods' that promote 'active participation in the classroom'.

This data suggests that students are aware of the benefits of entrepreneurship and enterprise education and see the value in teaching both specific skills and embedding enterprise education throughout the curriculum. Perhaps most interesting in students' realisation being enterprising in their own right, can help them to develop innovative teaching practices which can promote more vibrant and interactive learning environments.

4. Conclusions and Recommendations

The importance of entrepreneurship and enterprise edcuation has attracted increased attention in recent years, especially in its applicability outside of traditional business contexts. The purpose of

this paper was threefold. First was to examine the impact of a module on 'entrepreneurship in education' on students understanding of entrepreneurship and enterprise education. Second was to examine the impact of the experience based assignments on students' ability to think creatively, solve problems, and present their ideas. Third was to examine students' attitudes towards teaching entrepreneurship or embedding enterprise education in their classrooms of the future. In the first category, the data suggests that participation in the module broadened students understanding of entrepreneurship and what it means to be enterprising. The mix of theory, case studies, discussion and experience based activities, expanded students' preconceptions and enabled them to understand entrepreneurship as a way of thinking and acting in innovative and creative ways in all manner of contexts. Encouragingly, students' comments suggest that they now appreciate the importance of applying creative thinking to their future role as educators, to solve problems and develop unique learning scenarios.

In the second category, the use of experience based assessments; the data suggests that their practical nature allowed students to understand what it feels like to be enterprising. Students experienced what it was like to think differently, create new approaches and overcome problems. The process of working in teams and presenting their ideas also seems to have developed students' self-belief.

In the third category, students' attitudes towards teaching entrepreneurship and enterprise education, the data suggests that exposing students to these concepts within their initial teacher education has encouraged them to incorporate these into their classrooms of the future. Students gained an appreciation of the importance of creativity and problem solving, while simultaneously acknowledging these as important aspects of their own teaching approaches.

This paper suggests that the implementation of an 'entrepreneurship in education' module had a positive impact on students understanding of entrepreneurship and enterprise education. The connection of theory, practice and practical assessment work focused on students' area of study fostered the development of enterpise skills, and increased students awareness and appreciation of their importance.

5. Limitations

This inquiry has some limitations that should be mentioned in order to contextualize the findings and conclusions outlined above. First, the sample size from which the data were drawn is relatively limited in scope, focusing on one university class. The intention of the inquiry was to capture the impact of a module on 'entrepreneurship in education' in a natural setting which limited the sample,

however a larger scale study may be needed to fully explore and develop these areas. Second, the data obtained was acquired from a single questionnaire that was distributed at the end of one academic semester. While this produced some interesting data, Hegarty & Jones (2008) suggest that longer term evaluations may yield more robust conclusions, especially concerning students actual implementation of enterprise education in the future. Finally, academic literature on enterprise education in initial teacher education is relatively uncommon. It is possible that as research in this area progress, alternative themes may emerge that warrant study.

6. References

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