A proposed approach to the design of a doctoral study to identify threshold concepts in Entrepreneurship education and the implications of these for the curricula and pedagogy of Entrepreneurship programmes in Higher Education.

Lucy Hatt

Senior Lecturer,

Newcastle Business School

Northumbria University, Newcastle upon Tyne, UK.

lucy.hatt@northumbria.ac.uk

[Twitter - @hattlucy](http://www.twitter.com/hattlucy)

[Facebook - Lucy Hatt](https://www.facebook.com/ProgrammeLeader.Lucy)

# Abstract

This is an exploratory, developmental paper, outlining a proposed approach in a doctoral study to identify the threshold concepts in Entrepreneurship education, and the implication of these in the development of curricula and pedagogy in Entrepreneurship programmes in Higher Education.

The production of knowledge is commonly organized in disciplines and the communication of knowledge within a disciplinary field and a non-disciplinary field (such as Business Management) is normally expected to differ ([Peter Van den Besselaar & Gaston Heimeriks, 2001](#_ENREF_50)). This study therefore will be of interest to educators working in multidisciplinary fields, with an interest in practice-based learning.

Five groups have been identified as important to this study which uses transactional curriculum inquiry ([Cousin, 2009](#_ENREF_13)). These are Entrepreneurs, Entrepreneurship educators, students of Entrepreneurship programmes, suppliers of professional services to Entrepreneurs and educational developers.

A combination of concept mapping ([Trochim, 1989](#_ENREF_49)), semi-structured interviews and use of the Delphi survey technique ([Tigelaar, Dolmans, Wolfhagen, & Van der Vleuten, 2004](#_ENREF_47)) are proposed, to identify the threshold concepts of Entrepreneurship, which in this context, has been preliminarily defined as a domain of expertise ([Saras D. Sarasvathy, 2008](#_ENREF_41)).

# Introduction

Defining the threshold concepts in any subject discipline may help to inform the development of the curricula in order that it might be optimised. In attempting to define the threshold concepts, educators are making use of an analytical framework that helps them better understand how students learn, what might cause students to become stuck and consequently what pedagogical modifications might need to be made to facilitate their learning journeys.

This paper outlines a proposed approach to the research study for a doctoral thesis exploring how students come to understand and learn Entrepreneurship using various frameworks and concepts, including the critical lens of threshold concepts, as a tool for interpretation. The purpose of this research is to identify what it is that a student needs to grasp in order to “think like an Entrepreneur” from multiple perspectives including; experts, students and Entrepreneurs.

The thesis will attempt to answer the following research questions:

* How can “thinking as an Entrepreneur” be defined?
* What concepts does a student need to grasp in order to “think like an Entrepreneur”?
* What pedagogical considerations and aspects of curricula design facilitate and hinder Entrepreneurial transformation?
* How might a Higher Education programme in Entrepreneurial Business Management Education be optimised as a result of this research?

The case for enterprise and Entrepreneurial education is strong ([*Enterprise and Entrepreneurship Education: Guidance for UK higher education providers*, 2012](#_ENREF_18)) and there is global growth in Entrepreneurial education programmes([Benyon, Jones, Packham, & Pickernell, 2014](#_ENREF_9)). This is apparent not least in the UK, where Entrepreneurship is identified as enabler of positive social, economic and political change([Matlay & Carey, 2007](#_ENREF_30)). Entrepreneurship has been presented as a means to generate jobs, economic growth and prosperity. It has been argued that small businesses are more important to the economy than large businesses when it comes to generating economic growth ([Kroeger, 1974](#_ENREF_28)) and ([Kelley, Bosma, & Amorós, 2011](#_ENREF_25)),

Defining what Entrepreneurship is, as a subject discipline or field is challenging but important both in terms of programme credibility and curriculum design. The Higher Education Data & Information Improvement Programme defines enterprise and Entrepreneurship as:

“The application of creative ideas and innovations to practical situations, including, but not exclusively, creating and growing organisations in order to identify and build on opportunities." (HEDIIP, 2015)

Although there is widespread consensus that Entrepreneurship Education is a ‘good thing’; the specific knowledge content of programmes and modules specialising in Entrepreneurship are less clear. There is agreement on *why* Entrepreneurship education is beneficial, but not exactly *what* it is, what the knowledge base is.

