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*Department of Business, Institute of Technology, Tralee, Kerry, Ireland*

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# AN EXAMINATION OF THE METHODS AND PRACTICES APPLIED IN THE DELIVERY OF TRAINING IN ENTERPRISE START-UP INITIATIVES

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This thesis is submitted in fulfilment of the requirements for the degree of  
Research Masters in Business at the Institute of Technology, Tralee.

Supervisors:

Ms Breda O Dwyer, MBA, BBS, NCEE Fellow

Mrs Brigid Crowley, B.Comm, M.Mangt.Sc.

Submitted to Quality and Qualifications Ireland, September 2017

*'To understand is hard. Once one understands, action is easy.'*

(Sun Yat Sen 1866 – 1925)

# An Examination of the Methods and Practices applied in the Delivery of Training in Enterprise Start-Up Initiatives

by

Máire Vieux

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## Abstract

This study is an examination of the methods and practices applied in the delivery of training in enterprise start-up initiatives. It aims to identify an enterprising approach to learning which can be applied to instil enterprise successfully in enterprise founders. The key questions intrinsic to this research are: to determine the efficacy of the strategies employed by the various stakeholders to infuse entrepreneurial learning throughout the entire programme; and to determine if entrepreneurial learning has a positive impact on the entrepreneurial mind-set and behaviour of participants of enterprise start-up initiatives.

The research proposes a conceptual framework, which identifies key theories and concepts that pertain to the research enquiry. It clarifies why particular areas of literature were chosen and how they influence the formation of the research methodology. An extensive and relevant literature review is presented, which guides the reader through existing knowledge on the research phenomenon including substantive findings from previous studies, as well as theoretical and methodological contributions in the fields of entrepreneurship, and entrepreneurship education and training. International models of best practice were identified and examined to facilitate comparison of best practice with other initiatives. An empirical examination was conducted on the strategies employed by the various stakeholders involved in the delivery and management of training in an enterprise start-up initiative in the southwestern region of Ireland. The empirical research involved a mixed methods approach. A broad framework for the evaluation of entrepreneurship training programmes was identified in the literature and used concomitantly with a mixed methods entrepreneurial learning framework adapted from the literature by the researcher. Together, they facilitated the design of the online questionnaire and framed the question structure for the in-depth interviews. The research findings revealed that the enterprise start-up initiative embodies many of the best practices described in the literature and particularly, the strategies employed in the critiqued international models of best practice. The research concludes that the programme is people-led. Learning is transmitted by a multi-discipline stakeholder team. It incorporates several of the most effective pedagogies and strategies characterised in the literature. It concurs that entrepreneurial learning is posited on the fact that acquiring tacit knowledge requires substantial experience in activities while working with experts. The research proposes a model of best practice for the effective delivery of entrepreneurship education and contributions to the literature and practice are identified together with a number of recommendations for the future.

## Dedication

*Dedicated to the memory of my dear friend and colleague,  
Linda Lawlor (1983 – 2015).  
Your time was so brief; it was our good fortune to be blessed.*

## Acknowledgements

I am sincerely grateful to my supervisors, Breda O Dwyer and Brigid Crowley for their continuous support, commitment, and belief in me throughout this process. It has been a challenging journey and they never gave up on me. I thank you both most sincerely.

To all the staff at the Institute of Technology Tralee for your continuous support and encouragement. Sincere thanks to Tadhg O Shea for his statistical expertise, time and support and a special thank you to Fr. Kevin O Sullivan for his spiritual guidance and friendship throughout my time at the Institute of Technology in Tralee.

I wish to thank the library staff at the Institute of Technology, Tralee for their help and great efficiency. Special thanks to Catherine Murray.

I wish to thank all the participants, trainers, programme managers, mentors, and entrepreneurs who took part in this research. I acknowledge your great courage and candour. A special thanks to Anne Looney, Programme Manager of the New Frontiers Development Programme in County Kerry and John Glynn, Enterprise Ireland Mentor Co-Ordinator.

To my colleagues Shay Ryan and Deirdre Spillane and all my friends especially Anita Pannell and Anne Elvins, thank you for your enduring support, kindness and belief in me.

Thank you to my sister Déirdre and my brothers Brian, Seán, and Donnchadh for listening patiently to my frustrations during the challenging times of the research programme. I am truly blessed with a wonderful family, Cecil my partner, Harry and Seán my sons, I thank you sincerely for your continued support, patience and understanding. To the memory of my parents, Denis and Kay, I hope there is a place for pride in heaven. Dad, I always said, 'I would write a book' but I never conceived it to be academic in nature!

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## Glossary of Terms

<b>ATB</b>	Attitude toward Behaviour
<b>CBS</b>	Copenhagen Business School
<b>CEED</b>	Centre for Entrepreneurship and Enterprise Development
<b>CSE</b>	Copenhagen School of Entrepreneurship
<b>CEB</b>	County and City Enterprise Board
<b>CGT</b>	Capital Gains Tax
<b>#CPHFTW</b>	Copenhagen Start-Up Community
<b>CU</b>	Coventry University
<b>DCLG</b>	Department for Communities and Local Government (UK)
<b>DTU</b>	Technical University of Denmark
<b>EDA</b>	Enterprise Development Agency
<b>ERDF</b>	European Regional Development Fund
<b>EE</b>	Entrepreneurship Education
<b>EEA</b>	European Economic Area
<b>EEP</b>	Entrepreneurship Education Programme
<b>EER</b>	European Entrepreneurship Region
<b>EFA</b>	Exploratory Factor Analysis
<b>EI</b>	Enterprise Ireland
<b>EI</b>	Entrepreneurial Intention
<b>ESE</b>	Entrepreneurial Self-Efficacy
<b>EP</b>	Entrepreneurship Programme
<b>EU</b>	European Union
<b>FCP</b>	Food and Consumer Products
<b>FDI</b>	Foreign Direct Investment
<b>GEM</b>	Global Entrepreneurship Monitor
<b>GFSA</b>	Global Founders' Skills Accelerator
<b>HEI</b>	Higher Education Institution
<b>HPSU</b>	High Potential Start-Up
<b>HR</b>	Human Resources
<b>IBEC</b>	Business and Employer Association for Organisations based in Ireland
<b>ICT</b>	Information and Communication Technology
<b>IDA</b>	Industrial Development Agency
<b>IMI</b>	Irish Management Institute
<b>IOT</b>	Institute of Technology
<b>IPO</b>	Initial Public Offering
<b>ITT</b>	Institute of Technology, Tralee
<b>KU</b>	University of Copenhagen
<b>LEO</b>	Local Enterprise Office
<b>MIT</b>	Massachusetts Institute of Technology
<b>MMEL</b>	Mixed Methods Entrepreneurial Learning Framework
<b>NAch</b>	Need for Achievement
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>PBC</b>	Perceived Behavioural Control
<b>R&amp;D</b>	Research and Development
<b>SME</b>	Small and Medium Sized Enterprise



<b>SNA</b>	Social Networking Analysis
<b>SN</b>	Subjective Norms
<b>SURE</b>	Start-Up Relief for Entrepreneurs
<b>TPB</b>	Theory of Planned Behaviour
<b>TRA</b>	Theory of Reasoned Action
<b>UK</b>	United Kingdom
<b>USA</b>	United States of America
<b>USC</b>	Universal Social Charge
<b>WEF</b>	World Economic Forum

# Chapter 1 Introduction

## 1.0 Introduction

Chapter one presents a contextual background to the research programme and proffers a conceptual framework that justifies why particular areas of literature were chosen and how these areas of literature pertain to the research question. The conceptual framework explains how substantive findings from other studies in the literature form the basis of the chosen research methodology. It describes the overall aim of the research programme and frames the research objectives and questions. A description of how the research will contribute to the entrepreneurship literature and on a practical level to entrepreneurship training programmes is provided. An overview of the thesis structure provides the reader with a brief synopsis of each of the thesis' six chapters.

## 1.1 Contextual Background to the Research

The rise of entrepreneurship as an important field of study reflects the significant economic contributions that entrepreneurial organisations make around the world. Higher education institutions (HEIs) typically offer Entrepreneurship Education Programmes (EEPs) to business and non-business disciplines, as well as training and development initiatives via incubation centres adjunct to the institutions. Government agencies offer a variety of EEPs, designed to support enterprising individuals and groups wishing to start their own businesses. Some are specifically directed at the unemployed to encourage a return to work while others are start-your-own-business or accelerator programmes (Matlay 2005, Penaluna et al. 2012). Entrepreneurs are believed to possess particular qualities that include a readiness to take calculated risks, an inclination to innovate and a resolve to succeed in defiance of uncertainty (Bell et al. 2004, Gelderen 2012). These entrepreneurs and their organisations have attracted the attention of important policy makers (Bell et al. 2004). In order to implement and realise both European Union (EU) and national strategies in this regard, operational models of EE are required (Fiet 2000, Solomon 2007, Ruskovaara and Pihkala 2013). The assumption is that education and learning will make a person better at being entrepreneurial. According to Vesper and McMullan (1997 p.350) however, "the connection remains

difficult to prove, since every individual's circumstance and experience is different and cannot be perfectly replicated, both with and without training". Consequently, the question of how effective EEPs are and how they should be designed remains unanswered (Heuer and Kolvereid 2014). The literature indicates favour for the adaptability of entrepreneurial skills while the educational methods and practices that are applied to attain these changes differ widely when it pertains to the different components of EEPs (Bechard and Toulouse 1998, Heuer and Kolvereid 2014, Johannisson 1991, Kolvereid and Amo 2007).

Entrepreneurship Education (EE) is burgeoning around the world and policy makers in Ireland have impressive plans in relation to increasing the number of start-ups and the direct effect that this would have on job creation. According to the Global Entrepreneurship Monitor (GEM) report (Fitzsimons and O'Gorman 2013), Ireland proposes to be one of the most entrepreneurial nations in the world. Conversely, policy-makers and educators need to do more to encourage and support start-ups. The establishment of EE across all levels of education is required, instilling an awareness and knowledge of entrepreneurship as a viable and sustainable career option (Fenton and Barry 2011). A combination of the world's economic and political climate and current austerity measures here in Ireland have had a crippling effect on the demise of the traditional career path. The contention according to Hanlon (2014) is that the market is dynamic, individuals have inadequate knowledge, and the future is unknown, therefore individuals need to exhibit activity, alertness, and creativity. Botham and Mason (2007 p.6) suggest that 'an entrepreneurial mind-set is increasingly required to survive' in today's world whether it involves starting a business or intrapreneurship. According to Matlay and Westhead (2004), entrepreneurship education (EE) is the most effective means to expedite the transfer of a growing graduate population from tertiary level into self-employment or employed remunerated work. Common practices and frameworks on how to teach entrepreneurship education are scarce and this is in part due to the presence of a wide variety of teaching approaches in the field (Fayolle and Gailly 2008). According to Ireland Duane et al. (2005), correcting the lack of generic frameworks would go a long way to the development of a systematic body of knowledge about entrepreneurship. From an academic point of view, here in Ireland and abroad, a lacuna

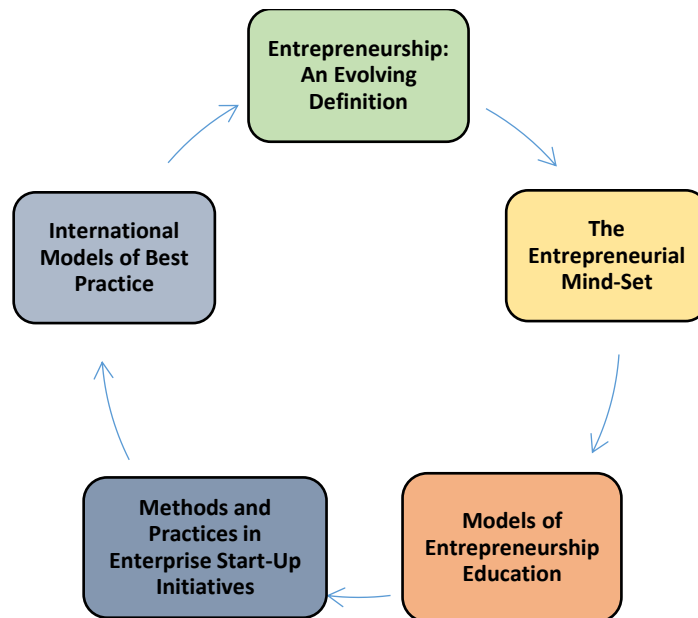
of research exists on enterprise start-up initiatives and in particular, the learning methods and strategies required in developing entrepreneurial mind-sets. This is particularly relevant within the context of EE initiatives in Ireland as the importance and awareness of enterprise accelerator programmes continues to gather momentum.

## 1.2 Conceptual Framework

A review of the extant literature revealed that a lacuna of research exists on enterprise start-up initiatives here in Ireland and abroad and particularly, the learning methods and strategies required in developing entrepreneurial mind-sets. Academic research on entrepreneurship education (EE) is to a large degree carried out on tertiary level students between the ages of 18-25 and clearly exposes the lack of research on adult audiences more aligned to andragogy. The proposal of a conceptual framework facilitates the researcher to synthesise the key theorists and theoretical models of EE and practice in forming the basis of the literature review. It assists in the identification of key concepts and clarifies why such areas of literature are chosen and how they influence the formation of the research methodology subsequently adopted by the researcher. The conceptual framework evolved from the unfolding of significant findings from other studies that were strongly aligned with the overall research question. The overall research question determines to ascertain the efficacy of the strategies employed by the various stakeholders involved in the delivery of enterprise start-up initiatives. It aims to identify an enterprising approach to learning in entrepreneurship education programmes (EEPs) and in particular, start-up initiatives/accelerator programmes. The conceptual framework elicits ideas from social constructivist research traditions eliciting concepts from secondary multi-disciplinary research such as social psychology, philosophy, education, and business. Connections between phenomena became apparent to the researcher and five fundamental concepts emerged.

See Figure 1, which depicts these five concepts followed by an explanation of why they were chosen.

*Figure 1 - Conceptual Framework: Entrepreneurial Learning in Entrepreneurship Education Programmes*



Gibb (1987 p.42) proposes that “while the entrepreneurial role can be both culturally and experientially acquired, it is consistently being influenced by education and training”. This proposal puts forward the view that entrepreneurial learning can be influenced by education and training initiatives. In order to determine the efficacy of the strategies employed by the various stakeholders involved in the delivery of enterprise start-up initiatives, the researcher addresses the evolving definition of entrepreneurship; the entrepreneurial mind-set; models of entrepreneurship education; the methods and practices employed in enterprise start-up initiatives; and international models of best practice. The literature illustrates that entrepreneurship is a complex phenomenon, consisting of psychological, social, economic, and organisational dimensions. Entrepreneurs and their ventures differ greatly; therefore, several entrepreneurial contexts exist (Fayolle 2002). An examination of the evolving definition of entrepreneurship was chosen as it sets the scene for current knowledge including the unfolding of substantive findings of other studies that are strongly associated with the research being carried out.

One of the key objectives inherent in this research is the analysis of the entrepreneurial mind-set. The literature uncovers and broadens knowledge on the entrepreneurial mind-set with emphasis on concepts equivalent to opportunity identification, entrepreneurial self-efficacy, and entrepreneurial alertness coming to the fore. The researcher addresses entrepreneurial alertness with reference to the entrepreneurial mind-set and how new ideas precede to feasible enterprise start-ups. It can be implicitly integrated into a conceptual framework for entrepreneurial learning. This idea is reinforced by Tang et al. (2012) where they assert that entrepreneurial alertness facilitates individuals to plan, and understand information in the various fields of knowledge. Chen et al. (1998) propose that entrepreneurial self-efficacy can be strengthened in EEP participants through real-life business scenarios similar to mentors and industry experts. Social interactions similar to those during the course of an EEP enable connections and the transfer of knowledge can create change. Therefore, the rationale for the inclusion of entrepreneurial alertness and entrepreneurial self-efficacy is associated with the entrepreneurial mind-set and metacognitive processes, which allow entrepreneurs to alter existing knowledge structures. This method of enquiry will allow the researcher to gain further insights into the impact of entrepreneurial learning on the entrepreneurial mind-set and behaviour of participants of enterprise start-up initiatives.

In answering the research objectives, the researcher identifies and analyses several theoretical entrepreneurial learning and knowledge frameworks. These include Kirkpatrick's (1976, 2006) four levels of evaluation, Krueger's (2007) critical developmental experiences, Johannisson's (1991) taxonomy of entrepreneurial competences, and Middleton and Donnellon's (2014) knowledge framework for entrepreneurial action. The methods and practices employed in preparing individuals to engage an entrepreneurial mind-set and start-up and run new businesses autonomously are addressed together with international models of best practice to facilitate comparison of best practice. It is evident from the literature that the topic of training initiatives and the need to evaluate them is markedly absent. Effectiveness studies are limited and thus the researcher has chosen the above-mentioned models from the literature owing to the wide variety of circumstances, objectives, methods, and

teaching approaches that exist in EE. The process of entrepreneurial learning during the course of an EEP can be insightfully examined using a thorough selection of components from these models and combined with known critical antecedents akin to attitudes, subjective norms, entrepreneurial self-efficacy, and entrepreneurial alertness in the formation of an appropriate research design. Using a mixed methods approach will facilitate triangulation of findings and allow for cross validation in the generation of data that is comparable. This method of analysis was chosen because of the disparity in individual stakeholder experiences involved.

### 1.3 Research Objectives and Questions

The overall objective of this research is to determine the efficacy of the strategies employed by the various stakeholders involved in the delivery of Enterprise Start-up initiatives. It aims to identify an enterprising approach to learning which can be applied to instil enterprise successfully in enterprise founders. The key objectives intrinsic in this research are:

1. To analyse the entrepreneurial mind-set.
2. To identify and analyse the main theoretical models of entrepreneurship training.
3. To conduct an empirical investigation into the application and impact of different methods, practices, and styles of the enterprising trainers on the entrepreneurial mind-set and the success of graduates of Enterprise Start-up initiatives.
4. To compare the effectiveness of these methods, practices, and styles in entrepreneurship learning.
5. To propose a model of best practice for delivering effective entrepreneurship training.

The research plans to answer the following questions:

1. How effective are the strategies employed by the various stakeholders to infuse entrepreneurial learning throughout the entire programme?
2. Does entrepreneurial learning have a positive impact on the entrepreneurial mindset and behaviour of participants of Enterprise Start-up initiatives?
3. What approach to learning can be used to instil enterprise successfully in Enterprise Start-up initiatives in order to cultivate successful enterprise founders?

#### 1.4 Contribution of the Research

The research proposes a model of best practice for the delivery of effective entrepreneurship training in enterprise start-up initiatives and entrepreneurship education programmes in general. The effectiveness of entrepreneurship training will play a part in the continuum of more cost-effective entrepreneurship education. The identification of an enterprising approach to learning and its efficacy in producing successful enterprise founders will assist in the stimulation and inculcation of EE through the transfer of knowledge to fellow academic institutions and collaborating enterprise agencies in the region. The research will add to the range of entrepreneurship research in the Centre for Entrepreneurship and Enterprise Development (CEED). CEED is a research centre based in the Tom Crean Business Incubation Centre that is actively researching the multiple contexts of entrepreneurship and associated learning approaches and environments. The team at CEED play a key role in the promotion and development of an entrepreneurial ecosystem at the Institute of Technology, Tralee (ITT) and the surrounding region. The findings from the research will contribute to quality teaching and learning of entrepreneurship in academic institutions and has the potential to increase the attractiveness of the ITT as a national and international place of study. This in turn, will enhance collaborations with national and international partners, endorse, and expand the institute's research portfolio. A dearth of research exists on enterprise start-up initiatives and accelerator programmes, here in Ireland and



abroad. The value of the research lies in its understanding of this problem and to requests in the academic literature for more research into this phenomenon.

### 1.5 Research Limitations

Academic research on entrepreneurship education (EE) is for the most part conducted on tertiary level students between the ages of 18-25. This brings to light the lack of research on adult audiences more aligned to andragogy. The New Frontiers Development programme is a government led, national accelerator programme in Ireland. It is devised and targeted at innovative early stage start-ups with high potential. The central focus of the programme is to develop people into entrepreneurs by imparting the skills needed to move from a business concept to a reality (Enterprise Ireland 2012). The programme is accessible at campus incubation centres adjunct to 14 Institutes of Technology (IOTs) located throughout the island of Ireland. However, each host IOT operates in a unique regional environment predisposed by strategic goals and policies, and the cultural and external forces of each regional market. The population selected for the empirical research consisted of a regional subset of the New Frontiers Development programme, specifically the research setting in County Kerry, the 2011 recipient of the European Entrepreneurship Region (EER) award. However, the programme and regional setting selected for empirical investigation is in itself a limitation as each of the additional 13 programmes and corresponding IOTs operate within their own particular environments. They too, are subjected to the individual policies and external forces unique to each regional market and culture. Thus, the research characterises a snap shot of an enterprise start-up initiative in a regional setting. It encompasses the andragogies employed, and takes an initial step into the study of commercial enterprise start-up initiatives. A description of both the qualitative and quantitative methodology limitations are in sections 3.13 and 6.2.

## 1.6 Thesis Structure

This section offers an overview of the thesis structure providing a brief description and summary of each chapter. It gives the reader a general idea about the thesis starting at the beginning about existing knowledge on the subject, through to the unknown and to the end where new knowledge is shaped through the research carried out. The final chapter presents the conclusions of the research findings, the limitations of the research methodology and analysis and closes with recommendations for future research.

### 1.6.1 Chapter One

Chapter one describes the contextual background to the research programme and presents a conceptual framework to explain the basis of the literature review and the chosen research methodology. It expresses the potential contribution of the research programme and states the overall research question. It sets out the objectives of the research and describes questions that the researcher proposes to answer. An overview of the thesis structure provides the reader with a brief synopsis of each of the six chapters.

### 1.6.2 Chapter Two

Chapter two focuses on the literature review, which guides the reader through existing knowledge on the research phenomenon including substantive findings from previous studies, as well as theoretical and methodological contributions in the field of entrepreneurship, entrepreneurialism and entrepreneurship education and training. It sets the scene for current knowledge on themes such as the evolution of entrepreneurship, the nature versus nurture debate, entrepreneurship and its relation to the economy, the entrepreneurial mind-set, and opportunity identification. These themes narrate the research to a growing discussion in the literature. Ireland's position in relation to entrepreneurship is addressed and in particular to current academic and government policies in relation to the efficiency of entrepreneurship education and commercial training initiatives. The entrepreneurial mind-set is analysed emphasising subjects equivalent to opportunity identification, behavioural and intentions models, entrepreneurial self-efficacy and entrepreneurial alertness. The identification and

evaluation of several EE training models allow the researcher to compare training models. These models also facilitate closer examination of the role of the enterprising educator and other external parties involved in the transfer of knowledge and skills. A review of international models of best practice facilitates examination and comparison of best practice from other initiatives. Given the emergent nature of entrepreneurship education programmes (EEPs), the literature review serves to identify gaps in the field and seeks to use extant knowledge in the identification of theories, models, and frameworks that work concomitantly to augment the opportunity to create a suitable research design and assist the researcher in meeting the research objectives and questions.

### 1.6.3 Chapter Three

Chapter three centres on the research methodology and the chosen mixed methods approach to the research. It explains the research rationale and sets out the overall research question and objectives. It presents an explanation of the relevance of the literature review and describes the research philosophy adopted. It details the different aspects of the research design and gives the reasons for the sampling strategy espoused including the population and setting. The pilot study is described, giving an account of the sample population and the empirical data collection. Key learnings from the pilot study are explained and how the results influenced the research instruments for the main study. The mixed methods approach to the research is illustrated through the qualitative and quantitative sections. The qualitative aspect outlines and justifies its approach and discusses methods such as micro-ethnographic and in-depth interviews adopted by the researcher. The qualitative instrumentation procedures are delineated and the validity and reliability of the qualitative methods are explained. The quantitative aspect of the research is outlined together with an explanation of how the researcher devised and utilised the mixed methods entrepreneurial learning (MMEL) framework to design the online questionnaire and assisted in framing the qualitative research. An account of the quantitative instrumentation procedures is given and the validity and reliability of the quantitative results are provided.

#### 1.6.4 Chapter Four

The purpose of chapter four is to present the analysis and findings for both the qualitative and quantitative aspects of the research programme. The research findings are analysed and interpreted within the context of the literature review and presented using a combination of the Maritz and Brown (2013) and mixed methods entrepreneurial learning (MMEL) frameworks as guides.

#### 1.6.5 Chapter Five

Chapter five synthesises the results from both the qualitative and quantitative findings. The mixed methods approach employed in the research facilitates a process of triangulation, which expedites the integration of findings to provide a structured discussion on the emergent themes. The emergent themes are aligned to the research objectives and questions and underpinned by the MMEL and thus the conceptual framework.

#### 1.6.6 Chapter Six

Chapter six details the conclusions, limitations, and recommendations of the thesis. It outlines the contribution of the research to the start-up initiative phenomenon and offers recommendations to entrepreneurship educators and managers on the adoption and implementation of the role of ‘facilitators of learning’. This chapter summarises the overall contribution of the research to the academic literature and to the institute including collaborating agencies in the region. It concludes with recommendations for future research opportunities in the field.

#### 1.7 Summary

This chapter details the overall aim of the research programme and enables the reader to get an overview of the content of each chapter of the thesis. It provides a description of the background to the research phenomenon and explains how the research will contribute to the entrepreneurship education and training fields and to collaborating agencies in the region. It guides the reader, from the beginning, setting out the research objectives and questions to what is known about the subject through to the synopsis of

the literature review. The chosen methodological approach is briefly explained, steering and informing the reader through to the analysis and findings, to a discussion where the end of the thesis proposes new knowledge in the shape of conclusions, limitations, and recommendations as a result of the research that was carried out during this study.

## Chapter 2 Literature Review

*How can we know the dancer from the dance? (Yeats 1933)*

### 2.0 Introduction

The literature review guides the reader through what is known about the research phenomenon including essential findings from previous studies, as well as theoretical and methodological contributions in the field of entrepreneurship, entrepreneurialism and entrepreneurship education and training. It recognises earlier knowledge and sets the scene through to a more contemporary understanding of the field. Entrepreneurship and enterprise education have become prevalent throughout the world and are perceived as solutions to economic inertia or decline in both developed and developing countries (Matlay 2006). Similarly, small and medium enterprise is seen as central to sustained social development and recovery of economic growth in economies in transition. Chapter two contextualises the evolution of the definition of entrepreneurship and steers the way to our contemporary understanding of both the entrepreneur and the entrepreneurial process. Currently, the spotlight of many public policy initiatives is on promoting the establishment and development of entrepreneurial businesses, as well as on fostering entrepreneurial cultures and mind-sets by means of education and learning (Bell et al. 2004, European Commission 2010, Henry 2013, Kuratko 2005, Rae et al. 2012).

The entrepreneurial mind-set is examined encompassing the cognitive infrastructure of opportunity identification. Entrepreneurial intentions are discussed by means of the theory of planned behaviour and can be explained by self-efficacy together with an individual's belief that he or she is adept in successfully carrying out the different roles and tasks of entrepreneurship (Chen et al. 1998, Kristiansen and Indarti 2004). Entrepreneurial alertness is addressed with reference to the entrepreneurial mind-set and how new ideas precede to commercially viable enterprise start-ups. The effective operation of any entrepreneurship education programme is dependent on what policy makers and educators understand about the various objectives of entrepreneurship and enterprise education programmes. Training models are addressed, reviewed and

contextualised across the diverse levels of the educational system and beyond to public domains. A great deal of disparity exists in entrepreneurial pedagogies and practices (Anderson et al. 2012, Bruyat and Julien 2000, Henry et al. 2005b) and in an effort to gain more insight into the pedagogical and methodological dilemmas in entrepreneurship education, a broad framework proposed by Maritz and Brown (2013) was identified to support the evaluation of entrepreneurship education programmes (EEPs). This framework was used as a guide by the researcher to review and explore international models of best practice in the UK, Denmark, and USA. The New Frontiers Development programme, a national accelerator programme here in Ireland was identified for the research. The programme was reviewed and empirically investigated employing the parameters identified in the Maritz and Brown (2013) framework together with a mixed methods entrepreneurial learning (MMEL) framework devised by the researcher. This framework was based on several theoretical entrepreneurial learning and knowledge frameworks reviewed in the literature, underpinned by the conceptual framework, and therefore meeting one of the main research objectives.

## 2.1 Entrepreneurship: An Evolving Definition

Fayolle (2002) contends that entrepreneurship is a complex phenomenon, consisting of psychological, social, economic, and organisational dimensions. Entrepreneurs and their ventures differ greatly; therefore, several entrepreneurial contexts exist. Economists take a functional approach, where the entrepreneur is described as an innovator, an organiser and a risk taker (Baumol 1993), whereas the psychological approach looks for a personality type where the entrepreneur is defined by personality, motivations and behaviours (Verzat and Bachelet 2006). Entrepreneurship is not a new concept (Alberti et al. 2004). The idea of entrepreneurs taking premeditated risks in order to achieve profit and opportunity in conditions of uncertainty has continued over time and has formed the modern-day understanding of entrepreneurship (Cantillon 1755, Say circa 1810 cited in Long 1983).

Richard Cantillon was the first to express interest and focus in on the economic role of the entrepreneur, rather than the individual performing the role (Long 1983). Consequently, he coined the term 'entrepreneur'. The word *entrepreneur* originates from France and when translated literally, it means "one who takes in between" (Deakins and Freel, 2003 p.3). According to Swedburg (2000 p.11), the word was first used during the Middle Ages and was understood as "a person who is active, who gets things done". Cantillon described entrepreneurship as bearing the risk of buying at a certain price and selling at an uncertain price. This description by Cantillon was further expanded upon by Jean Baptiste Say to include the notion of bringing together the factors of production (Stevenson and Jarillo 1990). According to Stevenson and Jarillo (1990 p.18), Schumpeter takes a more precise view of entrepreneurship, and views it as "the process by which the whole economy goes forward. It disrupts the market equilibrium, or circular flow" and the crux of it is innovation. Schumpeter separates the two roles, describing the working out of new plans as, 'enterprise' and the individuals who carry them out as 'entrepreneurs' (Stevenson and Jarillo 1990). Schumpeter describes successful entrepreneurs as individuals who possess characteristics that are autonomous of education, training, or background. These characteristics include being



innovative, knowledgeable and learning by doing (Long 1983, Stevenson and Jarillo 1990).

Stevenson and Jarillo (1990) describe Schumpeter's view. Schumpeter believes that opportunities occur from macro-economic changes in the environment and the entrepreneur is a 'special person', and an innovator who is equipped to take advantage of these changes. These can be technological, political, social, and demographic changes. The innovative entrepreneur takes a number of entrepreneurial actions such as introducing new products, taking new approaches to production, discovering new geographical markets and new ways of arranging business processes (Stevenson and Jarillo 1990).

In contrast to the Schumpeterian perspective on opportunities, Kirzner (1973) suggests that opportunities are not only identifiable by a person with extraordinary personal qualities but arise out of alertness. Alertness is viewed as a concept that has the power to augment our understanding of how new ideas commence and are followed through (Tang et al. 2012). Tang et al. (2012 p.78) support Kirzner's view that alertness, "is a process and perspective that helps some individuals to be more aware of changes, shifts, opportunities, and overlooked possibilities". They contend that alertness and the progress of schematics allow people to plan and understand information in the various fields of knowledge involving the growth of new opportunities (Tang et al. 2012). For this reason, opportunity identification is considered a question of entrepreneurial alertness which emphasises the distinctive individual knowledge base of the entrepreneur (Gaglio and Katz 2001).

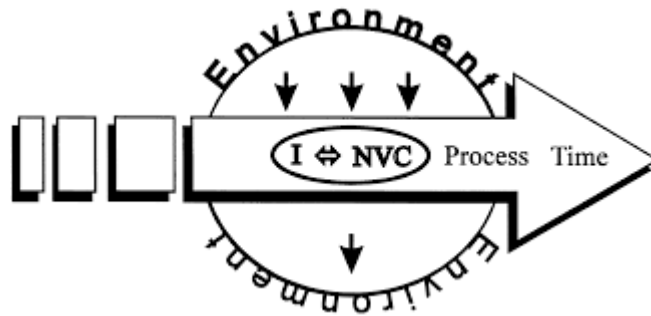
Bruyat and Julien (2000) take a constructivist<sup>1</sup> approach in their proposed definition of entrepreneurship in an effort to understand the entrepreneurial process, its subsequent success or failure and the environment in which it happens. They describe the

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<sup>1</sup>There are two fundamental models of how learners construct knowledge and both offer different practices for teaching and training. The traditional model is behavioural and focuses on acquiring information, usually disparaged as the "memorise and regurgitate" model. The constructivist model, on the contrary, assumes that learners construct knowledge out of their experiences, and is often associated with pedagogic approaches that encourage active learning i.e. learning by doing (Krueger 2007).

entrepreneurial phenomenon as much more complex and heterogeneous than was initially thought in the 1980s. They consider it vital to progress knowledge in the field and begin developing theoretical tools that are applicable in practice. Entrepreneurship is proposed by Bruyat and Julien (2000) as the dialogic between individual and new value creation inside a continuing process and inside a particular environment. See Figure 2.

Figure 2 - The Entrepreneurial Process



(Source: Bruyat and Julien (2000 p.170))

Bruyat and Julien (2000) propose that we cannot begin to understand entrepreneurship without first considering the individual (the entrepreneur), the project, and the environment. Moreover, it is a question of how these elements connect with each other over time. The entrepreneur according to Bruyat and Julien (2001 p.165) is not just a “blind machine” responding to environmental provocations, “but a human being capable of creating, learning and influencing the environment”. Essentially, Bruyat and Julien are not proposing a new definition of the entrepreneurial phenomenon since so many definitions already exist, rather they are elaborating on existing definitions in an effort to establish theoretical integration. It is understood that Cantillon, Turgot, Say, and Schumpeter have led the way in the field of entrepreneurship (Bruyat and Julien 2000).

Bruyat and Julien (2000) contend that two opposing sides exist in the entrepreneurship field, those that build on the work of Turgot and Say, and those that take the view of Cantillon and Schumpeter. Bruyat and Julien (2000) explain that the Turgot and Say side regard the entrepreneur as an individual who creates and develops new business whereas, the Cantillon and Schumpeter side, on the contrary, regard the entrepreneur

as an innovator who has the capacity to make changes in the economy, yet both sides focus on the entrepreneur. According to Bruyat and Julien (2000), the entrepreneurial concept as Schumpeter sees it allows the entrepreneur to demonstrate how capitalism is able to go beyond its flaws by means of a creation-destruction dynamic. This means that entrepreneurs perform the role of improving or transforming the productive system, and they continue to be entrepreneurs only while the role is being performed (Bruyat and Julien 2000).

## 2.2 The Entrepreneur: Nature versus Nurture

The literature is profuse with theories and debates relating to who or what constitutes an entrepreneur and whether they are born or made (Henry et al. 2005). Many entrepreneurs are from marginalised communities with little or no access to entrepreneurship education and training, and therefore described by Garavan and O’Cinneide (1994 p.5) as “outsiders”. The literature proposes that growing up in an entrepreneurial environment, receiving relevant education, and gaining work experience are all beneficial; yet, successful enterprises are often the result of the self-determination of the entrepreneur, sound judgement, and sometimes, providence (Garavan and O’Cinneide 1994). Shaver et al. (2001 p.6) state, “new businesses are not created by accident”. Setting up a new business is intentional and is linked to the concept of personal causality. During the creation of a new business, the entrepreneur is challenged with different events and processes, which require his/her control in order to secure a desirable outcome. Shaver et al. (2001 p.6) refer to Heider (1958) where he called this “equifinality of the outcome”.

Shane and Venkataraman (2000) claim that most researchers define the entrepreneurship field exclusively in terms of who the entrepreneur is and what he or she does (Venkataraman 1997). Venkataraman argues, however, that entrepreneurship involves a relationship between two phenomena: the existence of profitable opportunities and the existence of enterprising individuals. Shane and Venkataraman (2000) view the definition of an entrepreneur as a person who simply starts a new venture, as an example of this problem. They assert that this definition does not include

consideration of the difference in the quality of opportunities that are identified. They maintain that it leads researchers to overlook measurement of opportunities and as a result, their empirical support for attributes that distinguish entrepreneurs from other members of society may be questionable. Shane and Venkataraman (2000 p.218) argue, therefore, that their assertion is the more acceptable view, and define entrepreneurship as “the process through which opportunities to create future goods and services are discovered, evaluated and exploited”.

A widespread myth is that entrepreneurs come into this world with specific characteristics. Up until the 1990s, this myth was a school of thought known as the ‘traits approach’ to entrepreneurship. Much of this approach started with the economic development work of McClelland (1961). Deakins and Freel (2003 p.13) state, “if entrepreneurial characteristics are inherent then there is little to be gained from direct interventions to encourage new entrepreneurs to start new businesses”. However, within the nature or nurture debate, it is becoming clear that entrepreneurship can be taught (Sarasvathy and Venkataraman 2011). Kuratko (2005) asserts that we have advanced beyond the myth that entrepreneurs are born, and not made. Indeed, Drucker (1985) notably states that entrepreneurial charisma is not magic and has little to do with genes; it is a discipline that can be learned and at least encouraged through EE.

### 2.3 Entrepreneurship and the Economy

The relationship between entrepreneurship and economic growth is a well-established theme in entrepreneurship literature, explaining why EE continues to be viewed as highly relevant (Cooney and Murray 2008, Fenton and Barry 2011, Oosterbeek et al. 2010, Raposo and Paço 2011). Thirty years ago, Drucker (1985 p.1) stated, “what is happening in the United States is something quite different: a profound shift from a managerial to an entrepreneurial economy”. Drucker attributed this shift to the creation of new jobs in the SME sector and added that a great many of them were new businesses. During the 1980s, governments within the European Community gave significant backing to activities designed to encourage entrepreneurship (Gibb 1993), whereas in Ireland, during the same period, priority was given to Foreign Direct Investment (FDI) and SMEs were overlooked (Cooney and Murray 2008). Garavan et al. (1997) pointed out that historically, there was no enterprise tradition in Ireland. Start-ups were regarded apprehensively and support infrastructures were almost non-existent (Cooney and Murray 2008).

The Irish school system did not encourage self-employment and entrepreneurs believed that the system played an inadequate role in encouraging entrepreneurship (Goodbody Economic Consultants 2002). In contrast, during the mid-nineties in Ireland, a major report was published by the Small Business Task Force and it found that the SME sector had in fact been a net creator of jobs while the large business sector was a net shedder of existing jobs (Brennan and Department of Enterprise and Employment 1994, Hynes 1996). As a direct result of this report, the Irish government formed the Small Business Division in the Department of Enterprise, Trade and Employment in order to carry out the report’s recommendations (Cooney and Murray 2008). Homegrown businesses were now recognised as being valuable to the economy, and more interest was placed on the role of SMEs, and particularly on their capacity to adapt to the ever-changing business environment for survival. Indeed, the report of the Small Business Forum (2006) highlighted the need to strengthen the presence of EE across all levels of the education system, from primary through to tertiary level so that home-grown enterprise can thrive in the future (Jones and Iredale 2010). At primary and secondary level in Ireland, EE is straddling the fence in pursuance of fusion between the formal

curriculum's best practice and new participatory pedagogies. Curricula are scattered with enterprise-focused extra-curricular and informal activities. This situation poses a distinct disadvantage to students and the country at large, as EE is disproportionate across schools and is untenably contingent on the benevolence of a cohort of 'champion' educators and industrialists (Martin 2011).

In 2006, a European Commission report identified the encouragement of innovation and entrepreneurship as a micro-economic policy requirement for Ireland (Cooney and Murray 2008). As a direct result of the demise of the Celtic Tiger (1995 – 2007) together with the subsequent recession, the current Irish enterprise agenda is centred on supporting and encouraging the entrepreneur. The main focus is on supporting high-potential start-up businesses (HPSUs) (Innovation Task Force 2010). The 2012 'Action Plan for Jobs' pledged to deliver an improved, larger, and more unified support service for micro and small businesses. Subsequently, a restructuring of the existing enterprise agencies in Ireland took place in order to better target supports towards indigenous businesses with job-creation potential. A new 'potential exporters' division was set up within Enterprise Ireland (EI); a government run enterprise development agency (EDA), with the objective of targeting a wider group of prospective exporting companies. Support structures were put in place for micro enterprises. These were established through the closure of the 35 existing county and city enterprise boards (CEBs) and the formation of a new micro enterprise small business unit in Enterprise Ireland (EI) to work with local authorities in the setting up of a new network of local enterprise offices (LEOs) in each local authority.

The LEOs carry on the work of the CEBs but offer a broader range of supports. A management team made up of EI and the Industrial Development Agency (IDA) was also set up to work on cross-agency priority concerns such as attracting international start-ups, improving mentoring for SMEs, and helping SMEs win supply contracts from multinationals (Department of An Taoiseach 2012). Homegrown entrepreneurship is measured as 'indigenous entrepreneurship' in the Global Entrepreneurship Monitor (GEM), a report that analyses the level of entrepreneurship taking place in different countries. Indigenous entrepreneurship in Ireland was reported by GEM at a rate of 28%

in 2013, similar to the previous two years at 26%. However, this rate is significantly lower than in 2007 when it was reported at a rate of 46%. The recession has had a very severe impact on the number of people in Ireland identifying new business opportunities in their local areas. The 28% rate recorded in Ireland in 2013 is below the average reported across other countries in the Organisation for Economic Co-operation and Development (OECD) and EU (Fitzsimons and O’Gorman 2013).

In the foreword of the Global Entrepreneurship Monitor (GEM) report for Ireland, the then Minister for Jobs, Enterprise, and Innovation, Richard Bruton, T.D, outlined measures, plans and ambitions for Ireland:

*The ambition for Ireland is to be one of the most entrepreneurial nations in the world and acknowledged as a world-class environment in which to start and grow a business. The Action Plan for Jobs 2014 has a special focus on entrepreneurship. If we can increase the number of start-ups this can have a major impact on the creation of jobs we badly need (Fitzsimons and O’Gorman 2013 p.13).*

However, more recently Brady (2016), a senior economist with the Business and Employer Association for organisations based in Ireland (IBEC) warned that, if Ireland wants to be resolute in the creation of a highly-skilled entrepreneurial economy, then it needs to be supported by action. The economic significance of small businesses in Ireland cannot be overemphasized. On one hand, starting a business in Ireland is somewhat easy but on the other hand, start-ups encounter numerous obstacles to their growth. High legacy debts and expenses together with an over dependence on funding from banks in a small domestic market hinder both innovation and growth. Austerity measures taken in the last few years, such as higher rates of universal social charge (USC) and capital gains tax (CGT) for the self-employed are contradictory to current enterprise policy. It can be said that some reliefs have been introduced via the tax system such as the start-up relief for entrepreneurs (SURE). However, few entrepreneurs have pursued this relief due to the complexity of the paper work together with the severe lack of promotion of its very existence. Public policy and the cultural environment towards entrepreneurship in Ireland needs changes in attitudes. Public policy, from the point of view of only supporting a handful of winners and the cultural environment from the point of view of small-minded begrudgery (Brady 2016, Small Firms Association 2016).