The production of knowledge is commonly and historically organized in disciplines and the communication of knowledge within a disciplinary field is normally expected to differ from the communication of knowledge within a non-disciplinary field([P. Van den Besselaar & G. Heimeriks, 2001](#_ENREF_51)). Business studies is typical of a subject in a non-disciplinary, or multidisciplinary field. Business Schools and business studies courses have long struggled with academic legitimacy perhaps because of this. The Gordon and Howell report and funding from the Ford Foundation and the Carnegie Council ([Pierson, 1959](#_ENREF_35)) started business schools on their continuing trajectory to achieve academic respectability and legitimacy by becoming (applied) social science departments.

However, employers increasingly demand application-oriented knowledge, and the usability of knowledge generally requires the combination and integration of knowledge from various disciplines. So whilst business studies may continue to battle for academic legitimacy in some quarters, it has a clear advantage when it comes to graduate employability. It may be argued that the call for useable, application orientated knowledge from employers has encouraged Business Schools to privilege the development of soft skills and competencies, resulting in an erosion of the delivery of actual content knowledge on business programmes, which is even more pronounced in Entrepreneurship programmes.

This absence of knowledge content on Entrepreneurship programmes is exacerbated by the fact that often Entrepreneurial characteristics are associated with dispositions and sometimes implied to be innate personality attributes.

Repeated research attempts have attempted to distinguish those who engage in Entrepreneurship as having a particular psychological mentality ([Autio, 2007](#_ENREF_2)). The “need to achieve” among the actors in a given society could explain why some people concentrate on economic activity and are successful and others are not, and also why societies starting from similar points achieve different economic outcomes.

The literature exploring the personality traits of successful Entrepreneurs has been challenged on three main fronts

1. Trait theory tends to ignore the interdependency of traits and the influence of environmental factors
2. Such a wide range of traits have been generated as to render the concept of the characterisations of ‘a successful Entrepreneur’ meaningless
3. The identification of the Entrepreneur’s personality has not yet been empirically possible. . See Kolb ([1984](#_ENREF_27)).

Dispositions associated with Entrepreneurial behaviour and the capacity to engage in Entrepreneurial activity include

* Willingness to seek out opportunities and to act quickly when they arise
* Using resources effectively
* Prioritising the building of networks over hierarchies

(Stephenson, 1990, quoted by Gartner & Baker, 2010, pp.2-3):

Entrepreneurship is also associated with

* the development of new approaches and solutions([Soriano & Huarng, 2013](#_ENREF_45)).
* a tolerance for calculated risk ([Bruyat & Julien, 2000](#_ENREF_11))
* a proactive willingness to change how things are done ([Avlonitis & Savalou, 2007](#_ENREF_3))

A high level of self-efficacy is also frequently cited as a defining characteristic of Entrepreneurs ([Hechevarria, Ingram, Justo, & Terjesen, 2012](#_ENREF_23)). Indeed many of the characteristics associated with successful Entrepreneurship are also associated with successful learning approaches of higher education([Pugalis, Round, Blackwood, & Hatt, forthcoming](#_ENREF_37)), and are demonstrated in activities or processes.

A typical syllabus for a business programme would be likely to include elements of finance, marketing, human resource management, operations and strategy. Specialised Entrepreneurship modules and programmes do not appear to be much different in terms of content. They do claim to be different in terms of modes of delivery however, with an emphasis on learning by doing, and the practical application of knowledge. Entrepreneurship therefore, would appear to be a distinctive *way* of doing business, so that it does not differ in content (from Business programmes) but in approach. This study design attempts to test this hypothesis and discover if there might or should be differences in content as well as delivery. It is an attempt to discern if there is a distinctiveness in Entrepreneurship education content.

Threshold concepts can constitute a focus for evaluating teaching strategies and learning outcomes (Meyer & Land, 2003). Threshold concepts are concepts that bind a subject together, being fundamental to ways of thinking and practising in that discipline (Land, et al., 2005). Using various frameworks and concepts, including the critical lens of threshold concepts as a tool for interpretation, the study design presented here aims to explore what Entrepreneurship is (as a subject discipline) and how students come to understand and learn it.

# Defining Entrepreneurship

Theories of Entrepreneurship are full of paradox, uncertainty and necessitate improvisation ([Schumpeter, 1934](#_ENREF_43)). The world of the Entrepreneur is “messy and paradoxical” (ibid, p. xii), and it is important to be prepared for “complexity and uncertainty” (ibid, p. xii), and “a continuous bombardment of new challenges and opportunities” (ibid, p. xii). To further add to the complexity, “There are many Entrepreneurships in terms of focus, definitions, scopes and paradigms” ([Murphy, Liao, & Welsch, 2006, p. 5](#_ENREF_32)).

In the past, according to Schumpeter ([1934](#_ENREF_43))“warfare, in particular the conquest of other countries, was regarded as a form of Entrepreneurship” (p.7). Conquest and acquisition of resources were considered a natural part of efforts to discover and exploit new opportunities ([Bolton, 1971](#_ENREF_10)).

From an economic perspective, the Entrepreneur’s function may be described as serving to compensate for discrepancies between supply and demand by buying something cheaply and selling it again at as high a price as possible ([Schumpeter, 1934](#_ENREF_43)). The Entrepreneur obtains and distributes resources at risk, thereby bringing the economy into equilibrium ([McClelland, 1967](#_ENREF_31)). Alternatively others describe an Entrepreneur as someone who generates new opportunities and organisations in the economy by combining existing things and is the main source of development in the economy ([Schumpeter, 1934](#_ENREF_43)). This assumes that the starting point is an economy in equilibrium until an Entrepreneur generates new opportunities thus creating a market imbalance.

By the end of the 1700’s, the term Entrepreneur had subsequently expanded to describe a person who plans, supervises, organises or even owns factors of production ([Schumpeter, 1934](#_ENREF_43)). By the 1800’s a distinction was made between those who supplied funds and those who created profit ([Carland, Carland, Hoy, & Boulton, 1988](#_ENREF_12)).

Gartner ([1988](#_ENREF_21)) refers to Knight in the 1900s who saw the function of the Entrepreneur to carry the uncertainty within the economy on his shoulders. Knight categorises uncertainty into three types:

1. Different outcomes in the future exist and are known. The Entrepreneur’s role in these circumstances is to calculate probabilities and make decisions based on them.
2. Different outcomes in the future exist and are not known. The Entrepreneur’s role in these circumstances is to guess outcomes (based on a defined range of possible outcomes) with incremental certainty based on the accuracy of previous guesses, gradually building a picture of a likely future outcome.
3. Different outcomes in the future do not exist. Knight calls this the true uncertainty. Entrepreneurs receive profits as compensation or reward for taking risks.

Pittaway ([2005](#_ENREF_36)) disagrees, arguing that the Entrepreneur bears no risk, instead it is the capitalist who allocates funds to the Entrepreneur who bears the uncertainty about the economy.

Entrepreneurs can be regarded in the media especially as “today’s heroes” ([Nielsen, Klyver, Evald, & Bager, 2012](#_ENREF_33))(p.3). Rags-to-riches stories in which our resourceful hero starts his own organisation and becomes rich and famous are common and widespread. Others consider that new venture creation is only one possible output, and Entrepreneurship has innovation and the creation of something new at its core.

To be an Entrepreneur is a state regarded by some as one accessible to all; a more holistic view of the definition could be extended to the human condition; “We are Entrepreneurs of the self.” ([Saras D Sarasvathy, Dew, Velamuri, & Venkataraman, 2010](#_ENREF_42)). The Entrepreneur may also be regarded purely as an innovator ([Schumpeter, 1934](#_ENREF_43)).