Ireland Duane et al. (2003) propose that up-and-coming policymakers will make use of an entrepreneurial mind-set and consistent with the research objectives and questions, section 2.4 reviews the available literature and analyses the entrepreneurial mind-set.

## 2.4 The Entrepreneurial Mind-Set

***Successful future strategists will exploit an entrepreneurial mind-set (Ireland Duane et al. 2003 p.967).***

Having an 'entrepreneurial mind-set' is a state of mind where the individual perceives the world in terms of opportunities whilst being comfortable taking initiatives, making decisions and taking calculated risks in conditions of uncertainty. An entrepreneurial mind-set thinks strategically, networks effectively and can persuade and influence (Botham and Mason 2007). Individuals with an entrepreneurial mind-set think and act in environments that are fast-paced, rapidly changing, and highly uncertain (Haynie et al. 2010). Bransford et al. (1999) maintain that possession of an entrepreneurial mind-set is a blueprint for thinking and acting. According to the Commission of the European Communities (2006 section 1.1) in a communication entitled, 'Fostering entrepreneurial mind-sets through education and learning', entrepreneurship can be defined as follows:

*Entrepreneurship refers to an individual's ability to turn ideas into action. It includes creativity, innovation and risk taking, as well as the ability to plan and manage projects in order to achieve objectives. This supports everyone in day-to-day life at home and in society, makes employees more aware of the context of their work and better able to seize opportunities, and provides a foundation for entrepreneurs establishing a social or commercial activity (Commission of the European Communities 2006 section 1.1).*

Whilst developing a framework to explore the fundamentals of an entrepreneurial mind-set, Haynie et al. (2010) describe an entrepreneurial mind-set as an ability to sense, act, and organise under uncertain conditions. They direct their exploration of an entrepreneurial mind-set on metacognitive<sup>2</sup> processes that allow the entrepreneur to think 'outside the box'. They suggest that entrepreneurs alter existing knowledge

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<sup>2</sup> Cognisance of one's own knowledge. An ability to comprehend, regulate, and manipulate one's own thinking processes (Haynie et al. 2010).



structures using heuristics, which is the ability to use their current experience to learn and improve. That is, their thinking is adaptable when confronted with new or uncertain situations. Entrepreneurs according to Schmidt and Ford (2003) employ reasoning at a higher level. They plan higher-order cognitive strategies in the quest for entrepreneurial situations. The origins of such a mind-set are understood to be in part, cognitive in nature and more importantly, can be augmented through training (Haynie et al. 2010, Schmidt and Ford 2003). This makes it very clear why governments are interested in promoting entrepreneurial activity and the significance of nurturing the entrepreneurial mind-set through EE (Rae and Carswell 2001).

Haynie et al. (2010) elicit their description of an entrepreneur from 'situated cognition', which is a theory that suggests that knowing is inseparable from doing, contending that all knowledge is found in activities connected to social, cultural and physical situations. When cognitive processes materialise, they are exposed in socio-cultural settings. The social context of the situation serves to form the development and use of mental processes that expedite or inhibit the task in hand (Allen and Armour-Thomas 1993). Haynie et al. (2010) assert that this explanation by Allen and Armour-Thomas centres the study of cognition on 'how' and 'why' an individual communicates with other individuals and situations. The individual cannot be separated from the context of the situation. Whilst discussing a qualitative study of an EE initiative in south-west Ireland, Rigg and O'Dwyer (2012) propose that entrepreneurial identity is developed and related to the interchange between participants and other external parties similar to family, suppliers, competitors, programme managers, trainers and mentors. The participants, who are nascent entrepreneurs, are submerged in an environment where they are exposed to and engaged with a network of external parties. Rigg and O'Dwyer (2012 p.312) put forward that this exposure and close engagement "coupled with their engagement in risk taking, can be understood through the notion of becoming, through and in relation to others".

Haynie et al. (2010) assert that engagement with others facilitates the formulation of mental models that enable reasoning founded on goals, motivations, and feedback from the environment. According to Graves (1998), looking for feedback and employing it, is

paramount for an entrepreneurial mind-set. He states that a continual monitoring of one's status and one's vulnerability is required in the shifting work environment. Haynie et al. (2010) combine their perspective with Fiske and Taylor (1991 p.13) who describe the entrepreneur as a "motivated tactician" characteristic of a "fully engaged thinker who has multiple cognitive strategies available, and chooses among them based on goals, motives, and needs". The entrepreneurial context requires continuous rethinking. All decisions, strategies, structures and systems directly affect the survival of the business (Hitt et al. 1998).

Sarasvathy (2001 p.250) puts forward that entrepreneurs commence with three types of means: "they know who they are, what they know, and whom they know". Haynie et al. (2010) propose that these means are structured and deployed based on metacognitive knowledge and metacognitive experience. Nelson (1996) asserts that metacognition is not a dispositional trait. He posits that it is a learned process which can be augmented by experience and training (Haynie et al. 2010, Nelson 1996, Schmidt and Ford 2003). Education is fundamental to the evolution of an entrepreneurial mind-set and teachers have a key role in this process. According to Lepistö and Ronkko (2013), teachers need to alter their approach to education. More emphasis is required on active learning. They recommend moving away from the traditional approaches and providing more out-of-classroom experiences for students (Lepistö & Ronkko 2013). In a European Commission (2011) report on teacher education, it proposes that teachers should be equipped with skills, knowledge, and attitudes to allow them to offer new and inventive curricula, pedagogies, and learning environments to students. Metacognitive strategies according to Flavell (1987), simplify the transfer of knowledge from one area to another. According to Batha and Carroll (2007), several studies have established that metacognitive training strategies have a significant bearing on decision making when an individual is faced with new and difficult decisions. Advances in technology, communications and the changing marketplace have reduced the emphasis on managerial and entrepreneurial knowledge content to 'out-of-date' and therefore the introduction of metacognitive training into EE pedagogy can serve to heighten the student's aptitude to function effectively in the today's dynamic environment (Batha and Carroll 2007, Haynie et al. 2010). Individuals who work and live with an

entrepreneurial mind-set are adept at identifying opportunities, innovations and new value creations (Bruyat and Julien 2000, Tang et al. 2012) at the same time as capitalising on uncertainty in what is today an unpredictable world (Fitzsimons and O’Gorman 2011).

#### 2.4.1 Opportunity Identification

Entrepreneurship academics engaged in cognitive research strive for an understanding of how individuals identify entrepreneurial opportunities and how they then exploit them (McMullen and Shepherd 2006). Krueger (2000) discusses the cognitive infrastructure of opportunity identification and questions what stimulates or impedes entrepreneurial activity. He takes a cognitive approach, in particular, the use of social psychology and intentions models as they have been proven to be robust in both explanatory power and in predictive ability (Ajzen and Fishbein 1980). Prior to acting on an opportunity, we must firstly be able to identify it. The ability to see potential in a course of action as a likely opportunity mirrors an intentions-driven process and Krueger considers this process to be determined by known critical antecedents<sup>3</sup>. According to Krueger (2000), companies that lack sufficient levels of entrepreneurial activity suggest that there exists an insufficient supply of opportunities perceived by the individuals within the company. This, in turn, according to Krueger (2000 p.5) suggests, a lack of “entrepreneurial thinking”, or the presence of an entrepreneurial mind-set.

Perceptions explain why and how individuals actually make decisions and subsequently take actions. Krueger (2000 p.6) deliberates that we do not discover opportunities rather we construct them, “opportunities are thus very much in the eye of the beholder”. This demonstrates that perceptions are critical. What prevents the perception of opportunities? Moreover, what amplifies the perception of threats? Whilst examining organisational learning Huber (1991) makes a comparison between opportunity and threat analysis by evaluating literature on learning by searching for solutions and searching for information. Searching for solutions is similar to discovery or identification while searching for information is similar to investigation.

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<sup>3</sup> Things that existed before and rationally precede others (Krueger 2000).

Ardichvili et al. (2003) suggest the 'stage-gate' procedure, which is an evaluation procedure that can be modified to a broad variety of circumstances. The 'stage-gate' procedure demands for evaluation at every level of development. The passing of an opportunity through each of the gates is contingent on the number of controls or benchmarking procedures that are put in place by the entrepreneur. Examples of these include return objectives, risk preferences, financial resources, individual responsibilities, and personal objectives or milestones. Benchmarking and milestones are considered useful mechanisms by Krueger (2000, 2009). They demonstrate tangible substantiation that an opportunity or an idea is in fact feasible. Even though an entrepreneur might let go of a given opportunity based on these examples, the same opportunity might appeal to another individual or team. An opportunity that does not make it through the gate to the next stage of development can either be revised or abandoned. Ames et al. (2002) assert that milestones or indicators should be set throughout any EEP to facilitate an effective system of monitoring and assessment.

Ardichvili et al. (2003) refer to the evaluation of resources and markets as often steering the individual or team to advantageous revisions of business concepts. However, evaluation procedures that take place over many levels of development can cause opportunities to be completely aborted. Recent support for Huber and Ardichvilis' ideas are demonstrated by Tang et al. (2012 p.79) when they conceptualise entrepreneurial alertness (see section 2.4.5) as having three consistent dimensions: "scanning and searching for new information, connecting previously-unrelated information, and evaluating whether the new information represents an opportunity". Krueger (1993, 2000) views perceptions as significant in opportunity identification and in intentions-based models similar to the theory of planned behaviour.

#### 2.4.2 The Theory of Planned Behaviour and Entrepreneurship

In psychology, the theory of planned behaviour (TPB) is a theory about the link between beliefs and behaviour. In the course of the past decade, it has become particularly significant in entrepreneurship research (Heuer and Kolvereid 2014). Meta-analysis<sup>4</sup> show that intentions are strong predictors of actual behaviour (Armitage and Conner 2001, Gelderen et al. 2008). The theory of planned behaviour was formulated by Icek Ajzen in 1988 as a result of attitude research he conducted with Fishbein (Ajzen and Fishbein 1974, 1980, 1991). In order to understand the theory of planned behaviour, it is necessary to understand the theory of reasoned action (TRA). Ajzen and Fishbein (1975, 1980) formulated the TRA while endeavouring to estimate the inconsistency between attitude and behaviour. The TRA was related to voluntary behaviour and in 1988 when Ajzen realised that behaviour was not in fact 100% voluntarily under control, he introduced an improvement to the predictive power of the TRA by the addition of perceived behavioural control (PBC). Ajzen named this the theory of planned behaviour (Ajzen 1991). The TPB is a theory which predicts deliberate behaviour, because behaviour can be intentional and planned (Fishbein and Ajzen 1975, 1980).

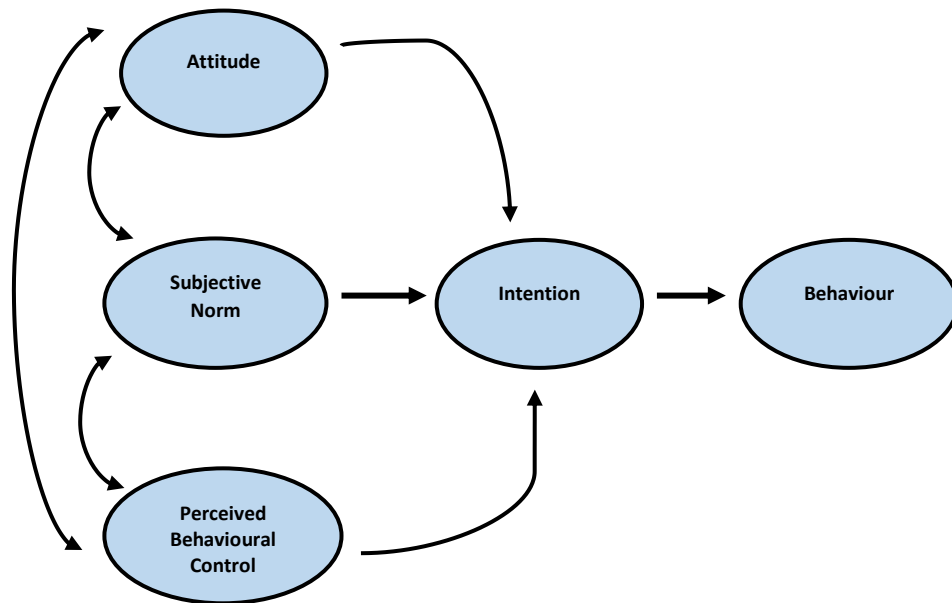
Even though the TPB is an extension of the TRA, both have consistent groundwork where they try to examine the connection between beliefs, attitudes, normative influence, intentions and behaviours except for an additional component of perceived behavioural control (PBC) (Ajzen 1991). The essence of the TPB is a person's readiness to perform a specific behaviour. This is known as behavioural intention, which indicates that the actual behaviour is likely to be performed. For example, if a student is willing to learn in class, he/she is more likely to be involved in the actual behaviour of the learning process such as listening to the lecture and participating in the class. Heuer and Kolvereid (2014) empirically examine the relationship between EE and entrepreneurial behaviour using the TPB. Using a number of hypotheses, they compare frequently used EE methods and practices. They question how successful entrepreneurship education programmes (EEPs) are and how they should be organised and designed to capitalise on

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<sup>4</sup> A method for methodically relating relevant qualitative and quantitative data from several designated studies to develop a single assumption that has greater statistical power (Conner and Armitage 1998).

their effectiveness. Heuer and Kolvereid (2014) employ the TPB as it offers a comprehensive view of the process steering entrepreneurial behaviour and a proxy that facilitates measurement of the same behaviour.

Figure 3 - The Theory of Planned Behaviour



(Source: Ajzen (1991 p.182))

According to the TPB, the origin of both intention and actual behaviour are the individual's personal attitudes and subjective norms (Ajzen 1991, Gelderen et al. 2008). In an attempt to predict an individual intention and actual behaviour Ajzen's (1991) TPB puts forward three main antecedents:

- |                                  |     |                           |
|----------------------------------|-----|---------------------------|
| 1. Attitude Toward Behaviour     | ATB | (attitude to starting-up) |
| 2. Subjective Norms              | SN  |                           |
| 3. Perceived Behavioural Control | PBC |                           |

(Ajzen 1991 p.179)

The first construct of TPB is attitude toward behaviour (ATB) where it is explained as an overall evaluation of one's behaviour. The construct indicates the degree to which the performance behaviour is valued. Usually ATB is accessed through belief where it links the interest behaviour (e.g. entrepreneurial intention) with the expected outcomes,

because the behavioural belief represents an individual's self-reported outcome evaluation (Ajzen 1991, Netemeyer et al. 1991). Norms by definition are an individual's perception of social normative pressure, or relevant others' belief that he/she should or should not perform such behaviour. Thus the second construct of the TPB, subjective norm is where an individual's perception about the particular behaviour is influenced by the judgement of significant others. The third and final construct, perceived behavioural control (PBC) is principally an individual's perceptions of their ability to perform a behaviour. It is based on the individual feeling that he/she has control over their own behaviour. Usually PBC will tend to exist when a person estimates the level of difficulty for him/her to perform a specific behaviour. PBC will assist the prediction of one's intention to perform since the factors may influence one's decision (Ajzen 1991, Ajzen and Fishbein 1974, Netemeyer et al. 1991).

Heuer and Kolvereid (2014) state that personal, social, academic, and cultural background factors have an indirect impact on intentions and behaviours and influence the three antecedents of the TPB. Therefore an effective EEP should modify one or more of the three antecedents of intentions by shaping the beliefs that they are based on and consequently have an impact on entrepreneurial intentions, which would in turn, have a bearing on entrepreneurial behaviour. Heuer and Kolvereid (2014) tested a number of hypotheses on two different samples, one in Belgium, and the other in Norway. The Belgian sample was mostly made up of students and the Norwegian sample was made up of alumni of the participating university. They collected data on three antecedents of entrepreneurial intentions as outlined by the TPB. The EE background of respondents together with several control variables such as male, female and if parents were entrepreneurs. Entrepreneurial intentions were measured by a set of questions concerning employment status choice and intentions to start a business. Subjective norms were measured using a set of questions concerning family, friends and significant others. PBC was made up of sets of questions from both studies and averaged to a new overall measure (Heuer and Kolvereid 2014).

None of Heuer and Kolvereids' hypotheses are supported but they do find strong links between ATB, SN, PBC, and EI in both samples. They found that a strong direct

relationship exists between participation in entrepreneurship education programmes (EEPs) of longer duration and entrepreneurial intention, which cannot be explained by variations in attitude, subjective norms or perceived behavioural control. Their findings also suggest that EEPs of limited duration have restricted usefulness and that more emphasis and energy should be given to programmes of a longer duration. Heuer and Kolvereid (2014) believe that the failure of the TPB in this instance could be attributed to a lack of theory, the possibility of poor quality of the measures and that EE students have higher entrepreneurial intentions when they make the decision to participate in EE (Heuer and Kolvereid 2014).

Entrepreneurial intentions have been empirically researched by several in the field including Davidsson 1995; Krueger and Kickul 2006; Schoon and Duckworth 2012; and more recently by Rae and Woodier-Harris 2013. The relationship between EEPs and other variables such as need for achievement (nAch), locus of control and entrepreneurial self-efficacy (ESE) have also been shown to have a positive impact on the future intentions of participants while at the same time augmenting entrepreneurial characteristics (Fayolle et al. 2006). Studies on EI carried out by Douglas and Shepherd (2002) and Kolvereid (1996) determined that attitude to autonomy was found to be related to entrepreneurial intention (EI). Douglas and Shepherd (2002) also ascertained that attitudes towards risk were related to EI. Detailed knowledge of the results established on the level of the variables that make up the attitude and PBC components is necessary for the design of interventions that may influence EI (van Gelderen et al. 2008).

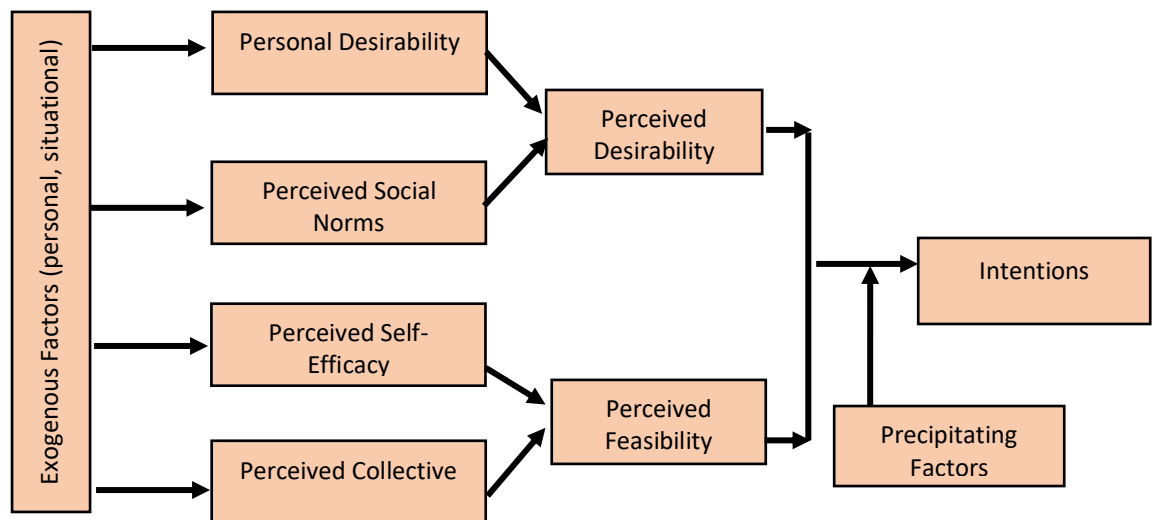
#### 2.4.3 Entrepreneurial Intentions

Entrepreneurship according to Krueger (1993, 2000) is about seeing and acting on opportunities irrespective of existing resources. Krueger (2000 p.8) states, “any planned behaviour is intentional by definition, thus strategic behaviours are inherently intentional”. He notes that intentions hinge on a number of critical antecedents including personal and situational influences. Krueger sees role models as good examples but only if they inspire perceptions of desirability or more importantly



perceptions of feasibility (Krueger 1993). Krueger (2000) refers to Ajzen's (1991) theory of planned behaviour and the theoretical underpinnings of intentions-based models. He asserts that Ajzen (1991) is persuasive in his explanation of how individuals actually think. If the intention to perform an action is lacking then action is unlikely. The intention to perform an action signifies the belief that the individual will perform a certain behaviour, the belief to act. Therefore, intention precedes action. Action needs effort and if we want to try, we must first have the intention to try. We all have mental models of what we intend to do and what we do not intend to do. These mental models reveal why we intend to perform an action. Krueger (2000 p.9) simplifies it when he states, "if we can better understand why, we can better understand what".

Figure 4 - Intentions Model



(Source: Krueger (2000 p.9))

Figure 4 above demonstrates how the intentions model, (Krueger 1993, Krueger and Brazeal 1994, Shapero and Sokol 1982) acts as a network to guide our understanding of events into action. It infers that intentions are constructed even though they appear to happen unexpectedly. Ajzen's (1991) theory of planned behaviour suggests that intentions toward a given behaviour are contingent on essential underlying attitudes. These attitudes reflect the origins behind the course of action that an individual is taking.

The individual taking the decision should perceive the course of action as:

1. *within their competence and control, therefore feasible*
2. *personally desirable, and*
3. *consistent with social norms*

(Krueger 2000 p.9)

The theory contends that perceptions of desirability and feasibility rationalise and predict intentions (Krueger 1993). Figure 4 illustrates that intentions toward opportunity/innovation are predicted by three critical antecedents; that the opportunity/innovation/EEP/new venture is:

1. *perceived as personally desirable*
2. *perceived as supported by social norms*
3. *perceived as feasible*

(Krueger 2000 p.11)

Krueger (2000) believes that there is a possible downside to being too obsessive with opportunity and innovation. He asserts that we can create an over-optimistic perception of desirability and feasibility which can lead the individual or the organisation to needless risks (Krueger 1993). Krueger (2000 p. 19) refers to “the ‘can-do’ spirit being a two-edged sword”. In fact, Rae (2010) substantiates Krueger’s warning when he draws attention to the recent economic crisis and near-collapse of the banking system in late 2008. Rae sees perceptions such as ‘creative destruction’ (Schumpeter 1934) and the “pursuit of opportunity regardless of the resources controlled” (Stevenson and Jarillo 1990 p.23) as distinctly two-edged and asserts that they pose ethical problems to society.

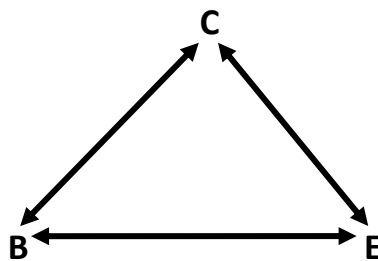
#### 2.4.4 Entrepreneurial Self-Efficacy

According to Krueger and Brazeal (1994), intentionality and self-efficacy feature in opportunity emergence and identification. Self-efficacy relates to the depth of a person’s belief that he or she is proficient in successfully carrying out the different roles and tasks of entrepreneurship (Chen et al. 1998). Kristiansen and Indarti (2004) found that entrepreneurial intention could be explained by self-efficacy together with instrumental readiness, a contextual variable mirroring an individual’s position in

relation to access to funds, information, and networks. Collins and Robertson (2003) assert that students and participants of EEPs present themselves at differing stages of instrumental readiness and their antecedent experiences have an important influence on their entrepreneurial intentions. Edgcomb (2002) also proposes that instrumental readiness is integral because students and participants have clarity in relation to their business goals and vision. The decision to undertake any entrepreneurial activity necessitates a pre-existent belief that the activity is both desirable and feasible fuelled with a personal propensity to act on opportunities and some type of activating factor. Krueger and Dickson (1994) attribute perceptions of competence to perceptions of self-efficacy and see it as a significant antecedent of perceived opportunity. In other words, if we consider ourselves competent, we are more likely to see the scenario as feasible and consequently more likely to see an opportunity.

Whilst examining entrepreneurial self-efficacy (ESE) in entrepreneurs and managers, Chen et al. (1998) used ESE as a construct to predict the probability of an individual being an entrepreneur. Self-efficacy is a key construct in Bandura's social learning theory (Bandura 1977, 1986) where he explains human behaviour as being made up of a group of three factors including behaviour represented as (B) in figure 5 below, cognitive and personal represented by (C) and environmental events (E).

*Figure 5 - Triadic Reciprocal Causation*



**(Source: Chen et al. (1998 p.298))**

Bandura (1977, 1986) referred to the shared influence between the three sets of factors as triadic reciprocal causation. Each factor affects and is affected by the other two. When an individual performs an action, this can change his/her environment and impacts how he/she perceives self and environment. However, the environment and

his/her opinions of self and the environment can also impact his/her behaviour. Research carried out by Wood and Bandura (1989) among others has shown that self-efficacy is a useful and effective predictor of performance. According to Chen et al. (1998 p.298), performance and self-efficacy combined create “a cycle of mutual reinforcement”. Self-efficacy impacts performance through interest, enthusiasm and persistence, while performance delivers feedback where self-efficacy can be further evaluated and enhanced (Chen et al. 1998). Bandura (1986) states that the methods and practices for shaping efficacy judgments include enactive mastery<sup>5</sup> (Bruner 1957), hands-on experience, vicarious learning, and physiological and emotional stimulation. Nonaka et al. (2000) refer to hands-on experience whilst discussing socialisation where tacit knowledge is shared through experiences. Vicarious learning, originally coined by Bandura implies learned behaviour or observational learning.

Chen et al. (1998) draw from different sources of entrepreneurship literature that take the role-task approach. Long (1983) is viewed as a task-oriented author. He defines entrepreneurship as a process and defines the entrepreneur with reference to capacities, competencies, and skills. Another task-oriented author is Miner (1990) who employs the role framework to examine the motivational patterns of entrepreneurs. Following a number of deductive studies, Chen et al. (1998) identify specific entrepreneurial tasks that collectively represent five entrepreneurial domains. These include Marketing, Innovation, Management, Risk-taking and Financial control. They discovered a number of important implications for entrepreneurship education (EE) in terms of assessment, direction, and intervention. Chen et al. (1998) suggest that the existence of or lack of entrepreneurial self-efficacy (ESE) is identifiable in real entrepreneurs. ESE can be utilised to distinguish excuses for entrepreneurial avoidance. Some entrepreneurs and participants of entrepreneurship education programmes (EEPs) avoid certain entrepreneurial activities, not because they lack the required skills, but because they believe they do. For example, entrepreneurs or participants of EEPs may be dodging certain problems for fear of losing control (Chen et al. 1998).

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<sup>5</sup> Bruner's constructivist theory suggests that knowledge is stored primarily as words and mathematical symbols. This knowledge is active when confronted with new material. Adult learners typically follow a development from enactive to iconic to symbolic representation (Bruner 1957).

An EEP can guide the participant to identify and remove this self-doubt thus enabling them to become more actively engaged in entrepreneurial tasks (Chen et al. 1998). This is further supported by Noel (2002) who examined the effects of EE on the intention to start-up a business. He found that ESE achieved the highest scores in students/participants who had completed an EEP. In addition, ESE can be used as an assessment tool in the identification of areas of strengths or weaknesses thus facilitating the intervention process where resources can be distributed and channelled more effectively. ESE is viewed as a reasonably solid belief that demands meticulous and disciplined determination to be changed. Chen et al. (1998) propose two ways of achieving this. Firstly, during the design phase of an EEP, more emphasis is required on strategies to strengthen ESE in participants with important skills such as innovation and risk-taking, which are markedly absent. The pedagogies employed are often technical and an inadequate amount of resources is given to the cognition and belief habits of participants. Programme designers need to consider the attitudes and perceptions of their audience when embarking on the programme objectives. Real-life business scenarios can serve to develop ESE through the involvement of successful entrepreneurs and industry experts and further reinforced by verbal persuasion on the part of the enterprising trainer.

Secondly, a supportive environment will augment ESE owing to the reciprocal nature of perceived resources. Individuals evaluate their capabilities alongside access to perceived resources and barriers. A supportive environment gives rise to entrepreneurial success, which in turn generates and enhances ESE. Communication and visibility of entrepreneurial supports is integral to breeding entrepreneurial success (Chen et al. 1998, Johannisson 1991). Noel (2002) concurs with Chen et al. (1998) when he asserts that if we can understand how self-efficacy affects the propensity to start a new business and run it effectively, we can achieve a number of things. Mapping of the personal, behavioural, and environmental influences that prompt certain individuals to start a business could be carried out. This would enhance EE to include more than just information about starting up and more accurately instil confidence in its audience to apply that knowledge successfully (Noel 2002). New ideas and how they precede to commercially viable start-up opportunities is proposed by Tang et al. (2012). They

maintain that 'alertness' as a concept has the power to augment our understanding of how new ideas commence and are followed through. Therefore, entrepreneurial alertness will be examined in more detail.

#### 2.4.5 Entrepreneurial Alertness

During a study to provide a theoretical measure of entrepreneurial alertness Tang et al. (2012 p.77) propose that, "the recognition and development of new opportunities are at the heart of entrepreneurship". They develop their theory on understanding how new opportunities get started and are brought forward. The hypothesis being that entrepreneurs are prone to being more alert to opportunities for new entrepreneurial ventures. Alertness according to Tang et al. (2012) is not studied enough owing to an elusive understanding of the word and also owing to measurement issues. As a result Tang et al. (2012) carried out multiple studies to develop and validate a thirteen-item alertness scale. They report on three sequential studies that develop and validate a scale for entrepreneurial alertness. Reasons for how new business opportunities begin include; know-how (prior experience), personal outlook (attitude), changes in the general environment, acquiring explicit information and being an unsatisfied consumer (Gaglio and Katz 2001, Shane and Venkataraman 2000, Tripsas 2008). Ardichvili et al. (2003 p.105) also consider "social networks, and prior knowledge as antecedents of entrepreneurial alertness to business opportunities". They view entrepreneurial alertness as a necessary condition for the success of what they call the opportunity identification triad. These include recognition, development, and evaluation.

According to Kirzner (1999), the discovery of new business opportunities has been associated with personal awareness, skills and insights. Tang et al. (2012 p.78) support Kirzner's (1973, 1999) view that alertness, "is a process and perspective that helps some individuals to be more aware of changes, shifts, opportunities, and overlooked possibilities". Tang et al. (2012) cite judgement as an important element of alertness. They contend that alertness and the progress of schematics allow people to plan and understand information in the various fields of knowledge involving the growth of new business opportunities.

Tang et al. (2012) position alertness as having three distinct elements:

1. *scanning and searching for information*
2. *connecting previously disparate information*
3. *making evaluations on the existence of profitable business opportunities*  
(Tang et al. 2012 p.78)

Alertness, according to Tang et al. (2012) is key in the context of 'opportunity'. A debate exists on whether business opportunities are discovered or created. In the 1970's, Kirzner advanced research on entrepreneurial alertness. He described alert individuals as having 'antenna' that facilitate the identification of gaps with limited clues (Tang et al. 2012). Kirzner (1999) described these individuals as capable of regularly scanning the environment and always prepared to discover new business opportunities with profit potential. Ardichvili et al. (2003) declare that the occurrence of opportunity identification and entrepreneurial alertness are highly multifaceted. They believe that existing studies in opportunity identification and entrepreneurial alertness cover a broad range of disciplines including management, organisation theory, marketing, and entrepreneurship. Ardichvili et al. (2003 p.105) assert that "alertness encompasses taking the initiative founded on a number of cognitive capacities including, prior knowledge and experiences, pattern recognition, information processing skills, and social interaction". McMullen and Shepherd (2006) maintain that entrepreneurship requires action and alertness is not entrepreneurial without judgement and taking measures towards action.

The first element of alertness as proposed by Tang et al. (2012) refers to the activity of constantly scanning the environment in the search for new information. This aspect of alertness permits entrepreneurs to build immense ranges of domain-relevant information (areas of expertise). The scanning and searching for information aspect contains previous knowledge, preparedness and a sensitivity to new opportunities. Searched information is made up of the individual's sensory store, which affords temporary storage of information in its original form. The same sensory store augments the growth of an individual's tacit and explicit knowledge base. Scanning and search is employed by the entrepreneur when looking for answers to specific questions and the typical search entails several possibilities in the appropriate places. The scanning and

search element brings about the evolution of cognitive frameworks akin to prototypes and plans which mirror the individual's knowledge and beliefs about the outside world (Tang et al. 2012).

The second element, connecting previously disparate information involves alert association and connection. It embraces the drawing together of contrasting fragments of information and creating them into articulate options. This aspect explains how information is used or stretched. It facilitates an individual to consider the various options and to create one-off connections allowing for vision of the bigger picture. Association and connection of knowledge is proactive and is viewed as purposeful exploitation of information such as addition, deletion, or interpretation of the same information in different ways. Engagement in such a practice can help individuals to think outside the box and recognise connections between completely unrelated procedures (Tang et al. 2012).

The third element of alertness involves making evaluations and judgements about the new information and determining if it indicates a viable opportunity. According to McMullen and Shepherd (2006), it consists of two stages:

1. *attention and third-person opportunity*
2. *evaluation and first-person opportunity*

(McMullen and Shepherd 2006 p.139)

The first stage materialises when an individual judges that a possible opportunity exists for someone i.e. third-person opportunity. It only signifies an opportunity for individuals with the requisite qualities and does not signify an opportunity for everyone. In the second stage, the third-person opportunity triggers an additional evaluation process where the entrepreneur resolves if it is an appropriate opportunity for him or her i.e. first person opportunity. In effect, the existence of a third-person opportunity does not automatically indicate that the individual is certain that they have the precise knowledge and motivation to take advantage of the opportunity. The entrepreneur will decide if the opportunity is worthy enough to exploit and calculate his or her own readiness to endure the uncertainties by taking entrepreneurial action (Tang et al. 2012).



Results from Tang et al. (2012) and their development of a three dimensional alertness scale put forward that both industry and previous start-up experience and prior knowledge are significantly related to entrepreneurial alertness. According to Fiske and Taylor (1991), social cognition theory proposes that the decision and inference process can be augmented with training. Therefore, alertness signifies a competence that can be learned and improved. Organisational learning processes such as experiential learning, intuiting, interpreting and institutionalising are key and all of the above have connotations for scanning and search, association and connection, and evaluation and judgement of entrepreneurial opportunities (Ardichvili et al. 2003, Kirzner 1999, McMullen and Shepherd 2006, Tang et al. 2012). Therefore, section 2.5 will examine the demand for entrepreneurship education, some models of EE, and the implications of a changing labour market.

## 2.5 Models of Entrepreneurship Education

Entrepreneurship education (EE) has emerged worldwide in different educational contexts, primarily as a route to develop entrepreneurial cultures and through the creation of new ventures. EE endeavours to foster entrepreneurial mind-sets through education and learning (Kuratko 2003, Penaluna et al. 2012). It is recognised for generating benefits at the macro level of economic development (Birch 1979) and at the micro level of personal satisfaction and achievement (Anderson et al. 1998, Cooney and Murray 2008). According to Jack and Anderson (1999), three main sources of demand exist for EE: governments, students and the business world. First, governments are compelled by shifts towards a post-Fordist<sup>6</sup> economy (Jack and Anderson 1999). Governments strive to foster entrepreneurial cultures motivated by job creation (Alberti et al. 2004) and the augmentation of a country's international competitiveness (Audretsch et al. 2002).

Second, students study entrepreneurship for a variety of reasons. From starting one's own business to all-embracing ideas such as work attitude to help them in their future careers or the acquisition of knowledge that can be used to develop new entrepreneurial opportunities (Bruyat and Julien 2000, Cooney and Murray 2008). EE bestows a sense of autonomy and self-confidence on its audience (Raposo and Paço 2011) and it plays an important role in raising awareness about self-employment as a viable career option (Henry et al. 2005). According to Cooney and Murray (2008 p.6-7), entrepreneurship is currently attributed with "breaking the barriers of class, age, gender, sexual orientation, and race. It is within this realm of personal development that EE can offer significant benefit". Current austerity measures together with negative changes in employment contracts and structures have altered the labour market (Jones and Iredale 2010). As a result there are fewer opportunities for continuous organisational employment (van Gelderen 2012).

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<sup>6</sup> Post-Fordism is the name given by some scholars to what they describe as the dominant system of economic production, consumption and associated socio-economic phenomena, in most industrialised countries since the late 20th century (Hanlon 2014, Raffo et al. 2000).

Third, the business world incorporating both large and small organisations is another main source of demand for EE. The large business sector is reducing employment and restructuring; operating smaller internal units to take advantage of small company flexibility (Botham and Mason 2007, Hynes 1996). Jack and Anderson (1999) assert that managerial skills in SMEs are in short supply and Gibb (1996) articulates that larger organisations need managers who are motivated towards the development of new business initiatives.

### 2.5.1 Enterprise Education

Several connections exist between enterprise education and entrepreneurship education, which can cause confusion for educators and students alike. For this reason, the words *entrepreneurship* and *enterprise* take on a generic meaning (Curran and Stanworth 1989) and are used interchangeably throughout this review. Birdthistle et al. (2007) view enterprise education as a process with a sequence of stages and several stakeholders who need to be involved in the process. Stakeholders include students, educators, educational institutions, and employers. Enterprise education should provide the audience with knowledge and skills in subjects akin to idea generation, product and process development, market research, communication, and conflict management, negotiation, and project and people management.

Jones and Iredale (2010) describe the enterprising education approach as transcending different subject areas. It can be employed across diverse phases of education. The use of creative, action, and experiential learning pedagogies facilitate different teaching and learning contexts. These can be tailored to meet different audience needs. Enterprise education is distinct from traditional didactic learning. The educator acts as a facilitator and guides the audience through the process of learning. Gibb (1993) asserts that the educator needs to be a guide and a partner during the learning process, in contrast with an educator who dictates knowledge to a passive audience. People learn in different ways and educators must be able to recognise and facilitate this process (Birdthistle et al. 2007). The educator must develop a teaching style that facilitates learning by doing through discussion, experimentation, creative problem solving, positive learning from mistakes and collaborations with the outside world.

According to Rae and Carswell (2001), a new and more dynamic approach to entrepreneurship education (EE) development has emerged. It is identified as entrepreneurial learning and involves a continuous process of procuring, understanding and organising new information and knowledge with pre-existing structures (Cope 2005, Harrison and Leitch 2005, Rae and Carswell 2001). Tseng (2013), asserts that self-directed learning has emerged as an important area of inquiry in relation to entrepreneurial learning and entrepreneurial performance. Jones and Iredale (2010 p.10, 11) examine and put together a list of the different emphases given to enterprise and entrepreneurship education.

*The primary focus of entrepreneurship education is on:*

- *how to start a business including the key processes of business start-up;*
- *how to plan and launch a new business venture;*
- *how to grow and manage a business;*
- *enhancing the necessary skills and behaviours needed to run a business;*
- *the deployment of entrepreneurial skills and knowledge in a business context;*
- *imminent use of the knowledge and skills needed to start a business; and*
- *self-employment.*

*The primary focus of enterprise education is on:*

- *an active learning enterprise education pedagogy;*
- *knowledge needed to function effectively as a citizen, consumer, employee or self-employed person in a flexible market economy;*
- *the development of personal skills, behaviours and attributes for use in a variety of contexts;*
- *the person as an enterprising individual – in the community, at home, in the workplace or as an entrepreneur;*
- *the use of enterprising skills, behaviours and attributes throughout the life course; and*
- *how a business, particularly a small business works.*

**(Source: Jones and Iredale (2010 pp.10-11))**

Entrepreneurship education centres mainly on the prerequisites of the entrepreneur, and the key focus is on starting, growing, and managing a business while enterprise education concentrates on the needs of a much broader group of interested parties, including consumers and the community. The key focus of enterprise education is on the attainment and development of personal skills, abilities, and attributes that can be used in different circumstances throughout the course of one's life. Enterprise

education works on strengthening the enterprising person and therefore the entrepreneurial mind-set (Jones and Iredale 2010). Section 2.5.2 examines the different objectives of entrepreneurship education.

### 2.5.2 Entrepreneurship Education

Hytti and O’Gorman (2004 p.13) assert that there are three sets of objectives that can be attained by means of EEPs. A greater understanding of the different forms such programmes can take is required. Some EEPs have a blend of all three objectives (Hytti and O’Gorman 2004). The first objective is to develop a general understanding of entrepreneurship and in particular the role that the entrepreneur plays in the economy and in society in general (Hytti and O’Gorman 2004; Mwasalwiba 2010). The second objective involves ‘learning to become entrepreneurial’ and is specifically concerned with taking charge of one’s own learning in both one’s life and career. The third objective involves learning how to become an entrepreneur (Hytti and O’Gorman 2004; Mwasalwiba 2010).

The effective operation of any EEP is contingent on what policy makers and educators understand about the various alternatives and objectives of enterprise education. For example, while conducting a cross-cultural learning strategy for EE by means of a comparative study of students in France and the US, Carayannis et al. (2003) suggest that environmental factors such as policy makers and educators can influence the creation of entrepreneurs and thus the creation of start-ups. They assert that these environmental factors not only specify the objective but also enable or inhibit its success. Seemingly, policy makers in France do not embrace business creation as a solution to unemployment. French culture tends to perceive private business creation as destroying what is seen to be the conventional pattern of wealth distribution in a collectivist society. They believe that the individual profits and not society and the nation at large. These perceptions result in a culture where it is problematic to secure support. Firstly, in the form of external collaborators to believe in the entrepreneur and secondly, in the form of capital to get the venture off the ground (Carayannis et al. 2003).

Gibb (1993) asserts that the entrepreneurial process should be the starting point for enterprise education and be founded on the action-learning approach (Jones-Evans et al. 2000, Jack and Anderson 1999, Fiet 2000). Bennett (2006) distinguishes the pedagogical goals as 'passive' and 'active'. Passive pedagogical goals refer to the general understanding of entrepreneurship and the role that the entrepreneur plays in the economy. Active pedagogical goals, by and large train individuals to act entrepreneurially, and employ an action-based approach (Bennett 2006, Jones and Iredale 2010). This is in line with the earlier work of Kolb (1984) and Dewey (1938) who were key contributors of the value of experiential learning in the literature to date on entrepreneurship education.