Entrepreneurship may also be used to describe Entrepreneurial behaviours within many other organisational contexts ([Nielsen et al., 2012](#_ENREF_33)) and therefore may not exclusively be about the creation of new and independent organisations. “*Entrepreneurship is defined as the initial emergence of new opportunities being evaluated and utilised through organising*.” ([Nielsen et al., 2012](#_ENREF_33))(p. xvi). Entrepreneurship can be regarded as being more than just starting an independent organisation, but a complex phenomenon that occurs in many different contexts, varying in terms of scope, process and output ([Nielsen et al., 2012](#_ENREF_33)).

# Pedagogy of Entrepreneurship Education

“There is a strong contention that Entrepreneurship education should be different from normal teaching because it’s about teaching you to create something that does not exist.” ([Nielsen et al., 2012](#_ENREF_33))(p.xvii).

Theories of Entrepreneurship are filed with tensions and dilemmas presenting a number of challenges to the developers of Entrepreneurship education programmes. The curriculum should perhaps allow room for such paradoxical questions as:

* Are Entrepreneurs born or made?
* Are opportunities discovered or created?
* Are opportunities evaluated instrumentally (through systematic analysis) or legitimised after the fact?
* Can the organisation of opportunities be planned or must they be improvised?
* Must the Entrepreneurial process exploit or explore resources?
* Are networks rational or embedded (‘hard to manage’)?
* Is the business plan a management tool or a creativity curb?
* Does intrapreneurship work in a top-down or bottom-up way?
* Is social Entrepreneurship solely about creating a better place, social objectives, or does it primarily require profit and commercial exchange?

# Context of the Study

Enterprise and Entrepreneurship education may be:

* managed by a central unit
* embedded in the curriculum by subject specialist educators
* embedded in the curriculum under another name such as 'professional studies' or 'personal marketing skills'
* delivered through a careers service
* led or supported through facilities such as incubators, boot camps and extra-curricular clubs and societies
* a stand-alone programme involving actual business start-up as an integral requirement

([Bellingham et al., 2012](#_ENREF_7)) p.6

The author leads the BA (Hons) Entrepreneurial Business Management Programme at Newcastle Business School, Northumbria University, Newcastle upon Tyne (UK) which enrolled its first students in September 2013. It is a stand-alone programme involving actual business start-up as an integral requirement. The programme design follows an approach developed by the ‘Team Academy’ at Finland’s Jyväskylä University of Applied Science, which has been running since 1993 and was conceived by Johannes Partanen (["Tiimiakatemia in a nutshell," 2013](#_ENREF_48)). On this undergraduate programme student teams set up and manage real businesses, and learn together through identifying commercial opportunities, developing plans to exploit these, and managing the resulting activities; it is a type of venture creation programme.

While Entrepreneurship is a multifaceted phenomenon with many different meanings and definitions, Entrepreneurship is defined here as:

*"Any attempt at new business or new venture creation, such as self-employment, a new business organization, or the expansion of an existing business, by an individual, a team of individuals, or an established business"* ([Reynolds, Hay, Bygrave, Camp, & Autio, 2000](#_ENREF_39)) p.3.

Students of the programme are referred to as ‘teampreneurs’, to highlight the emphasis on team-based Entrepreneurial activities, and the anticipated transformation in self-identify from “student” to “nascent team Entrepreneur”. Team coaching largely replaces traditional lectures and classroom teaching, to support a flexible learning approach. Students work together to generate and tackle practical challenges; such as fund-raising, and take responsibility for the identification and prioritisation of their own learning and development needs as these arise from the conception, growth and day to day management of their business projects. Elements of the curriculum design were originally developed in response to the very limited availability of graduate employment opportunities at the time, and it encourages graduates to “make a job” rather than to “get a job”. Students of business and Entrepreneurship, arguably more than most, are learning for an unknown future, even in times of high employment and a healthy global economic outlook.

# Threshold Concepts in Entrepreneurship Education

The production of knowledge is commonly and historically organized in disciplines and the communication of knowledge within a disciplinary field is normally expected to differ from the communication of knowledge within a non-disciplinary field ([Peter Van den Besselaar & Gaston Heimeriks, 2001](#_ENREF_50)). Business Studies is typical of a subject in a non-disciplinary, or multidisciplinary field.