### 2.5.3 Entrepreneurship Education at Tertiary Level

*The teacher is not there for the sake of the student; both teacher and student are there for the sake of learning (A. von Humboldt, 1810).*

Irrespective of the growth and wealth of resources that are invested in the field of EE, it is still considered to be in the early stages of development (Carayannis et al. 2003, Greene and Rice 2007, Pardo 2013). In their working paper, Béchard and Grégoire (2005) distinguish between the micro- and macro-pedagogical levels of entrepreneurship. They propose that on a micro-pedagogical level, the entrepreneurship literature is proliferate with several typologies that make distinctions between theories, models and approaches centred on learning and teaching and on a macro-pedagogical level, the focus is on comprehending the foundation and value of education as a whole. Béchard and Grégoire (2005) assert that these two epistemological<sup>7</sup> schools exist side-by-side but lack interaction, exposing the paradox that the bulk of EE research is elicited from the management sciences rather than education theories. In fact, education theories, the study of teaching and learning is cited by Gorman et al. (1997) as crucial to the exploration of EE.

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<sup>7</sup> Relating to epistemology which is a branch of philosophy that explores the origin, nature, methods, and limits of human knowledge (Bain 2012).

For this reason, traditional teaching methods expended at universities are considered unsuitable, particularly when it concerns the enhancement of entrepreneurial motivation and competencies (Blenker et al. 2006, Dickson et al. 2008, Fiet 2000b, Gibb 2002). Several reasons explain why EE has revealed little evolvement in terms of what should inform teaching practice. The entrepreneurship field is not regarded as authentic with too much emphasis on the economic and management content. EE at university level is mostly taught by non-tenure track adjunct educators<sup>8</sup> (Béchar and Grégoire 2005) who are highly predisposed by their primary discipline especially when choosing content for their classes (Fiet 2000a, Gibb 2002). Fiet (2000b p.4) terms this practice as academic autobiography, which refers to “a compulsion to view the world from the standpoint of one’s own training and suggests a reluctance or lack of ability to view the world through other lenses”. No professional rewards exist in EE research and this is in sharp contrast to research in business. Textbooks on entrepreneurship also lack theoretical rigor giving rise to criticism and downgrading entrepreneurship to an epiphenomenon<sup>9</sup> (Anderson et al. 2012, Béchar and Grégoire 2005). Little or no thought is given to the importance of the cognitive and socio-cognitive schools akin to knowledge transfer on personal growth, business ethics, collaborative learning, cognitive processes, information and communication technologies (ICTs), or the promotion of critical thinking (Béchar and Grégoire 2005).

In an effort to prevail over some of the pedagogical dilemmas at tertiary level and permit the field to move beyond traditional theory and teaching methods, several scholarly advances have been made. In the university context, Blenker et al. (2006) examine the relationship between learning and teaching entrepreneurship and whether academia strive for enterprising behaviour or entrepreneurship. In doing so, they highlight a number of key concerns in EE development and suggest that these concerns should be reflected upon by all actors engaged in EE. Students have few resources and major

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<sup>8</sup> Non-tenured track adjunct educators or part-timers do not hold permanent positions in the educational institution and therefore they are not faculty members (Johannisson 2011). Katz (2003) found that adjuncts were being used to teach introductory course levels in entrepreneurship, but his study did not specify whether these adjuncts held PhDs in other areas.

<sup>9</sup> A secondary phenomenon that occurs alongside or parallel to the primary phenomenon (Anderson et al. 2012).

barriers surface for them in gathering and organising what they need to discover and take advantage of entrepreneurial opportunities (Ucbasaran et al. 2010). These entrepreneurial resources according to Solesvik et al. (2013 p.750) include “human capital<sup>10</sup> skills, capabilities, and knowledge, as well as resources with regard to technology, finance, reputation, networks of contacts, and social capital”. Stevenson (1983), a leading researcher in the area of entrepreneurship education is of the opinion that entrepreneurship requires the entrepreneur to develop opportunities beyond the resources they currently possess. The learning environment is crucial to entrepreneurship and its pedagogy at tertiary level (Bécharde and Grégoire 2005). As Gartner (1985 p.700) asserts, “entrepreneurs do not operate in vacuums, they respond to their environments”, hence enterprising behaviour is also dependent on the environmental variable. All learning takes place in settings that have particular sets of cultural, social norms, and expectations and these settings influence learning and knowledge transfer in influential ways (Agbim et al. 2013, Dewey 1938, Kolb 1984). In order to enhance enterprising behaviour in tertiary level institutions, Blenker et al. (2006 p.26) suggest the need “to open doors – both within the university to create networks between faculties and departments and to the outside in order to create networks with industry and government in the environment”. The presence of supportive regional environments similar to incubator organisations are deemed to actually create entrepreneurs (Gartner 1985, Pennings 1982, Shapero and Sokol 1982).

Widespread methods employed in university-based EEPs are based on an individual-centred mind-set. The individual-centred mind-set is communicated in two ways via entrepreneurship content and the educational context. Entrepreneurship content concentrates on the individual and an example of this is the heroic Schumpeterian entrepreneur (Schumpeter 1934) who identifies and organises an opportunity to start up his own business (Laukkanen 2000). It is often forgotten that this economic process is also made up of social processes where the behaviours and exploits of other people are shaped and synchronised (Anderson et al. 2012, Johannisson and Lundberg 2002).

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<sup>10</sup> Human capital is a pool of resources, similar to knowledge, skills, abilities, experience, intelligence, training, judgment, and wisdom owned individually and collectively by a population (Solesvik et al. 2013).



Likewise, the educational context concentrates on the individual and the transfer of knowledge from one individual to another. Blenker et al. (2006) argue that the pedagogical context is unsuccessful in educating the student to understand the social processes involved in entrepreneurial action. Apart from the tertiary level context, other and possibly more complementary learning processes can take place in other contexts where diverse communities can offer collaborative projects that encourage teamwork and networking opportunities in students and potentially create enterprising behaviours (Blenker et al. 2006).

Birdthistle et al. (2007) contend that the success of EE is highly contingent on the knowledge and skills base of the educator together with their level of dedication. They believe that EE necessitates a different pedagogical approach. It is best taught through experiential learning as opposed to didactic methods. Experiential learning instigates effective learning as it involves continuous exposure to direct action and personal reflection on practical encounters (Cope and Watts 2000). The educator plays an instrumental part in the learning environment and their pedagogical methods significantly impact the learning outcomes of the course (Birdthistle et al. 2007). The real challenge, according to Gibb (1993) is to procure educators aligned with enterprising modes of learning and a competency to teach it. Competency is defined by Rankin (2005) as the knowledge, skills, attitudes, values and behaviour that affect an individual's disposition and capability to execute a profession.

Blenker et al. (2006) contend that links exist between action and theory and between learning and doing and therefore assert that EE requires systematic reflection. According to a World Economic Forum (2009) report, EE must firstly be entrepreneurial in order for the entrepreneurship ecosystem to prosper. The enterprise educator is integral to the development of personal skills and attributes and for this reason, the next section will examine this role in the entrepreneurial learning process.

#### 2.5.4 The Enterprise Educator

Šorgo et al. (2012 p.286) refer to “the bureaucratic ‘industrial’, standards driven model of schooling” which currently fails to discharge the talents of students and Kirby (2006) suggests that, research and knowledge on how to teach entrepreneurship remains rather underdeveloped. This review has identified, that in tertiary level, it is often lecturers who are not trained specifically in entrepreneurship who teach the programmes and sometimes these lecturers have no actual interest in the field (Garavan and O’Cinneide 1994, Gibb 1996, Hynes 1996). Raposo and Paço (2011) believe that EE and enterprise training initiatives should be more centred on changing personal attitudes than on knowledge whilst Draycott and Rae (2011) assert that the delivery of enterprise education often takes place in ways which are not enterprising forms of learning.

As already noted in this review, traditional methods are considered outdated and repetitive. Boredom and distraction are common in audiences because they are not actively and completely involved in the process of learning (Fiet 2000a). Entrepreneurship educators are not receiving the necessary training and thus teaching methods are compromised and considered unsuitable (Birdthistle et al. 2007, Blenker et al. 2006). The entrepreneurship education educator plays a crucial role and in order for entrepreneurship education to be successful, it requires entrepreneurial teachers (World Economic Forum 2009). In light of the lack of entrepreneurial experience amongst second and third level educators, the experience aspect has to be acquired elsewhere (Blenker et al. 2006, Cooney and Murray 2008, Cope 2005). In most cases, the enterprise trainer comes from a business background and can potentially close the gap between the entrepreneurial event and personal experience (Blenker et al. 2006). In spite of this, the question remains, do they possess the necessary teaching skills? It is suggested that research in the entrepreneurship field has not yet yielded a clear profile of what constitutes the model EE educator (Bennett 2006).

A combination of a good educational instructor together with a number of structured collaborations with actual entrepreneurs is cited as being a possible remedy. It is uncommon to find teachers who have been entrepreneurs, and more uncommon to find

actual entrepreneurs who will make good teachers (World Economic Forum 2009). According to a World Economic Forum (2009 p.33) report, “the key is blending the two, so that pedagogy and content meld seamlessly and the student learns”. A dearth of dialogue and action exists in relation to the absence of and focus on recruitment, training and support of the enterprise educator (World Economic Forum 2009). Whilst evaluating an entrepreneurial summer school adjunct to Leeds Metropolitan University, Collins and Robertson (2003) refer to the programme being designed and delivered by highly skilled educators with several years’ experience managing and advising SMEs. According to the researchers, these educators are capable of teaching participants using current and contextualised information. It appears that enterprise educators do exist with both teaching and entrepreneurial experience but are an exception rather than a rule.

The real challenge, according to Gibb (1993) is to procure educators aligned with enterprising modes of learning and a competency to teach it. EE requires hands-on, project-based, non-linear approaches involving a number of academic disciplines and expert professionals. Non-linear learning is the way we naturally learn. Being entrepreneurial is a reflective action and the use of textbooks alone will not facilitate the student to advance in this subject. A book depicting the steps to a new dance is not adequate to learn the dance. A dance teacher demonstrates, by teaching the steps; the student attempts the steps and in doing so learns the steps. This serves to confirm that mastery takes place to teach the skill and that we learn by doing. The ‘How to Teach’ conventional pedagogy will have to change (World Economic Forum 2009). Middleton and Donnellon (2014) offer clarification between the role of coach and the role of teacher.

#### 2.5.5 Coach versus Teacher

The teacher is perceived as the transmitter of knowledge and the role involves the organisation and presentation of that same knowledge to the student who is the receiver of the knowledge. The scope of transmission options is limited, teachers coordinate the programme and the curriculum. They formulate the syllabus, assignments and assessments. A coach, on the other hand is perceived as a facilitator and the role

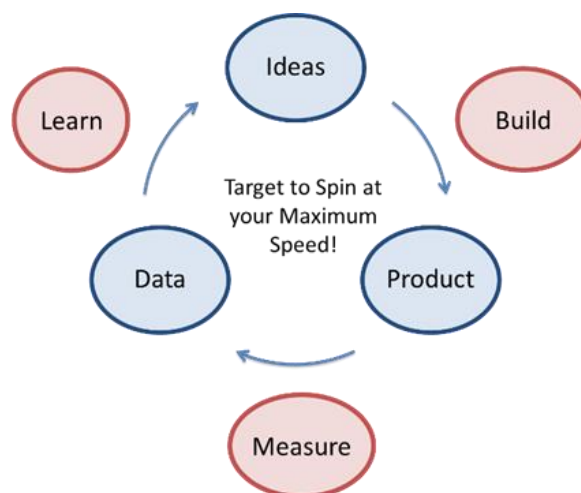
involves guiding the student by facilitating feedback and dialogue. Learning is transmitted via several actors and several arenas. In essence, the teacher becomes a facilitator and steers the student to access resources autonomously. This serves to enable independent learning and performance in the student and the student begins to take charge of their own development (Middleton and Donnellon 2014).

Parallel to Hytti and O’Gorman (2004), Middleton and Donnellon (2014) highlight the issue of finding the right balance between the two. They further assert that the intellectual and emotional demands of the know-how capability are not generally developed in teachers and even go so far as to say its absence is ignored by those in charge and also in the EE literature (Middleton and Donnellon 2014). The next section briefly examines the lean start-up model as it concentrates on the more practical aspects of the entrepreneurial process.

### 2.5.6 The Lean Start-Up Model

The introduction of business models and concepts for new venture creation processes is one approach that researchers have endeavoured to attend to the practical aspects of the entrepreneurial process and in doing so highlight the more explicit 'know how' (Middleton and Donnellon 2014). The lean start-up model is viewed as a methodology to reduce the costs of starting a new business (Miller and Bound 2011). The model has two founding fathers, Steve Blank, a professor at Berkeley University and Eric Ries, an entrepreneur and investor. Ries (2011 p.8) defines a start-up as "a human institution designed to create new products and services under conditions of extreme uncertainty". This definition recognises the importance of tacit elements akin to experiences, particular mind-sets, and cultures. The founders of the model are eager to draw attention to the fact that lean does not mean cheap. Their aim is to avert individuals misusing time on businesses that do not have a product or service that fits the market or has the ability to scale (Miller and Bound 2011). It is viewed as a practical guide to starting a new venture (Ries 2011) and is considered valuable and necessary in the preparation of the nascent entrepreneur (Middleton and Donnellon 2014).

Figure 6 - Lean Start-up Model



**(Source: Ries (2011 p75))**

Figure 6 depicts the lean start-up model which proposes a process for gauging a desired result by means of a repetitive cycle of operations similar to early engagement with

customers and teams in an effort to learn from them. This iterative process should be convergent (Middleton and Donnellon 2014, Ries 2011). According to Miller and Bound (2011), time is of the essence in the early-stage start-up and the lean start-up model has become a valuable means for the type of businesses that most accelerators accept. Therefore, the next section examines the methods and practices in enterprise start-up initiatives and accelerator programmes.

## 2.6 Methods and Practices in Enterprise Start-Up Initiatives/Accelerators

*Waiting for the perfect time to leave the corporate battleship to skipper a start-up is usually futile. There's no perfect moment (Wasserman 2009).*

From a domestic policy perspective, the demand for enterprise education, as a rule, is understood to come from the perceived necessity to 'train' or 'develop' more entrepreneurs (Hytti and O'Gorman 2004). Thus, the unequivocal objective to increase start-ups by learning 'how to' be an entrepreneur or preparing individuals to act as autonomous entrepreneurs (Jack and Anderson 1999, Solomon et al. 2002) is the main focus of enterprise start-up initiatives and accelerator programmes. These are predominantly directed at resolute starters, novice/nascent entrepreneurs and new start-up ventures (Hytti and O'Gorman 2004). For the purpose of this review, this section will examine a number of common components akin to Krueger's developmental experiences and Johannisson's entrepreneurial competencies that encompass the methods and practices employed in preparing individuals to engage an entrepreneurial mind-set and start-up and run new businesses autonomously.

According to Krueger (2007), entrepreneurship is often praised for the effectiveness of its pedagogical best practices. However, as already noted in this review, a recurrent insight is that successful entrepreneurs and enterprise founders are described as having an expert mind-set. Some individuals shift from novice to expert, while others do not (Ericsson and Charness 1994) and that shift establishes itself in significant changes in deep cognitive structures. Krueger (2007 p.123) asserts, "some innate hard wiring" exists "but expertise appears to be learned". How do certain individuals harness entrepreneurial knowledge and learn to identify and take advantage of opportunities more than others? (Kirzner 1973, McClelland 1961, Schumpeter 1934, Shane and Venkataraman 2000). How do these deeply held beliefs and belief structures eventually root entrepreneurial thinking and change as individuals move toward a more professional, entrepreneurial mind-set? Many scholars in the entrepreneurship field allude to such insights. Krueger (2007) believes that firstly, it is necessary to be able to recognise the deep beliefs that anchor and shape knowledge structures. Accordingly, these deep beliefs influence exposure to knowledge content. Moreover, exploring deep

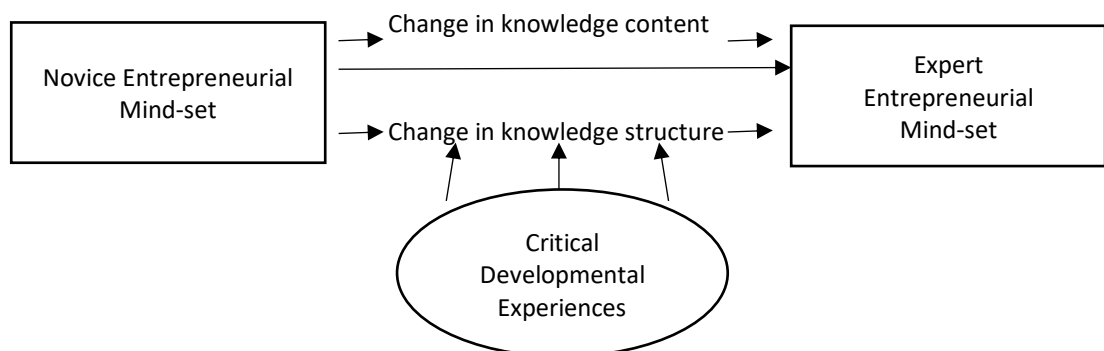
beliefs is pivotal, as they play an important role in what is understood as applicable in new knowledge. Krueger (2007 p.214) further asserts that the examination of deep beliefs will facilitate a better understanding of entrepreneurship because:

- *Behind entrepreneurial intentions are known entrepreneurial attitudes;*
- *Behind entrepreneurial action are entrepreneurial intentions;*
- *Behind entrepreneurial attitudes are deep cognitive structures;*
- *Behind deep cognitive structures are deep beliefs*

(Krueger 2007 p.214)

As individuals shift from a novice entrepreneurial mind-set to a more expert entrepreneurial mind-set, Krueger (2007) maintains that the same shift is reproduced in significant changes in deep cognitive structures, interposed by critical developmental experiences. These developmental experiences can be viewed in terms of cognitive development of deep-rooted beliefs and knowledge content. See figure 7, where Krueger (2007 p.124) incorporates cognitive developmental psychology and the role of constructivist learning on cognitive development. Constructivist learning adopts an approach that learners construct knowledge out of their experiences, and is associated with the pedagogic approach that encourages active or action learning. Active or experiential learning i.e. learning by doing approaches are integral components to enterprise start-up initiatives (Johannisson 1991).

Figure 7 - Constructivism and Entrepreneurial Cognitive Development



(Source: Krueger (2007 p.124))



As opposed to Krueger and what he refers to as critical developmental experiences, Middleton and Donnellon (2014) associate it to entrepreneurial competency development i.e. knowledge, skills, and attitudes. They address competency development from the learner’s perspective and make parallels to Johannisson's (1991) taxonomy of entrepreneurial competences. According to Johannisson (1991), the action-learning approach is embraced in many non-academic management programmes in Sweden. As already stated in this review, entrepreneurial learning does not take place in a vacuum. The social environment is integral and the context of entrepreneurial action has to be addressed. Table 1 illustrates Johannisson’s (1991) taxonomy of entrepreneurial competences with a two-level classification structure. One level relates to the different levels of learning, and is dependent on its association with attitudes, (values, motives), skills and knowledge. The second levels relates in turn to the individual and the context.

<i>Competences</i>		
<i>Level of learning</i>	<i>The individual</i>	<i>The context</i>
<b>KNOW-WHY</b> (attitudes, values, motives)	Self-confidence, achievement motivation, perseverance, risk acceptance;	Entrepreneurial spirit, availability of mentors and role models;
<b>KNOW-HOW</b> (skills)	Vocational skills;	Complex occupational and business structures;
<b>KNOW-WHO</b> (social skills)	Networking capability;	Production and social networks;
<b>KNOW-WHEN</b> (insight)	Experience and intuition;	Industrial traditions;
<b>KNOW-WHAT</b> (knowledge)	Encyclopaedic knowledge, institutional facts;	Information networks, vocational training a varied cultural life;

*Table 1 - Entrepreneurial Competences: A Taxonomic Approach*

**(Source: Johannisson (1991 p.71))**

Individuals who want to begin an entrepreneurial career must be personally motivated and committed in relation to their own capability (Johannisson 1991). Middleton and Donnellon (2014) discuss this capability in terms of know-why and refer to it as the development of an individual's self-awareness and why he/she decides to take part in the entrepreneurial process. They assert that the majority of action-based learning centres on the know-what and the know-how. Know-what, in terms of the knowledge an individual needs to start-up a new enterprise and know-how, in terms of the knowledge an individual requires to perform entrepreneurial actions.

The know-how element according to Fayolle and Gailly (2008) relates to the communication of techniques, tools and methods of handling circumstances in order to augment the chances of new start-ups, their survival and success. In this instance, the objectives of EE should be formulated to encompass the transfer and development of knowledge and the specific skills to augment the learners' entrepreneurial potential. The know-how objective is therefore, to prepare the audience to deliberate, analyse and act as entrepreneurs in several contexts. This content can be covered with themes of creativity and alertness. Entrepreneurial alertness is founded on a number of cognitive capacities and involves the competence to make judgments and decisions, in relation to particular strategies (Ardichvili et al. 2003, Fayolle and Gailly 2008).

Middleton and Donnellon (2014) maintain that the know-why aspect has been neglected and that few scholars with the exception of Rae (1997) have addressed this critical gap in entrepreneurship education. Rae (1997) argues entrepreneurial education must go further than the know-what and the know-how. See figure 8 where Middleton and Donnellon present a conceptual framework summarising the prerequisite knowledge they assert is necessary to develop nascent entrepreneurs for entrepreneurial action.

Figure 8 - Knowledge Framework for Entrepreneurial Action

<b>Generic</b>	Knowledge about entrepreneurial concepts		
	Knowledge of the activities typical to an entrepreneurial process	Tools and guidelines for entrepreneurial action	
<b>Personal</b>		Simulation of entrepreneurship	
		Immersion in entrepreneurship	Applying own means to entrepreneurial process with belief that achievement is possible
		Demonstration of competency in entrepreneurship	Sense making of own entrepreneurial competency
	<b>KNOW WHAT</b> Knowledge of what needs to be done	<b>KNOW HOW</b> Knowledge for performing entrepreneurial activities	<b>KNOW WHY</b> Knowledge that sustains personal engagement and legitimizes action

(Source: Middleton and Donnellon (2014 p.171))

The nascent entrepreneur must develop their 'know why' which involves rotations of thoughts, actions and feelings. According to Middleton and Donnellon (2014), a lot of work has been done on the way entrepreneurs think with the emphasis on the identification and seizure of an opportunity. Middleton and Donnellon equate this thinking to the 'know what' and 'know how'. McMullen and Shepherd (2006) sum it up concisely, when they refer to entrepreneurial action. The importance should be placed on how the entrepreneur interprets an opportunity into a personal decision with reference to the merits and challenges (for me). Drawing on Johannisson's (1991) levels

of learning, and the 'know what' competency, Fayolle and Gailly (2008) differentiate three main dimensions which position and structure the contents of EE. They propose three dimensions namely, the professional dimension, the spiritual dimension, and the theoretical dimension respectively.

Fayolle and Gailly (2008) suggest that the professional dimension of EE is explicit to the know-how element i.e. practical knowledge, and that less importance is given to theoretical knowledge. Respectively, this dimension depends on three kinds of knowledge. Firstly, know-what relates to, what action has to be taken in order to determine and act in a given situation. For example, what is necessary to do in order to start-up a technology business or validate an opportunity, or conduct market analysis? Secondly, know-how relates to, how to handle any given situation. For example, how to safeguard the suitability of an idea in relation to an individual's personal profile bearing in mind the accrued experience of the same individual and how to recognise risks and handle them. Thirdly, know-who are the valuable individuals who can generate advantageous networks in any given context. For example, the identification of the necessary stakeholders for new start-ups in the relevant industry sector. The pinpointing of those stakeholders who may be attracted to an idea and the identification of funding agencies akin to venture capitalists, and angel investors (Fayolle and Gailly 2008).

The spiritual dimension, according to Fayolle and Gailly (2008) should permit individuals to take advantage of a space and time in relation to the entrepreneurial phenomenon. Taking advantage in space involves the identification of an entrepreneurial opportunity, which is in harmony with the individual's personal profile. Taking advantage in time suggests a recognition of the moment in an individual's life, where and when it is both possible and suitable to take on an entrepreneurial venture (Fayolle and Gailly 2008). This spiritual dimension as proposed by Fayolle and Gailly (2008) is similar to that of the neglected know-why element espoused by Middleton and Donnellon (2014). They propose that the know-why element refers to knowledge that supports and sustains personal engagement and constitutes action. Therefore, Fayolle and Gailly (2008) propose that the content in this dimension should focus on two elements.

The know-why element offered by Fayolle and Gailly (2008), examines what determines human behaviour. It looks at the entrepreneurs' attitudes, values, and motivation. What propels ordinary individuals to engage in entrepreneurship? Fayolle and Gailly (2008) suggest that testimonies of both successful and unsuccessful entrepreneurs from different backgrounds, together with discussions, debate, and feedback may constitute appropriate and thought-provoking methods of learning for this type of content. The know-when element relates to when is the perfect time to go ahead and try. What is the optimal circumstance considering background factors? Students and participants of EEPs are challenged with these types of questions. Fayolle and Gailly (2008) propose case studies and interviews with experts as possible methods to address this type of content. Wasserman (2009 p.26) cites, "there's no perfect moment" and whilst giving the keynote address at the Massachusetts Institute of Technology (MIT) demo day, Shah (2016) put it succinctly:

*You have to make the leap and start. Going into stealth mode is counterproductive and going down the rabbit hole does not work. The idea will come to you after you start. This is a prerequisite and speed matters most (Shah 2016).*

Once the nascent entrepreneur makes the decision to act on an opportunity, an entrepreneurship education programme (EEP) parallel to a start-up initiative or accelerator programme can support the know-what, know-how and know-who dimensions (Fayolle and Gailly 2008, Middleton and Donnellon 2014). Enterprise start-up initiatives play an important role in the delivery of knowledge and skills where experiential learning pedagogies can be tailored to meet the different audience needs (Hynes 1996). Section 2.6.1 examines the different methods and practices employed in the delivery of training in enterprise start-up initiatives.

### 2.6.1 Action-Learning and Synergistic Learning

*Experience is not what happens to you; experience is what you do with what happens to you (Epictetus 55-135 C.E.)*<sup>11</sup>

According to Krueger (2007 p.125), there are two fundamental models of how learners construct knowledge and both offer different practices for teaching and training. The traditional model is behavioural and focuses on acquiring information, usually disparaged as the “memorise and regurgitate” model. The constructivist model, on the contrary, assumes that learners construct knowledge out of their experiences, and is often associated with the pedagogic approach that encourages active learning (Krueger 2007). Tenenbaum et al. (2001) propose that the fundamental thinking behind the action-learning approach is that the participant/student takes the primary role and the trainer/educator works as a coach or a facilitator of learning as opposed to the traditional teacher.

The synergistic learning approach also makes use of participatory and action learning methods. Similarly grounded in constructivist learning theory, where the learner actively participates in the shared enterprise of learning. Together the educator and the student create new meanings (Collins et al. 2006). This approach, according to Collins et al. (2006) permits the vocalisation and interaction of perceptions, analyses, and arguments by the participants involved and can lead to the discovery of solutions to problems and the advancement of new ideas. Cooperation, features highly in the synergistic approach where matters of interest are determined by the group and the direction of this process is then facilitated by the educator. Collaborating or co-learning permits the group to share knowledge and create new meanings to establish plans of action. Collective action is part of the synergistic approach where a group of nascent entrepreneurs create and carry out their plans without the direction of educators (Collins et al. 2006).

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<sup>11</sup> Epictetus, the Handbook. Translated and Introduction by White (1983).

Hytti and O’Gorman (2004) allude to an acute problem with the action-learning approach by virtue of the fact that the teacher is challenged to reach the right balance between the role of coach and the role of teacher. Cooney and Murray (2008) also highlight this issue when they state that trainers and educators are confronted with the task of having an action-oriented teaching style and the capability of engaging in a diversity of teaching methods. Revans (1982) describes an action learning approach as a method of intellectual, emotional or physical development. The participants are required to be conscientiously involved in some real complex problems in order to change and advance their observable behaviour in the field. Hytti and O’Gorman (2004) assert that the action-learning approach promotes independent work for participants and this must be achieved without direction and interference from the teacher. However, when participants are not supervised or do not receive feedback, progress can be slow and the learning experience has the potential to be uncertain. Similarly, Graves (1998) states that the act of looking for feedback and its subsequent employment is vital for the entrepreneurial mind-set. The entrepreneur must constantly invigilate their own status and vulnerability in the ever-changing work environment (Graves 1998).

Hytti and O’Gorman (2004) suggest that this inconsistency can be remedied. The focus should not be on the number of interventions by teachers but on the quality of the interventions. They also assert that whilst trainers/educators are coaching, it is necessary to ration authoritative instructions. Trainers and educators must concentrate on the provision of questions that permit participants to identify the significant issues and present advice in the shape of suggestions and ideas. The participant is then in a position to decide how to carry on and be responsible for achieving the programme goals (Hytti and O’Gorman 2004). Collins and Robertson (2003) maintain that participants should be enabled to stretch their brain to the limits and to make their own contributions to the point that it is more significant than that of the educators and guest speakers combined. At the end of the day, if the participants are going to be self-employed, they need to think for themselves and solve their own problems (Collins and Robertson 2003). Gibb (1996) draws attention to a number of distinctions between the conventional approach and the enterprising approach in the delivery of EE.

The distinctions are displayed in Table 2. Cooney and Murray (2008) point out that while the distinctions between the two approaches are concerned with an academic institution, they can correspondingly apply to the delivery of any enterprise initiative.

CONVENTIONAL APPROACH	ENTERPRISING APPROACH
Major focus on content	Major focus on process delivery
Led by teacher	Ownership of learning by participant
Expert 'hands-down' knowledge	Teacher as fellow learner/facilitator
Emphasis on 'know-what'	Emphasis on 'know-how' and 'know-who'
Participants passively receive knowledge	Participants generate knowledge
Learning objectives imposed	Learning objectives negotiated
Mistakes looked down upon	Mistakes to be learned from
Emphasis on theory	Emphasis on practice
Subject/functional focus	Problem/multidisciplinary process
Sessions heavily programmed	Sessions flexible and responsive to needs

*Table 2 - Conventional and Enterprising Teaching Approaches*

**(Source: Gibb (1996 p.315))**

Gibb (1996) states that enterprise education is not compatible with traditional models of education and that the teaching of entrepreneurship calls for a practical approach where information and knowledge are generated among participants. An action-oriented teaching model enables participants to understand the macro concepts of entrepreneurship (Cooney and Murray 2008, Gibb 1996). Section 2.6.2 explores the mentor mentee relationship where activities such as guiding, role modelling, sharing contacts, and general support are examined.



### 2.6.2 The Mentor Mentee Relationship

Miettinen (2006) refers to a mentor programme in Finland based on tripartite principle. It includes community, enterprise, and mentor with the aim of promoting the economic life of local communities. The mentor is generally a senior or retired entrepreneur or executive with roots in the community and acts as a sparring partner, coach, or adviser. These mentors can make up a network, creating a pool of multi-functional experiences. Mentoring is defined as a relationship between a senior and junior that comprises of activities such as guiding, role-modelling, sharing contacts and general support (Miettinen 2006). The mentor mentee relationship begins with the needs of the mentee with the express aim of developing him/her and research has shown that the mentee benefits enormously from counsel and support (St-Jean and Audet 2012). According to St-Jean and Audet (2012), mentee benefits include an elevated sense of entrepreneurial self-efficacy, endorsement of entrepreneurial self-image and a lessened sense of solitude. All these factors ultimately influence the nascent entrepreneurs' resilience (St-Jean and Audet 2012).

Mentoring has roots in ancient Greece, with Socrates and Plato as the main protagonists (Greer 2001). It can be either formal or informal, the latter being considered to be more effective however, Gómez-Mejía et al. (2001) believe that there are circumstances where a formal mentoring programme may be the better choice. According to St-Jean and Audet (2012), one of the main reasons for the failure of start-up ventures is the dearth of experience and competency on the part of the nascent entrepreneur. Carter et al. (2003) cite the first year of a start-up's life as the most determining factor for its survival. The nascent entrepreneur lacks confidence and when this confidence in skills and knowledge is increased, it augments the chances of survival. Deakins and Freel (1998) suggest that entrepreneurial learning can have a positive impact on start-up growth and success. St-Jean and Audet (2012) believe that the training needs of nascent entrepreneurs are not sufficiently considered in the design of programmes. Proper support of business skills learning and development is essential to proliferate the chances of start-up survival and earlier research highlights a need for training that is tailored to the needs of participants, suggesting a more personalised learning process. Interaction with mentors can facilitate this and provide effective transfer of experience

into learning. According to Cope and Watts (2000), entrepreneurs work in specific business contexts and have highly personalised needs. They therefore suggest that entrepreneurs and mentors must be carefully matched. Shaw (1995) cites discussion as a critical tool in the mentor mentee relationship and describes the process as focussed, flexible learning and generally a worthwhile experience for both sides (Shaw 1995). Both individuals can benefit from the relationship, which makes it fundamental and important. The relationship has the capacity to intensify professional and psychosocial development in both individuals by means of activities such as meetings, two-way discussions, knowledge sharing, working together, listening, and questioning. These activities facilitate exposure and visibility for both parties. The nascent entrepreneur is supported in learning the management of their business in competitive environments. The psychosocial aspects are facilitated through role modelling the mentor and receiving acceptance and confirmation from the mentor together with the other programme stakeholders. The mentee is counselled to develop a more self-assured sense of know-how, confidence, and effectiveness in his/her entrepreneurial role (Shaw 1995).

According to Kram (1983), the mentor relationship travels through four phases. Each phase is similar but set apart by different influencing experiences. These experiences are shaped by the mentee's needs and the surrounding environment. The relationship commences with the initiation phase, which is when the relationship starts. During the cultivation phase the relationship and the range of tasks covered is at a maximum. The separation phase is characterised by the established relationship and is considerably changed by new knowledge and structures in the mentee's start-up or by psychological changes in the mentee or indeed the mentor. Finally, during the redefinition phase of the relationship, it takes a new format which is significantly different from the beginning, or the relationship ends entirely (Kram 1983). Section 2.6.3 addresses the utility of the business plan, which many nascent entrepreneurs find difficult to prepare.

### 2.6.3 The Business Plan

The business plan is often used to improve the student's ability to formulate their business idea by working through a number of stages such as problem recognition, formulation, and evaluation of alternatives together with implementation. According to Edgcomb (2002 p.109), "many entrepreneurs find it difficult to prepare and use a plan". While many recognise the importance of a good business plan, they tend to forget about it during the day-to-day running of their business. Considerable efforts are expended by governments and educational institutions on the education and training of business planning activities. Research carried out by Honig and Karlsson (2001 p.19) indicate that "firms do business plans for institutional reasons rather than instrumental reasons". There is limited empirical support for the significance of business plans and educators who are fixated on applying the business plan doctrine may well emphasise the pedagogical benefits rather than the instrumental benefits. Honig and Karlsson (2001) advocate that it would be more advantageous for educators to focus in on the more essential aspects of nascent businesses, such as social structure and networks.

### 2.6.4 Networking

Wilkinson et al. (1996 p.276) assert that "firms are not islands; they are not self-sufficient". New and established businesses need to maintain and engage in networking activities to secure external and complementary means and information to achieve outcomes that otherwise would not happen. Jack and Anderson (2002) discuss the effects of embeddedness on the entrepreneurial process. Economic activities amongst actors do not transpire in a vacuum. They are acclimatised by enduring structures of social relationships. The social context according to Jack and Anderson (2002) has a direct impact on economic outcomes. This view is held by a number of other researchers. Whilst investigating the impact of social networks on self-employment, Aldrich and Zimmer (1986) incorporated social network theory into the study of entrepreneurship. They determined that networking is an essential prerequisite for entrepreneurial success. Networking and in particular mentoring have been acknowledged as very valuable programme components for nascent entrepreneurs (Lean 1998, Raffo et al. 2000). Carsrud et al. (1986) also established networks to be integral to new venture development. Local networks according to Deakins and Freel

(1998) have for some time now been accredited as a source of entrepreneurial learning with the emphasis on individual entrepreneurial learning rather than collective learning. Agbim et al. (2013) empirically investigate a connection between entrepreneurial learning and individual know-how, specifically the relationship between tacit knowledge, and the dimensions of entrepreneurship development. The study discovered that the dimensions of entrepreneurship are significantly related to tacit knowledge. As a consequence of this Agbim et al. (2013) believe that efforts should be made to use experts or network providers to develop the individual know-how of nascent entrepreneurs. This is to make sure that the nascent entrepreneur will have well established tacit knowledge that will convert into innovative products and services. We can know more than we can explain. Individuals who have tacit knowledge are often unaware of the importance of that knowledge and the value of it to others. Effective transfer of tacit knowledge generally requires extensive personal contact, regular interaction, and trust. This kind of knowledge can only be revealed through practice in a particular context and transmitted through social networks. To some extent it is captured when the knowledge holder joins a network or a community of practice (Agbim et al. 2013).

## 2.7 Evaluating Entrepreneurship Education Programmes

Several researchers have highlighted that a lacuna of research exists in relation to the outcomes and effectiveness of EEPs (Garavan and O’Cinneide 1994, Hindle and Cutting 2002, Honig 2004). The assessment of EEPs is associated on one hand to the choosing of evaluation criteria and on the other hand to a measurement of their efficacy. Storey (2000) disparages the fact that the majority of EE support programmes are lacking clear goals, making evaluations barely possible. If funding is invested in EE supports, then it is key that the evaluation of the impact of these initiatives takes place (Storey 2000). Fayolle and Gailly (2008) concur with Storey and assert that the choosing of evaluation measures is greatly inhibited by the vast diversity of objectives of EEPs. Fayolle et al. (2006) assert that it is time to develop a common framework where the design of EEPs can be improved, compared, and evaluated. They maintain that the same framework should have an established set of identifiable criteria and an appropriate methodology to facilitate effective measurement of the same set (Fayolle et al. 2006).

Maritz and Brown (2013) propose that greater contextualisation of EEPs is required to enable research into the effectiveness of such programmes. They suggest that EEPs need to be developed, not only with the objectives of the programme in mind, but in the context within which they operate. Section 2.7.1 describes the questions that need to be asked when evaluating training programmes.

### 2.7.1 Entrepreneurship Education Programme Evaluation and Planning

According to Kailer (2007), a lack of planning routines exist in the management of training and planning. Wottawa and Thierau (1990) highlight that evaluation is directed and purpose focused. Support for planning and decision-making is necessary by considering several alternative actions.

Kailer (2007 p.231) proposes the following questions in table 3 that need to be asked because evaluation underpins any subsequent decisions about a training programme and improves future programme planning.

<b>CAUSE OF EVALUATION</b>	<ul style="list-style-type: none"> <li>▪ Triggered by a certain incident</li> <li>▪ Systematically planned</li> </ul>
<b>EVALUATION DESIGN</b>	<ul style="list-style-type: none"> <li>▪ With and without control group(s) (matching)</li> <li>▪ Before, during, at the end, after the programme</li> <li>▪ Announced or secretly (for example, mystery shopping)</li> <li>▪ Self-evaluation or third-party evaluation</li> </ul>
<b>EVALUATION GOALS</b>	<ul style="list-style-type: none"> <li>▪ Support of participant's learning</li> <li>▪ Control of the current programme</li> <li>▪ Changes in current or future programmes</li> <li>▪ Assessment: participants, coach, training organisation, accommodation, and so on</li> <li>▪ Improvement of learning of (future) participants</li> <li>▪ Proving programme effects on different levels: attitude changes, increased knowledge, changed behaviour at the workplace, effect on enterprise level, total economic consequences</li> </ul>
<b>EVALUATION SUBJECT (WHO EVALUATES)</b>	<ul style="list-style-type: none"> <li>▪ Coach, programme planner, participant, evaluation expert</li> <li>▪ External or internal evaluation</li> <li>▪ Cooperative evaluation</li> </ul>
<b>EVALUATION OBJECT (WHAT AND WHO IS EVALUATED)</b>	<ul style="list-style-type: none"> <li>▪ Individual learning progress (intended, unintended)</li> <li>▪ Individual change in behaviour (intended, unintended)</li> <li>▪ Seminar climate</li> <li>▪ Degree of transfer to the workplace Programme design (goals, contents, method, time)</li> <li>▪ Trainer, training management, programme organisation</li> <li>▪ Environment (accommodation, seminar room)</li> <li>▪ Training institute (provider)</li> </ul>
<b>SOURCE OF INFORMATION</b>	<ul style="list-style-type: none"> <li>▪ Participants, seniors, colleagues, documents, figures</li> <li>▪ Trainer, training institute, principal (contract awarder)</li> </ul>
<b>EVALUATION TIME</b>	<ul style="list-style-type: none"> <li>▪ Workplace analysis and needs analysis</li> <li>▪ Goal formulation and programme planning During or at the end of the programme</li> <li>▪ After return to workplace or later on</li> </ul>
<b>EVALUATION FREQUENCY</b>	<ul style="list-style-type: none"> <li>▪ Pre-test, post-test(s)</li> </ul>
<b>INSTRUMENTS OF EVALUATION</b>	<ul style="list-style-type: none"> <li>▪ Questionnaire, interview, observation (standardized, open)</li> <li>▪ Paper and pencil test, assessment of work assignment/job performance</li> <li>▪ Critical incident technique, learning diary, document analysis</li> </ul>
<b>DATA HANDLING</b>	<ul style="list-style-type: none"> <li>▪ Anonymous or not anonymous</li> <li>▪ Data communication with(out) knowledge or consent</li> </ul>

Table 3 – Evaluation and Future Programme Planning

(Source: Kailer (2007 p.231))

According to Kailer (2007), a number of concepts and models for the evaluation of training, consulting, and management programmes have been developed in the past few years. Several studies demonstrate a strong correlation between entrepreneurial know-how and the success of start-ups (Garavan and O’Cinneide 1994, Kailer 2007). However, governments and policy makers in charge of entrepreneurial supports demand insights into the effectiveness of EEPs and ultimately on the outcome level (Kailer 2007, Kirkpatrick 1976). Kirkpatrick (1976) amongst others have developed evaluation concepts and a transfer of those models into EE is strongly advised by Kailer (2007). On the other hand, Fayolle et al. (2006) maintain that the focus of evaluation studies has transferred from input indicators to attitude changes.