The idea of threshold concepts would appear to be more readily applied to disciplinary contexts where there is a relatively greater degree of consensus on what constitutes a body of knowledge; for example in Mathematics; perhaps because these subject disciplines have been commonly accepted as legitimate for a considerable period of time, or perhaps on non-vocational courses. It might be expected that the articulation of threshold concepts would differ in disciplinary, multi-disciplinary and non-disciplinary settings. Discipline knowledge is regarded as important because it offers a means to derive general principles of predictive value (‘powerful knowledge’) ([Young, 2007](#_ENREF_53)). If action in the world is to be intelligent and not ‘stupid’ , the role of subject-matter is important in education as a means of informing experience ([Dewey, 1966](#_ENREF_16)).

Within Business Studies – even more so with programmes such as Entrepreneurial Business Management – aspects such as “ways of thinking and practising” ([Wenger, 1998](#_ENREF_52)) within a discipline may also constitute thresholds which lead to a transformed understanding. This could be summarised as a student on the Entrepreneurial Business Management programme being able to ‘think like an Entrepreneur’. Baillie & Johnson ([*Threshold Concepts within the Disciplines*, 2008, pp. 129-141](#_ENREF_46)) describe the development of a “professional attitude” as such a threshold in a Professional Skills course for students entering an Applied Science programme in Canada.

Similar to Baillie and Johnson’s ([1998](#_ENREF_4)) Professional Skills course, the entire Entrepreneurial Business Management degree programme could be described as a preparation for students to work in an emerging context. The teaching model similarly resists directing tasks in a prescriptive manner, instead using the summative assignments as the only fixed points in the curriculum.

# Transactional Curriculum Inquiry

The identification of threshold concepts involving dialogue amongst lecturers and/or students with the inclusion of educational developers has been called Transactional Curriculum Inquiry ([Cousin, 2009](#_ENREF_13)). Barradell ([2013](#_ENREF_5)) highlights a general lack of research involving stakeholders external to the teaching and learning environment in the identification of threshold concepts, so the involvement of external stakeholders is being explicitly sought in this case. Barradell ([2013](#_ENREF_5)) also points out that the involvement of the wider professional community may be more straightforward when the degree is of a professional nature, as its curriculum is likely to already involve some kind of collaborative work, this is certainly true of the Entrepreneurial Business Management programme. The process of involving external stakeholders has the additional benefit of forging and strengthening connections with academics through dialogue. “The involvement of the wider or professional community is also likely to have a place in supporting students to truly embrace disciplinary knowledge, practice and identity.” ([Barradell, 2013, p. 275](#_ENREF_5)).

Consensus methodologies (such as the Delphi Survey Technique) have many potential advantages in the identification of threshold concepts and associated improvements to curriculum design as they enable link to professional learning outcomes and competencies as well as resulting in a lists of concepts of a manageable length ([Barradell, 2013](#_ENREF_5)), “a level of consensus is important if the true value of threshold concepts to curriculum design and the learning experience is to be exploited.” (p.274).

Five groups of people have been identified as important to this study:

1. Expert Entrepreneurs
2. Professional service suppliers (advisors) to expert Entrepreneurs
3. Students of Entrepreneurship programmes
4. Expert Entrepreneurship educators
5. Educational developers and theorists

# Definitions

Entrepreneurship in this context has been preliminarily defined as a domain of expertise ([Saras D. Sarasvathy, 2008](#_ENREF_41)).

## An expert

An **expert** is defined as “someone who has attained a high level of performance in the domain as a result of years of experience and deliberate practice” ([Saras D. Sarasvathy, 2008, p. 12](#_ENREF_41)).

## An expert Entrepreneur

An **expert Entrepreneur** is defined as “a person who, either individually or as part of a team, had founded one or more companies, remained full-time founder/Entrepreneur for 10 years or more, and participated in taking at least one company public” ([Saras D. Sarasvathy, 2008, p. 21](#_ENREF_41)).