Education sciences employ a number of general approaches to educational evaluation. The ‘Four Levels of Evaluation’, a goal-based approach (Kirkpatrick 1976, Kirkpatrick and Kirkpatrick 2006) can be identified as being used predominantly in the evaluation of training and remains the most influential (Fayolle and Gailly 2008). Kirkpatrick’s four-step model differentiates four chronologically classified evaluation levels. Kirkpatrick (1976 p.18) asserts that, “evaluation changes from a complicated, elusive generality into clear and achievable goals if we break it down into logical steps”. Kailer (2007 pp.232-3) expands further on Kirkpatrick’s four levels of evaluation:

1. **Reaction evaluation:** *At this level, the major aspect is the satisfaction of the participant with the programme, trainers and organisations.*
2. **Learning evaluation:** *the evaluation focuses on individual learning success. Which principles, facts, and techniques were learned at the end of the programme?*
3. **Behaviour evaluation:** *the success of transfer is evaluated at this level.*
4. **Results evaluation:** *what were the tangible results of the programme?*

**(Source: Kailer (2007 pp. 232-3))**

Mialaret (2005), from an educational science point of view, highlights the fact that the question of evaluation has to be addressed as soon as a teaching programme is designed. Therefore, evaluation is a key component of any framework and holds an equal level of importance to the other components. Programme originators should intensify their efforts to develop and apply respective evaluation designs (Kailer 2007). Fayolle and Gailly (2008) concur with Kailer and maintain that consistent with the objectives and the characteristics of the audience, the identification of relevant evaluation criteria, chiefly at the learning level of the Kirkpatrick's approach, and their effective measurement methods should be well-defined for every EEP (Fayolle and Gailly 2008). Kirkpatrick and Kirkpatrick (2006) recommend measuring evaluation reactions against best practice and comparing findings.

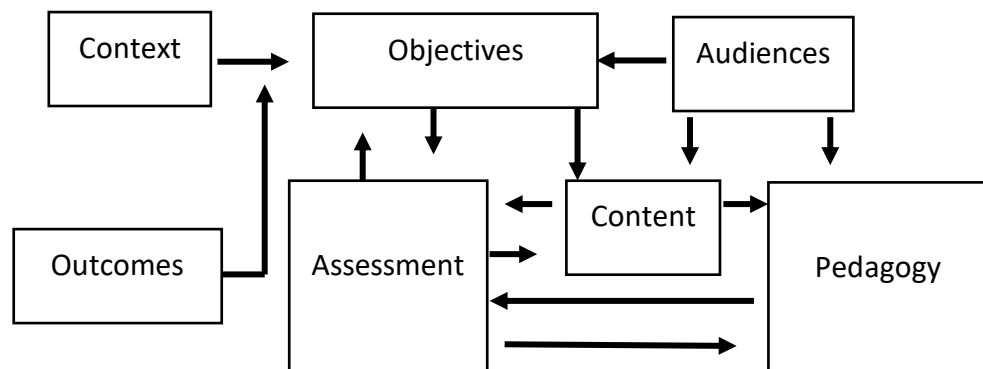
#### 2.7.2 Maritz and Brown Framework

Maritz and Brown (2013) develop a broad framework based on previous research to understand and support research into the effectiveness of EEPs. They believe that EEPs have to be designed, considering not only the objectives, but also the context in which they work. The authors suggest that there exists extensive conceptual confusion in the design and aims of EEPs, that they are not clear, and subsequently this affects the context, application, scrutiny, assessment, and output of an EEP. The components of an EEP are interconnected and according to Maritz and Brown (2013), in order to design an effective EEP; the connections between the components must be understood. In light of all this, they aim to highlight the dynamic relationships between the components of EEPs and consider their interrelatedness. They examine each of the components with the intention of advancing a comprehensive framework through which EE can be evaluated and developed. The main question being how the components of EEPs are most effectively integrated. Each EEP is made up of different components planned to meet different goals. The context of the EEP according to the researchers is vital. Both Fiet (2001) and Fayolle and Gailly (2008) state that pedagogies based on frameworks are seldom used in EE as there are no common frameworks or practices on how to teach it. According to Ireland Duane et al. (2005), correcting the lack of generic frameworks would go a long way to the development of a systematic body of knowledge about entrepreneurship.



Maritz and Brown (2013) begin with a framework established by Alberti et al. (2004) and suggest that further definition of the links between the components will improve on the existing framework. The Alberti model has five components with eight relationships, some of which are mutual. Four of the components pose a question. For example, why (objectives), what (content), how (pedagogies), and for whom (audiences). These four components together with assessment measures will facilitate more effective and efficient EEPs. The assessment component in this case refers to the assessment of EEPs as opposed to testing student aptitudes (Fayolle et al. 2006). However, according to Maritz and Brown, the Alberti framework does not include important EE factors such as context and outcomes. They add these two new components. The context component is rationalised on previous research carried out by Fayolle (2010) and Jones (2010); and the outcomes component is built on research by Matlay (2008) which examines the supply and demand side of entrepreneurship education. The Maritz and Brown framework now has seven components with thirteen relationships. See figure 9 below.

Figure 9 - Maritz and Brown Framework



**(Source: Maritz and Brown (2013 p.238))**

Prior to forming the objectives of any EEP, Maritz and Brown (2013) believe that it is necessary to examine the context in which the programme is being delivered. For example; business schools use EEPs to compete against one another; universities strive to create entrepreneurial cultures and corporations seek intrapreneurial graduates (Florida 2004, Šorgo et al. 2012). These audiences all have different EE contextual needs (Maritz and Brown 2013). There exists enough empirical evidence to propose a wider evaluation, because not all programmes that foster entrepreneurship and enterprise in

their participants include the words entrepreneurship and enterprise in their titles, similar to 'Professional Studies', 'Marketing and Self Promotion' and 'Development Programmes' (Penaluna et al. 2012). Fayolle and Gailly (2008) discuss the need for wider evaluation across the board considering the diversity of institutional and public contexts available. They assert that the measurement of the effect of an EEP has to take the effects of time and contextual factors into account. According to Maritz and Brown (2013) these institutional and public contexts must be advanced with multiple teaching models and learning processes.

Understanding the participants of any EEP is key as they all have different learning needs and fit into different classifications at different times. Classifications can take place based on socio-demographic factors such as age, gender, start-up stage, or type of degree course when referring to tertiary level students. According to Fayolle and Gailly (2008), understanding the needs and wants of the audience of a programme will have a direct effect on the objectives of the programme. The entrepreneurship student or participant is not the only interested party in the EEP process and active collaboration of opinions with other interested parties such as programme managers, trainers, mentors and industry experts must be considered (Penaluna et al. 2012). The advantages of diversity between students/participants and educators is highlighted by Jones (2010) when he states that learning can be greatly enhanced by learning with and from each other akin to peer-to-peer learning and greatly improves the learning experience. Maritz and Brown (2013) believe that the objectives component and the audience component should be linked together and that the content of an EEP should be designed to meet the audience and objectives of the programme.

Outcomes and objectives are often combined together in EEPs. Maritz and Brown believe that they need to be understood as separate components. Garavan and O'Connell discussed the lack of research regarding the outcomes and effectiveness of EE back in 1994 and Vesper (1994) highlighted the fact that the selection of evaluation criteria for any EEP has to deal with the great diversity of objectives promoted by EEPs. Whilst exploring the impact of EE on entrepreneurial outcomes via a longitudinal study, Matlay (2008) found that graduate requirements in EE did not marry the actual

outcomes in terms of entrepreneurial skills, knowledge and attitudes even though graduates were generally satisfied. These findings provide an insight for stakeholder involvement in both the supply and demand side of EEPs and serve to highlight the necessity to separate the objectives component from the outcomes component (Maritz and Brown 2013, Matlay 2008). Donnellon et al. (2014) put forward that very few EEPs result in robust outcomes and believe this is due to a lack of our theoretical understanding of what is required to become entrepreneurial upholding the view that entrepreneurial learning also involves the development of an entrepreneurial identity. Maritz and Brown (2013) maintain that outcomes are only concerned with the actions and activities of participants after their participation in an EEP. They affirm that in light of varying outcomes, it is necessary to gain more insight into both participant and stakeholder involvement. They argue that prior to evaluating the objectives of an EEP; these external parties could have a direct or indirect influence on the preferred outcomes and propose that educators, in particular, need to take stock of all the parties involved in EEPs (Maritz and Brown 2013).

Hytti and O’Gorman (2004) analysed the objectives and methods of EEPs in four different countries and argue that giving priority to the identification of the objectives facilitates a better understanding of the quality, design, and evaluation of an EEP. They believe that in order to run an effective EEP, policy-makers, and educators need to understand the distinct and different aims and objectives of EE interventions. McMullan et al. (2001) highlighted concerns that programme evaluations rely too much on participants’ satisfaction and subjective judgements and this leads to inaccurate conclusions about EEPs impact on venture performance. Alberti et al. (2004) suggest that procurement of the exact characteristics and educational needs of the target audience are key to the success of an EEP. They argue that understanding the well-defined learning needs of each segment will bring about better programme designs and pedagogical goals that are more effective.

## 2.8 International Models of Best Practice

As already illustrated in this review, EE is burgeoning around the world in an effort to regenerate economic growth (Kolvereid and Amo 2007). Fayolle et al. (2006) assert that resources are increasingly being allocated to EE initiatives and for this reason, academics, and fund providers are concerned about the efficiency and effectiveness of EEPs. Accordingly, the identification and circulation of best practice is fundamental whether it is directly in terms of start-ups or indirectly in terms of increasing entrepreneurial spirit (Fayolle et al. 2006). EEPs are not the same across educational institutions, countries, and continents. The objectives, format, teaching approaches and target audiences vary greatly (Gartner and Vesper 1997). Using the seven components from the Maritz and Brown (2013) framework as a structure and guide, the following section takes a closer examination at International models of best practice in the UK, Denmark, and USA in an effort to identify implications for the Irish learning environment. Hytti and O’Gorman (2004) assert that learning methods and practices employed in EE can be further enhanced by adopting best practice from other initiatives.

### 2.8.1 The SPEEDPlus West Midlands Business Start-Up Project - UK

The SPEED Plus programme is a six month non accredited business start-up project, originally launched as SPEED WM in 2009 (Birmingham Post 2012, SPEEDPlus 2016). It is led by the University of Wolverhampton in conjunction with Birmingham City, Coventry, Keele and Staffordshire universities all of whom direct and deliver their own separate projects (SPEEDPlus 2016). Each of the five participating universities also have centres dedicated to the promotion of entrepreneurship and enterprise. For example, Wolverhampton University who lead the SPEED Plus project have two incubation units which were developed to assist companies in the start-up phase and the SPEED Plus programme is run at the Wolverhampton Science Park (University of Wolverhampton 2016). Coventry University’s (CU) technology park houses two business centres for innovative start-ups and established businesses. The SPEED Plus programme is part funded by the European Regional Development Fund (ERDF) and managed by the ministerial department for Communities and Local Government (DCLG) (Birmingham Post 2012). This ministerial department is supported by ten agencies and public bodies.

The DCLG's job is to distribute power to local communities in an effort to create better places to live and work (DCLG 2016). According to the Birmingham Post (2012), during the relaunch of SPEED Plus and the announcement of further funding for phase two, the then communities Minister Baroness Hanham CBE stated:

*It is vital that we are able to recognise the success of support programmes such as this and offer additional funding to ensure they continue for the benefit of future students and graduates. We are looking for future entrepreneurs with great business ideas to come forward and seize the opportunities that this project provides, helping to bring their ideas to life and turn them into profitable new businesses (Birmingham Post 2012).*

The programme is open to applications from any subject area or industry in the West Midlands with the explicit aim of facilitating the creation of new businesses in the region. The focus of the SPEED Plus programme is the development of the prerequisite knowledge and skills to start, run and build your own business. The key objective being to enable participants to equip themselves with the skills and knowledge required to launch and establish their own businesses (SPEEDPlus 2016).

The SPEED Plus programme is targeted at students, graduates, alumni, staff and partners from the five participating universities in the West Midlands. It is open to applicants from the UK, EU, and European Economic Area (EEA) nationals and to those who have indefinite leave to remain in the UK. Applicants cannot be trading prior to participation and must commit to setting up their new business ventures in the Midlands region. A number of the participating universities make it a requirement to register the new company just prior to the end of the programme. The Speed Plus programme commences with promotional workshops in the five respective participating universities. A recruitment process is launched and interviews and applicant pitches are considered. Successful applicants then take part in a weekend start-up boot camp where an induction to the host centre and a business address takes place (SPEEDPlus 2016, University of Wolverhampton 2016).

Workshops are made up of modules parallel to business registration, intellectual property, sales and marketing, and finance. These are practical interactive workshops

and are provided to develop entrepreneurial skills and business acumen. External specialist business professionals deliver the workshops with ongoing one-to-one business support and mentorship. A business consultancy programme is made available where participants take part in a series of one-to-one meetings for specific guidance and support to develop their business and keep it on track. Team challenges and pitches to the other participating teams are a weekly feature of the programme. The preparation and practice of these pitches culminate in opportunities to present the business idea together with any other challenges that the business idea might be facing in bringing it to market. This particular activity is organised in order to acquire support from seasoned entrepreneurs who are invited to attend. Each team is also granted an experienced business consultant who mentors, supports and works explicitly on individual business ideas. Access to a co-working space in an incubation centre with the use of internal and external resources such as PCs, Macs, internet, and printers is also made available to participants. Information, advice, and guidance is provided from the SPEEDPlus management teams together with regular business and funding updates. Limited financial supports in the form of business grants (£500 - £1500) are approved to successful applicants to boost their start-up company. Opportunities to bid for financial assistance are made available in conjunction with pitching events where leading entrepreneurs and investment angels are present (SPEEDPlus 2016, University of Wolverhampton 2016).

Successful applicants receive full support with practical application during the start-up phase and throughout the first vital steps of growth while still at college, post-graduation or alongside employment. As a rule, the SPEED Plus programmes are delivered in enterprise or incubation centres/hubs located in technology parks adjunct to the university campuses. These centres and hubs act as focal points for enterprise activities enabling collaborations between academia and a wide range of stakeholders in the region (SPEEDPlus 2016). The International Centre for Transformational Entrepreneurship is located at the Hub in CU where potential entrepreneurs can discuss new business ideas and the provision of mentoring supports is available. Access to assistance by means of centres of excellence and consultancies within the universities have been proven to enhance the success of new ventures (Coventry University 2016).

The programme teams at these centres are made up of dynamic groups of individuals who are authorities in project management, technology, business support, and education. A number of the project management team members will have run their own businesses and continue to do so whilst collaborating with the SPEED Plus projects. Participants receive encouragement and expert tailored advice and support. This approach is taken to ensure that knowledge is supported by bridging the gap between academia and business (Coventry University 2016).

The assessment component refers to the assessment of the EEP as opposed to testing student aptitudes. The Speed Plus programme could be closely aligned to what Botham and Mason (2007) describe as the deployment of 'hatcheries' in UK HEIs. This refers to the provision of start-up provisions and mentoring support for undergraduates at the same time as completing their studies. Although the physical facilities are important, access to advice and assistance is more important for students whether it is formal via business link advisors, mentors, and coaches or informally via hatchery management or academic staff. Once accepted as participants on these so-called hatcheries, automatic access to a range of workshops, events and other educational and networking opportunities are made possible. However, in some cases, membership of the hatchery is unambiguously linked to accredited education. The University of Coventry according to Martin (2011) requires students to 'sign up' to entrepreneurship modules in the context of a broader employability plan. Whilst participating students work on practical business training such as market research, competitor analysis, and business plan preparation, some survive the hatchery and actually begin trading. From the student perspective, there is little cost and risk as it is a soft start-up strategy. From the HEI's perspective, it is a comparatively low cost method of supporting student enterprise (Martin 2011).

Idea and business development events with inspirational and motivational speakers are organised throughout the six-month programme, which gives excellent networking opportunities to participants. They benefit immensely at these events facilitating opportunities to further promote their business into the future and establish themselves in the region (SPEEDPlus 2016).

### 2.8.2 The Proof and Go-Grow Programmes - Denmark

Copenhagen boasts five major universities all of whom intensely support entrepreneurship. These universities are considered highly as sources of talent, ideas, and resources for new start-ups. In December 2013, the Copenhagen start-up community established the #CPHFTW which is an umbrella organisation to unite, support and promote the local start-up ecosystem (Copenhagen Start-Up Community 2014, Industriens Fond 2014, Lunienska Jensen 2015). The #CPHFTW is a grass-roots organisation and also the brain child of Alex Farcet, one of the co-founders of Startupbootcamp (CrunchBase 2016). The #CPHFTW is a not-for-profit organisation, which represents and works for tech start-ups in Denmark and the Öresund region. They work in close collaboration with the scientific and educational institutions. These collaborations are key to the creation, marketing and exportation of innovative business concepts and technologies which in turn create economic growth for Denmark (Copenhagen Start-Up Community 2014, Industriens Fond 2014, Lunienska Jensen 2015).

Copenhagen School of Entrepreneurship (CSE) is located at the Copenhagen Business School (CBS), which is recognised as an internationally renowned institution for entrepreneurship research (CBS 2015a). The current Academic Director at CSE is William Gartner, the prominent award winning entrepreneurship researcher. He holds a joint appointment with the California Lutheran University (CBS 2015b). The enterprise platform event at CBS was officially launched by the Minister of Economic Affairs and the Interior, Margrethe Vestager on May the 2nd 2013. The event was set up to boost entrepreneurial interaction between CBS and entrepreneurship in Denmark and the Nordic region (CBS 2013). Entrepreneurship is a strategic priority at CBS and therefore the platform funds several initiatives pertinent to entrepreneurship research, education, and outreach. Two of these programmes include the Proof and the Go Grow programmes (CBS 2015c).



### *2.8.2.1 The Proof Programme*

The CSE platform views entrepreneurship education as strategic and expedites strong connections between research, education, and training. The Proof programme offers students the opportunity to take their idea to a business reality. This is achieved by developing and testing the idea. The Proof programme website makes a 'proof of idea' tool available to download where students are guided to answer straightforward questions and calls-for-action to develop the business idea and test its potential. In effect, the 'proof of idea' tool facilitates the application process. If the idea is viable, applicants are invited to join the next stage which is the Proof of Concept programme (CSE 2015).

The main objective of CSE is to facilitate start-up initiatives and programmes in an effort to strengthen entrepreneurial education at CBS (CBS 2015a). The Proof programme curriculum offers CBS students and international exchange students a variety of internships in their own CSE approved start-up or as an intern in other CSE approved start-ups. Module credits can be achieved via this opportunity but it is not compulsory (CSE 2015). The three-month programme is hosted and facilitated at CSE where participants are granted office facilities. Support is given by business professionals in modules parallel to business development, training, workshops, mentoring, coaching and access to investors (CSE 2015).

The programme is delivered by professional experts, mentors and coaches and workshops facilitate the testing and feasibility of ideas through prototyping, customer traction or engaged partnerships available to CSE (CSE 2015). The assessment component in this instance refers to the assessment of the programme as opposed to student assessment. At the end of the three months, participants who have validated their concepts can remain in the CSE Lab for another six months.

#### *2.8.2.2 The Go-Grow Programme*

Go-Grow is an early-stage accelerator for companies with international growth potential. It is a six-month programme and open to applications from all sectors and markets. Start-ups with a high potential for international growth and start-ups at the 'first sale' stage are also eligible to apply. Participation is free of charge. The accelerator is based in the Copenhagen School of Entrepreneurship and developed by CSE in collaboration with the Danish Industry Foundation and several industry partners. CSE is the biggest entrepreneurship incubator in Denmark and works frequently with both the Technical University of Denmark (DTU) and the University of Copenhagen (KU) in fostering and promoting entrepreneurship.

The Go-Grow programme management team are looking for start-up companies who already possess a functional prototype or a more developed product. The start-up company must be dedicated to getting their product/idea to market to generate revenue with the long-term goal of selling out either through a stock market launch, Initial Public Offering (IPO), or procurement by a large corporation. The programme is structured to assist successful applicants to prepare for international growth through collaboration with CSE staff, experts, personal mentors and other start-ups. No equity is taken from start-up teams as the goal of the programme is to enable participants to grow (Go-Grow 2016).

The Go-Grow programme is open to start-ups from all sectors and markets including student entrepreneurs as well as entrepreneurs who are not enrolled in the university i.e. Copenhagen Business School. Applicants fill out an online application form together with a business plan and/or a business model canvas. They must have a website outlining the start-up business idea together with LinkedIn profiles of the start-up team members and these must be made available to Go-Grow programme management team. The management team employs a selection of criteria expended in benchmarked international accelerators together with advice from investors while evaluating applicant start-ups (Go-Grow 2016).

The programme provides insights into the world of international growth, which are considered valuable information and knowledge by the CSE and Go-Grow management teams. Learning methods include: action learning groups, e-learning, gamification, group supervision, group work, individual coaching, individual reflection and blogging, interactive plenary sessions, peer coaching, personal learning log, real-life business cases, storytelling, video, speed networking and web-based solutions. Workshop sessions are held on a monthly basis. However, start-up teams are not required to attend full time during the initial period. Participants have the opportunity to attend and take part in organised interdisciplinary growth groups and travel abroad to relevant target markets. The objective of this activity is the provision of a wider forum to exchange ideas (Go-Grow 2016).

Figure 10 - The Go-Grow Programme



(Source: Go-Grow 2016)

The Go-Grow programme is encouraged by action learning methods which are currently utilised to teach entrepreneurship at CSE and CBS (Go-Grow 2016). The assessment component refers to the assessment of the EEP as opposed to testing student aptitudes. Participants are required to co-operate with the Go-Grow management team to provide feedback from the workshops in order to enhance the quality of the programme (Go-Grow 2016). Teams are continuously followed up and monitored on achieving their goals. These new experiences provide information on learning that can be shared with the start-up community, industry partners and other universities in the region (Go-Grow 2016).

### 2.8.3 MIT Delta V Accelerator - USA

The MIT (Massachusetts Institute of Technology) Delta V accelerator programme formerly known as the Global Founders' Skills Accelerator (GFSA) is a three-month long summer accelerator programme for MIT student entrepreneurs across all schools and disciplines. Delta V literally means a change in velocity. The accelerator programme is managed by a team of professionals at the Martin Trust Centre for MIT Entrepreneurship and staff and faculty do not take a stake in the companies that they assist (MIT Trust Centre 2016).

The main goal of the Delta V student accelerator is the student's long-term entrepreneurial success. This is achieved through the provision of entrepreneurial know-how, expert support and introductions to industry networks for students who want to become effective entrepreneurs. Management at the Delta V accelerator select the best student teams with an interesting idea or proof of concept to help them fast track their growth to build feasible, sustainable innovation-driven start-ups. Successful teams are put through a demanding mentor driven process to bring their ideas and working prototypes from the halls of residence or the labs to the real world (MIT Trust Centre 2016).

Teams are chosen from across MIT's schools as well as from a selection of MIT's global university partners. The team must contain at least two members, and no more than five members. All team members must be founders and at least two team members

must be current students in an MIT degree-granting programme. Post-doctoral scholars can be counted as an MIT student for the purpose of the Delta V accelerator programme (MIT Trust Centre 2016).

Throughout the summer, the MIT Delta V management team support the successful applicants. This is achieved by means of one-to-one coaching sessions and meetings with external mentors who are meticulously matched to the needs of the student start-up ventures. Once a month, student teams are required to present their progress and they receive unbiased feedback in simulated board meetings from board members who are made up of recognised and successful industry leaders. The MIT Delta V management team support and guide student teams to expand their knowledge of entrepreneurship techniques and frameworks by way of an elective seminar series, as well as guest talks by thought leaders on a variety of topics of interest (MIT Trust Centre 2016).

Peer learning is a core principle of the Delta V accelerator programme. Teams are required to update the programme cohort every week on their progress and are encouraged to present questions and/or calls for assistance. Teams often organically team up with each other to help each other out with problems and give each other feedback. *Mens et Manus* (mind and hands) is the MIT motto and the Delta V management team operate the accelerator programme on a hybrid model of this motto, applying a blend of academic and practical methods and practices throughout modules and activities. They collaborate closely with other MIT departments, laboratories and centres to link successful applicants with the best entrepreneurship programming across MIT (MIT Trust Centre 2016).

As with the other international models of best practice reviewed, the assessment element here relates to the assessment of the EEP/accelerator as opposed to testing student aptitudes. Each year the MIT Delta V management team try new versions of the programme and introduce new activities. According to the MIT Trust Centre (2016 p.1), “if we fail, we learn in the process. When we succeed, we aim to scale rapidly” (MIT Trust Centre 2016).

Eighty-seven students encompassing fourteen teams make it to what the Delta V accelerator management team refer to as 'escape velocity'. These are further whittled down to a number of teams who make significant progress towards identifying a strategic position in their market. They have built a product, secured preliminary customers, partners, and ready to pitch their ideas to investors in three cities (Boston, New York, San Francisco) by Demo Day, which is held in the first week of September. Since 2001, the MIT student accelerator has encouraged and cultivated hundreds of start-ups, many of whom ultimately embraced the skills learned and built networks to start prosperous new businesses following graduation from MIT. The keynote speech at the 2016 Demo Day was given by Dharmesh Shah, co-founder of 'HubSpot' and former student of MIT (MIT Trust Centre 2016).

### 2.9 The New Frontiers Development Programme

According to Maritz and Brown (2013), academic research on EEPs is mainly based on university students between the ages of 18-25. Levie (1999) states that research on other large groups of potential entrepreneurs who are not university students is even less common. Brand et al. (2007) suggest the need for programmes to be adapted to suit the backgrounds and motivations of other groups of potential entrepreneurs and Chen et al. (1998) state the necessity to extend EE and career choice outside the more convenient sample of tertiary level students. Tertiary level EEPs are characteristically taught by entrepreneurship researchers/lecturers and this raises concerns in terms of the focus on grade rather than on starting a new business. It also highlights the different contextual needs as discussed by Maritz and Brown (2013). The teaching methods and practices are very different when the objective of the programme involves imparting knowledge on acting entrepreneurially rather than imparting knowledge alongside coaching an individual to become an entrepreneur (Maritz and Brown 2013).

The demographic of tertiary level, as pointed out earlier by Maritz and Brown (2013) demonstrates a lack of research on adult audiences (andragogy). The length of the course is also an issue as tertiary level normally refers to a semester of a twelve-week duration. Other programmes, both private and public have varying lengths of duration and as Heuer and Kolvereid (2014) found and referred to earlier in this review (section 2.4.2); EEPs of limited duration have a restricted usefulness and more importance should be given to programmes of a longer duration. Conducting research on several age groups with audiences from varying backgrounds will go a long way to determine if EE can in fact be taught to some groups and not to others and accordingly how it may perhaps be taught depending on the audience (Maritz and Brown 2013). For this reason, the following section will review a national accelerator programme here in Ireland that encompasses audiences of varying socio-demographic backgrounds, more aligned to andragogy and of a one-year duration.

The New Frontiers Development Programme is a national accelerator programme. It differentiates itself from other start-up/accelerator programmes by calling for applicants from a diversity of sectors, some of which include biotechnology, clean technology, digital media, engineering and electronics, food and consumer products (FCP), ICT, medical devices and pharma (Enterprise Ireland 2015a). Enterprise Ireland (EI), a government-run enterprise development agency fund and direct the programme. The programme is delivered at local level through the Institutes of Technology. Enterprise Ireland is co-funded by the European Regional Development Fund (ERDF) under the national Structural and Investment Funds Programmes 2014-2020 (Enterprise Ireland 2015a). During the launch of the 'New Frontiers Development Programme' in 2012, Minister Sherlock T.D., the previous Minister of Research and Innovation with the Department of Enterprise, Jobs and Innovation explained that the programme forms part of one of the action points set out in the Irish Government's 'Action Plan for Jobs'. He said it would have the potential to deliver up to 100 new companies per year. The New Frontiers accelerator is a three-phase programme, delivered at campus incubation centres adjunct to 14 Institutes of Technology (IOTs) located throughout the country. The IOTs work in conjunction with the incubation centres providing expertise and R&D

facilities thus cultivating collaborations and networks which greatly enhance the regions (Department of An Taoiseach 2012, Enterprise Ireland 2012).

The programme is targeted at innovative early stage start-ups with high potential. It is formulated to provide a comprehensive set of business development supports to accelerate and equip successful applicants with the skills and networks required to successfully start and grow a business (New Frontiers 2015). The main focus of the programme is to develop people into entrepreneurs by imparting the skills needed to move from a business concept to a reality (Enterprise Ireland 2012). Enterprise Ireland's goal for the New Frontiers programme is to produce a conduit of companies eligible for EI's HPSU supports (Enterprise Ireland 2012, 2015a). According to Minister Sherlock T.D., giving individuals the skills they need to successfully set up and run a company will enable the same individuals to replicate that success with other ideas in the future (Enterprise Ireland 2012).

Nascent entrepreneurs aged 18 years and over, who believe that they have a sustainable new business idea with the potential to create employment in their area can apply for the programme. Following the application process and interviews, applicants are selected for phase one where their business idea is tested in order to evaluate its market potential and viability (Enterprise Ireland 2012). General training and start-up workshops support the participants through an evaluation process held over an 8-10 week period, two evenings per week and during weekends. This works well for participants already in full-time employment. Phase one of the programme also provides opportunities for peer-to-peer networking and learning. It enables participants to de-risk their business model, thereby improving their chances of getting into phase two. By the end of phase one, participants know if their idea is viable or not. A competitive selection process takes place for entry into phase two, which involves six months of intensive training. Participants that gain access into phase two have already demonstrated the validity of their business proposition and its potential to grow and create jobs. Phase two entails full-time participation in workshops and training sessions covering areas of business including financial management, market research and validation, business process, patenting, product development and sales training. These



business master-classes support participants in detailing and validating the business proposition together with the skills to identify potential customers, sales channels, and funding options. For the duration of phase two, further supports are made available in the form of one-to-one mentoring and coaching from start-up experts, networking opportunities with other entrepreneurs and business development agencies and regular reviews with the programme management teams. Hot desk facilities in the campus incubators are made available to participants for the duration of the six-month programme. This greatly enhances peer-to-peer networking and learning, and provides an environment for new ideas to grow alongside existing thriving enterprises. Finally, participants in phase two receive a tax-free grant of €15,000 with no equity taken from their business. This financial support is granted in order to accelerate the business start-up (Enterprise Ireland 2015b, New Frontiers 2015).

Trainers are brought in from industry and they employ a combination of training and coaching during the workshops. Participatory exercises and group work feature highly and participants are obliged to log their milestones via a diagnostic tool provided by some programme management teams. As opposed to the international models of best practice reviewed, the assessment component in this instance refers to assessment of the participant. During phase two, a panel review is conducted on a bi-monthly basis. A representative from EI, the IOT, the local enterprise board, a financial institution, and a number of industry experts sit on this review alongside the programme management team. Each participant is obliged to bring the review panel up-to-speed, answer, and pose any questions in relation to their progress. If the required progress is not made, the panel review have the power to hold back or withdraw the stipend/grant (New Frontiers 2015).

At the end of phase two, participants have an investor-ready business plan and are ready to pitch to the most relevant government and private funding supports available for their particular business. Participating businesses who have attained entry into phase 3 are further developed and prepared to deliver on their business plan. They are given access to some of the chief decision makers in the business development process. Introductions to seed, early-stage capital investment networks, venture capitalists, and

angel investors are organised. Additional mentoring opportunities particular to each business concept is made available from experienced business advisers and practitioners. Further hot-desk and incubation services are made available for another 2-3 months together with ongoing support from the programme management team. The New Frontiers programme is a non-accredited programme (Enterprise Ireland 2015b, New Frontiers 2015).

## 2.10 Conclusion

The literature review is a secondary research source and accomplishes a number of aims. It has communicated what is known about the research phenomenon. The review opens with an evolving definition of entrepreneurship and sets the scene for current knowledge including the unfolding of substantive findings of other studies that are strongly associated with the research being carried out. Themes such as the nature versus nurture debate, relate the research to the growing discussion in the literature. The literature review establishes the significance of the relationship between entrepreneurship and economic growth and explains why EE continues to be viewed as highly relevant. It frames Ireland's position in relation to entrepreneurship on the world stage and reports on its historical evolution of an enterprise tradition, which only began in the 1980's. Homegrown businesses were now acknowledged as valuable to the economy. As a result of the recognition of the importance of entrepreneurship, the evolution in Ireland began with policy makers paying more attention to the role of SMEs. The capacity of small businesses to flourish both nationally and internationally and adapt in turbulent economic climates ignited a change in domestic policy. Resources were allocated to prepare and educate potential entrepreneurs to identify opportunities in the environment. Entrepreneurship was welcomed with open arms, as it added significantly to job creation, social stability, and economic welfare at home and across the globe.

The literature uncovers and broadens knowledge on the entrepreneurial mind-set demonstrating the power it can achieve for thinking and acting in highly uncertain environments. Further investigations brought to light the metacognitive processes, that allow entrepreneurs to think 'outside the box' and alter existing knowledge structures, using what previous studies have exposed as heuristics, the ability to use current experience to learn and improve. The literature steers the advancement of the cognitive infrastructure of opportunity identification and examines what earlier academics found on the stimulation and impediment of entrepreneurial activity. Connections between phenomena become apparent through secondary multi-disciplinary research such as social psychology, philosophy, education, and business.

Entrepreneurial intentions and the entrepreneurial process are examined and can be determined by known critical antecedents. The identification of Ajzen's (1991) TPB, Bandura's (1977, 1986) social learning theory and Chen's (1998) work on ESE enabled the researcher to draw from different theories, practices and models to assist in addressing the research objectives and the subsequent formulation of an appropriate research design. Tang et al. (2012) carried out multiple studies on entrepreneurial alertness, developing and validating an alertness scale at the same time as displaying its association with Ardichvili et al. (2003 p.105) and social networks and how prior knowledge can act as an antecedent to entrepreneurial alertness and thus to new business opportunities.

Regardless of the growth and wealth of resources that are invested in the field of EE, the literature shows that EE is still believed to be in the early stages of development. Previous studies expose the paradox that the majority of EE research is produced from the management sciences rather than education theories. The study of teaching and learning is cited as fundamental to the evaluation of EE and the enterprising education approach is described as going beyond different subject areas and can be employed across diverse phases of education. The review of literature shows that creative, action and experiential learning pedagogies facilitate different teaching and learning perspectives and details how the educator must act as a facilitator, a guide and a partner during the learning process. According to Marshall and Rossman (2014), a

comprehensive review of the literature assists in the identification of gaps and this is particularly evident in the case of this research programme. Earlier studies acknowledge that a lacuna of research exists in relation to the outcomes and effectiveness of EEPs. The selection of evaluation measures were expressed as critically inhibiting by the wide diversity of EEP objectives. The review of literature also highlights the marked absence of research on commercial enterprise initiatives and thus the research programme.

Business models and concepts for new venture creation practises have been established by researchers and practitioners in the field. International models of best practice serve to highlight the practical aspects of EEPs with the lean start-up model, the business plan, and social networking theories expanding connections and insights consistent with theories of learning. The literature identified the Maritz and Brown (2013) framework, which assisted the researcher in the framing of the programme under empirical examination together with the international models of best practice. This in turn facilitated the discovery of further concepts, theories, models and frameworks associated with entrepreneurial knowledge and learning.

The extant review of the literature expedited the researcher in the creation of a mixed methods entrepreneurial learning (MMEL) framework, that took earlier knowledge parallel to Kirkpatrick's (1976, 2006) four levels of evaluation, Krueger's (2007) critical developmental experiences, Johannisson's (1991) taxonomy of entrepreneurial competences, and Middleton and Donnellon's (2014) knowledge framework for entrepreneurial action into account. These models together with the attitude and subjective norms elements of the theory of planned behaviour together with advancements on entrepreneurial alertness (EA) by Tang et al. (2012) and Chen's (1998) work on entrepreneurial self-efficacy (ESE) permitted the researcher to formulate an appropriate mixed methods design. The formulation of the mixed methods entrepreneurial learning (MMEL) framework will be utilised to guide the research design on both the qualitative and quantitative methods to progress the research objectives and questions.

The overall objective of this research is to determine the efficacy of the strategies employed by the various stakeholders involved in enterprise start-up initiatives. It aims to identify an enterprising approach to learning which can be applied to instil enterprise successfully in enterprise founders. Hence, the researcher comprehensively exploited the review of literature from the beginning to the end of the research programme. It was utilised as a method of increasing knowledge and directing the development of explanations during the data collection and analysis phases through to the findings, discussion, limitations, conclusions, and recommendations chapters that explain, evaluate, and propose connections between the thesis phenomena (Marshall and Rossman 2014).

## Chapter 3 Research Methodology

### 3.0 Introduction

There is a lack of theoretical and practical research on commercial enterprise initiatives both here in Ireland and abroad and particularly for programmes of a longer duration (Heuer and Kolvereid 2014). In-depth qualitative and quantitative research on nascent entrepreneurs is markedly absent from the literature and issues relating to enterprise start-up initiatives are marginalised or totally ignored (Matlay and Addis 2002, Small Firms Association 2016). A notable paucity is present in nascent entrepreneurship knowledge, in particular to the learning methods and strategies that precede the creation and development of start-ups (Delmar and Davidsson 2000, Smith et al. 2014). Chapter three outlines how the research will be carried out as required by the research objectives and questions. The overall objective of this research is to determine the efficacy of the strategies employed by the various stakeholders involved in the delivery of training in enterprise start-up initiatives. It aims to identify an enterprising approach to learning which can be applied to instil enterprise successfully in enterprise founders.

This chapter describes the rationale and steps involved in the research design including the choice of research approach, sampling strategy, and research instruments. A mixed methods research approach is utilised where the researcher carries out a comprehensive analysis of the research problem in a design that contains both quantitative and qualitative data. Exploratory, descriptive and correlational research methods facilitate the design of a conceptual framework for subjects and themes of interest at the same time as justifying methods for collecting data (Creswell 2009). Data analysis is described from the perspective of reliability, validity, and generalisability. The relevance of the literature review is discussed to elucidate how the researcher draws on insights from existing theory and models; firstly, to propose a conceptual framework; and secondly, to design research instruments to address each of the research objectives and questions. Finally, this chapter also justifies the mixed methods research approach at the same time as presenting its limitations.

### 3.1 The Relevance of the Literature Review

The Literature Review achieves a number of purposes. Firstly, it reveals the findings of other studies that are strongly associated with the research being carried out and secondly, it relates the research to the growing discussion in the literature. It facilitates the identification of gaps and broadens and develops prior studies (Marshall and Rossman 2014). Executing a review of the extant literature in a particular field can facilitate the creation of a conceptual framework that takes earlier knowledge into account (Eisenhardt 1989). It also steers the advancement of explanations during the data collection and analysis phases that explain, interpret, evaluate and propose connections between phenomena (Marshall and Rossman 2014). Given the mixed methods approach adopted by the researcher, the qualitative research utilises the review of literature as a means of exploratory research in an effort to acquire understanding and insights consistent with the assumptions of learning from the participants. In other words, the questions are not prescribed from the researcher's point of view. In contrast, the quantitative research, relies more heavily on the review of literature to assist in the navigation and development of the research questions and hypotheses (Creswell 2009). Thus, the researcher utilised the literature review extensively from the outset of and all the way through this research as a means of augmenting knowledge and understanding of the subject matter. The identification of gaps enabled the researcher to draw from different theories and practices to address the research objectives and questions, and formulate an appropriate research design in the shape of a conceptual framework.

### 3.2 Research Rationale

The Literature Review establishes that EE is multiplying on both sides of the Atlantic in an effort to stimulate economic growth. Ireland has ambitious plans to be one of the most entrepreneurial nations in the world and to be recognised as a world-class environment in which to start and grow a business (Fitzsimons and O'Gorman 2013). The Action Plan for Jobs (2014) cited a special focus on entrepreneurship in relation to creating more emphasis on increasing the number of start-ups and the impact that this would have on job creation. However, if Ireland wants to achieve this goal, more action

is required by policy-makers and educators to incentivise and support new business creation and the embedding of EE across all levels of education. In light of the current economic climate in Ireland, together with the demise of traditional career paths, policy-makers and educators must work together in partnership to support nascent entrepreneurs to gain access to entrepreneurial learning; thus, providing them with the right skills to help them to grow. Resources are increasingly being assigned to EE initiatives and for this reason, policy makers, academics, and fund providers are concerned about the efficacy of EEPs and enterprise initiatives.

It is evident from the Literature Review that the topics of EE and training initiatives and the need to evaluate them is well documented. However, effectiveness studies are limited. The literature proves that the majority of EE research takes place in business schools and frameworks for evaluating EEPs are broad owing to the wide variety of circumstances, objectives, methods, and teaching approaches that exist. Evaluation criteria and measurement of its efficacy is crucial, however, evaluating the effectiveness of EEPs is complex owing to the inherent bureaucratic and methodological problems involved. De Faoite et al. (2003) cite a deficiency of specific performance measures and exposure to regulatory capture<sup>12</sup> as bringing about problems that are more complex for evaluators. The review of literature demonstrates that this is no surprise as entrepreneurship research is fragmented and predisposed towards general disciplines parallel to management, strategy, and marketing (Shane 2003). This is particularly relevant within the context of EE initiatives in Ireland as interest in enterprise accelerator programmes continues to grow. New research efforts should not focus exclusively on the start-up rate but on the methods and practices applied during the training process and the inculcation of entrepreneurial mind-sets in producing successful enterprise founders (Fenton and Barry 2011).

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<sup>12</sup> Regulatory capture occurs when a government regulatory agency furthers the interests of particular groups that control the industry or sector as opposed to acting in the public interest of the sector it is responsible for regulating (De Faoite et al. 2003).



### 3.3 Research Objectives and Questions

Given the emergent nature of public and private initiatives to train and educate people to be more entrepreneurial, this research is based on the need to bridge the credibility gap between government expectations and harsh commercialisation realities to determine if entrepreneurial learning has a positive impact on the entrepreneurial mindset and behaviour of participants of enterprise start-up initiatives and programmes. The overall research objective of this research is to determine the efficacy of the strategies employed by the various stakeholders involved in the delivery of training in enterprise start-up initiatives. It aims to identify an enterprising approach to learning which can be applied to instil enterprise successfully in enterprise founders. Therefore, this research empirically investigates a regional domestic enterprise training initiative in the southwest of Ireland.

The identification of international models of best practice is fundamental and facilitates comparisons of approaches, as EEPs are not the same across societies, countries, and continents. The objectives, designs, pedagogical approaches, and target audiences vary greatly. International models are drawn from the UK, Denmark, and the USA and this facilitates the identification of implications for the Irish learning environment. According to Creswell (2009), research approaches have proliferated to such a degree, that researchers have a multitude of options to choose from. It is essential to begin with the research objectives and related questions in order to determine an optimal research design.

The overall objective of this research is to determine the efficacy of the strategies employed by the various stakeholders involved in the delivery of Enterprise Start-up initiatives. It aims to identify an enterprising approach to learning which can be applied to instil enterprise successfully in enterprise founders. The key objectives intrinsic in this research are:

1. To analyse the entrepreneurial mind-set.
2. To identify and analyse the main theoretical models of entrepreneurship training.
3. To conduct an empirical investigation into the application and impact of different methods, practices, and styles of the enterprising trainers on the entrepreneurial mind-set and the success of graduates of Enterprise Start-up initiatives.
4. To compare the effectiveness of these methods, practices, and styles in entrepreneurship learning.
5. To propose a model of best practice for delivering effective entrepreneurship training.

The research plans to answer the following questions:

1. How effective are the strategies employed by the various stakeholders to infuse entrepreneurial learning throughout the entire programme?
2. Does entrepreneurial learning have a positive impact on the entrepreneurial mind-set and behaviour of participants of Enterprise Start-up initiatives?
3. What approach to learning can be used to instil enterprise successfully in Enterprise Start-up initiatives in order to cultivate successful enterprise founders?

### 3.4 Research Philosophy

According to Slife and Williams (1995), philosophical ideas are often buried in research but they need to be identified as they have the power to influence the practice of research. The clear specification of philosophical ideas will assist the researcher to explain why a particular design or approach was chosen (Creswell 2009). A research approach corresponds to the set of propositions and beliefs on how the world is understood, which in turn acts as a framework that guides the researcher's thinking and research (Guba and Lincoln 1994). There are a number of competing approaches which include positivism, realism, pragmatism, interpretivism, the latter often being shared with constructivism (Creswell 2009). Individually they characterise the researcher's assumptions regarding the correlative concepts of ontology (reality), epistemology (knowledge) and methodology (Saunders et al. 2011). It is not within the bounds of this research to review all approaches and their possible influence on the research. However, the positivist approach was not considered appropriate given the amount of control over the subject matter required. Therefore, the researcher presents and briefly explains the chosen approach and the considerations that led to the selection of interpretivism.

The interpretivist stance recognises that individuals are different and that they experience presumed multiple realities differently. Reality is considered as socially and culturally rooted and existing in the mind. This reality is flexible and moving. Knowledge is mutually constructed through the interaction of the researcher and the researched (Grbich 2013). Social constructivism is often related to interpretivism and is usually viewed as an approach to qualitative research. Crotty (1998) asserts that individuals look to comprehend the world around them by creating subjective meanings concerning objects or entities. According to Grbich (2013 p.7), "knowledge is subjective, constructed and based on the shared signs and symbols that are recognised by members of a culture". The emphasis on the research is the exploration of the way individuals interpret and understand their experiences in the environments where they live. Every situation has a context and it is positioned in a social environment. How these situations are viewed within, different social environments have an impact on the constructed understandings. These understandings are constructed and executed through

interpretation. They are limited by subjectivity as in the researcher's own life experiences and limited by intersubjectivity through interaction with others where the researcher reconstructs the views of others through verbal and written text (Grbich 2013).

### 3.5 Conceptual Framework Research Design

According to Yin (2003), this is a plan of action and is scientifically described as a research design. Saunders et al. (2011) refer to the research design as the 'research onion', where the steps in the research methodology are paralleled to the peeling back of each layer of an onion. A conceptual framework research design explains why a particular research paradigm was adopted and why particular research instruments were chosen. The researcher has chosen to employ a conceptual framework research design that amalgamates exploratory, descriptive, and correlational research methods, which embrace a mixed methods approach and an interpretivist paradigm. The interpretivist paradigm was chosen owing to a heavy reliance on the attitudes, intentions, behaviours, and perspectives of the various stakeholders involved in the delivery of training in enterprise start-up initiatives. The interpretivist paradigm concedes that individuals are different and reality is considered as socially and culturally rooted and existing in the mind. This reality is adaptable and knowledge is jointly constructed through the connection of the researcher and the participants (Grbich 2013).

The researcher will use a qualitative research aspect to the research where observational research, micro-ethnography in the form of shadowing, ethnographic, and in-depth interview methods will be utilised. These research instruments were chosen to facilitate descriptive naturalistic observation of events and the construction of exploratory open-ended questions to permit clarity and allow the participants to forge their own meaning of the subject. These meanings are shaped during social interactions, similar to the ethnographic and in-depth interviews, and thus, socially constructed (Creswell 2009, Punch 2014).

The quantitative aspect of the research will utilise an on-line survey. The survey research instrument has been chosen to approximate qualitative variables and fill in the gaps in knowledge that cannot be addressed by qualitative methods alone. The qualitative research will provide valuable data in relation to the attitudes, intentions, behaviours, and perceptions of the various stakeholders involved in the delivery of training in start-up initiatives but additional data is considered necessary to provide a more complete picture. The researcher has developed a questionnaire that asks the various participants to rate groups of statements and then utilises statistical software to allocate numbers for the answers, thus creating quantitative data. This mixed methods approach will facilitate the inclusion of quantitative methods and augment the investigation to ascertain the areas and issues that cannot otherwise be reached through qualitative methods so that a more complete picture can be provided (Seale 1999). The statistical analysis of the quantitative research findings can be further analysed using interpretative techniques and triangulated with the quantitative research findings and all filtered through the researcher. The mixed methods design is advantageous when either the quantitative or the qualitative approach is insufficient on its own to understand the research problem. The benefits of both quantitative and qualitative methods accompany each other in creating a stronger conceptual framework research design and thus, the formation of current and reliable research findings (Terrell 2012).

### 3.6 Mixed Methods Approach to Data Collection

A mixed methods approach facilitates the merger of both qualitative and quantitative methods and when employed together, the total strength of the research is greater than the use of only one method (Creswell 2009). Campbell and Fiske (1959) are credited as being the first to pioneer the idea of mixed methods whilst discussing 'multiple operationalism'. This is where more than one method is utilised as part of a validation procedure. It establishes that the explained variance is the outcome of the underlying phenomenon and not of the method, which is quantitative or qualitative. However, in its original presentation, the concept of multiple operationalism was viewed by early researchers, more as a measurement of construct validation. The idea of multiple

operationalism follows more closely to multimethod research, which is currently referred to as mixed methods research (Johnson et al. 2007).

Campbell and Fiske (1959) are credited with inspiring others to use the multimethod and before long, approaches allied with field methods similar to observations and interviews were amalgamated with quantitative methods like surveys (Creswell 2009). Denzin (1978 p.291) was the first to outline how to triangulate methods, defining triangulation as “the combination of methodologies in the study of the same phenomenon”. Triangulation according to Miles and Huberman (1984) is a useful tool during the qualitative aspect of research. Both Yin (2003) and Eisenhardt (1989) assert that several aspects of triangulation are closely connected to the data collection phase because triangulation is a medium for cross validation when two or more methods are similar and generate data that is comparable (Jick 1979).

For this reason, the researcher has chosen to use triangulation, to determine the efficacy of the strategies employed by the various stakeholders involved in the delivery of training in enterprise start-up initiatives. Triangulation will expedite the naturalistic observation of behaviour via shadowing and in-depth interviews, which the researcher employs for the qualitative aspect of the research, and the on-line survey will elicit background, behavioural, evaluation and performance measures for the quantitative aspect of the research. If multiple and independent measures reach the same conclusions, then triangulation will provide a more reliable representation of the efficacy of the strategies employed by the various stakeholders involved in the delivery of training in enterprise start-up initiatives. Triangulation methods are useful in the procurement of a more profound understanding of the studied phenomenon and can add rigor and breadth (Jick 1979).

### 3.7 Sampling Strategy

A sample is a subset of a population, chosen by the researcher for observation, questioning or measurement to provide statistical information about the same subset of a population (Graff 2014). Whilst examining sampling in entrepreneurial settings, Neergaard (2007) argues that sampling is a key element in safeguarding the quality of the outcomes of a research project. Neergaard suggests that all researchers need to select environments and participants that are in a position to provide optimal information pertaining to the research phenomenon and this can only be accomplished through purposeful sampling. Purposive sampling is a non-probability sampling technique rather than random selection which is the foundation of probability sampling techniques (Neergaard 2007). Non-probability sampling is determined on the judgement of the researcher when it comes to choosing the units to be studied whereas probability-sampling techniques select the units from the population at random. Choosing an appropriate sampling strategy enables the researcher to make statistical inferences between the sample being studied and the population of interest (Graff 2014). The units refer to the people, environments, organisations, events and sets of data in the phenomenon (Palinkas et al. 2015).

However, mixed methods sampling necessitates an understanding of the sampling strategies that take place in both quantitative and qualitative research. Quantitative research aspires to employ probability-sampling techniques to obtain a sample that most accurately characterises the entire population. Purposive sampling techniques are mostly employed in qualitative research to select participants or other units of the research phenomenon which can provide data that will address the research questions (Coviello and Jones 2004). Mixed methods sampling calls for careful consideration and creativity during the course of the research design. The researcher can choose participants using both probability and purposive sampling (Graff 2014).

During the establishment of samples for the quantitative stage, the researcher needs to obtain a sample that is representative of the population and during the qualitative stage; the researcher seeks to establish samples that afford information at multiple levels of meaning. This allows the researcher to obtain greater insights into a phenomenon by

considering it from all angles and thus the identification of common themes across the sample (Bygrave 2007). Coviello and Jones (2004 p.494) discuss the fact that entrepreneurship research is not generally characterised as using large samples. They argue if a research problem demands “rich deep information, then a small number of cases can be appropriate” and more importantly, “if high quality survey data is obtainable from a smaller sample and extracted from well-developed selection criteria, meaningful findings can still result”. For the purposes of this research, the researcher will employ a purposive sampling strategy for the qualitative aspect and seek a representative sample for the quantitative aspect albeit using a non-probability sampling approach. The sample size required was determined using G\* power 3 statistical software. The chi square procedure determined a required sample size of 32 and the Mann-Whitney procedure determined a sample size of 34 (see Appendix A).

### 3.7.1 Research Population and Sample

The population for the quantitative aspect of the research consisted of a regional subset (County Kerry) of participants of a national entrepreneurship development programme, specifically the New Frontiers Development Programme (see section 2.9). Participants of the programme were males and females ranging from 18 – 60 years old, with a variety of backgrounds. The programme in County Kerry is run on a yearly basis and has an average of twelve participants each year. The researcher identified three cohorts of the programme, 2013/14; 2014/15; and 2015/16 totalling 37 participants from which a random sample size of 33 was achieved. Owing to data protection of participant information, the researcher’s invitation to participate in the survey was emailed to all 37 participants by the programme manager. The achieved sample size of 33 exhibits the unbiased nature of the sampling process.



The population for the qualitative aspect of the research incorporated several stakeholders involved in the New Frontiers Development Programme nationally. In relation to how many qualitative interviews is enough, Wolcott is cited by Baker and Edwards (2012 p.3) as stating:

*Keep asking as long as you are getting different answers, and that is a reminder that with our little samples we cannot establish frequencies but we should be able to find the range of responses. Whatever the way the question is handled, the best answer is to report fully how it was resolved (Harry Wolcott cited in Baker and Edwards 2012 p.3).*

However, whilst referring to research objectives and the question of how many qualitative interviews is enough, Adler and Adler (1987, 1998) differentiate quantitative methods as objectively using correlations to explain and comprehend what people do and qualitative methods as endeavouring to produce a subjective understanding of how and why individuals feel, think, role-take, construe and interact. They advocate that this variation alters how research is embarked upon and ultimately by what means the question of 'how many qualitative interviews' is advanced (Baker and Edwards 2012).

Adler and Adler (1987, 1998) further advance their view citing that qualitative researchers normally have a preconceived idea of how many interviews they will need to answer the research questions. However, owing to the exploratory nature of qualitative research, the researcher may not know how much data to gather in advance. Ragin and Becker (1992) assert that 'saturation' is central to qualitative sampling. That is, the researcher continues until saturation is achieved. Mason of Manchester University is cited by Baker and Edwards (2012) as stating that it is often an automatic response for a first-time researcher to feel that they have to conduct more interviews as this is seen to be better. Jensen of Newcastle University, also cited by Baker and Edwards (2012 p.5) provides clarity on this when she states that, "the quality of the analysis and the dignity, care and time taken to analyse interviews, rather than quantity". Becker (2007) asserts that the number of interviews required will change as the researcher learns more and revises their ideas. He advises researchers to begin formulating their analysis and conclusions earlier in the research process. In conclusion,

Charmaz (2014) recommends researchers to learn what represents quality rather than adequacy and to conduct as many interviews needed to achieve this.

With this in mind, the researcher conducted thirteen qualitative interviews in total. The stakeholders who participated in the research consisted of five national trainers (see Appendix F for trainer interview questions), two national mentors (Appendix G), the programme manager (Appendix H) and three programme participant graduates (Appendix I) from the 2013/2014, 2014/2015, and 2015/2016 cohorts respectively. Two established entrepreneurs from the region also took part in the pilot study. They were identified by the researcher within the research setting. These entrepreneurs are also former graduates of the New Frontiers Development programme and/or earlier/similar versions of the programme. The programme manager was identified by the researcher and identification was facilitated by the research setting at the Institute of Technology, Tralee (ITT) where the management and operation of the programme is accommodated in the Kerry Technology Park. Five national trainers were identified with the assistance of the programme manager and the research project supervisors. Non-probability purposive sampling was employed and the individuals were selected based on volunteer and judgement sampling techniques. Two of the five national trainers were shadowed by the researcher over a period of two full days of workshops, held at the Institute of Technology Tralee (ITT). Two national mentors were selected based on purposive volunteer and judgement sampling techniques and identified with the assistance of the Enterprise Ireland Mentor Co-Ordinator. The programme participant graduates were identified and selected on the same basis and access facilitated by the research setting.

### 3.7.2 Research Setting

The research was conducted at the ITT and at the Centre for Entrepreneurship and Enterprise Development (CEED) in the Tom Crean Innovation Centre, which is located in the Kerry Technology Park adjunct to the institute. Entrepreneurialism and entrepreneurship education have long been one of the ITT's areas of distinction. The ITT and CEED have been engaged in the development of entrepreneurial programmes for students across all levels of the education system and in the collaboration, organisation, and management of enterprise start-up initiatives within the region. This involvement facilitates the transfer of knowledge to regional enterprise agencies and greatly influences the stimulation and nurturing of an entrepreneurial culture. County Kerry was awarded the European Entrepreneurship Region (EER) for 2011 and this research will contribute to the strategic goals of the region, the ITT, and CEED, which will facilitate the expansion of opportunities for academic institutions and collaborating agencies.

The researcher shadowed two successful entrepreneurs in their place of work, namely the Tom Crean Innovation Centre, followed by ethnographic interviews. Two of the national trainers were shadowed during workshops, which were held in the institute, followed by face-to-face in-depth interviews with the same two national trainers. The programme manager and the programme participant graduate were interviewed on a one-to-one basis at the ITT and at CEED respectively. One national mentor was interviewed at the institute and the remaining interviewees, three national trainers and one national mentor were interviewed via Skype from the researcher's hot desk at CEED located in the Tom Crean Innovation Centre.

### 3.8 Pilot Study

The pilot study refers to pre-testing, also referred to as a feasibility study of a full-scale study on a smaller sample, and is compared to the planned sample size. It includes the pre-testing of particular research instruments, such as questionnaires or interviews. The pilot is administered to a percentage of the total sample population. Conducting a pilot survey prior to the large-scale survey offers numerous benefits and advantages to the researcher. One of the advantages is that it can indicate an early warning about where the research questions could have antagonistic impacts and whether proposed methods or instruments are inappropriate or too complicated (Polit et al. 2001). A pilot survey, in particular can test the correctness of the instructions to be measured. It clarifies whether all the respondents are able to follow the directions as indicated. It also provides information on whether the survey is effective in fulfilling the purpose of the study. The pilot study steers the advancement of explanations during the data collection and analysis phases that explain, evaluate and propose connections between phenomena (Bygrave 2007).

#### 3.8.1 Pilot Study Population and Sample

Pilot studies were conducted for both the qualitative and quantitative research studies. The population for the qualitative aspect of the pilot study consisted of a sample of two established entrepreneurs, located in the region. Both are graduates of the New Frontiers Development programme and/or similar or earlier versions of an accelerator programme (see Appendix D for interview questions). Non-probability purposive sampling was employed and the individuals were selected based on volunteer and judgement sampling techniques. The two entrepreneurs were identified by the researcher owing to the research setting and its location being adjunct to that of the entrepreneurs.

Probability sampling techniques were used to select the sample for the quantitative aspect of the pilot study. The population was (N=11) and comprised of a sample of six nascent entrepreneurs who took part in the 2014/2015 cohort of the New Frontiers Development Programme in County Kerry.

### 3.8.2 Empirical Data Collection and Analysis

During the exploratory phase of the research, the researcher shadowed two established entrepreneurs, coded henceforth (E01 and E02) specifically at their place of work. The researcher shadowed and spent a full working day with each of the two entrepreneurs. Shadowing these entrepreneurs allowed the researcher to observe them in their natural setting and facilitated observational research, also referred to as field research. This is a type of correlational research where the researcher observes ongoing behaviour. The researcher took systematic notes and recorded instances of micro-events, behaviours and interactions (Johnson and Onwuegbuzie 2004). Observational techniques enabled the researcher to focus in on the context of where the behaviour was actually happening but also enabled the researcher to observe the way in which each individual acted in response to what was going on around them or in response to what was said (Bygrave 2007). Rigg and O'Dwyer (2012 p.327) refer to "micro-ethnography" in the form of "shadowing and ethnographic interviews with entrepreneurs" during acute instances of business emergence.

Ethnographic interviews were carried out two weeks later with each of the entrepreneurs. Each interview was one hour long in duration while, the time taken on the interviews was determined by the emerging data. The shadowing/observational notes allowed the researcher to construct and direct more insightful and open-ended questions during the ethnographic interview process. Notes from the shadowing sessions and transcriptions from the ethnographic interviews were analysed using QSR NVivo 10, which is a statistical software tool that supports qualitative and mixed methods research. Handling qualitative data is an iterative process where the researcher explores, codes and reflects on the data. NVivo facilitated the coding of themes, as they emerged allowing for recoding of already generated themes and the identification of patterns. The sample of established entrepreneurs E01 and E02 facilitated the researcher to yield rich data at multiple levels of meaning. This allowed the researcher to obtain greater insights into the research phenomenon by considering it from all angles and thus the identification of common themes across the sample (Bygrave 2007). The ethnographic interviews were sound recorded and transcribed with

the permission of the participants. Each participant was given a participant consent form to sign, a copy of which can be found in Appendix C.

An on-line survey was drawn up where closed-ended questions were elicited from insights and advancements of explanations from the literature review together with knowledge extracted from the face-to-face ethnographic interviews with entrepreneurs E01 and E02. The amalgamation of knowledge from both methods was used to evaluate and formulate questions for the survey. The survey was designed for online distribution using SurveyMonkey, which is an online survey development, cloud-based software tool. An invitation to take part in the survey was sent by email including a link to the survey at SurveyMonkey. One of the research supervisors assisted the researcher in the distribution of the online survey, via email, owing to data protection of participant information.

### 3.8.3 Pilot Study, Key Learnings

The ethnographic interviews with established entrepreneurs provided a plethora of information and a very large quantity of data. Owing to the early scheduling arrangements of the shadowing sessions and subsequent ethnographic interviews, (September 2015), the interview questions were too long and unstructured and subsequently made analysis more difficult. At that point, in the research programme, the researcher had not fully grasped the research phenomena and too much emphasis was given to questions around the evolution of entrepreneurship and trait literature. As a result, the researcher used the data gathered from the exploratory pilot qualitative study to advance knowledge and gather more information specific to the research objectives and questions. The quantitative findings revealed gaps in the content of the survey and thus assisted the researcher in the establishment of connections between phenomena. Themes continually became evident. These were combined with the data from the pilot study transcripts and a more comprehensive literature review allowing the researcher to propose a conceptual framework and subsequent redesign of the main study quantitative and qualitative research methods. According to Corden and Sainsbury (2006) excerpts from transcripts assist in the clarification of links between data and interpretation. For that reason, the in-depth interview format was revised and

the quantitative pilot study results were central in preventing further difficulties and permitted the researcher to reformat in time.

Following the pilot results and findings, the researcher informally met with two of the respondents from the 2014/15 cohort and conducted respondent debriefings. The researcher questioned the two volunteers with open-ended and closed-ended questions to assess the comprehension and interpretation of the proposed main survey questions. The majority of the content of the questions were deemed clear, however participants were not familiar with academic words like 'blended' and 'experiential'. This was noted and revised for the main study. The layout of the pilot survey within SurveyMonkey was criticised and time to complete the survey was cited as an issue. The instructions were not always clear in line with the structure of the layout within SurveyMonkey. The researcher learned that more thought and planning is required in order to elicit workable, valuable data. The findings of the pilot studies are presented in chapter four. The following sections describe and explain the qualitative methods (section 3.9) and quantitative methods (section 3.10) for the main study. The mixed methods entrepreneurial learning (MMEL) framework is presented which was devised by the researcher as direct result of the pilot qualitative and quantitative findings and underpinned by the proposed conceptual framework.

### 3.9 Qualitative Methods

The qualitative research approach firstly employs the review of literature as a means of exploratory research in an effort to acquire and produce subjective understanding and insights into how and why individuals feel and think and is consistent with the assumptions of learning from the field research participants (Adler and Adler 1998). In other words, the questions are not prescribed from the researcher's point of view. In qualitative research, early interests in the research phenomenon are often derived from real-world observations. These early interests materialise from the researcher's explicit and implicit experiences (Marshall and Rossman 2014). According to Dana and Dana (2005), the qualitative approach is based on the researcher's observation of situations and events involving the individuals being studied, their interactions and businesses. These sources can generate in-depth and verbal testaments (Dana and Dana 2005). According to Dana and Dana 2005, sources of qualitative research can include document analysis, open-ended interviews and even include quantitative files. This is reflective of the research programme as the mixed methods entrepreneurial learning (MMEL) framework was initially devised to support the quantitative methods design and subsequently incorporated to support the qualitative methods. This framework will be referenced concomitantly as a basis for both qualitative and quantitative design, analysis and findings. The development of the MMEL further strengthens the mixed methods approach to the research phenomenon.

Geertz (1973) describes qualitative data as providing 'thick description' that yields direct quotations from participants about their attitudes, beliefs, feelings, objectives, actions, and experience. Qualitative research methods are interlinked and organised through more extended contact. It is more reflective of the experiences of individuals and organisations. The role of the researcher is universal and analysis is mostly managed with words, which can be organised into themes (Creswell 2009, Miles and Huberman 1984). Whilst examining the expanding scope of methodologies used in entrepreneurship research, Dana and Dana (2005) assert that during qualitative research, the researcher does not carry out presumptive groupings or hypotheses, but rather endeavours to understand the phenomena based on field research where new questions need to be continuously developed. The researcher is motivated by



observations, to pursue more answers, which consequently stimulate new questions. Dana and Dana (2005 p.83) state that “this allows the researcher to acquire an understanding of the environment for entrepreneurship, as well as the entrepreneur as an individual”. Qualitative methods are flexible and are more applicable to the generation of new theories in entrepreneurship and quantitative surveys can test hypotheses about entrepreneurs, whereas qualitative research can be more applicable to understanding the entrepreneur’s relationship and interconnections with the environment (Dana and Dana 2005).

The interview structure for the qualitative aspect of the research is designed to follow a combination of the Maritz and Brown (2013) and MMEL frameworks. These frameworks were chosen and devised in order to gain insights at the same time as facilitating an evaluation of the effectiveness of the strategies employed by the different stakeholders in the delivery of the programme in County Kerry. The background questions are based on a combination of the literature review and the know-why element of the knowledge framework and take attitude, subjective norms and entrepreneurial alertness into account. This method of evaluation was chosen because of the disparity in individual respondent experiences and in the case of the participants, the different levels of prior business experience and readiness to start a business. Several issues are addressed within the interview structure which include the know-why, know-what, know-how and know-who elements. This approach allowed the researcher to gain an understanding and insight into the different stakeholder experiences of the programme. The components that are relevant to the methods and practices employed by the different stakeholders in the MMEL framework were adapted from Johannisson’s (1991) taxonomy of entrepreneurial competences approach; Middleton and Donnellon's (2014) knowledge framework for entrepreneurial action; roles and tasks for measuring ESE as proposed by Chen et al. (1998) and Kirkpatrick’s (2006) four levels of evaluation.

The subjects covered included:

1. Stakeholder profiles
2. Professional development of stakeholders
3. Entrepreneurial learning and behaviour
4. Levels of internal and external communication between the different stakeholders
5. Contextualisation and practice of knowledge and skills
6. Transfer and application of skills learned through the programme
7. Augmentation of personal and professional attitudes and capabilities

For the purposes of the qualitative aspect of this research, the researcher endeavoured to understand the methods and practices applied in the delivery of training in enterprise start-up initiatives and thus, the qualitative methods employed were thirteen open-ended interviews with the various stakeholders involved in the delivery of training in the New Frontiers Development programme in County Kerry. The field research methods included two ethnographic interviews with entrepreneur's (E01 and E02) as part of the pilot study. Five in-depth interviews with national trainer's (T01, T02, T03, T04, T05), one face-to-face in-depth interview with the programme manager (PM01), two in-depth interviews with national mentors (M01, M02) and three face-to-face in-depth interviews with programme participant graduates (PP01, PP02 and PP03) from the 2013/2014, 2014/2015, 2015/16 cohorts respectively. The field research participants have been coded above and henceforth will be referred to with the same codes throughout the remainder of the research project. See the following appendices for copies of the in-depth interview questions. (G for trainers, H for mentors, I for the programme manager, and J for the programme participant graduates).

### 3.9.1 Ethnographic Interviews

Ethnographic interviews are immersive, observational qualitative research methods that facilitate one-to-one interviews. According to Morgan and Smircich (1980), anthropologists, also known as ethnographic researchers immerse themselves and live amongst the cultures under study to better understand their behaviours and social customs.. This technique is applied on a micro level by the researcher in order to

understand participant behaviours and gain insights of the individuals transacting in the research phenomenon. Morgan and Smircich (1980 p.496) state that “emphasis is now placed on understanding the nature and patterning of the symbols through which individuals negotiate their social reality”. Therefore, knowledge, understanding, and accounts of social situations must consider how social order is shaped by individuals in a manner that is meaningful to them. This view highlights how social situations should be researched in a way that exposes their inner nature (Morgan and Smircich 1980).

A qualitative ethnographic approach was employed during the exploratory phase of the research. Two established entrepreneurs were purposefully selected from the research setting for the pilot study. Ethnographic interviews were conducted on a micro-level and were found to be an appropriate qualitative method following the shadowing sessions. Ethnographic interviews work well dealing with soft issues which are not responsive to quantification (Jack and Anderson 2002). Hammersley (1992) describes the ethnographic interview approach as facilitating the search for meanings, which are placed behind actions. Furthermore, the objective of the ethnographic interviews during the exploratory phase was in relation to the researcher’s understanding at the time. See Appendix D for pilot study ethnographic interview questions.

### 3.9.2 In-depth Interviews

In-depth interviews facilitate a number of objectives. Firstly, they allow respondents to tell their story in their own words (Harvard 2015). The in-depth interview method is designed to bring about a rich picture of the participant’s perspective on the research phenomenon. The participant interviewee is considered the expert and the interviewer, the student researcher. The researcher is driven by the need to learn everything the participant can share about the research topic (Milena et al. 2008) See Appendices G, H, I & J for a copy of all in-depth interview questions. Secondly, in-depth interviews enable the researcher to examine in detail what respondents say, as the interviews are recorded and transcribed with permission (see Appendix B for generic interview protocol document where the researcher verbally requests permission to use recording equipment and Appendix C for participant consent form where the participating interviewee’s signature is required to confirm permission). The in-depth interview is an

effective qualitative approach to facilitate participants to discuss their personal feelings, opinions, and experiences. It also provides an opportunity to gain awareness into how different participants construe and order the world. The researcher can accomplish this by listening carefully to the causal explanations (Milena et al. 2008). Thirdly, apart from the intended objectives of the original researcher, the data can be used again by other researchers to enhance the original findings and add light to new theoretical ideas or analytic approaches. This is called secondary analysis and it can be used to counter any claims that the original analysis of the data may have been influenced by the researcher's values or preconceptions (Harvard 2015).

According to Bygrave (2007), the entrepreneurship field needs more in-depth qualitative studies and these studies will assist researchers in understanding the entrepreneurial process. Bygrave believes that the heart of entrepreneurship will be realised in the 'descriptive background' and that it is not possible to reach the heart of the start-up process unless researchers observe what is happening on the ground (Bygrave 2007). In-depth interviews expedite the discovery of methods and practices and the focus according to Danermark et al. (2002) must be on 'why' things happen. The findings must not only be described but explained and interpreted (Danermark et al. 2002). During the in-depth interview process, participants are more self-confident and relaxed as they are made to feel significant and gently encouraged to communicate their insights about the research subject (Milena et al. 2008).

### 3.9.3 Qualitative Instrumentation Procedures

The interview protocol document acts as a guide for the researcher to explain to the interviewee what is involved during the interview process. It provides clarity for the interviewee and eases them into the process. Information and instructions relating to the interview process are given to the interviewee. These include the maximum length of time of the interview and a clear explanation of the confidentiality, and secure storage of data resulting from the interview. The interviewee is informed about the use of recording equipment and asked for verbal consent (See interview protocol in Appendix B). Each participant interviewee is given a copy of a consent form or information sheet to sign. This document describes the purpose of the research and explains what is

involved in the interview. The option to withdraw from the research is outlined and the confidentiality and anonymity protocols are explained. The consent form concludes with signed declarations by both the participant and the researcher. The participant signs in order to confirm understanding of the interview process including the use of recording equipment. The researcher signs to affirm that a thorough explanation of the interview process has been given and that the participant consents and takes part without coercion (see participant consent form/information sheet in Appendix C).

#### 3.9.4 Validity and Reliability of Qualitative Data

In order to safeguard the validity and reliability of the qualitative interviews, the researcher must follow clear procedures and the process must be trustworthy, reliable and fit (Creswell 2009). Qualitative data that produces emergent relationships between concepts serve to enhance the confidence in the validity of the relationships. Qualitative data is also predominantly valuable for understanding why or why not the emergent relationships hold and provides a good understanding of the forces underlying the relationships and therefore, the 'why' of what is happening. This is key to the formation of internal validity. If the qualitative results are comparable to discussions in the existing literature, it can facilitate the drawing together of underlying relationships in the research phenomena that are not usually associated with each other (Eisenhardt 1989).

The interview format and content validity of the questions were in the first instance, reviewed by the research supervisors. Some questions were considered repetitive or irrelevant and therefore restructured or discarded. Once the questions were updated and the overall layout of the questions was redesigned, the questions were tested and validated on a selection of the programme stakeholders working within the confines of the Tom Crean Business Innovation centre, the research setting. This exercise greatly improved the overall design of the interview questions demonstrating a rational and comprehensive coverage of the domain it purported to cover. The research questions were subsequently deemed fit for purpose, relevant, clear and concise. Several theoretical entrepreneurial learning and knowledge frameworks were employed to devise a framework applicable to this research, which were previously validated by academics in the literature. Validity approaches as proposed by Creswell (2009) were

employed to inspect transcripts prior to uploading to NVivo for coding to ensure that all the data was included. Data generated beyond the specific interview questions and contrary to the themes identified in the literature were also recorded and included in the qualitative analysis to further validate and demonstrate the authenticity and creditability of the research findings. However the subjectivity of respondents' attitudes and opinions can cause a degree of bias and for this reason, validity should be viewed as a matter of degree rather than an absolute state (Cohen et al. 2013).

### 3.10 Quantitative Methods

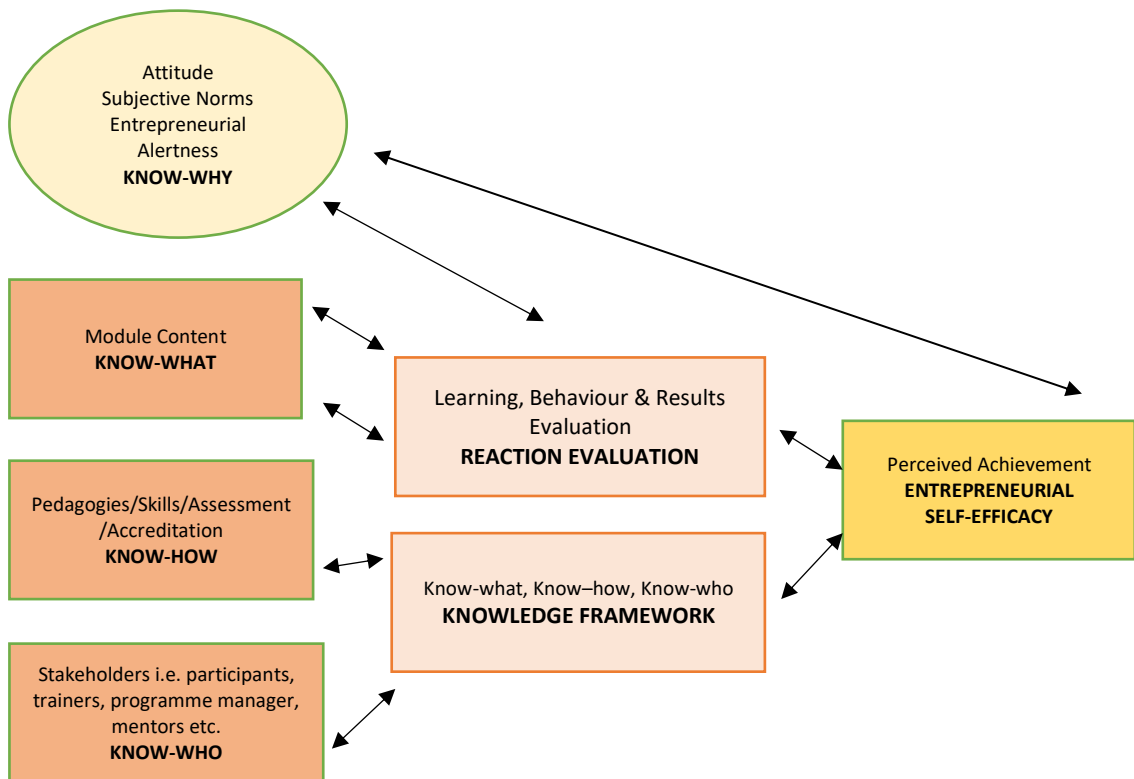
Quantitative research is viewed as a positivist paradigm and traditionally the foundation and basis of social-science research. Traditionalists according to Johnson and Onwuegbuzie (2004 p.14), call for researchers to “eliminate their biases, remain emotionally detached and uninvolved with the objects of study and test or empirically justify their stated hypotheses”. Creswell (2009) takes a more concise approach in his explanation of quantitative research and describes it as explaining phenomena by gathering numerical data that are then analysed using mathematical methods, predominantly statistics. Researchers who adopt an objectivist approach to the social world and consider it like the natural world as hard, real and external to the individual will focus on investigating the relationships and uniformities between chosen factors in that world. The objectivist approach is quantitative in nature and traditional options such as surveys and experiments are employed (Cohen et al. 2013). The concern with this approach according to Burrell and Morgan (1979) is in relation to the classification and definition of these elements and with the finding of methods where these relationships can be articulated. This approach conveys itself in a search for universal laws (Burrell and Morgan 1979) and has been the focus of continued criticism from some quarters (Cohen et al. 2013).

Quantitative research methods can be used to approximate qualitative variables. This is achieved by using research instruments similar to SPSS statistical software which can convert the results from the survey questions into quantitative data which can then be analysed statistically (Muijs 2013). For example, the attitudes and beliefs of the programme participants do not inherently exist in quantitative form. However, the researcher has developed a questionnaire that asks participants to rate groups of statements and then utilises the statistical software to allocate numbers for the answers, thus creating quantitative data on the attitudes and beliefs of the programme participants. The unearthing of concepts, theories, models, and frameworks associated with entrepreneurial knowledge and learning in the literature review led the researcher to create a mixed methods entrepreneurial learning (MMEL) framework that serves a number of functions throughout the research programme. It has already been utilised to guide the interview structure for the qualitative aspect of the research. The mixed

methods entrepreneurial learning (MMEL) framework (see figure 11 below) outlines the framework for the questionnaire design

### 3.10.1 Questionnaire Design

Figure 11 - Mixed Methods Entrepreneurial Learning Framework



(Source: Author)

The MMEL illustrated in figure 11 bases its creation on earlier knowledge, theories, models, and frameworks from the literature. The quantitative and qualitative instruments applied in the empirical research underpinning this study were informed by the research illustrated in tables 4, 5 & 6 collectively. Each table describes the sets of statements to be rated/ranked and explain how they correlate to each component of the MMEL framework. These specific questions and groups of statements are underpinned by pre-tested and validated scales in the literature. The source of each component and a brief explanation of the study that it relates to is provided. Table 4 includes measures of attitude, measures of subjective norms (Heuer and Kolvereid



2014) and measures of entrepreneurial alertness (Tang et al. 2012) which encompass the know-why and know-who elements of the MMEL framework. Table 5 continues with measures of entrepreneurial alertness and presents measures for reaction evaluation adapted from Kirkpatrick's (1976 p.31) four levels of learning (Kirkpatrick 1976, Kirkpatrick and Kirkpatrick 2006) encompassing the know-what, know-how and know-who elements of the MMEL. The Knowledge Framework component includes the know-why, know-what, know-how and know-who elements and draws from a number of sources in the literature parallel to Krueger's (2007) critical developmental experiences, Johannisson's (1991) taxonomy of entrepreneurial competences, and Middleton and Donnellon's (2014) knowledge framework for entrepreneurial action. However, there are no pre-tested and validated scales for the knowledge framework. Table 6 includes measures of entrepreneurial self-efficacy (Chen et al. 1998) which encompasses the outcomes or perceived achievement element of the MMEL.

SETS OF STATEMENTS TO BE RATED/RANKED	RELATIONSHIP TO THE MMEL	PRE-TESTED VALIDATED SCALES	ACADEMIC SOURCES
<p>Please indicate your level of agreement with the following statements:</p> <ul style="list-style-type: none"> <li>▪ I would rather own my own business than to get higher wages as an employee.</li> <li>▪ I would rather own my own business than to choose another promising career.</li> <li>▪ I am personally willing to sacrifice a lot that my own business survives.</li> <li>▪ I am willing to work more for the same salary in self-employment than as an employee.</li> </ul>	<p><b>KNOW-WHY</b></p>	<p>Measures of Attitude (Attitude Towards Behaviour - ATB).</p> <p>Attitude to venture creation acts as a proxy that allows for practical, albeit indirect measurement of said behaviour.</p>	<p>Heuer &amp; Kolvereid (2014) Norwegian study. The relationship between EE and entrepreneurial behaviour is investigated using the TPB and a comparison of the effectiveness of frequently used EE teaching methods is offered.</p>
<p>What do you believe is the opinion of the following people in relation to your decision to start your own business?</p> <ul style="list-style-type: none"> <li>▪ Your family</li> <li>▪ Your peers</li> <li>▪ Your educators</li> <li>▪ Other people that are important to you.</li> </ul>	<p>Souitaris et al. (2007) found that the greater the stimulation from an EEP, the higher the increase in SNs and intentions towards self-employment.</p>	<p>Measures of Subjective Norms (SN).</p> <p>Subjective norms also act as an antecedent or proxy of intention, (the perceived social pressure to start a business or not).</p>	<p>Heuer &amp; Kolvereid (2014) Belgian study.</p> <p>Employing the TPB, the findings from this study show that entrepreneurial intention is significantly and positively correlated with attitude towards entrepreneurship, subjective norm, and perceived behavioural control.</p>
<p>Please indicate your level of agreement with the following statements:</p> <ul style="list-style-type: none"> <li>▪ I have frequent interaction with others to acquire new information.</li> <li>▪ I always keep an eye out for new business ideas when looking for information.</li> <li>▪ I read news, magazines, or trade publications regularly to acquire new information.</li> <li>▪ I browse the internet every day.</li> <li>▪ I am an avid information seeker.</li> <li>▪ I am always actively looking for new information.</li> </ul>	<p><b>KNOW-WHY KNOW-WHO</b></p> <p>EA implicitly encompasses the entrepreneurial mind-set and how new ideas precede to commercially viable enterprise start-ups.</p>	<p>Measures of Entrepreneurial Alertness (EA).</p> <p>A 13-item validated alertness scale that captures the following three dimensions.</p> <p>1) Scanning and search entrepreneurial alertness asset. (Scan)</p>	<p>Tang et al. (2012) Scanning &amp; search entrepreneurial alertness asset (Scan).</p> <p>Tang et al. (2012) consider entrepreneurial alertness as a necessary condition for the success of what they call, the opportunity identification triad: recognition, development, and evaluation.</p>

Table 4 - Sources of Survey Design within the MMEL Framework (Part I)

SETS OF STATEMENTS TO BE RATED/RANKED	RELATIONSHIP TO THE MMEL	PRE-TESTED VALIDATED SCALES	ACADEMIC SOURCES
<ul style="list-style-type: none"> <li>▪ I see links between seeming unrelated pieces of information.</li> <li>▪ I am good at “connecting dots”.</li> <li>▪ I often see connections between unconnected domains of information.</li>   <li>▪ I have a gut feeling for potential opportunities.</li> <li>▪ I can distinguish between profitable opportunities and not-so profitable opportunities.</li> <li>▪ I have a knack for telling high-value opportunities apart from low-value opportunities.</li> <li>▪ When facing multiple opportunities, I am able to select the good ones.</li> </ul>	<p style="text-align: center;"><b>KNOW-WHY KNOW-WHO</b></p> <p><i>Entrepreneurial Alertness implicitly encompasses the Know-who element adding to the framework that the programme stakeholders directly impact on the know-what and know-how.</i></p>	<p>2) Association &amp; connection entrepreneurial alertness asset. (Connect).</p> <p>3) Evaluation and judgement entrepreneurial alertness asset. (Evaluation).</p>	<p>Tang et al. (2012) carried out multiple studies on entrepreneurial alertness developing and validating an alertness scale at the same time as displaying its association with Ardichvili et al. (2003 p.105) and social networks and how prior knowledge can act as an antecedent to entrepreneurial alertness and thus to new business opportunities.</p>
<p>Please indicate your level of agreement with the following statement for each of the workshops:</p> <ul style="list-style-type: none"> <li>▪ The topic was well covered and clearly presented.</li> <li>▪ My knowledge and understanding of the topic has grown.</li> <li>▪ The material covered will be useful to me in developing my new business.</li> </ul>	<p style="text-align: center;"><b>REACTION EVALUATION</b></p> <p>Learning evaluation.</p> <p>Behaviour evaluation.</p> <p>Results evaluation.</p> <p style="text-align: center;"><b>KNOWLEDGE FRAMEWORK</b></p> <p>Know-What</p> <p>Know-How</p> <p>Know-Who</p>	<p>Measures for Reaction Evaluation were adapted from examples in Kirkpatrick’s (1976 p.31) Training and Development handbook. A Cronbach Alpha of (.83) was established by the researcher for the scale.</p> <p><i>Results evaluation, the 4<sup>th</sup> level, is implicitly linked to perceived achievement in the ESE component.</i></p>	<p>Kirkpatrick’s (1976, 2006) four levels of evaluation (Section 2.6)</p> <p>The Knowledge Framework component draws from Krueger’s (2007) critical developmental experiences, Johannisson’s (1991) taxonomy of entrepreneurial competences, and Middleton and Donnellon’s (2014) knowledge framework for entrepreneurial action.</p>

Table 5 - Sources of Survey Design within MMEL Framework (Part II)

SETS OF STATEMENTS TO BE RATED/RANKED	RELATIONSHIP TO THE MMEL	PRE-TESTED VALIDATED SCALES	ACADEMIC SOURCES
<p>Having participated on the programme, please indicate your degree of certainty in performing</p> <p>.....each of the following marketing tasks:</p> <ul style="list-style-type: none"> <li>▪ Set and meet market share goals.</li> <li>▪ Set and meet sales goals.</li> <li>▪ Establish position in product market.</li> <li>▪ Conduct market analysis.</li> <li>▪ Expand business.</li> </ul> <p>.....each of the following innovative tasks:</p> <ul style="list-style-type: none"> <li>▪ New venturing and new ideas.</li> <li>▪ New products and services.</li> <li>▪ New markets and geographic territories.</li> <li>▪ New methods of production, marketing, and management.</li> </ul> <p>.....each of the following management tasks:</p> <ul style="list-style-type: none"> <li>▪ Reduce risk and uncertainty.</li> <li>▪ Strategic planning and develop information system.</li> <li>▪ Manage time by setting goals.</li> <li>▪ Establish and achieve goals and objectives.</li> <li>▪ Define organisational roles, responsibilities, and policies.</li> </ul> <p>.....each of the following risk-taking roles/tasks:</p> <p>Take calculated risks. Make decisions under uncertainty and risk. Take responsibility for ideas and decisions. Work under pressure and conflict.</p> <p>.....each of the following financial tasks:</p> <ul style="list-style-type: none"> <li>▪ Perform financial analysis</li> <li>▪ Develop financial systems and internal controls</li> <li>▪ Control cost</li> </ul>	<p>Entrepreneurial intentions can be explained by self-efficacy together with an individual's belief that he or she is adept in successfully carrying out the different roles and tasks of entrepreneurship (Chen et al. 1998, Kristiansen and Indarti 2004).</p> <p>The acquisition of the necessary skills via EEPs to act entrepreneurially implicitly illustrates the know-how element of the KF.</p> <p><b>KNOW-HOW</b></p> <p><b>ENTREPRENEURIAL SELF-EFFICACY (ESE)</b></p> <p><b>OUTCOMES</b></p> <p>Perceived Achievement</p> <p><i>Following participation on the programme/results, evaluation or outcomes are implicitly linked to perceived achievement.</i></p>	<p>Measures of entrepreneurial self-efficacy (ESE).</p> <p>A 17-item validated ESE scale.</p> <p>EEPs need to be adapted to suit the backgrounds &amp; motivations of other groups outside of the tertiary level classroom. This raises concerns in terms of the focus on the grade rather than on the tasks needed to start a new business. The backgrounds and motivations of other groups aligned to (andragogy) would facilitate investigations via the ESE component on an individual's belief that he/she can perform explicit tasks at specific levels of expertise (Brand et al. 2007, Chen et al. 1998).</p>	<p>Chen et al. (1998) on entrepreneurial self-efficacy (ESE). Distinguishing entrepreneurs from managers.</p> <p>Self-efficacy is concerned with behavioural control &amp; is task specific.</p> <p>The entrepreneurial self-efficacy (ESE) components also draws from Kristiansen and Indarti (2004), Krueger and Brazeal (1994), Krueger and Dickson (1994) and Noel (2002).</p>

Table 6 - Sources of Survey Design within the MMEL Framework (Part III)

Chapter four will exhibit and describe the results of the questionnaire followed by discussion of the research findings in chapter five.