This overcomes the problems associated with the two traditionally dominant ways of studying Entrepreneurial performance; namely the process of trying to use the various personality traits of people setting up new businesses to explain the success or failure of their new ventures, and trying to attribute the success or failure of a new venture to the circumstances or attributes of the project and its environment at conception.

## Advisors to Entrepreneurs

The advisors to Entrepreneurs could be defined as individuals are employed to provide a service to Entrepreneurs, such as mentoring, accounting or legal services, and who have been engaged in these activities for at least 5 years.

## An Entrepreneurship educator

An **Entrepreneurship educator** may be defined as a person employed on an Academic Contract at an institution of Higher Education and primarily occupied with the research, design and delivery (teaching) of Entrepreneurship programmes for 5 years or more.

## Students of an Entrepreneurship programme

**Students of Entrepreneurship programmes** could be defined as full or part time students in higher education enrolled on Entrepreneurship programmes.

Students of Entrepreneurship programmes may have a real ambition to start a business, want to understand start-up processes and are seeking practical and instrumental skills, or may only wish to develop their “Entrepreneurial mind-set” (who have an ambition to work with Entrepreneurial issues, and are seeking to develop an ability to identify, evaluate and organise opportunities) ([Nielsen et al., 2012](#_ENREF_33))(p. xvi).

## Entrepreneurship Programmes

**Entrepreneurship programmes** in this instance could be defined as Entrepreneurship or Business programmes in Higher Education that make the creation of a real-life venture a critical or very important contribution to accreditation

This softens the definition relied on by Lackéus ([n.d.](#_ENREF_29)) where the creation of a real-life venture is a prerequisite to accreditation. This is to allow for the inclusion of Team Academy type programmes where registration at Companies House may not be required for achievement of the award. Lackéus (n.d.) emphasises that these (Venture Creation Programmes) are particular educational courses are distinguished by the expectation that the students on them start a real-life venture as part of the education programme, they are not just allowed and/or encouraged to do so.

## A real-life venture

A real-life venture in this instance could be defined as the registration at Companies House or other national equivalent, of a private limited company (Ltd.) and liable for corporation tax.

## Educational Developers and Theorists

Educational developers maybe defined as individuals who are employed primarily to systematically help faulty members do their best to foster student learning, encompassing instructional, curriculum, organisational and some aspects of faculty development with a focus on the teaching domain, in Higher Educational establishments.

The remainder of this paper goes on to outline and justify the stages proposed for the doctoral study.

# Study Design

The key stages of the proposed study are set out here. As each stage is intended to build upon the next, there is less detail included as the study is in it’s very early stages and this is expected to develop over the course of the investigation. The study constitutes a spiralling constructivist/interpretivist approach drawing on different research methods at different stages.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Tasks | Research Participants | Relevant Research Questions | Method | Outputs |
| Task 1 – **Identification of Threshold Concepts** | Expert Entrepreneurs and their professional advisors | What does it mean to think as an Entrepreneur? | Delphi Technique | Dataset 1 Threshold ConceptsMap of expertise |
| Task 2 – **Curriculum Design** | Providers (Team Academy UK) | What concepts do students of Entrepreneurship need to grasp?What aspects of curriculum design help and hinder students of Entrepreneurship? | Document Analysis and Interview | Dataset 2 Survey of Provision |
| Task 3 – **Student Experience (The Enacted Curriculum)** | Students | What concepts are critical to learning Entrepreneurship?What concepts critical to learning Entrepreneurship are troublesome? | Concept Map (mediating artefact)Interview | Dataset 3  |
| Task 4 – **Curriculum Redesign** | Educational Developers | How might an HE programme in Entrepreneurship be optimised as a result of this research? | Workshop? | Curriculum enhancement modelAnalysis of Threshold Knowledge |