### 3.10.2 Online Survey Method

The 'Theory and Methodology in Entrepreneurship Research', written by Ireland Duane et al. (2005) assert that online survey methods should not be different from other surveying techniques, most especially when it relates to error owing to the instrument, because the same steps are required to develop reliable and valid scales. Furthermore, according to Ireland Duane et al. (2005), studies that parallel online survey techniques with traditional survey methods find no dissimilarities in data collection techniques. Online surveys, however, report that data are less susceptible to respondent errors and therefore more reliable. Researchers in the entrepreneurship field deliberate this to be the case because the online survey gives the respondent the semblance of superior privacy, and therefore liberty to express their true opinions and devoid of fear of being personally judged (Ireland Duane et al. 2005).

The on-line survey was drawn up where closed-ended questions were elicited from insights and advancements of explanations from the literature review together with knowledge extracted from the pilot study findings and learnings and combined with the main study qualitative findings. The amalgamation of knowledge from these methods collectively with the MMEL was managed by the researcher to evaluate and formulate questions for the online survey (see Appendix K for a copy of the online survey as presented in SurveyMonkey).

### 3.10.3 Quantitative Instrumentation Procedures

Quantitative instrumentation procedures are used to describe the course of action involved in the process of developing, testing and using measurement instruments akin to tests and surveys. The survey was planned and structured for online distribution using SurveyMonkey, the online survey development tool. An invitation to take part in the survey was sent by email including a link to the survey at SurveyMonkey. The programme manager distributed the researchers' email with the link to the online

survey due to data protection of participant information. See Appendix J for email inviting participants to take part in the survey and Appendix K for a copy of the online survey as presented in SurveyMonkey.

#### 3.10.4 Validity and Reliability of Quantitative Data

According to Cohen et al. (2013), the perceptions of validity and reliability are multi-faceted. There are several different types of validity and several types of reliability in quantitative research. Creswell (2009) describes quantitative validity as a measure, which reflects the meaning of the concepts under consideration, and quantitative reliability as a procedure expended on the same object that would yield the same results each time. According to Gray (2009), a research instrument is only valid if it measures what it is intended to measure. In quantitative research, validity may be enriched through cautious sampling, the appropriate use of instruments, and the suitable analysis of the statistical data. However, it is not possible for research to be one hundred per cent valid and therefore quantitative research retains a standard margin of error which is inherent and necessary to acknowledge (Cohen et al. 2013). The measures employed to acquire data in the quantitative phase of the research project were devised based on several theoretical entrepreneurial learning and knowledge frameworks written by trustworthy academics, which enabled the researcher to develop a framework applicable to the research phenomena and objectives. The MMEL framework devised and employed by the researcher guided the selection of several pre-tested scales previously validated by academics in the literature. Cronbach alphas were carried out on all measures included in the MMEL to assess scale reliability and internal consistency i.e. How closely related each set of items were as a group. Despite employing validated measuring instruments for the constructs of attitude, subjective norms, entrepreneurial alertness, and entrepreneurial self-efficacy, the researcher considered it good practice to employ an exploratory factor analysis (EFA) on the new data sets. This is a statistical method in research in other disciplines and in the field of entrepreneurship research. Researchers akin to Athayde 2009, Lans et al. 2014, Politis and Gabrielsson 2009, and Tang et al. 2012 carried out this test for their research.

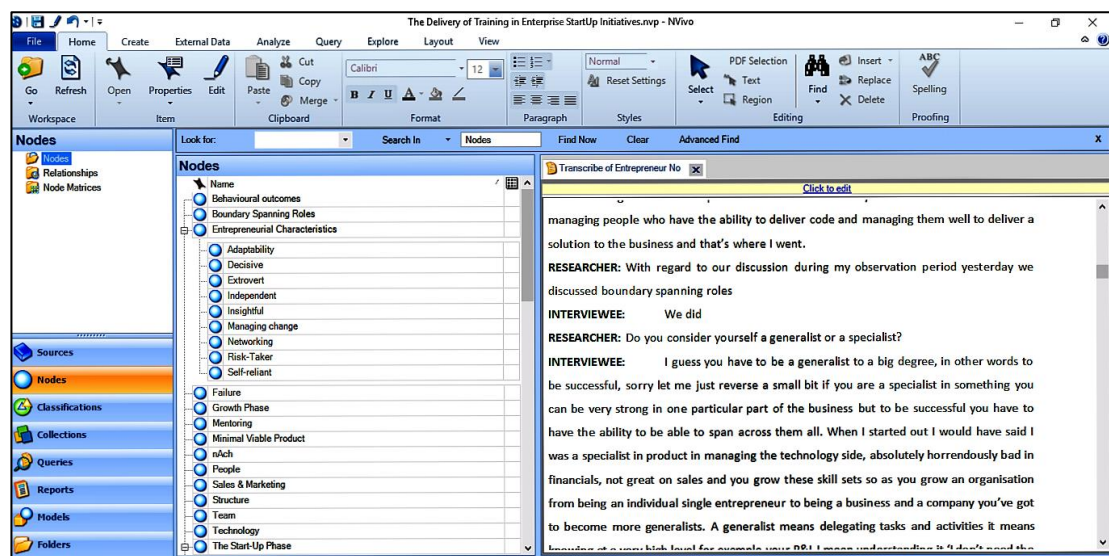
### 3.11 Analytical Tools Used

The analytical tools employed in the research are explained for both the qualitative and quantitative methods in line with the mixed methods research design adopted by the researcher to answer the research objectives and questions.

#### 3.11.1 Qualitative Analytical Tools

Transcripts of interviews from the qualitative phase of the research were uploaded to QSR NVivo 10 statistical software package that supports qualitative and mixed methods approaches. This package simplified and smoothed the coding of common themes, as they emerged allowing for recoding of already generated themes and the classification of patterns. Coding and assembling transcripts by topic is a necessary task in qualitative research and is a cumulative process. The meaning and structure of the research nodes change over time. Coding is only one of many techniques for making sense of the data and despite the efficiency of software packages parallel to NVivo, the researcher must have sufficient knowledge of the research phenomenon to organise the data into broad topic areas in conjunction with research journals and notes. This allows the researcher (see figure 12 below) to further explore the node for each theme and perform more detailed codes.

Figure 12 - Using NVivo for the Development of Themes/Nodes



### 3.11.2 Quantitative Analytical Tools

SurveyMonkey, an online survey development cloud-based software tool was employed to present and manage the survey. See link to survey in email to participants Appendix J and copy of survey in Appendix K. The following statistical techniques were employed using IBMSPSS Statistics 23 software package.

#### **Exploratory Factor Analysis**

Exploratory factor analysis (EFA) is used to discover the factor structure of a measure and to examine its internal reliability. According to Hair et al. (1998), EFA is designed to extract latent factors or a set of common underlying dimensions of the overall construct.

#### **Cronbach Alpha/Mean Inter-Item Correlations**

Cronbach's alpha is a measure of internal consistency and is considered a measure of scale reliability. It measures how closely related a set of items are as a group. According to Tenenbaum et al. (2001 p.101), "internal consistencies can be computed for each factor to examine content heterogeneity and possible items' reduction". In the context of this research the Cronbach Alpha to assess Scale Reliability = (Norm > 0.7).

Mean Inter-Item correlation (ideal norm .2 to .4).

#### **Pearson's Correlation Coefficient**

Pearson's Correlation Coefficient, is a measure of the strength of a linear association between two variables. It attempts to draw a line of best fit through the data of two variables, and indicates how well the data points fit the new model/line of best fit (Lund Research 2013).

#### **Chi-square Test for Association**

The chi-square test for association is used to discover if there is a relationship between two categorical variables (Lund Research 2013).



### **Mann-Whitney U Test with Probability of Superiority**

According to Lund Research (2013 p.1), “the Mann-Whitney U test is used to compare differences between two independent groups when the dependent variable is either ordinal or continuous, but not normally distributed”.

#### **3.12 Ethical Considerations**

Ethical and practical considerations need to be taken into account when conducting research on any given population. The researcher must firstly, obtain permission from the ethics committee of the host academic institution as well as the custodians of the data on programme participants and stakeholders. Approval was obtained from the ethics committee at the Institute of Technology, Tralee at the outset of the research programme. Once this approval was obtained, the researcher put a number of strategies in place to protect the identity of the participants. Information and instructions relating to the interview process are given to the interviewees verbally by the researcher via the interview protocol document (Appendix B). Permission in relation to the use of recording equipment, confidentiality, option to withdraw from the research and the safeguarding and storage of data are outlined in the participant consent form/information sheet (Appendix C). Permission to carry out the interview is given by the interviewee and co-signed by the researcher confirming that the interview process has been explained.

For the quantitative methods aspect of the research, the survey link was sent out by email by the principal research supervisor and the programme manager on behalf of the researcher owing to data protection of the programme participants (see Appendix J).

#### **3.13 Limitations of the Research Methodology**

The qualitative data yields a large volume of data thus presenting the researcher with several tasks. Firstly, the researcher must surmount the probability of personal bias, which can lead to misinterpretation of data. Secondly, the subjectivity of respondents' attitudes and opinions can also cause a degree of bias. Whilst all participants were accommodating, they took care to portray the programme and their role as a

stakeholder in a positive manner and often deflected the more difficult questions set by the researcher. The nature of in-depth interviews, however, enabled the researcher to engage with the interviewees using social skills such as attentiveness, consideration, empathy, and humour if appropriate. The reason for choosing the in-depth interview format was to facilitate a response from the participants. Deeper questions could be addressed which brought forth more authentic information (Milena et al. 2008). Despite the difficulties confronted by the researcher, the subsequent depth of the data gathered, served to counterbalance the difficulties, permitting rich descriptions of the research phenomenon located and embedded in a regional context. Continuous data analysis of both qualitative and quantitative methods were conducted throughout the research programme to assist in the circumvention of bias towards one method or the other.

### 3.14 Summary of Research Methodology

This chapter explained the research rationale and detailed the research objectives and questions. The relevance of the literature review justified how the findings of other studies can be strongly associated with the research phenomenon and influenced the choice of the research philosophy. The research philosophy vindicated the selection of the conceptual framework research design and its subsequent application to the research. The research design described how the triangulation of the mixed methods approach was deemed the most appropriate method of examination and outlined the sampling strategy, the nature of the research instruments, and the types of data that needed to be collected. The mixed methods approach to the research was pilot tested prior to the main study and the analysis and findings were illustrated and discussed. Key learnings from the pilot were explained and the necessary amendments to the planning of the main study were applied and described. The data collection methods employed for both the qualitative and quantitative methods were detailed including the instrumentation procedures and analytical tools employed. In conclusion, the application of validity and reliability, ethical considerations and the limitations of the research are described and rationalised.

## Chapter 4 Findings

### 4.0 Introduction

The purpose of chapter four is to present the analysis and findings for both the pilot and main studies. These include the qualitative and quantitative methods of the research. The research findings are analysed and interpreted within the context of the literature review and the conceptual framework. They are presented using a combination of the Maritz and Brown (2013) and mixed methods entrepreneurial learning (MMEL) frameworks as guides mirroring the different components to the emergent themes. With respect to the components of the Maritz and Brown (2013) framework, the context of the programme under empirical investigation exists within the regional promotion of an enterprise culture with the specific objective of increasing the number of start-ups. The objectives of the programme encompass the development of individuals from a diversity of sectors to become entrepreneurial by means of enterprise education. The audience is sociodemographically diverse and at varying stages of start-up readiness. The Maritz and Brown (2013) framework is utilised as a guide to incorporate elements of the seven components with thirteen interrelated relationships that underpin this framework. The MMEL mirrors some of these components and thus, using both facilitates greater coverage of thematic findings.

### 4.1 Pilot Study, Qualitative Findings and Discussion

The ethnographic interviews with entrepreneurs E01 and E02 were conducted on a micro-level of ethnographic techniques and permitted the researcher to explore a wealth of information on the backgrounds, motivations, and EEP experiences of both entrepreneurs. This data characterised a means for comparison with, and triangulation of, the emerging research themes. The most prominent theme to emerge from the pilot data was the know-why capability as espoused by Fayolle and Gailly (2008), Johannisson (1991) and Middleton and Donnellon (2014).

During the creation of a new business, the literature illustrates that the entrepreneur is confronted with different events and processes, which require control in order to secure

a desirable outcome. Heider (1958) referred to this as “equifinality of the outcome”, meaning a desirable outcome. Complex occupational and business structures were categorised by Johannisson (1991) as part of the know-how capability. Middleton and Donnellon (2014) grouped the know-what and the know-how capabilities together. Know-what was explained in terms of the knowledge an individual needs to start-up a new enterprise and know how, in terms of the knowledge and skills an individual requires to perform entrepreneurial actions. The second theme to emerge from the pilot study data communicates the know-what and know-how capabilities and their functions alongside access to perceived resources and barriers.

The third theme to emerge from the pilot qualitative data was the know-who capability in terms of entrepreneurial alertness (EA), social networks, and knowledge as precursors to business opportunities (Ardichvili et al. 2003). The know-who capability in terms of how the individual relates to networking; and in terms of context, it relates to production and social networks (Johannisson 1991). However, in the context of this empirical research and the research phenomenon, it relates to enterprise start-up initiatives and programmes and to the external parties or stakeholders involved in the management and delivery of these programmes.

#### 4.1.1 Know-Why

Middleton and Donnellon (2014) asserted that the know-why capability refers to the development of an individual's self-awareness and why he or she decides to take part in the entrepreneurial process. Shaver et al. (2001 p.6) noted that "new businesses are not created by accident" and the notion of setting up a new business is an intentional process and linked to the concept of personal causality. When the question of "why did you start your own business?" was posed. E01 said,

*'I certainly wouldn't say by accident, it was definitely a planned process'.*

E02 on the other hand, when asked the same question said,

*'from a very young age, I always had an interest in money (...) I got interested in computing at an early stage (...) when I was fifteen, I worked for a start-up that was three years in operation at the time. I saw the hard work and struggle it took to bring it to a multi-million euro company (...) it was always something that I wanted to do, run my own company'.*

Considering the response given by E01, the review of literature has demonstrated that behaviour can be intentional and planned (Fishbein and Ajzen 1975, 1980). Krueger (2000 p.8) stated, "any planned behaviour is intentional by definition, thus strategic behaviours are inherently intentional". E01 followed with an explanation of why he/she decided to go out on his/her own. E01 worked for US corporate multi-nationals for over 15 years and dealt with many frustrations, and as E01 put it,

*'a lot of bureaucracy' and 'lack of accountability'.*

E01 moved from company to company and saw '*an opportunity*' in the middle of the recession in 2008. He/she said,

*'I resigned from my job and set the business up'.*

Krueger (2000) concluded that intentions hinge on a number of critical antecedents including personal and situational influences. E01 saw an opportunity and therefore took entrepreneurial action. The know-why capability explains how E01 interpreted the opportunity into a personal decision with reference to the merits and challenges for E01

(McMullen and Shepherd 2006). Entrepreneurship is all about seeing and acting on opportunities irrespective of existing resources (Krueger 1993, 2000).

E02 alluded to the influence of a successful enterprise where he/she had worked. The literature articulated that real-life business scenarios can serve to develop entrepreneurial intentions and entrepreneurial self-efficacy through the involvement of successful entrepreneurs and industry experts. This validates the engagement of successful entrepreneurs and industry experts as valuable contributors to EEPs and as Chen et al. (1998) and Johannisson (1991) asserted, this could be further reinforced by verbal persuasion on the part of the enterprising trainer. The literature was abundant with references to academics in relation to the teaching of EE and how they cannot imitate the experiences of successful entrepreneurs (Fiet 2000b, Garavan and O’Cinneide 1994). However, the experiences of successful entrepreneurs can be used to develop theory (Jack and Anderson 1999). Mapping of the personal, behavioural, and environmental influences that prompt certain individuals to start a business was suggested by Noel (2002). Collins and Robertson (2003) referred to real life entrepreneurs serving as mental stimuli, which is what happened in the case of E02. As Johannisson (1991) put it, individuals who want to start an entrepreneurial career must be personally motivated, parallel to E01 and E02, and committed in relation to their own know-why capability.

#### 4.1.2 Know-What and Know-How

Both Chen et al. (1998) and Johannisson (1991) established that communication and visibility of entrepreneurial supports is fundamental to breeding entrepreneurial success. A supportive environment will augment entrepreneurial activity. However, as Ucbasaran et al. (2010) asserted, this is contingent on perceived resources or barriers. Start-up companies as a rule have very few resources and major barriers surface for them in gathering and organising what they need to discover and take advantage of entrepreneurial opportunities. When asked, “what were the significant barriers that you encountered in setting up and running your own business?” E02 said, ‘*money*’ and E01 said,

*‘I suppose time and speed is of the essence’.*

The biggest barrier encountered by E01 was people. He/she said,

*'I had no co-owner, no co-founder and it just went against me'.*

E01 described it as a barrier with funding agencies and potential investors.

*'There was always the question of what if you get hit by the big red bus?'*

E01 said he felt shut out because of this barrier. Shah (2016) of HubSpot and keynote speaker at Massachusetts Institute of Technology (MIT) demo day discussed this very issue in terms of increasing the odds of success. Lack of a co-founder during the start-up phase means you are giving out a warning sign that "you could not convince one other person on the planet to join you on the quest". E01 also referred to speed as crucial. Starting a business is a lonely journey (Garavan and O'Connell 1994). Shah (2016) highly recommends having a co-founder, one that shares common values and a complementary skill-set. E01 said,

*'I was in stealth mode (...) it was all in my head and that was a barrier to me'.*

This testimony given by E01 validates an advancement in cognitive thinking since the start-up phase because Shah (2016) also an established entrepreneur of twenty years stated, "the act of going into stealth mode is counterproductive and going down the rabbit hole does not work".

These developmental experiences illustrated by E01 can be viewed in terms of cognitive development as suggested in the literature by Krueger (2007). E01 accelerated an entrepreneurial career on an enterprise development programme and the researcher infers that the programme represents a critical developmental experience and this had a significant bearing and change in the deep cognitive structures of E01. This would substantiate Krueger's (2007) assertion that individuals shift from a novice entrepreneurial mind-set to a more expert entrepreneurial mind-set when intervened by critical developmental experiences (Krueger 2007). The nascent entrepreneur must develop their know-why which involves rotations of thoughts, actions and feelings. The know-how and know-who capabilities would have greatly enhanced the decision made

by E01 in the start-up phase as Fayolle and Gailly (2008) stated, they relate to the techniques, tools and methods for handling circumstances in order to augment the success and survival of new start-ups. As Ardichvili et al. (2003) stated, know-what and know-how capabilities facilitate an evaluation of resources and markets, and can steer the nascent entrepreneur to expedient revisions of business concepts and decisions.

#### 4.1.3 Know-Who

According to the literature, possession of an entrepreneurial mind-set describes an individual who can think strategically, network effectively and can persuade and influence (Botham and Mason 2007). Networking is crucial to entrepreneurship but can also create barriers. In the case of the programme under empirical examination, know-who capability represents the participants, trainers, programme managers, mentors, guest entrepreneurs and industry experts. These individuals are involved in the organisation and transfer of the three main dimensions, which Fayolle and Gailly (2008) describe as positioning and structuring the contents of EE. All the actors in the know-who capability directly impact on the know-what and the know-how capabilities through the transfer of knowledge. When the question of, “how important are role models and mentors in the establishment of both formal and informal networks?” was posed. E01 said, *‘very important’*. E02 discussed the benefits of the technology park at length and its proximity to the college providing what E02 termed as,

*‘a massive network that you can drop into whenever’.*

E02 discussed uncertainty in relation to the critical start-up phase and the advantage of

*‘always having somebody to go to’.*

The review of literature drew attention to students and nascent entrepreneurs as groups who often find themselves with very few resources. Major barriers arise for them in gathering and organising what they need to discover and take advantage of entrepreneurial opportunities (Solesvik et al. 2013, Ucbasaran et al. 2010).



The entrepreneurial resources accentuated in the literature include human capital skills, access to finance, capabilities, and social capital. Solesvik et al. (2013) explained human capital as referring to a number of resources akin to knowledge, skills, capabilities, experience, training and emotional intelligence. E02 alluded to the know-who capability in his/her own words. He/she explained that it was instrumental, as answers to uncertainties could be found, *'just a stone's throw away'*. He/she said,

*'these people can answer your questions and give you an idea where you'll end up (...) your idea will be quite diversely different to what you started out with and I think you've got to be able to adapt with that along the way'*.

Shah (2016) refers to the latter and other opinions in E01 and E02's pilot data findings. Shah (2016) suggested taking the leap and starting, "the idea will come to you after you start and it is a prerequisite to starting-up". The researcher asked, "in which areas of the programme did you most benefit?" E02 said,

*'I would say the network of the people'*.

E01 referred to networks as,

*'strategic partners'*.

When asked, "if networking was a cumulative process?" E01 conveyed it as key saying,

*'having a network of people that you can reach out to is key and it is actually a two-way street'*.

Therefore, the qualitative pilot findings demonstrate that behaviour can be intentional. Both E01 and E02 exemplify the know-why capability as delineated in the literature. E01 and E02 discussed the value of the influence and engagement of successful entrepreneurs and industry experts. This validates the know-who capability demonstrating that external stakeholders are valuable contributors to EEPs. E01 highlighted the benefits of the proximity of the technology park and having access to more of the know-who dimension. Testimonies given by E01 and E02 show advancements in cognitive thinking since their start-up phases exemplifying the know-why, know-what, know-how and know-who dimensions. The next section describes and explains the findings from the quantitative pilot survey.

## 4.2 Pilot Survey, Quantitative Findings and Discussion

The population (N =11) for the quantitative aspect of the pilot survey comprised of eleven nascent entrepreneurs who participated in the 2014/2015 cohort of the New Frontiers Development Programme in County Kerry. A sample of six was achieved. The main objective of the pilot questionnaire was to test the survey methods on a smaller sample before transmitting the survey to the main study sample. Thirty questions were formulated by the researcher and structured within SurveyMonkey to test the content, applicability, and correctness of the instructions to be measured (see Appendix E for a copy of the online survey as presented in SurveyMonkey). The content of the questions comprised of knowledge gleaned from theories and practices in the literature review, the proposed conceptual framework, and the pilot qualitative data findings.

### 4.2.1 Quantitative Descriptive Statistics - Pilot

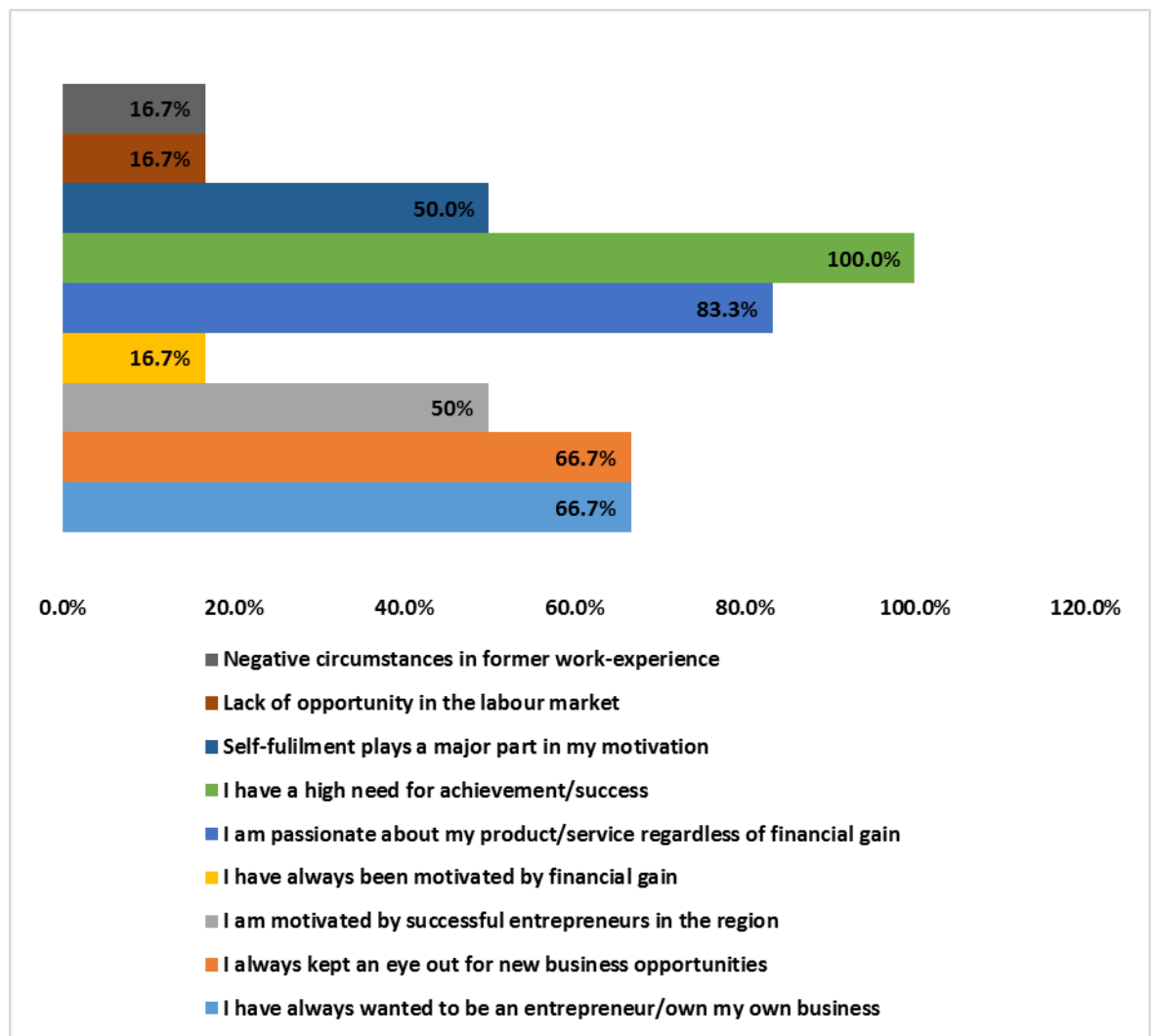
Taking the achieved sample of six respondents into account, four were males (66.7%) and two were females (33.3%). In relation to the question, which asked for a description of parental/family backgrounds; three respondents had parents who were business owners (50%); two were self-employed (33.33%) and one was an employee (16.67%). The literature suggested that growing up in an environment where parents and early influencers are business owners or self-employed can act as an antecedent for wanting to start your own business.

When respondents were asked to indicate the highest level of educational qualifications achieved, four hold undergraduate degrees and two postgraduate masters. Third level educational qualifications were also referred to in the literature as an important motivating and cognitive factor to business start-ups (Fenton and Barry 2011, Matlay and Westhead 2004). In relation to support of their new enterprise from family/personal networks, 100% of the sample answered yes. Support from family and personal networks is integral as it endorses the participant instrumental readiness element of the start-up process. When questioned if they considered themselves as risk-takers, 100% of the sample answered yes. Entrepreneurship was defined in the literature as an individual's ability to turn ideas into action and includes risk taking and

innovation. Participants of programmes parallel to the New Frontiers programme are immersed in an environment where they are exposed to and engaged with a network of external parties and this interchange supports the development of entrepreneurial identity. As Rigg and O'Dwyer (2012 p.312) put forward, this exposure and close engagement is combined with their commitment in risk taking, and can be understood through "the notion of becoming, through and in relation to others".

Figure 13 shows the result of participants' motivations for setting up their own businesses. However, when participants were asked the next question in relation to listing three of their enterprise start-up goals at the outset of their participation on the programme, participants alluded to the securing of funding and exposure to investors as two of the most common goals. Paradoxically, the results in figure 13 demonstrate that only 16.7% of participants indicated financial gain as their motivation for starting a business.

Figure 13 – Pilot, Motivations for Starting Own Business



With these inconsistencies in mind, acquisition of funding and exposure to investors is discussed in more detail in section 4.2.2

Figure 14 – Pilot, Areas of the Programme where Participants gained most Benefit

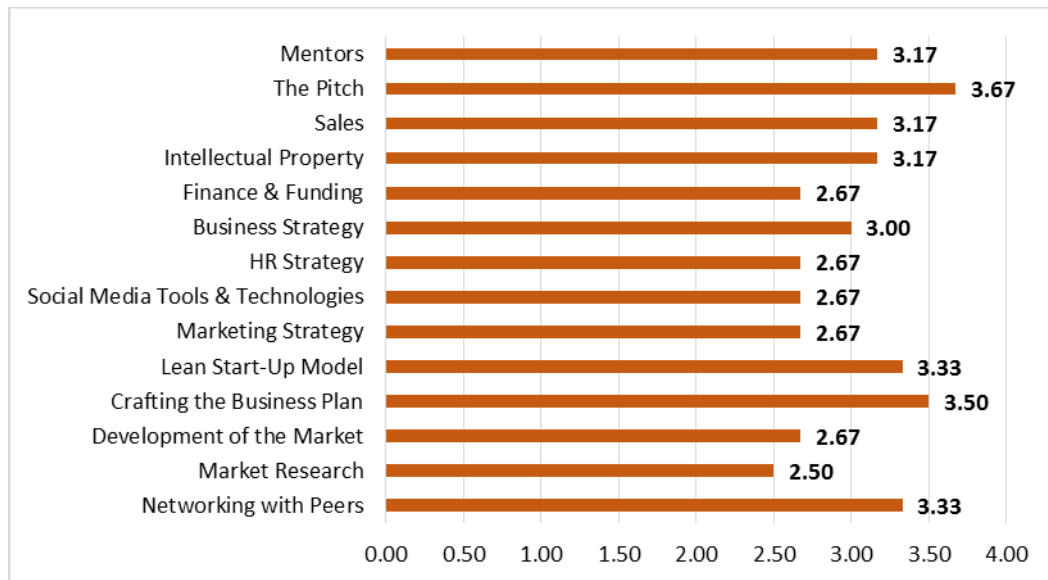


Figure 14 relates to areas of the programme where participants gained the most benefit. In the rating scale, a rating of five (5) represents ‘a great deal of benefit’ and a rating of one (1) is of ‘no benefit at all’. The pitch scored the highest at a mean figure of 3.67. The international models of best practice section of the literature review revealed how applicant interviews and pitches feature highly in the selection of programme participants and how successful applicants become acutely aware of the importance of the pitch going forward. The pitch represents the know-how dimension where the preparation and practice of pitching skills culminate in opportunities to present the business idea.

Seventy per cent (70%) of the respondents were satisfied with the trainers’ training skills and eighty-three per cent (83.4%) of the respondents were satisfied with the trainers’ knowledge of the programme content. Over sixty-six per cent (66.7%) of the participants reported the trainers as having adequate information about them and their new enterprise. Therefore, the remaining 33.3% of respondents reported that the trainers did not possess adequate information about them as a participant or on their new enterprise. At the same time, respondents scored communication with the programme manager as more than adequate. This was noted by the researcher for further investigation and ultimately for inclusion in the main study questions.

Figure 15 - Pilot Ratings for the Programme Materials

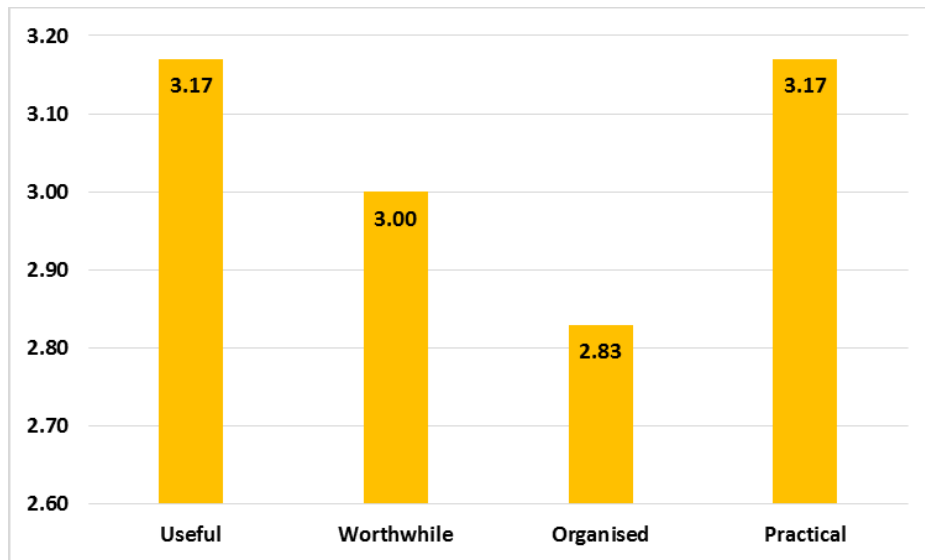


Figure 15 illustrates the respondent ratings for the programme materials. Above average ratings were given for the organisation, practicality, and usefulness of the slide decks, handouts, and visual aids.

Figure 16 - Ratings for Programme Activities

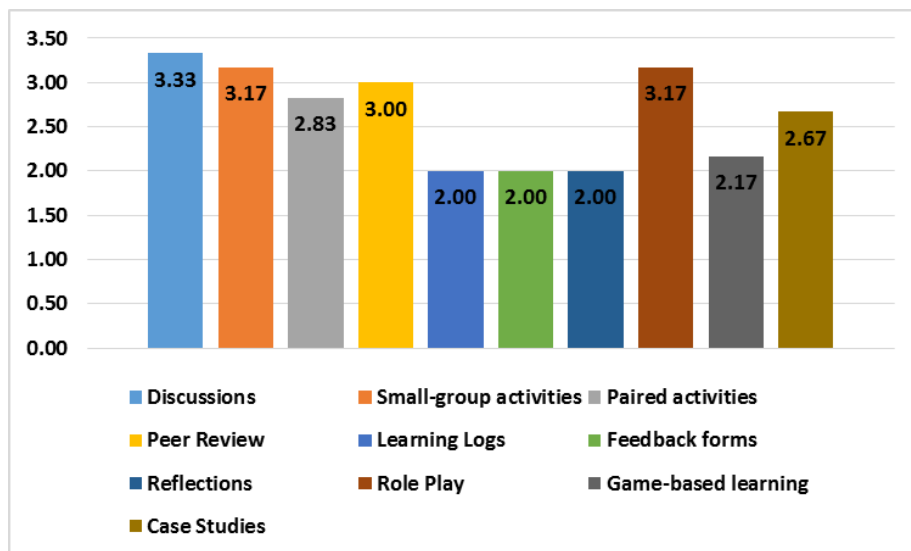


Figure 16 displays the ratings for the programme activities. In the rating scale, five (5) represents 'extremely useful', while one (1) is 'not useful at all'. Discussions and role-playing scored the highest ratings. Small group activities, paired activities and peer reviews all score well. These high scoring activities all fall under the theme of peer-to-peer learning. The literature revealed that the learning experience can be greatly

enhanced by learning with and from each other. The international models of best practice illustrated that the provision of hot desk facilities also greatly enriches peer-to-peer networking and learning. The incubation environment provides an environment for new ideas to grow alongside existing thriving enterprises. Peer learning was shown to be a core principle of the Delta V accelerator programme at MIT, where start-up teams were cited as organically teaming up together to exchange ideas, help each other out with problems and exchange feedback.

Figure 17 - Skills Improvement Post-Programme Participation

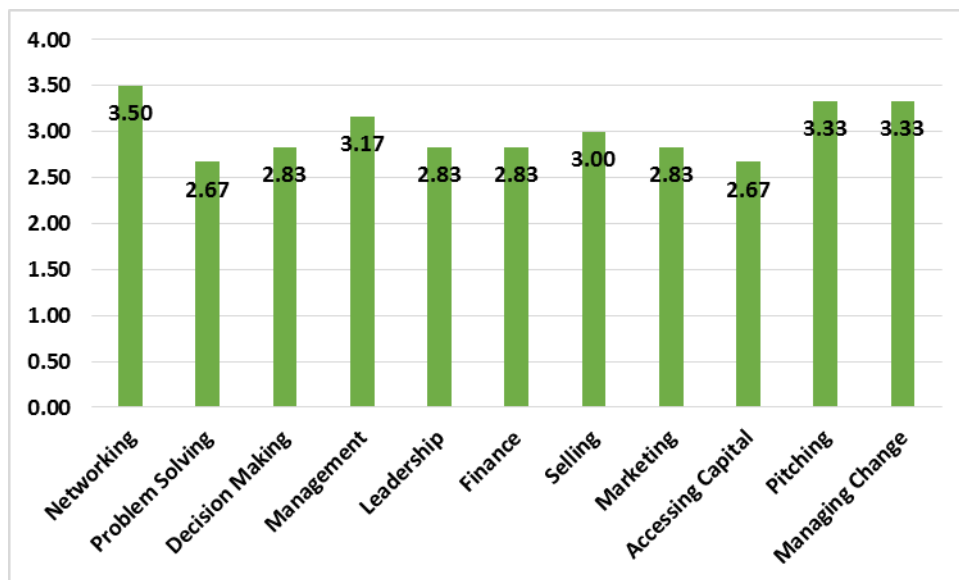


Figure 17 illustrates the results for participant skills improvement post programme. In the rating scale, five (5) represents ‘a great deal of benefit’ and one (1) represents ‘of no benefit’. The ‘know how’ dimension covers the knowledge and skills an individual requires to perform entrepreneurial actions. Networking, managing change, and pitching skills are included in the highest scores.

Networking skills feature highly in EEPs. Managing change, and decision-making skills are soft skills that surface in participants who get the most out of the programme. These skills inherently form an underlying veiled layer of EEPs and entrepreneurial learning, where throughout the course of the programme, participants learn to identify potential customers, sales channels, and funding options with confidence and experience.

Figure 18 - Participant Perceptions of Trainers' Teaching Methods

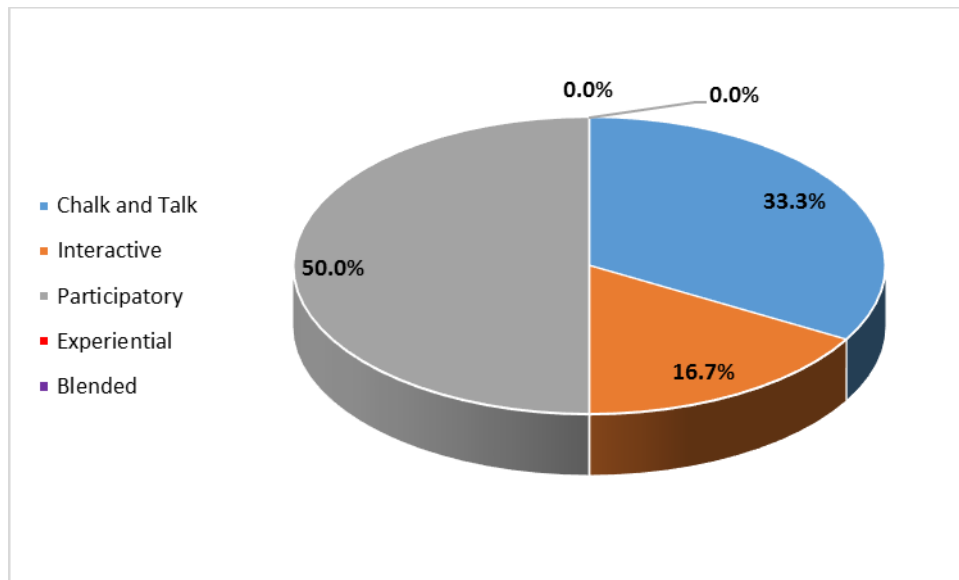


Figure 18 displays the results of participant descriptions/perceptions of the trainers' teaching methods/styles. Fifty per cent (50%) of the participants reported the programme as being participatory, which demonstrates that the strategy of participatory exercises and group work that feature highly in the New Frontiers programme is acknowledged and understood even with the small sample of respondents.

#### 4.2.2 Acquisition of Funding and Exposure to Investors

The content and focus of several of the EEPs reviewed in the literature were associated with subjects unambiguous to SMEs. These included the acquisition of funding capital, and managerial finance. The review of the international models of best practice established that programme participants are supported in identifying potential investors and securing funding. At the end of phase two, the New Frontiers Development programme prepares participants with investor-ready business plans and equips them to pitch to the most relevant government and private funding supports available for their particular business. The review of international models of best practice, the SPEED Plus programme, highlighted the announcement of further funding for phase two, when Minister Baroness Hanham CBE discussed the importance of EEPs and how vital it is to "to recognise the success of support programmes such as this and offer additional funding" (Birmingham Post 2012). Fayolle and Gailly (2008) suggested



that the capability/knowledge dimension of EE is explicit to the know-how element i.e. practical knowledge, reviewed in section 2.6 and discussed in the pilot qualitative findings section. They proposed the know-how dimension as contingent on three types of practical knowledge. Firstly, know-what, which relates to what action has to be taken? In the context of the pilot survey findings and discussion, what action needs to be taken in order to achieve funding? The pilot qualitative findings (4.1.2) exhibit how E01 and E02 discussed funding and the importance of the presence of and exposure to entrepreneurial supports as being fundamental to the proliferation and the success of their start-up ventures. The participants of the pilot quantitative survey demonstrate that nascent entrepreneurs are not all motivated by financial gain. The results show that funding and access to potential investors as primary goals for the majority of the achieved sample and 61% of the respondents actually achieved their start-up goals.

The intention to apply for and take part in a programme similar to the New Frontiers Development programme exemplifies the know-why element and represents the know-how dimension where it can be perceived in this instance as representing the action required to acquire funding. Secondly, Fayolle and Gailly (2008) proposed that know-how relates to the handling of situations in uncertain circumstances. The safeguarding of the successful acquisition of funding via a convincing pitch in front of funding agencies and venture capitalists illustrates an element of the know-how. It also epitomises entrepreneurial self-efficacy (ESE) as perpetuated by Chen et al. (1998), Kristiansen and Indarti (2004), Krueger and Brazeal (1994), Krueger and Dickson (1994) and Noel (2002). Thirdly, the literature cannot emphasise enough how integral the know-who dimension is. Results from the survey reveal that exposure to investors as one of the most popular goals at the outset of the programme. The programme manager, trainers, mentors and industry experts are the know-who element, the necessary stakeholders who facilitate the identification and exposure of potential investors to the programme participants. These stakeholders provide information, advice, and guidance together with regular business and funding updates and are responsible for facilitating opportunities for EEP participants to bid for financial assistance at pitching events where leading entrepreneurs and investment agencies and angels are present.

#### 4.2.3 Current Enterprise Policy

The literature highlighted the economic importance of start-ups in Ireland and enterprise start-up initiatives akin to the New Frontiers Development programme play an important role in inculcating and supporting nascent entrepreneurs. Conversely, the literature also drew attention to the current enterprise agenda. It supports a handful of winners, specifically high potential start-ups (HPSUs) with international potential. Only one of the six achieved respondents cited HPSU funding as one of their start-up goals. Not all domestic start-ups have the ambition to go international. Current austerity measures in Ireland are also referred to as contradictory to Ireland's existing enterprise policy (Brady 2016, Small Firms Association 2016).

#### 4.3 Qualitative Findings

In order to examine the efficacy of the strategies employed by the various stakeholders involved in the delivery of training in enterprise start-up initiatives, entrepreneurship education (EE) and entrepreneurship education programmes (EEPs) were in the first place examined by means of the literature review and field research. The key stakeholders (know-who) identified in the New Frontiers Development programme in County Kerry were trainers, mentors, the programme manager, the panel review team and the participants. The review of literature suggested that research in the entrepreneurship field, has not yet yielded a clear profile of what constitutes the model EE educator. During the field research, in-depth interviews with the different stakeholders produced individual stories, which in turn, allowed the researcher to compile personal profiles of the trainers, mentors, programme manager, and programme participants. An individual profile for each of these stakeholders provides a snapshot of their backgrounds and business experience and enables the reader to acquire an understanding of who they are and how they perceive their role in the learning process. The different approaches to training and collaborating with the programme participants are presented and examined in order to determine if an enterprising approach to learning is applied. These findings are aligned to the conceptual framework, together with the research objectives and discussed at length in chapter five. This approach facilitates the objective of investigating the application and

impact of different methods, practices, and styles of enterprising trainers and other integral stakeholders on the entrepreneurial mind-set and the support of graduates of enterprise start-up initiatives.

#### 4.3.1 Trainer Profiles

This section details the trainer profiles, and presents the findings of how the trainers perceive their role in the learning process. The methods and practices that they apply in the delivery of training are described with subjects parallel to the impact of sectoral diversity, assessment of participant learning and stakeholder communications emerging. Perceptions on programme development and on programme accreditation are also presented.

**T01** delivers the ‘Social Media Tools and Technologies’ workshop for the New Frontiers Development programme in County Kerry and also to a number of other centres throughout the country. T01 is a self-employed digital marketing agent and has been an entrepreneur since the age of 19. T01 delivers professional business training to the local enterprise office (LEO) network and to private business clients. He/she took part in a ‘Start Your Own Business’ course with the local enterprise board over 20 years ago and has completed a ‘Train the Trainer’ course. T01 perceives his/her role in the learning process as a trainer and a facilitator. T01 is an active entrepreneur and cites this role, as keeping him/her up to date with industry and up to date within his/her own field. T01 is involved with start-ups for own business and works as a mentor for LEOs and Enterprise Ireland. T01 regularly participates in different business network groups, and is an enthusiastic reader, and online researcher.

**T02** delivers the ‘Human Resource and Business Strategy’ workshop for the New Frontiers Development programme in County Kerry and is involved in the delivery of all three phases of the programme. T02 is a self-employed strategic management consultant who has worked as both an employee and as a self-employed consultant in industry throughout his/her professional career. T02 stays current in his/her field by taking part in continuous professional business training and development and has

completed a 'Train the Trainer' course. T02 perceives his/her role in the learning process as a coach and a trainer. T02 is an active strategic management consultant committed to continuous professional development. He/she recently completed the Institute of Director's diploma in directing and fellow of the CIPD, the professional body for Human Resources (HR) and people development. He/she is an enthusiastic reader of industry journals and current articles on HR and business strategy.

**T03** delivers the 'Presentation and Pitching Skills' workshop for the New Frontiers Development programme in County Kerry and to three other centres throughout the country. T03 is involved in the delivery of training with start-up accelerator programmes within a number of universities and for private business clients. T03 was originally a banker and was drawn into the world of training through this work. T03 completed a 'Train the Trainer' course while working for a renowned international training organisation in the start-up boot camp scene in Ireland, the UK, and America. He/she became a self-employed communication's expert and now has own team. T03 perceives his/her role in the learning process as a facilitator or coach and a trainer. T03 stays current in his/her field by attending a minimum of one course on presentation skills per year normally in the UK. He/she is an enthusiastic blogger and reader of blogs as part of gathering material, information, and research for his/her business.

**T04** delivers the 'Market Research/Concept Validation' workshop for the New Frontiers Development programme in County Kerry and to three other centres throughout the country. He/she delivers the same workshop to the LEO programmes and to start-up accelerator programmes in two universities. T04 is a market researcher by profession with experience as head of market research and insights for some of the well-known brands in the country. He/she set up own market research consultancy twelve years ago and has completed various 'Train the Trainer' courses in Ireland and the UK. T04 perceives his/her role as a mix between a trainer and a facilitator. He/she keeps up-to-date in own field through linking in with thought leaders and key influencers. T04 is an enthusiastic reader in subjects such as innovation, latest techniques in research, and entrepreneurship. He/she actively seeks out specific events and attends them. T04 is on the mentor panel with Enterprise Ireland (EI) and for other programmes with the

local enterprise boards. He/she is a regular user of LinkedIn, Twitter and other social media platforms to keep abreast with the start-up community at home and abroad.

T05 delivers the 'Sales and Marketing' workshop for the New Frontiers Development programme in County Kerry and to other centres throughout the country. T05 delivers the same workshop to the LEOs and provides professional business training to a number of high profile companies in the country. T05 has a background in sales and marketing and in particular, for the hospitality sector. He/she has worked for various multinational companies and Irish groups. He/she set up his/her own company three years ago and amalgamated with another individual to form a new company. T05 said,

*'our values were similar and we could offer more value together (...) both coming from different backgrounds enhancing our offering'.*

T05's business partner has completed a 'Train the Trainer' course. T05 perceives his/her role in the learning process as a trainer and a coach. He/she keeps up-to-date in field with continuous professional development and by offering a broad range of services to clients, which facilitates understanding of what is happening in the real world. T05 actively attends industry seminars and is an avid reader of blogs. He/she keeps abreast with the digital field.

#### 4.3.1.1 Trainer Perceptions - Role in the Learning Process

The title of 'trainer' does not necessarily prescribe what the individual does. What really matters is the 'why' of what is happening. What the individual is actually doing and how they perceive their role in the learning process. In relation to the latter, T01 said,

*'I see myself as a facilitator (...) a workshop that is delivered using the same method for the whole day can be hard on the participants so I try to switch it up a little bit (...) sometimes slides, sometimes discussion and sometimes video and group exercises'.*

The literature alluded to the role of facilitator as an individual with skills to facilitate and run workshops where knowledge is discussed, pooled by, and unearthed from the participants themselves (Collins et al. 2006). T01 is faced with achieving the right blend of teaching, facilitating, and training.

T04 cited his/her role in the learning process as a mix between trainer and facilitator,

*'I can give participants the tools and techniques to validate their idea and facilitate them in that'.*

T05 said,

*'as far as coaching is concerned, I take the participants away from the slides and instigate interactive exercises and coach them to be able to apply them to their own businesses'.*

The methods employed by T04 and T05 are described by Middleton and Donnellon (2014) as navigating the participants to access resources independently. In essence, the trainer works as a facilitator and the practice of imparting tools and techniques supports independent learning and performance in participants. T03 exhibits an effective blend of the trainer/facilitator role employing techniques to enable performance. T03 said,

*'I facilitate, as most participants have some knowledge on presentation skills and then, I coach them because of how my subject works (...) they present and I give them one-to-one feedback. When I discover what they need, I am coaching and then training them to solve the issues that come up'.*

The coaching role is identified in the literature as closely aligned to that of a facilitator (Middleton and Donnellon 2014). This involves the facilitation and guidance of feedback and discussion. Guidance is revealed as essential and must be given to participants in the form of suggestions and ideas and therefore, the personal skills of the trainer are as fundamental as their knowledge and expertise. T02 perceives his/her role in the learning process as both a coach and a trainer. T02 said,

*'I deliver the workshop and then follow up with coaching in order to ensure that the material that was covered is understood by the participants and that they are encouraged to actually use it (...) in using it, you start to reveal the gaps that the participants have in terms of the practice of using the material'.*

T02 substantiates earlier research where the trainer is considered as a blend between an educator and a facilitator or coach.

#### 4.3.1.2 Trainer Know-How – Methods and Practices

When the trainers were asked about the methods and practices that they apply, verbs akin to ‘tweak’, ‘ad-lib’, and ‘improvise’ were prominent. For example, T05 said,

*‘I tweak the delivery of my training, on the hoof, to match the needs of each individual in the room’*

Similarly, T05 said,

*‘I ad-lib in terms of who is in the training room’.*

These statements alone imply innovative techniques that employ adaptability, creativity, and practicality.

#### 4.3.1.3 A Practical Approach

When asked to describe their methods of delivery, all of the trainers interviewed referred to practical approaches facilitating interactivity and two-way communications akin to group work and discussions. T02 described his/her approach as an interactive approach. T02 said,

*‘I ask participants to give me examples or to think about a piece of material that they are studying or content that I have just given them, I get them to work as a group and then come back with their views. When participants are asked or invited to discuss, it tends to activate the learning more’.*

T01 quoted,

*‘I find that group discussions that are centred on an activity, like the whiteboard, engages the whole group in the exercise, rather than me showing them. It allows them to use their own experience, knowledge, and ideas’.*

Similarly, T05 uses group work and explains how he/she works the room, asking each participant to tell their story, almost like an elevator pitch. T05 said,

*‘I tease out the different participant needs at different points throughout the duration of the training’. T03 said, ‘highly participatory, a lot of raw facilitation as in questioning. I use group work with flip charts and encourage feedback from the participants’.*

#### 4.3.1.4 Reflective Action as a Method

The literature described being entrepreneurial as a reflective action and accordingly, the quality of trainer interventions can either inhibit or permit participants to identify significant issue in relation to what to focus on. Two of the five trainers discussed the use of reflective exercises in their workshops. In the context of reflective exercises, T04 quoted,

*'I try to set the workshop out in such a way, that there is the formality of a programme which has a beginning, a middle and an end and we reflect afterwards on what we did'.*

T02 discussed the engagement of learning logs, as a means to encourage reflection in the participants. He/she intentionally takes intermittent pauses during the workshop to prompt participants to fill in their learning log. T02 quoted,

*'the learning logs are private and personal to the individual, however if individuals want to share, it can augment the learning experience (...) the revelation of potential weaknesses are not always something individuals want to share (...) I don't want to put myself in the position of them feeling judged because I want them to take ownership of their learning'.*

#### 4.3.1.5 Experiential and Discovery Learning Methods

T03 discussed the nature of his/her subject, (presentation and pitching skills), and how he/she employs experiential learning methods throughout his/her workshops. T03 explained that it is an effective learning method for use in his/her workshops as the participants are continuously exposed to direct action and reflection on all of the presentation and pitching skills exercises. T03 said,

*'it is highly participatory. Typically, I first explain the exercise to the participants, and then I show them an example of how it can be done. There would be a lot of raw facilitation as in questioning and I put them into pairs where they practice in front of each other. Flip charts are used to note key learnings from each other and then there is an open forum to share ideas. I give feedback, as in my pointers to enable them to understand what they've missed'.*

T03 commented, that facilitating the participants to practice their presentations, pitches in front of peers, allowed for peer-to-peer learning, and encourages self-directed



learning. T04 discussed his/her methods in terms of sending the participants away to discover for themselves what they need. T04 said,

*'these are the questions you need to ask yourself to validate your concept, here is the toolkit on how to do that, now go out and do your desk research, follow the steps'.*

T04 is in the unique position of working on phase one and phase two. He/she is able to regroup and follow up in terms of what progress participants have made. T04 quoted,

*'were they able to do it or not, did they come across things where there was absolutely no market data out there for them to research (...) I look where I can get this information to support them'.*

The methods applied here by T04 represent discovery methods, which enable experiential learning (learning by doing). Looking for market data characterises a real-life business problem and solving it enhances start-up progress and confidence in the participants.

#### 4.3.1.6 Action and Synergistic Learning Approaches

In response to the question on methods and practices, group work and paired activities were also revealed as frequently used activities. The instigation of group discussion and peer-to-peer learning is evident in T01's response,

*'I do believe that they learn almost as much from each other as they do from a workshop so I would really make sure that group discussion is a key part'.* Peer-to-peer learning is exemplified in the review of international models of best practice.

The Delta V accelerator programme quoted peer learning as a core principle. Previous research has shown that teaching strategies and practices can be improved by adopting best practice from other initiatives.

The synergistic learning approach was described in the literature as making use of both participatory and action learning methods. Consultation is a key element to this approach but the nature of the programme under empirical examination does not leave

much room for consultation in relation to the role of the trainers. T03 draws attention to this saying,

*'when participants walk out of the room, they are all fired up and this is the big challenge, how do you know that they are going to do what they've committed to do? If there was a way to solve that and especially with this programme. I only have the participants for one day and I do not see them again. Whereas when I have worked with other accelerators, say for example (...) I would typically be with them more than once (...) with this programme, I am with them at the beginning of the process (...) it is a kind of a chicken and egg scenario'.*

T03 was not alone in this response as two of the other trainers interviewed discussed their amenability to being contacted for consultation after the workshop, which is outside of their remit. T04 commented,

*'I stay in touch with a lot of the participants via LinkedIn and if I come across anything that I think is appropriate for their business, I send it on to them or I email the programme manager and outline that this would be useful for (...) or this would be interesting for (...) because it's in his field'.*

Important concepts associated with synergistic learning approaches similar to cooperation and collective action did not emerge from the interviews with the trainers albeit that T02 did refer to the potential of synergistic learning when leveraged.

#### 4.3.1.7 Participant Engagement Methods

When questioned in relation to tools or props employed for effective participant engagement, some of the more traditional teaching techniques emerged. T02 said,

*'I believe that that the case study is highly effective because it gives reality insofar as it can be real and it does allow going into the space of discussion without talking about individual people's companies.'*

T01 also discussed the effectiveness of case studies, that they can be very relevant.

However, T01 commented that recent case studies are difficult to locate, quoting,

*'case studies tend to be very dated particularly in academia, looking for case studies can be challenging'.*

Fayolle and Gailly (2008) proposed that case studies are appropriate methods of EE when it pertains to the know-when element which relates to the initial stages of start-up, that is, when is the perfect time to go ahead and try? T02 explained that his/her subject is very theory driven and cited the advantages of visual props,

*'I like to give the slide deck to the participants at the start. These are a summary with many diagrammatical images (...) they are visual and visual props tend to be quicker to absorb and we cut through the theory quickly'.*

Learning logs were referred to by two of the trainers and as T04 explained,

*'they help to break up and absorb the content, so that participants leave at the end of the day actually having something to take away, which they can more or less use immediately'.*

The learning log facilitates ownership of learning and promotes reflection. When T05 responded about engagement levels, he/she said,

*'in terms of keeping their engagement levels high, I invite the participants to take part in mini workshops throughout the session. That really gives me a handle on whether they picked up on what I'm saying (...) I then go around the room and ask them to share back to the group (...) so I very quickly understand if they are getting it or not and I coach them through it'.*

From this quotation, it is evident that T05 is using a combination of experiential, action, and synergistic learning methods. The mini workshops represent experiential and action approaches because they are learning by doing and open sharing is a key feature of synergistic learning methods.

#### 4.3.1.8 Sectoral Diversity

When asked about the sectoral diversity and the effect it has on peer-to-peer learning, T01 said,

*'there can sometimes be a disconnect between the technology type companies and the more bricks and mortar retail type companies, so you see less engagement between those types of businesses'.*

T02 initially turned the question on its head, and discussed the value of a programme with participants from the same sector.

He/she highlighted the advantages of sector diversity saying,

*'do they want to be next to their potential competitors? The diversity that comes from having different sectors (...) if participants are more open to listening to how other participants are solving their problems, this can lead to a synergy, in other words material that they never even thought of in terms of solutions to problems might well emerge. If each of the trainers are aware of this synergistic approach, and recognise and develop it, then that is a component to be leveraged'.*

Jones-Evans et al. (2000) discussed this in the review in terms of synergistic links between management theory and entrepreneurial practice and the requisite simultaneous development of both hard and soft skills at every stage of a programme.

#### 4.3.1.9 Participant Learning - Assessment

When asked about methods of assessing participant learning. T01 stated,

*'I am not looking for deliverables so I don't hand out feedback forms. I only see them for one day (...) I do not have continuous contact with them (...) I get verbal feedback from the participants or I look for feedback from the programme manager (...) I suppose its informal feedback'.*

T02 said,

*'I use a modified version of the Kirkpatrick training assessment process. I try to assess whether the participant felt that the content was properly delivered (...) and does the participant believe that their knowledge of the subject has improved, which is a bulls eye question (...) and lastly, do they believe it is going to be beneficial to them going forward. They will very quickly tell you whether or not they have received what they needed'.*

Having well-defined knowledge of participant feedback of any EEP is cited in the literature review by Hynes (1996) as expediting amendment of the content, assessment and teaching pedagogies.

#### 4.3.1.10 Stakeholder Communications and the Trainers Role

When questioned in relation to meeting and collaborating with other trainers prior to the delivery of the programme, all five trainers said, they had no knowledge of who the other trainers were or what modules they were delivering. T04 said,

*'I actually don't know who delivers on all the different sections. I have no idea about any of that at all and I think the opportunity would be good. I think it would be good to know the other trainers'.*

T05 also said he/she had no communication with the other trainers and when asked if it would be beneficial, he/she firstly commented on the difficulty in organising such a forum and the logistics akin to travel and time constraints. T05 said,

*'the thing is I don't know much about what else the participants do, module wise (...) out of curiosity alone, I'd like to know. I mean logistically probably having a meeting with all the trainers might be difficult to organise but maybe even knowing a bit about what they do on the other sections (...) I do think it would be helpful to know what the other trainers are doing, yes. As for meeting up as a group, I just wonder logistically and time wise and all, is it an option?'*

The importance of teacher education systems and the role that entrepreneurial competencies can play in learning was highlighted in the literature by the European Commission (2011). They offered several recommendations and in the context of this discussion, extensive collaboration with colleagues was cited as integral.

Three of the trainers emerged to have divergent experiences when compared with the other two trainers in terms of the quality and quantity of information that they receive on the participants prior to the training from the programme management team. Three of the trainers cited the importance of participant information in relation to preparing content and making it relevant to the group. For example, T01 said,

*'I think it is important to know their background, their industry background or have they come straight from education or employment? I can then, pitch the content relevant to the level of skill (...) I do not want to start at too low a level (...) I want the content that I deliver to be relevant in as far as is possible to the group'.*

T01 commented on how brief the information was explaining the benefits of being prepared quoting,

*'If you have relevant examples aimed at a specific business, it forces the participants to pay attention'.*

A more detailed profile on the participant would serve to inform trainers, and give them an indication of how ready the participant are in terms of their idea and their start-up goals. The literature points to instrumental readiness as having clarity in their business goals and is significantly linked to the attitudes, backgrounds, and alertness of the participants. In terms of the MMEL framework, it makes up the know-why component.

#### 4.3.1.11 Trainer Feedback for Programme Development

In relation to the question about what changes trainers would like to see going forward in the programme and the possible benefits, T01 communicated,

*'I would certainly like to see a more structured process after the initiation. So from the time that I am asked to do a workshop, I would like to see a little bit more structure in terms of what I receive beforehand (...) deeper profiles of the participants. I would also like to see better coordination between the programme manager and myself in terms of follow up'.*

T02 discussed the idea of having 'an overall helicopter view' of what content the participants receive throughout the programme. He/she said,

*'it would be very useful for each of the trainers because then there would be a more joined up view. This would help to avoid overlapping of content and flag gaps in the content'.*

T03 responded saying that more than one session with the same trainer would be beneficial to the participants. They need training at the beginning and coaching at the end. T04 referred to the scheduling of the sessions saying,

*'evening sessions are hard, for myself and for the participants'.*

T04 also commented on how beneficial it would be to know the other trainers. He/she discussed the schedule and the advantage of knowing who is delivering the different workshops.

T04 quoted,

*'visibility is necessary because I don't know where I sit vis-a-vis the other workshops. We have no view of the overall programme per se. I have no view of the different modules that make up the programme'.*

T05's response was in relation to having a copy of the feedback from each one of the participants.

#### 4.3.1.12 Programme Accreditation

Largely, the trainers were not in favour of accreditation for the programme with only one trainer saying a definite yes. Responses were indecisive and two trainers believed that the programme speaks for itself owing to its association with Enterprise Ireland.

For example, T02 said,

*'no, I think EI speaks for itself internationally'.*

T03 said,

*'yes, and no. I think anybody who puts time into educating themselves in any shape or form should be accredited and the only reason I say no is that in my experience, you get different levels of commitment from different participants and it would be difficult for the programme management team to assess'.*

T04 was indecisive and said it depends, and suggested that it would only work for phase two of the programme. T04 quoted,

*'I think it all depends on the amount of time and the amount of course material covered. If they had to submit certain tasks, maybe fair enough and attendance, yes accreditation might work'.*

T05 was also indecisive and commented on the value in the programme as it stands, saying,

*'we in Ireland and those of us who work in enterprise and innovation and development would be very familiar with the kudos of getting accepted on the New Frontiers programme knowing that there is certain criteria required to be accepted on the programme. I suppose an accreditation that is recognised outside Ireland would be useful'.*

#### 4.3.1.13 Summary of Trainer Key Findings

The ***trainer profiles*** demonstrated that the trainers who engaged in the delivery of training in the New Frontiers Development programme in County Kerry are actively involved in their own businesses. They are entrepreneurs themselves and all five trainers have completed the 'Train the Trainer' course. The trainer profile findings demonstrate that they possess personal skills, which include flexibility, responsiveness, and practicality. All five trainers persevere with staying up-to-date in their fields with on-going professional development and actively seeking relevant knowledge and practice.

In the context of their ***perceptions of their roles in the learning process***, a blend of trainer, facilitator, and coach emerged as the combined finding. The trainers can be described as adaptable, practical, and creative using innovative techniques to guide the participants, embracing their roles as 'facilitators of learning' (European Commission 2011).



The trainer findings in the context of *know-how, the methods, and practices applied* during the delivery of the programme are illustrated in table 7 below.

Trainer Know-How – Methods and Practices Applied
Facilitating participants to access resources independently, supporting independent learning/work and performance.
Assisting in the identification of gaps in knowledge and practice, supporting practice of addressing problems and providing feedback on addressing those problems, unearthing of ideas.
Application of action-learning/active learning, a practical approach facilitating interactivity/two-way communications. Highly participatory using group work, discussions, raw facilitation as in questioning and encouraging feedback and reflectivity. Feedback and its subsequent deployment is crucial for an entrepreneurial mind-set. Instilling judgement, a significant element of entrepreneurial alertness.
Use of experiential learning techniques, supporting direct action and reflection, which encourages ownership of learning. Encouraging self-directed learning and discovery methods, supporting problem solving and enhances start-up progress and confidence in participants. Supporting systematic reflection, learning by doing.
Application of synergistic learning, supporting openly sharing of ideas, problem solving, and feedback through group discussion/work and paired activities. Participatory and action learning methods facilitate peer-to-peer learning.
<b>**Consultation</b> is a key element in synergistic learning and has emerged as markedly absent from the programme as the programme structure does not facilitate trainer and participant consultations.
<b>**Concepts</b> associated with synergistic learning approaches parallel to <b>cooperation</b> and <b>collective action</b> did not emerge from the trainer findings. Collective action is part of the synergistic approach where a group of nascent entrepreneurs create and carry out their plans without the direction of educators (Collins et al. 2006).

*Table 7 - Summary of Trainer Findings - Methods and Practices Applied*

With reference to ***participant engagement methods***, some of the more traditional props and tools emerged such as case studies and slide decks. However, learning logs were employed by two of the trainers and emerged as facilitating ownership of learning and promotion of reflection, which have been identified as key elements in experiential learning methods.

In the context of ***participant assessment***, it emerged that the trainers are restricted in their ability to assess participants' learning and progress as the majority of trainers are employed to deliver a one-day workshop. The trainers had no knowledge of the diagnostic tool currently deployed in the programme. However, it emerged through the programme manager findings that this tool will be augmented in the future to incorporate the trainers' access and use.

***Communication between the trainers and other stakeholders*** emerged as an area of concern and in particular, when it pertained to knowledge of whom the other trainers were and what modules they were delivering. Divergent trainer experiences were cited in terms of the quality and quantity of participant information. This is significant in the context of workshop content preparation. A more comprehensive participant profile was quoted as integral to knowledge of participant stage in the start-up process, avoidance of content duplication, and pedagogies required. The sharing of participant feedback with the trainers also materialised as an issue that requires more structure.

In the context of ***programme development***, feedback from the trainers included a more structured process after initiation and more effective coordination between trainers and the programme structure during programme engagement. Feedback indicated that more than one session with each trainer was necessary and the facilitation of one-to-one sessions for participants and trainers to enable consultations. The trainers were generally not in favour of programme accreditation.

### 4.3.2 Mentor Profiles

This section details the mentor profiles, and presents the findings of their perceptions of their roles in the learning process. The matching of mentors and mentees is addressed together with the advantages and disadvantages of multiple mentors, and functional or entrepreneurial expertise. The methods and practices applied by the mentors during the term of the mentor/mentee relationship are described including the benefits for both individuals. The impact of stakeholder communications on the mentor/mentee relationship is presented in terms of valid information, sharing of knowledge, participant progress, and mentor reporting.

**M01** is a successful entrepreneur and a business owner with qualifications in food science and business. M01 gained early career experience in businesses in the United States and today, operates his/her own business specialising in food businesses and marketing. M01 has a good breadth of exposure working in different size companies with different size turnovers and structures. He/she has several years of experience negotiating with supermarket giants in Ireland and in the UK. He/she was a 'new product of the year' recipient along with several other business accolades. M01 has additional qualifications in both executive and career coaching. He/she has worked at home and abroad in product development for several leading food companies. M01 managed a food and business incubation centre for one year and got his/her first taste of working with entrepreneurs. He/she was mentoring and training informally whilst running own business and decided to do it full time. M01 has been on the mentor panel for Enterprise Ireland (EI) since 2010 and does contract work with one of the major universities in the country. He/she mentors for several rural development companies and a number of other New Frontiers centres throughout the country.

**M02** is a successful entrepreneur with over 20 years' experience as a market researcher here in Ireland and abroad. He/she is the founder and managing director of his/her own company leading a team with over 35 years combined experience. M02 has worked for some of the biggest research agencies in the world operating and managing big research budgets with global brands. He/she has a no-nonsense commercially focused attitude to research. M02 is an experienced business mentor on the Enterprise Ireland (EI) panel

as well as lecturing at many innovation hubs and start-up accelerators throughout the country.

#### 4.3.2.1 Mentor Perceptions – Role in the Learning Process

The literature and the mentor profiles combined revealed that the mentors are themselves successful entrepreneurs, recognised as capable of guiding participants using current and contextualised experience and information. The participating mentors were asked about their perceptions of their roles as mentors in the New Frontiers Development programme. M01 said,

*'I see myself as, initially, giving confidence to the entrepreneurs (...) supporting them in terms of direction (...) I have all the pains and arrows myself and I feel I am in a good position to understand their mind-set and I can guide them to get a plan together'.*

This awareness on the part of M01 of giving confidence to the mentee is parallel to what Raposo and Paço (2011) cited as an integral aspect to entrepreneurial learning, which is more centred on changing personal attitudes than on knowledge. The success of the relationship between the mentor and the mentee is contingent on the experience and level of dedication of the mentor. M01 categorically states that he/she has been there,

*'I have all the pains and arrows myself'.*

The literature elucidated how the know-how factors are fundamentally related to addressing problems. Mentees can obtain know-how when they observe or participate in circumstances and see how their actions and the actions of others impact the results. M02 quoted,

*'I think it's a bit of everything (...) it is imparting knowledge but also imparting my hands-on experience of the commercial environment and what you do with it and the impact that it can have on your business'.*

The literature demonstrated that entrepreneurial learning necessitates a different approach. It is best taught through experiential learning. M02 explains to the mentee what to do and then gives reasons for the impact that this can have on their business. The mentee has time to carry out the action and then reflect on it prior to the next

mentor mentee meeting. Additionally M01 stated in relation to his/her role in the learning process, that mentoring is key saying,

*'it was key when I had my own business, so I understand it and I appreciate it'.*

M01 discussed at length the ongoing lack of business planning by the majority of mentees under his/her mentorship. M01 said,

*'it sounds mad but there's a lot of dragging and pulling because they just don't want to put stuff on paper! They are in love with the product or the service or an aspect of start-up like marketing but trying to get them to put structure to it and make money, that's my main role'.*

The literature referred to this phase of the relationship as the cultivation phase and it is where the range of tasks covered are at a maximum (Kram 1983).

#### 4.3.2.2 The Matching of Mentors and Mentees

At present, a designated EI mentor coordinator works in conjunction with each programme management team and organises the pairing of mentors and mentees. Each participant/team chooses a mentor out of a possible three. An enterprise clinic would work the other way around and allow the mentor to interview a number of participants. When the participating mentors were asked, which method is optimal and why? M01 said,

*'I think the current method is optimal because it's very personal (...) the participant wants to connect with you as a mentor (...) when I was in business, initially I chose the wrong mentor, I hadn't enough experience to choose for myself at the time (...) I wasn't specific enough'.*

M01 concluded that it is more appropriate if the nascent entrepreneur chooses the mentor put forward by EI and the programme management team, citing benefits akin to engagement and connection. He/she said,

*'there is always the option to change mentor if necessary'.*

The matching of mentors according to the literature facilitates participants to test their abilities and illustrates learning through negotiated experience. Entrepreneurs work in different business contexts and have highly individualised needs and therefore mentors

and mentees must be carefully matched (Cope and Watts 2000). When the same question was posed to M02, he/she had an alternative point of view stating the advantages and disadvantages for both options. M02 said,

*'I think it should be a bit of both. The current option with EI together with the management team can be a difficult task for the participants. Especially when they are not really au fait with the ins and outs, (...) it is good that the EI mentor coordinator is working hard to decide which would be a better fit, but I also think that there is a role to play for the mentor in understanding the participants' needs'.*

M02 elaborates further on this issue stating that it would be a constructive exercise for the mentor, the EI coordinator, and the programme management team, to have a conversation in relation to the mentee prior to any contract being written. M02 quoted,

*'so say, I think there is a good fit here. I can add value; otherwise, you are putting the mentor under a lot of pressure. If the expectations of the participant are not matched (...) I think it's fair from the offset that people are very clear around what the mentor skillset is (...) what the expectations are from both parties so that there is no disappointment'.*

This statement from M02 points to a need for more communication prior to the matching of mentors and mentees and pre contract meetings with all parties could save time and effort for all involved.

#### 4.3.2.3 Multiple Mentors, Functional or Entrepreneurial Expertise

The participating mentors were asked if they thought that mentees should have multiple mentors during the course of the programme to cover the different functional areas. Both mentors had differing opinions. M01 was in favour of multiple mentors saying,

*'I know myself and my own business; I had multiple mentors because different mentors bring different things to the table'.*

He/she expanded on the topic of multiple mentors giving an example of a client who was in denial about his business finances.

M01 said,

*'it was clear he was not making money (...) I could see the passion and it's wonderful (...) no matter what I said and no matter how I turned myself inside out and tried to extract figures out of him, he was still in denial'.*

M01 reverted to the programme manager and organised a meeting for the mentee with 'a hard line accountant' and he/she stated,

*'eventually between the accountant and my mentoring, he got it, the penny dropped (...) all mentors have their own specialty area so I think it's perfect when there are multiple mentors because you get the best possible outcomes'.*

The literature highlighted the individual needs of the participants as nascent entrepreneurs and how multiple mentors can serve to meet these needs. However, M02 expressed the belief that it depends on their background. He/she said,

*'I don't think that they need a mentor across all the gambit (...) I think the programme covers all the individual elements quite well and then it's up to them to pick and choose'.*

M02 expressed the fear of 'spoon feeding them too much'. He/she stated,

*'that there comes a point where they have to step up and actually get on with running the business'. M02 said, 'I think it could be a case of death by mentoring and death by advice and ultimately they are the business owner, they have a gut feel for their own business, they should be driving it on and seeking advice as and when they need it'.*

The literature alluded to the developmental process of entrepreneurial identity as internal to the individual and shaped by dialogue with others. When M01 was asked whether functional area expertise or entrepreneurial expertise was optimal. M01 cited a blend as working best. M01 said,

*'I meet other mentors at networking sessions twice a year and many of us are both entrepreneurial and functional'.*

He/she discussed corporate mentors saying,

*'they may not have the real entrepreneurial experience, but they have an element of entrepreneurial spirit (...) whether they have the hands on experience or not'.*

On another note, M01 felt that if the mentor is an active entrepreneur, the mentee can relate better quoting,

*'it certainly cements the relationship but that's not enough in itself. You need to have the business experience as well'.*

#### 4.3.2.4 Mentor/Mentee Relationship

When the participating mentors were asked, at which point of the relationship did they feel they could offer the most benefit; M01 was familiar with the literature and discussed the initiation and cultivation phases as proposed by Kram (1993). M01 stated,

*'participants that I meet on the programme are usually six months to a year in. Some are lacking confidence so I meet them during the initiation phase and work with them and over the next 10 or 12 meetings, you cultivate them to reach for the stars and realistically put a plan in place (...) the cultivation phase is the main part (...) sometimes the separation phase lives on, it depends on the relationship'.*

The mentor mentee meetings are described in the literature as experiences that are shaped by the mentee's needs and the surrounding environment. M01 highlights the confidentiality element nearing the separation and redefinition phases saying,

*'I would be very conscious from a confidentiality point of view, when we cut the cord after the ten or so meetings, I tend to let them contact me. I believe this is more professional because there is always a danger that I am working with a company not dissimilar from them (...) Ireland is a terribly small place (...) I have some clients who continue to contact me after the programme asking my opinion on an issue and I am happy to bounce ideas around with them'.*

This illustrates what the literature described during the redefinition phase of the relationship, as a new format of the relationship evolving. The relationship is considerably changed by new confidence and knowledge in the mentee's journey. M01 is acting as a sparring partner as described by Miettinen (2006).



M02 discussed adding value across every element of the relationship and said,

*'as a mentor, if you are not adding value, then, I would question what you are doing with them?'*

The relationship according to M02 has to be very strong and when it is a good strong working relationship, it lives on. M02 said,

*'having everything set out and clear at the outset is vital and then once you know what you are going into at the beginning, you are happy as a mentor that the mentee is going to come along on the journey and actually give input'.*

M02 declared that some mentees think you are going to do it all for them, particularly when the sessions are financed for them stating,

*'they think that I'm going to come in and wave a magic wand and sort everything for them'.*

M02 discussed the mentor mentee relationship in terms of a working relationship, a two-way relationship where both sides feel that there is going to be benefit to it. He/she said,

*'I'm very clear from the beginning, I'm not going to do it for you but I'll guide you on how to do it. I have actually stepped away from some sessions where I have gone back to the programme management explaining that the mentee is not engaging and not inputting to an acceptable level'.*

The express aim of the mentor as described by Miettinen (2006) in the literature is to develop the mentee. M02 states that he/she will guide the mentee and this is exemplified in the literature as an integral aspect of the mentor, which is in effect the role of coach or guide. The participating mentors were asked to distinguish the boundaries between themselves and the mentee. M02 said,

*'it's very straight forward, you keep the relationship clear through honest communication'.*

M02 stated similar but added that the relationship is a contract and a mentor should never engage in the start-up business as an investor, saying,

*'I am being paid to mentor them, so it is a contract and I am paid, I do the job and that's it'.*

The growth of mentorship in entrepreneurship demonstrates that boundaries must be made and are perhaps less easy to define. This indicates that there is a need to respond to this need and the programme management teams must create definitions and that further research is needed around this issue.

#### 4.3.2.5 Mentor Know-How – Methods and Practices

The participating mentors were asked what strategies they employ to encourage or increase the autonomy of the mentee to take his or her own decisions. M01 stated that the biggest problem he/she has encountered is slowing the mentee down. He/she said,

*'the problem is holding them back, steadying the ship (...) I find they run with ideas before thinking, so my strategy is to say, slow down'.*

M01 cited planning as key and this involves meetings where hard questions have to be asked and answered followed by discussion and planning. M01 said,

*'we discuss the accounts to see where they are (...) look at the product margin (...) this market first (...) let us evaluate this one'.*

*'there is a common thread which involves putting a plan on paper'.*

More meetings with more questions, discussions, sharing of knowledge and advice, follow this. M01 discussed the issue of the participants being so busy saying,

*'they have so many balls in the air that they don't distil, they don't have the time or the focus to distil down and strategize in an organised manner'.*

*'my job is to listen to the mentee and give assistance where needed. I find when we work together, it encourages the mentee'.*

The literature indicates that entrepreneurial learning occurs through a combination of action learning and verbal exchanges. M01 promotes entrepreneurial learning at meetings where hard questions are exchanged and the mentor and mentee work

together. M01 also pointed out that the relationship is more beneficial when the mentee can relate to the mentor and particularly when both parties are in the same line of business. M02 also cited two-way discussions and hard questions as integral to the success of the mentoring relationship. M02 said,

*'I do not spoon-feed them per se. I just get them to understand the steps that they need to take and then they go off and they do it. They come back to me saying, I've come up against a big stumbling block here, and I can't see where I need to go, what would you advise me to do?'*

M02 explained that this exercise facilitates her assessment of whether progress has been made or not and said,

*'I know then that they have genuinely done what needed to be done (...) then we can work through it together and I can give them the necessary tools and reassurance'.*

M02 was very much in favour of continued support in between sessions and long after the mentor mentee contract. He/she said,

*'I want them to get on and I give them every possible chance (...) I'm at the other end of the phone or send me an email if you are stuck and then they know that I am interested in what they are doing and that I want them to succeed'.*

This on-going support on the part of M02 serves to vindicate the literature in that the mentee seeks guidance and support. The mentee receives all that but additionally receives the psychosocial elements of acceptability, approval, and affirmation, which serves to augment entrepreneurial identity and thus, entrepreneurial self-efficacy.

#### 4.3.2.6 Benefits for the Mentor

When asked about business and personal benefits experienced from participation on the Mentoring programme, M01 said,

*'I really enjoy sparing any entrepreneur any of the pain that I went through and there is pain at the start and there is pain all the way through but there is joy as well'.*

M01 gave an example of a mentee who was offered an enormous opportunity with a supermarket giant. The mentee was not yet in a position to roll out the produce and as

a result came to M01 in a state of panic, not wanting to offend the supermarket giant.