## Stage 1 – Identification of Candidate Threshold Concepts

### Modified Delphi Survey with Expert Entrepreneurs.

A modified Delphi Survey is proposed involving up to 20 participants who will meet a consistent definition of expert Entrepreneur, to generate a list of candidate threshold concepts in Entrepreneurship. The Delphi method seeks feedback from a panel of experts to multiple iterations of datasets for the purpose of refining the content and reaching consensus ([Smith, Finn, Stewart, & McHanwell, 2016](#_ENREF_44)). The approach facilitates the transposition of collegial knowledge from its natural implicit state to an explicit one. Collegial knowledge is the knowledge of experts in a field or discipline which may not be discussed but is still known ([Eraut, 1994](#_ENREF_20)). The Delphi method allows participants to work independently without influencing each other, as well as a structured process and a systematic means of recording it. It provides a way to uncover professional expert knowledge that is often not explicit ([Smith et al., 2016](#_ENREF_44)). Participants will be generated in a number of ways to maximise penetration of the community.

The Delphi Survey technique was developed in the 1950s ([Custer, Scarcella, & Stewart, 1999](#_ENREF_14)) in an attempt to forecast future events in military conflict, recognising that a consensus of expert opinion was likely to be more accurate than traditional forecasting methods. These were proving less useful in areas where there were no precise scientific laws governing outcomes. The Delphi Survey technique overcame the limitations commonly associated with focus groups such as dominant personalities, noise and group pressure ([Keeney, Hasson, & McKenna, 2011](#_ENREF_24)). The Delphi Method was developed as part of Project RAND by Olaf Helmer, Norman Dalkey and Nicholas Rescher ([Rescher, 1998](#_ENREF_38)) but given its name by Abraham Kaplan, a philosopher also working at the RAND corporation at the time ([Keeney et al., 2011](#_ENREF_24)). Its use has grown from forecasting to the identification of priorities and to gain consensus in many areas of research.

Participants will be interviewed (in person or by telephone) in the first instance and asked the following questions (after some demographic information has been gathered):

1. Of all the Entrepreneurs that you’ve met, which do you most admire and why?
2. What were the most important things you had to get your head around when you were setting up the business? And subsequently?
3. What do you feel it means to think “as an Entrepreneur”?
4. What differentiates a novice from an expert Entrepreneur?
5. What key concepts must be grasped in order to think like an Entrepreneur?
6. How can you tell if someone is an Entrepreneur?

The interviews will be recorded and an interpretation of the transcript will be returned for member checking.

From the interviews, a list of candidate threshold concepts of Entrepreneurship will be developed. Participants will then be invited in the first round via email, to rate the items as “Critical”, “Important”, “Nice to have”, “Not particularly significant” or “Irrelevant” and to modify the items in the list if they wish. In the second round, participants will be invited to rate the items on the list again in the context of the degree of consensus for each item. This process will be repeated until consensus or stability of results is reached. Stability is defined as a shift of less than 20% from round to round, and consensus is defined as agreement (defined as at least 75% of respondents agreeing) between panellists on rating an item within a specific round. The outputs of this stage will be a list of candidate threshold concepts and a map of expertise.

Researchers have disagreed regarding the sufficient number of experts required to reach consensus. However Delbecq, Van de Ven, and Gustafson ([1975](#_ENREF_15)) state that a group of 10–15 experts is usually enough to reach consensus. Rowe and Wright ([1999](#_ENREF_40)) state that there is a wide variation in the number of experts used in Delphi studies. The classic Delphi method uses four rounds, but the median number of rounds in many studies is three and appears sufficient to reach consensus among selected experts. During these rounds, researchers continually draw from the qualitative responses of the experts for guidance and clarification of themes and rankings.

### Limitations of Stage 1 – proposed method

The definition of expert Entrepreneur is already is starting to be problematical as those interviewed as a pilot study point out that many “Entrepreneurs” choose not to take their organisations public, preferring alternative governance structures. Others are widely regarded as Entrepreneurs but have not founded the company that they are currently working in.

An alternative definition of an expert has been offered by Benner ([1984](#_ENREF_8)) as:

 *an individual "...with an enormous background of experience, now has an intuitive grasp of each situation and zeroes in on the accurate region of the problem without wasteful consideration of a large range of…alternative…solutions" (p. 32).*

This may prove a more workable definition however it includes many subjective descriptors which render any sample less robust.

### Modified Delphi Survey with advisors to Expert Entrepreneurs.

A further modified Delphi Survey is proposed involving up to 20 participants who will meet a consistent definition of advisors to expert Entrepreneurs, to generate a further list of candidate threshold concepts in Entrepreneurship, developed from the list generated by the Delphi Survey of Expert Entrepreneurs for comparison purposes. An alternative list of candidate threshold concepts may result from this stage depending on the difference in perspectives of the expert Entrepreneurs themselves and their professional service providers.

The views of the providers of professional support services are being sought to overcome potential post hoc rationalisation bias in the expert Entrepreneurs and to give a more rounded view of their behaviours.

## Stage 2 - Curriculum Design

A document analysis and series of interviews with Entrepreneurship educators will then be undertaken to determine the concepts that current students of Entrepreneurship are deemed to need to grasp, and the aspects of current curriculum design that are perceived by the providers to help or hinder students of Entrepreneurship. A survey of provision will be developed.

## Stage 3 – Student Experience (the Enacted Curriculum)

A series of workshops and interviews will be conducted to undertake a concept mapping exercise with current students of specialist Entrepreneurship programmes. A concept map will be developed to accompany interview data.

Concept mapping requires the identification and prioritisation of key concepts and principles. Edmondson ([1995](#_ENREF_17)) uses concept mapping to develop an interdisciplinary and multidimensional curriculum, highlighting it as a particularly useful approach to developing a curriculum that integrates content from several disciplines. Based on assimilation theory ([Ausubel, Novak, & Hanesian, 1968](#_ENREF_1)), concept mapping is a tool for visualising the interrelationships between concepts in an integrated, hierarchical manner. Concept maps can help make conceptual relationships explicit and consequently are able to facilitate meaningful learning. They can serve to help the learner organise subsequent learning and can help highlight misconceptions as well as offering alternative frameworks ([Edmondson, 1995, p. 4](#_ENREF_17)). Concept mapping is derived from a theoretical framework based on a constructivist epistemology and allows attention to be paid to both how material is taught and how it will be learned, permitting a curriculum that is “conceptually transparent” ([Novak, 1991](#_ENREF_34)).

# Stage 4 – Curriculum Redesign

Educational developers will be consulted, perhaps in specially arranged workshop sessions; to determine how HE programmes in Entrepreneurship might be optimised as a result of this research. Educational Development is “ … all the work that is done systematically to help faculty members to do their best to foster student learning” ([Knight & Wilcox, 1998](#_ENREF_26)) p.98.

Educational Development is defined more broadly than faculty development as it also includes instructional, curriculum and organizational development, but it is focused on the teaching domain, as opposed to all aspects of academic career development ([Bédard, Clement, & Taylor, 2010](#_ENREF_6)).

A curriculum enhancement model will be developed, together with an analysis of threshold knowledge.

Hattie ([2008](#_ENREF_22)) highlights the role of subject matter and the importance of surface learning as a prerequisite for deep and constructed learning, underpinning the role of knowledge-based syllabi. It is anticipated that recommendations will be relevant in the both the discipline (subject matter) of Entrepreneurship and in the development of problem based curricula of Entrepreneurship programmes. Both should enhance the coherence of the curriculum construction, which is important to promote deep learning in the students ([Entwistle, 2009](#_ENREF_19)).

# Progress to Date

Five Entrepreneurs have been approached from personal contacts. Of these, two have been interviewed on a pilot basis and two have interviews forthcoming, with one further invitation pending a reply. 8 other invitations to participate are to be sent out by the Entrepreneurs’ Forum imminently.

A Practitioner Development Workshop was held as part of the 3E Conference (ECSB Entrepreneurship Educators Conference 2016). Over 30 participants engaged in a triad comparison exercise to define the distinctiveness of Entrepreneurship. The results will be collated, distributed and analysed in due course, and will also be used to inform this work.

Comments and suggestions on any aspect of this proposed study design are welcomed.

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