M01 said,

*'you don't have the wheels to get to market, you will make absolutely no margin, you don't have the production'.*

M01 explained the reality of the situation to the mentee and offered advice on how to deal with the offer without losing the opportunity for the future. Fast food and consumer goods are M01's territory and he/she stated,

*'I feel good helping, otherwise I wouldn't like being a mentor. I like to spare them mistakes because I have put my foot in the same holes, spare them some because there is always others'.*

M01 discussed the benefits from working with 'fresh energy' and enthusiasm. 'It revitalises me'. M01 cited a completed business plan as,

*'a bit of structure and there is a reality trip rather than this airy-fairy sort of fluffy business about where they want to be in a year's time'.*

The quality of the nascent entrepreneur and having an open mind is paramount for M01. He /she quoted,

*'for me they are the shining lights, and it's a real gem when you come across a shining light and that propels you to the next one and the next one'.*

M02 cited his/her profile as being a positive benefit from the mentoring experience saying,

*'being a mentor for Enterprise Ireland or an Enterprise Board holds a lot of weight, and most especially because of the diversity of what is involved'.*

M02 discussed the benefits of working across a diversity of sectors. It keeps him/her up-to-date and the mind fresh. M02 talked at length about the benefits of exposure to new products and services stating,

*'I genuinely love getting involved and helping businesses (...) I get really chuffed when I see them do well, winning awards and it's fantastic to see somebody who just had an idea and developed it and now employing people'.*

#### 4.3.2.7 Stakeholder Communications and the Mentors Role

Valid information is an important component in the intervention process and therefore the participating mentors were asked about the quantity, quality, and adequacy of the information they receive in relation to the mentees prior to meeting with them. M01 discussed the three-page snapshot he/she receives from the Enterprise Ireland coordinator, saying it gives a

*'fair sense' of the participant but 'it is usually too wordy and padded' but 'somewhere to start'.*

Turnover is supplied and M01 said,

*'turnover tells a lot (...) but then mentees have wild plans to open offices in New York, China and London within three years, so there's a lot of that kind of waffle but when you distil it down, there's enough to get the show on the road'.*

Having read the mentee profile, M01 discussed the benefits of actually meeting with the mentee stating,

*'that it is possible to get a sense of who they really are'.*

M01 concluded citing that, more communication and organisation within the programme structure was needed and this would facilitate the sharing of knowledge on the progress of the mentee. When asked if there, was value in mentor reporting and sharing it with the trainers, M01 stated,

*'yes, I think there would be enormous value in sharing information, it would only benefit the participants and make everybody's job more effective'.*

M02 referred to the profile information on the mentee as inadequate asserting,

*'the information I receive on the mentee is usually scant, the quality very much depends on what stage they are at (...) sometimes, I can get quite a detailed paragraph around what the proposition is or what the business is'.*

#### 4.3.2.8 Summary of Mentor Key Findings

The **mentor profiles** reveal that both mentors are active entrepreneurs and business owners, capable of guiding participants using current and contextualised experience and information. They are highly qualified and possess extensive experience of working in different size businesses and industries here in Ireland and abroad. Both mentors have a wealth of experience in the mentoring field as they work as mentors for Enterprise Ireland, the enterprise boards, private clients, innovation hubs, rural development companies, and educational institutions throughout the country.

In the context of the mentors' **perceptions of their role in the learning process**, they see their role as one of supporting and guiding the mentees to identify solutions. They impart knowledge but also impart hands-on experience when they support the mentees to put structures in place. The mentors see themselves as supporting the mentees in terms of direction and consider themselves as experienced and in a good position to understand the mind-set of the mentee. This allows the mentees to relate to the mentors and facilitates the imparting of confidence. This is achieved through confirmation, acceptance, and continuous exposure to direct action and reflection.

With regard to the **mentors' perceptions to the matching of mentors and mentees**, the mentors had divergent views. M01 cited the current option as optimal whereby the choice of mentors is put forward by the Enterprise Ireland coordinator and an option to change mentor exists. M02 however, asserted that the mentor has a role to play in understanding the needs of the mentee and the idea of an enterprise clinic would allow the mentor to select the mentee. M02 suggested the need for more communication prior to the matching of mentors and mentees and pre contract meetings with all parties as saving time and effort for all involved.

In relation to the **concept of having multiple mentors** during the course of the programme, to cover the different functional areas, again both mentors had divergent views. M01 was in favour of multiple mentors asserting that different mentors bring different experiences and qualities to the mentor/mentee relationship whilst M02 felt that it was contingent on the background of the mentee and that the programme

already covers several integral areas. A blend of functional area and entrepreneurial expertise was expressed as optimal.

The mentor findings in the context of ***know-how, the methods, and practices applied*** during the term of the mentor/mentee relationship are illustrated in table 8 below.

Mentor Know-How – Methods and Practices Applied
Initiating & instilling ‘balance of the mentee’, supporting business planning, addressing problems through meetings where hard questions & evaluations are asked & answered followed by discussion & more planning.
Relating to the mentee facilitating role modelling, augmenting the learning process for the mentee through encouragement, support, and affirmation.
Action learning and verbal exchanges, cultivating the sharing of knowledge & advice & working together. Encouraging the mentee, activities such as meetings, two-way discussions, listening & questioning, assisting when required.
Participatory & highly interactive, guiding, supporting, advising, preparing, and executing facilitating mentee reflection. Mentor can assess progress of mentee. Mentee learns through negotiated experience.
Experiential learning, imparting knowledge & hands-on experience of the commercial environment. Continuous exposure to direct action & personal reflection.
Instilling confidence, supporting, counselling in terms of direction, & assisting in the identification of solutions. The intensification of professional & psychosocial development. Conferring acceptance & confirmation to the mentee, encouraging the mentee’s sense of their own abilities.

*Table 8 - Summary of Mentor Findings – Methods and Practices Applied*

In terms of ***benefits for the mentor***, both mentors expressed the advantages on a professional and psychosocial level. On a professional level, working with nascent entrepreneurs keeps the mentors up-to-date with current trends and exposes them to new products and services. Working as a mentor for Enterprise Ireland is highly regarded in Ireland. This enhances the professional profiles of the mentors. On a psychosocial level, personal satisfaction is achieved when the mentee evolves and achieves progress and success. The energy and enthusiasm of the nascent entrepreneurs facilitates personal regeneration in the mentors.

**Communication between the mentors and other stakeholders** emerged as an area of concern and in particular, when it pertained to participant information during the initiation and cultivation phases of the mentor/mentee relationship. The mentee profile was cited as inadequate and more organisation and communication within the programme structure was recorded as a necessary requirement.

#### 4.3.3 Programme Manager Profile

This section details the profile of the programme manager and his/her perceptions of his/her role in the learning process and in relation to the programme itself. It describes the programme manager's role in stakeholder communications and his/her part in participant assessment, trainer assessment, and selection procedures. It illustrates the programme manager's feedback on programme development and accreditation.

**PM01** is a business and marketing graduate with several years' experience in the telecommunications and broadcasting industries. PM01 held positions at two of the high profile telecommunications companies in Ireland and the national broadcasting company. He/she completed a Master's in Business Administration (MBA) and describes himself/herself as an enterprising individual working for the New Frontiers Development programme on a professional level and co-running a small speech and drama business for children and teenagers in his/her own time. Regional variations exist in the role of the programme manager for the New Frontiers Development programme. The regions outside of the cities are different in terms of application numbers and staffing levels.

##### 4.3.3.1 Programme Manager Perceptions – Role in the Learning Process

When asked how he/she perceives his/her role in the learning process, PM01 said,

*'I see my role as a facilitator (...) I guide people along the way. Enterprise Ireland call it an intelligence broker, but really it is to be there for each of the participants, to put them in touch with the right people, to organise the best training that you can, based on their needs and work with them over the six months to develop them'.*



PM01 discussed the importance of his/her role as an advisor or coach at the end of phase one of the programme. Participants are anxious whether to go ahead and apply for phase two. Phase two is a full-time commitment and participants are obliged to give up any current employment in order to take up a place. The programme manager has an important role at this point. PM01 exemplifies this stating,

*'sometimes, they'll decide that it is not for them and others will feel naturally that this is the next step and that's often in consultation with me. I discuss all possibilities with participants. I say, I think you are suitable or maybe this is not right for you now or maybe you need another year or maybe your business isn't going in that direction'.*

PM01 discussed the hope that after the six months, the participants would be investor ready. This involves working with the participants, introducing them to industry experts, bringing in extra mentors or trainers, and generally monitoring participant progress and deadlines. When PM01 was asked how much contact he/she has with the participants during each phase, PM01 said,

*'it varies, depending on the stage of the programme. Phase one is slightly more informal, I do not see them on a daily basis as the training is held in the main campus. I see them two to three times a week but for a very short time before and after workshops. Sometimes it's a quick chat and some participants will email me or I may ring somebody if a question has been raised'.*

PM01 explained that the quality of information given by the participants on their application forms varies and what you read is often not, what you get when the participant is in front of you. PM01 said,

*'you'll read the information that's on paper and you'll see the person in front of you but a lot of it is gut instinct which is very hard to quantify'.*

#### 4.3.3.2 Programme Manager Perceptions – The Programme

When asked to describe the main objectives of the programme, PM01 said,

*‘the main objective of the programme is to create jobs, create new businesses for the locality (...) so that businesses remain in the region’.*

PM01 referred to the programme as a pipeline for Enterprise Ireland (EI) in terms of high potential start-ups (HPSUs). He/she explained that the programme principally educates and develops participants to become entrepreneurial. PM01 said,

*‘the programme develops the entrepreneur and educates them on what it means to be an entrepreneur, how to run a business, how to build a team (...) while at the beginning they might be doing everything, that’s not sustainable because if you want to scale a business you need to bring people in who will take on those roles’.*

When asked about sectoral diversity of participants, PM01 felt there were many advantages to having a blend of industries on the programme saying,

*‘I think any kind of mix like that is good because they bring an enormous amount of experience (...) they may have other skills that they can bring to the group’.*

In the context of the three phase programme structure (see section 2.8), PM01 was asked how participants are screened for phase two. PM01, said,

*‘participants apply for phase two, and are shortlisted by a panel. Interviews take place which consist of a ten minute PowerPoint presentation, followed by a twenty minute questions and answers session’.*

PM01 explained that the panel is made up of a number of stakeholders in the region, including the Southwest Regional Director of Enterprise Ireland, vice president of research development and external engagement from the Institute of Technology, Tralee, and the CEO of the Local Enterprise Office. A business-banking representative sits on the panel and the programme manager is present in an observation role.

#### 4.3.3.3 Stakeholder Communications and the Programme Manager's Role

The literature illustrated that several external parties are necessary in the training process and active collaboration of opinions with trainers, mentors and programme managers must be considered (Penaluna et al. 2012). Communication between stakeholders is integral and when PM01 was asked how participant profiles are gathered, PM01 said,

*'the initial documentation that we receive is the participant application form, which can be comprehensive or scant but usually enough to give you a fair idea of the participant'.*

PM01 explained that the application form for phase two is more comprehensive and includes background information, the status of the start-up, any funding to date, references, and customer references. PM01 said,

*'it can be difficult to judge in that somebody could be highly entrepreneurial but not very literate'.*

With respect to a feedback procedure for trainers, PM01 discussed the informality of this process at present. PM01 stated,

*'it's not formal, it's normally a phone call or an email, we do a quick rundown of the participants and highlight any concerns'.*

PM01 described a diagnostic tool that is utilised in the County Kerry programme but highlighted it, as *'a bit of a lost opportunity for feedback'* in relation to the trainers saying,

*'getting feedback from the trainers would make for more effective training'.*

The diagnostic tool allows the participants to log in and update their progress. PM01 alluded to the possibility of trainers having access to the system to build on participant profiles. When asked about a pre-programme meeting for trainers where they could meet to collaborate and discuss subject area content to avoid overlapping and duplications, PM01 agreed that it was a good idea, however citing,

*'logistics as a cause for concern'.*

PM01 explained that changes are taking place as a result of feedback from the last group. At present, the training is a full day of generic content. PM01 explained,

*'the plan for next year is a half day of generic training for the group and the rest of the day would be one-to-one specialist training or it might have to be two days of training to facilitate meeting with all of the participants'.*

#### 4.3.3.4 Participant Assessment

The literature illustrated that participant progress is assessed during phase two of the programme by means of a panel review, which is conducted on a bi-monthly basis. PM01 was asked to describe this process for the programme in County Kerry. PM01 explained that every two months, each of the participants has a review and this review acts as a means of paying out the stipend. PM01 stated,

*'the panel review is really a way of tracking progress. The same panel who interviewed the applicants for phase two see the participants at 2, 4, and 6 month intervals and they get a really good idea of where they are at'.*

Before each review, the programme manager briefs the panel on individual progress and for the duration of phase two, the panel monitor a particular set of milestones to be achieved. PM01 said,

*'the participants have to get straight into it. It's one of the things I stress in phase one, if you get a place on phase two, it's straight in, it's a deep dive'.*

Further details were given by PM01 in relation to Enterprise Ireland templates that are utilised to record and update participant progress including details of work achieved in the previous two months and milestones for the subsequent two months. PM01 said,

*'it is necessary to sit down with participants and ask them to specify their objectives for the next two months. The panel want to see some progress from the initial interview pitch where maybe the business idea was only a concept or it was at the start of a testing period'.*

PM01 was asked to share his/her thoughts on the current stipend process and if it could benefit from controls that are more stringent. PM01 quoted,

*'if a participant is not performing, not attending or not engaging in work that's due, the panel can freeze, hold back or remove the stipend. It gives the panel some leverage'.*

PM01 explained that proposals for the new format of the programme include the stipend going into phase three because as PM01 said,

*'that is the stage where participants can tend to drift a little bit and having a stipend in phase three would tighten things up'.*

#### 4.3.3.5 Trainer Selection and Assessment

When asked how trainers are selected for the programme in County Kerry, PM01 explained that practitioners were crucial stating,

*'I try to get as many practitioners as possible (...) these are people working out there in industry but are very good at training and getting information across as well. It might be the case that they lecture part time'.*

PM01 gave examples of trainers who are working entrepreneurs and lecture in colleges and universities on a part-time basis. PM01 said,

*'one of the trainers that I have used lectures part time and is very good at delivering information but also very practical. It depends on the topic as well, subjects like legal and intellectual property are difficult to make practical'.*

PM01 referred to new proposals for trainers where there would be a lot more one-to-one and how this would facilitate more hands-on training. When PM01 was asked how the trainers are assessed, PM01 stated,

*'the trainer's effectiveness is assessed through the diagnostic tool. Each of the participants score the trainers and give feedback on their style, and on the quality and quantity of the subject are content'.*

PM01 discussed plans for the next group whereby the utility of the diagnostic tool would be maximised saying,

*'the trainers would have access to the system and rate the participants. The participants would not have visibility on this feedback and other trainer would not have visibility on other trainers. It would be a better way to formalise feedback'.*

#### 4.3.3.6 Programme Manager Feedback for Programme Development

PM01 was asked to give his/her opinion on what changes to the current format of the programme would be beneficial. PM01 promoted the importance of the programme not being overly prescriptive and that each centre can personalise and tailor the programme to suit the region. PM01 said,

*'the regions outside of the cities are very different places (...) participants will experience something similar but different (...) this is one of the things that makes us a really good programme'.*

With a strong background in marketing PM01 felt that the programme needs to be promoted more stating,

*'the national promotion of the programme is something that needs to be looked at (...) I do think there could be huge benefits if there were some serious money invested into the marketing of the programme. It is an excellent programme and it does not take equity in companies while most other accelerators out there do so that's a huge advantage that is undersold'.*

PM01 also alluded to new proposals that are coming down the line in relation to the stipend going into phase three and changes in relation to training days with more one-to-one sessions. He/she felt that these are positive changes and concluded saying,

*'in terms of the rest of the programme, I think we have enough freedom locally to change things around as and when we need to'.*

When PM01 was asked if the programme should be accredited. PM01 did not feel accreditation was applicable. He/she referred to the programme as being similar to executive training. PM01 said,

*'I'm not sure on the idea of accreditation. It's an entrepreneur development programme'.*

#### 4.3.3.7 Summary of Programme Manager Key Findings

The **programme manager profile** reveals that the programme manager is an enterprising individual with several years' experience in business. He/she perceives his/her role in the learning process as a blend between a facilitator, a guide, a coach, an advisor, and a central point of contact for participants. Additionally, he/she views his/her role as a coordinator and manager for the workshops, trainers, mentors, guest speakers, industry experts and any other surplus requirements of the participants. The programme manager monitors participant progress and deadlines physically, visually, verbally and by means of the diagnostic tool in operation in County Kerry.

In terms of the **programme manager's perceptions of the programme**, he/she views the main objective of the programme as the creation of jobs and new businesses in the region and that these businesses are facilitated to remain and operate in the region. PM01 perceives the objective of the programme in terms of the participants as preparing and developing them to become entrepreneurial, how to run a business and build a team. In the context of sectoral diversity of participants, PM01 views the blend of industries as beneficial and bringing divergent experience and skills to the group.

With respect to **communications between stakeholders** and the quality and quantity of participant information, PM01 distinguished between participant information in phase one and phase two. The initial documentation is the participant application form and varies on quality and quantity of information. Phase two information is more comprehensive and includes background information, the status of the start-up, any funding to date, references, and customer references. PM01 cited the current feedback procedure for trainers as informal and communicated that the programme structure

and process undergo several iterations and modifications of processes and procedures resulting from feedback.

In terms of ***participant assessment***, PM01 referred to the panel review as a means of tracking participant progress and Enterprise Ireland templates are utilised to record and update participant progress including details of work achieved in the previous two months and milestones for the subsequent two months. In terms of the stipend, PM01 explained that it functions as leverage; it can be held back or removed at the discretion of the panel if participants are not performing or meeting milestones.

In the context of ***feedback for programme development***, PM01 perceived the importance of the programme not being overly prescriptive and allowing each centre to personalise and tailor the programme to suit the region as key. PM01 felt the programme should be marketed more on a national level highlighting the advantage that the programme does not take equity in the participating start-ups as opposed to more commercial accelerators. PM01 explained that each year, the programme structure including procedures and processes iterates and modifies taking feedback from all stakeholders into consideration. PM01 was not in favour of accreditation.

#### 4.3.4 Programme Participant Profiles

This section details the programme participant profiles from three cohorts 2013/2014, 2014/2015, and 2015/2016. Representatives from three cohorts of the New Frontiers Development programme in County Kerry were selected to demonstrate the evolving nature of the programme. This section describes the programme participant perceptions on areas such as sectoral diversity, varying levels of participant readiness in the start-up process, gender of participants, regional availability of the programme, and the location of the institute adjunct to the institute. Participant perceptions of the programme and its structure are detailed using the components from the knowledge framework namely know-when, know-why, know-what, know-how and know-who. It concludes with programme participants' feedback on the programme.



**PP01** participated on the 2013/2014 programme. He/she worked for a multi-national in the capital for several years and became unfulfilled with the bureaucracy and lack of opportunity to progress. He/she moved from company to company up until he/she identified an opportunity in the world of sport. PP01 comes from an entrepreneurial background and has a tertiary level qualification. Having completed the programme in 2014, PP01 is currently operating a successful business in County Kerry.

**PP02** participated on the 2014/2015 programme in County Kerry. He/she has a tertiary level qualification in computer science and comes from an entrepreneurial background. PP02 was always motivated to become an entrepreneur. PP02 worked in Ireland and abroad for varying size companies. Whilst working for a smaller company in the UK, PP02 identified a niche in the field of technology and decided to relocate back to Ireland and start-up his/her own company. He/she now has a team of four employees and given the nature of the business, his/her employees have the flexibility of working from home.

**PP03** participated on the 2015/2016 programme in County Kerry. He/she worked in the corporate world for eight years. PP03 has a tertiary level qualification. Both parents were either self-employed or business owners at some point and this was very influential. He/she was always motivated to be an entrepreneur. PP03 is currently a co-director in another company and the new start-up is a spin-off of that company.

The literature illustrated how the New Frontiers Development programme differentiates itself from other start-up/accelerator programmes by calling for applicants from a diversity of sectors. Within the context of sectoral diversity, the researcher asked PP01 to describe the effect it had on his/her learning experience. PP01 stated,

*'there is the sectors and the level that the companies are at (...) because of the sectors being so broad from physical products to software products, it did not allow for specialised training, it would be much easier if it were one entire sector, not competing'.*

PP01 discussed at length the difficulty with companies at such varying levels of readiness in the start-up process. He/she felt that this made it very difficult for trainers to deliver the workshops and for participants to benefit fully from the training, as

*'it was too difficult for the trainers to meet everyone's needs during a one-day workshop'.*

Previous research has shown that entrepreneurship has broken the barriers of class, age, gender, sexual orientation, and race (Cooney and Murray 2008). The 2015/2016 cohort of the New Frontiers programme in County Kerry had more female participants than male participants and when PP03 was asked, "if the higher quantity of females on the programme had an impact on his/her learning experience?". PP03 said,

*'it was interesting to experience because of my corporate background which was more male orientated (...) there are pressures involved in doing the programme, goals to be met and work to be completed. As a female and mother myself, I can relate more easily to women, I certainly do not feel we lost out because there were less males on the course'.*

The literature referred to the availability of entrepreneurial supports as a driving force behind the transition from nascent entrepreneur to start-up. The researcher asked PP02 if the regional availability of the programme influenced his/her decision to apply to the programme. PP02 said,

*'yes it did facilitate my decision however, I would have no problem travelling to Limerick or Cork to take part in the programme'.*

The international models of best practice section of the literature review highlighted the benefits of locating EEPs adjunct to academic institutions. The advantages include networking opportunities and collaborations for an entrepreneurial ecosystem. When asked if the location of the institute had any impact on his/her experience on the programme. PP01 stated,

*'it had a huge impact, in particular around the legal and patenting side of things. I brought it up during a panel review meeting that I was having difficulty getting access to a patent specialist and one of the panel put me in touch with the institute'.*

#### 4.3.4.1 Know-When

The know-when capability is described in the literature as the optimal time to take the plunge and do something about starting a business. Background and social norms are fundamental to this decision. PP03 explained that having his/her own business was always a personal ambition stating,

*'when I came out of college, I worked in the corporate world for eight years. It gave me a phenomenal grounding and that drove me on because it was a case of asking myself, am I going to stay on here for the next thirty years and crib about what the one next to me is doing. I saw an opportunity to be my own boss and I went for it'.*

#### 4.3.4.2 Know-Why

When questioned in relation to motivations to become an entrepreneur, PP02 explained that he/she was always motivated to become an entrepreneur saying,

*'I feel if you want something enough, you can make it work, a massive advantage was my experience'.*

Earlier research has shown that family and business backgrounds can play an important role in influencing entrepreneurial behaviour. PP02 discussed the fact that both his/her parents were self-employed and the positive influence this had on his/her decision to start a business. Within the context of family networks and support, PP02 said,

*'they are very supportive. My family are proud of my commitment to achieve'.*

#### 4.3.4.3 Know-What

When PP01 was asked, "which of the workshops did you find the most beneficial for you and your business?" PP01 stated,

*'the financial workshops were really good, I got a really good insight into structuring the financials at a company level'.*

PP01 also discussed the value of the marketing workshops from both a company and a personal perspective saying,

*'the marketing was good (...) I had not considered marketing myself in terms of how you present yourself when pitching. I found the confidence to do it better (...) there is absolutely no point building and getting investment for a product unless you can bring it to the market and that is a massive gap, lots of key learnings'.*

The literature revealed that a combination of the know-what and know-how capabilities can expedite an appraisal of resources and markets (Ardichvili et al. 2003) and PP01 alludes to this in his/her response.

#### 4.3.4.4 Know-How

PP02 illustrates the know-how capability in relation to new skills gained as a result of the financial and marketing workshops. PP02 explained how participation on the programme accelerated the carrying out of a comprehensive analysis of all areas of the start-up saying,

*'planning was emphasised as key so I was constantly putting new knowledge into practice and questioning myself that I had every area covered. There were eight different areas that were completely different (...) finance, marketing, market research, project management (...) I do feel I am more further along than I would have been which has had a positive impact on my business, I feel I have safety'.*

PP01 stated,

*'a key area for me was project management, you are constantly doing it (...) I did learn from my peers, I think there is as much sometimes to be learned from them (...) you are with people in the same boat and you don't feel so small, it's networking at its best'.*

Peer-to-peer learning was described as a key feature in all three international models of best practice.

#### 4.3.4.5 Know-Who

Within the context of the New Frontiers Development programme in County Kerry, the know-who capability characterises the participants, trainers, mentors, programme manager and the panel review team involved in the transfer of knowledge and skills. The literature discusses the 'know-who' capability in terms of its relationship to and impact on the know-what and know-how capabilities. The know-who capability represents the external parties or stakeholders who can convey and engender knowledge, skills and valuable networks in any given context (Fayolle and Gailly 2008).

##### 4.3.4.5.1 Know-Who - Trainers

When asked if the trainers had sufficient information on participants and their businesses, PP03 said,

*'no, in general, the trainers did not know enough about us and neither did our mentors. I'd say they were given the information (...) two of the trainers really stood out for me in terms of having their homework on us done (...) they had checked out our social media and online platforms and used this information to effectively contextualise and tailor their workshops'.*

In response to "was it apparent which trainers had entrepreneurial experience themselves?", PP01 stated,

*'yes, very apparent, you could tell straight away who had entrepreneurial experience especially if they had done their homework on us and our businesses'.*

When questioned about perceptions in relation to training styles, PP02 discussed the diversity in training styles saying,

*'it was just one extreme to the other (...) however there was only one workshop where I got no value and all the rest, I genuinely found valuable (...) trainers used different methods according to their subject areas and some did it better than others'.*

PP02 explained how one of the trainers utilised learning logs and how he/she found this activity worthwhile and useful as it facilitated reflective practice.

#### 4.3.4.5.2 Know-Who - Mentors

During phase two of the New Frontiers Development programme, one-to-one mentoring is organised for the participants. Each of the international models of best practice reviewed in the literature described mentoring as a key component to the entrepreneurial learning process. When asked if the appropriate mentor was matched to his/her business PP03 stated,

*'I picked my mentor from a list of three. I would not do it this way. I am not sure how they pick the mentors. Are they filtered by sector or by stage of start-up? I suppose looking back I didn't have the understanding or enough knowledge at the time to narrow it down exactly'.*

PP03 discussed the high quality of his/her mentor but felt it was not the best match saying,

*'there's five or six meetings which is a really great opportunity but I'd hate for it to be missed for somebody going forward because I didn't get the value out of it. It's a phenomenal opportunity and if I knew what I know now I'd have picked a different mentor'.*

PP03 explained that he/she did not realise that one could change mentors and expressed concern that it was not picked up by management or panel review teams.

PP03 said,

*'I think the mentor matching process could be refined a little bit more. It is really such a great facility to have and I would imagine that those that it works for, it is brilliant and they probably make a lifelong relationship or for the term of the company. Unfortunately, I missed out in this instance'.*

#### 4.3.4.5.3 Know-Who – Panel Review

The literature referred to the panel review utilised by the programme in County Kerry as a means of assessing participants on meeting their strategic goals or milestones. When PP01 was asked if he/she had to identify objectives and goals at the beginning of phase two, PP01 stated,

*'there were milestones throughout the programme and I achieved them all and was 100% accountable for them because I was constantly reporting on my progress. It was actually a really good set-up'.*

PP01 described the panel review as an excellent source of support and information as opposed to an assessment process stating,

*'the panel was a really strong part of the programme. You were pinned to your strategic objectives and goals. When I could not get past a hurdle, I learned early on, to report on the good, the bad, and the ugly. This was a key learning for me and as a result, I reaped the benefits'.*

#### 4.3.4.6 Participant Feedback

In response to "what elements of your learning from the programme do you continue to use today?" PP02 quoted,

*'the pitching and presentation elements were key for me because at the time, I was doing a lot of important presentations. The financials were excellent and I continue to use modified versions of templates provided'.*

PP02 discussed the fact he/she had scant knowledge in financials but felt that he/she did get the necessary tools to put plans into action saying,

*'I really got the answers I needed and some queries I had on forms like revenue and nitty gritty things were answered on the day of the training which was excellent'.*

PP02's responses demonstrate learning through negotiated experience and an ability to communicate and carry out strategic goals (Middleton and Donnellon 2014). When asked if he/she would recommend the programme to others, PP02 said,

*'I would. It is a deep dive accelerator programme. What may have genuinely taken me two years to achieve considering I am driven and all (...) the contacts, the networks, the training, I would 100% recommend it but you have to be serious about it because you don't just do it for the funding because it's not about that'.*

#### 4.3.4.7 Summary of Programme Participant Key Findings

The **programme participant profiles** reveal that the participants are highly qualified and motivated. Entrepreneurial backgrounds feature in all three profiles and the participants have extensive working experience here in Ireland and abroad. In the context of **sectoral diversity**, it emerged that it was difficult to meet the needs of such a diversity of participants in a one-day workshop. It did not allow for specialised training. Apart from sectoral diversity, the **varying levels of participant readiness in the start-up process** also materialised as an area of concern. With reference to the **gender of participants**, the number of male and female participants did not change the direction or quality of the programme. The **regional availability of the programme** did facilitate and influence decisions to apply for and take part in the programme. The **location of the institute** adjunct to the innovation centre emerged as instrumental and advantageous for networking opportunities and collaborations with experts. **Feedback on the programme** was generally positive with the exception of stakeholder communications.



See table 9 below, which employs the components of the knowledge framework to demonstrate the implicit perceptions of the programme participants in relation to the programme. Table 8 also reveals the power of the knowledge framework and illustrates a key finding that the New Frontiers Development programme in County Kerry covers each component effectively. Thus, the methods and practices applied are effective.

<i>Knowledge Framework</i>	<i>Participants' Perceptions</i>
<p><b>Know-When</b> Recognition of the moment in the participant's life when it is both possible &amp; suitable to take advantage of the identification of an entrepreneurial opportunity. This is in harmony with the participant's profile. Background &amp; social norms are fundamental to this decision.</p>	<p><i>'I saw an opportunity to be my own boss and I went for it'</i></p> <p><i>'Optimal time to take the plunge'</i></p>
<p><b>Know-Why</b> The participant is personally motivated &amp; committed in relation to their own capability. Articulation of personal logic and reasoning. The voice inside oneself affirms a want or intention to do something. Prior experience is significantly related to entrepreneurial alertness. Family &amp; business backgrounds can play an important role in influencing entrepreneurial behaviour.</p>	<p><i>'I feel if you want something enough, you can make it work, a massive advantage was my experience'</i></p> <p><i>'They are very supportive. My family are proud of my commitment to achieve'</i></p>
<p><b>Know-What</b> The knowledge that the participant needs to start-up a new enterprise. The different subject areas or module content covered by an EEP.</p>	<p><i>'The financial workshops were really good, I got a really good insight into structuring the financials at a company level'</i></p>
<p><b>Know-How</b> The understanding &amp; subsequent application of knowledge that facilitates methods of handling a variety of circumstances. It builds on prior experience &amp; guides the participant to practical revisions of business concepts &amp; decisions</p>	<p><i>'Planning was emphasised as key so I was constantly putting new knowledge into practice and questioning myself that I had every area covered'</i></p>
<p><b>Know-Who</b> Represents the external parties or stakeholders who can convey and stimulate knowledge, skills, and valuable networks. The know-who capability in terms of its relationship to and impact on the know-what and know-how capabilities.</p>	<p><i>'There were milestones throughout the programme and I achieved them all and was 100% accountable for them because I was constantly reporting on my progress'</i></p>

Table 9 - Summary of Participant Perceptions of the Programme

#### 4.4 Quantitative Findings

The mixed methods entrepreneurial learning (MMEL) framework was devised by the researcher to guide the development of the research methodology and particularly as a framework for the quantitative survey. The quantitative findings describe the results of the online questionnaire using charts to illustrate the descriptive statistical data. A discussion on the quantitative research findings is presented in chapter five. The descriptive statistics, correlations, and reliability coefficients for the different variables are then presented and examined followed by results.

##### 4.4.1 Participant Background Descriptive Statistics

The descriptive statistical data illustrate the quantitative findings using charts and tables to enable the reader to visualize the findings in a meaningful way and allow for interpretation of the data.

##### 4.4.2 Gender Profile

*Figure 19 - Gender Profile*

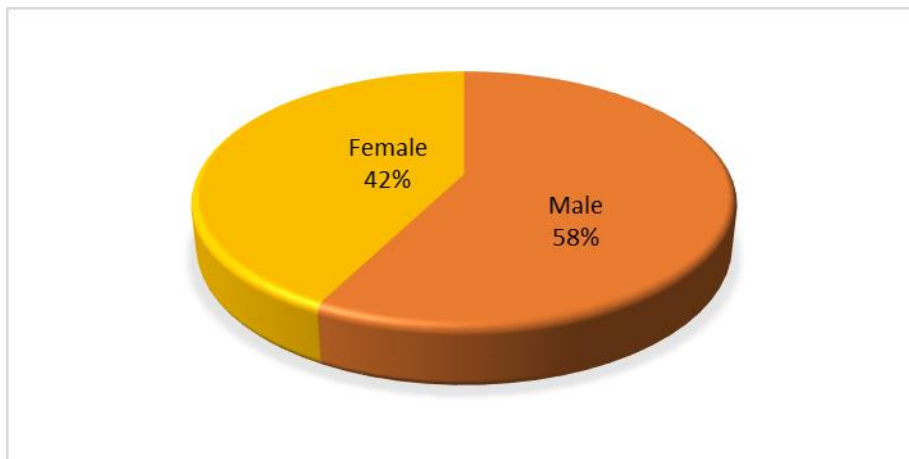


Figure 19 illustrates the results for the percentage of male and female respondents who participated in the New Frontiers Development programme in County Kerry over the past three years. Fifty-eight percent (58%) were male participants and forty-two percent (42%) were female participants. However, the qualitative findings revealed that the more recent 2015/2016 cohort of the New Frontiers programme in County Kerry had a higher percentage of female participants. The global entrepreneurship monitor

(GEM) report for Ireland (Fitzsimons and O’Gorman 2013) highlights that recent participation rates of women as early stage entrepreneurs in Ireland was recorded at 6.4%, which is a fraction higher than the OECD average of 6.3%. The percentage of early stage female entrepreneurs in Ireland is also higher than in the UK, recorded at 5.5%.

#### 4.4.3 Programme Completion Year

Figure 20 - Programme Completion Year

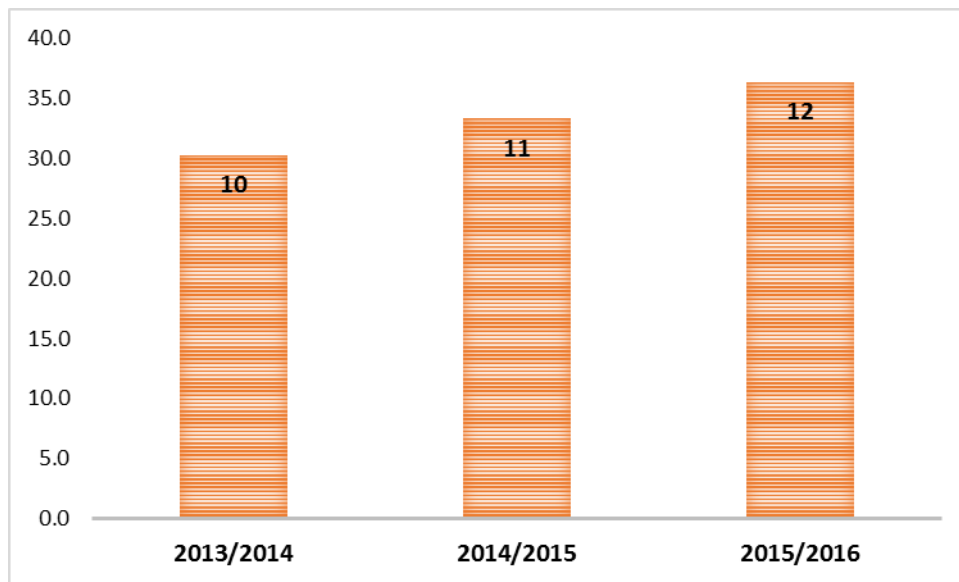


Figure 20 illustrates the cohort year and number of respondents who completed the New Frontiers Development programme in County Kerry, which reveals that participants from all three cohorts over the past three years responded to the online questionnaire. Figure 20 reveals a comparatively even distribution of numbers per year and therefore the overall online survey results will facilitate comparison of the different programme participant experiences/perceptions considering the evolving nature of the programme.

#### 4.4.4 Participant's Age Profile

Figure 21 - Participant's Age Profile

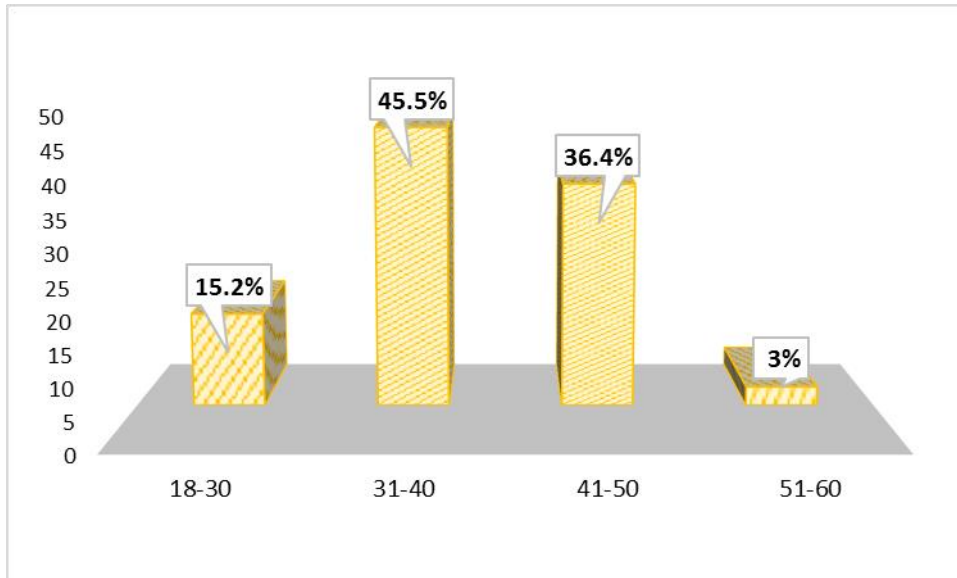


Figure 21 depicts the age profile of participants during the past three years of the New Frontiers Development programme in County Kerry. The results demonstrate multiple age groups, with the 31-40 age group at 45.5% and 41-50 age group at 36.4%. These results provide an opportunity for more insights into the effects of entrepreneurship education on a more mature audience (andragogy) as proposed by Maritz and Brown (2013).

#### 4.4.5 Highest Level of Educational Achievement

Figure 22 - Highest Level of Education Completed

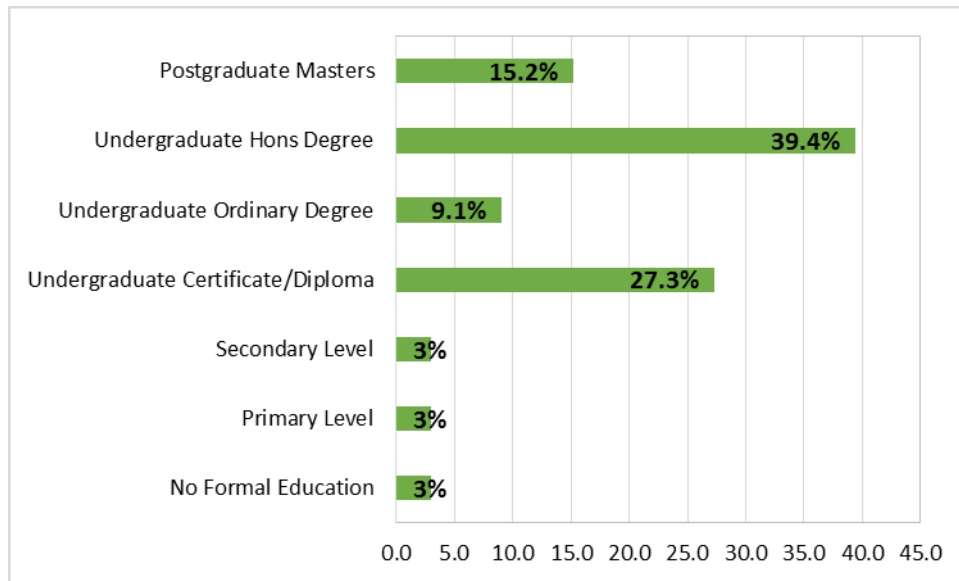


Figure 22 illustrates the highest level of educational attainment prior to participation on the programme. Thirty-nine percent (39.4%) of respondents possess an undergraduate degree and over twenty-seven per cent (27.3%) of respondents have an undergraduate certificate or diploma.

#### 4.4.6 Participant Former Occupations

Figure 23 - Participant Former Occupations

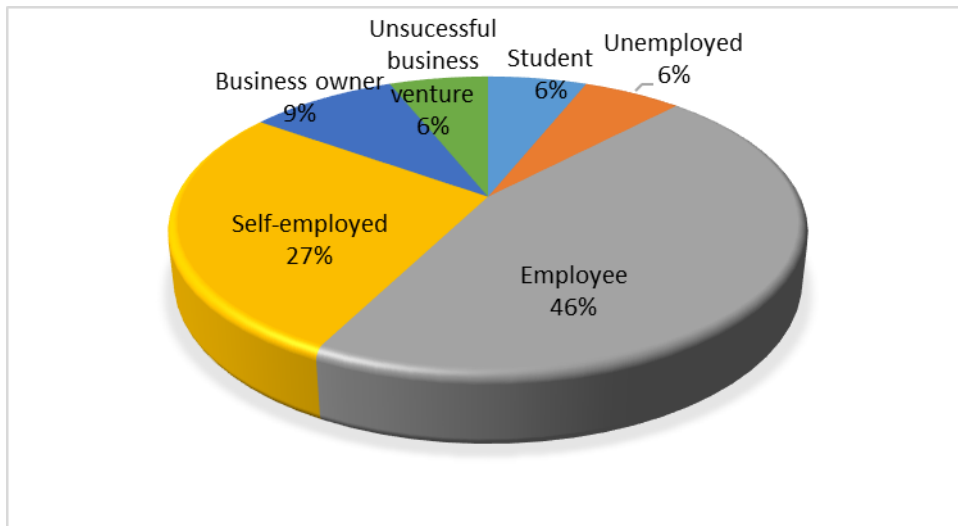


Figure 23 illustrates participants' former occupations. Twenty-seven percent (27%) of participants were self-employed prior to commencement of the programme while nine percent (9%) of participants reported themselves as business owners. Six percent (6%) of participants reported unsuccessful business ventures.

#### 4.4.7 Parental Occupations of Participants

Figure 24 - Parental Occupations

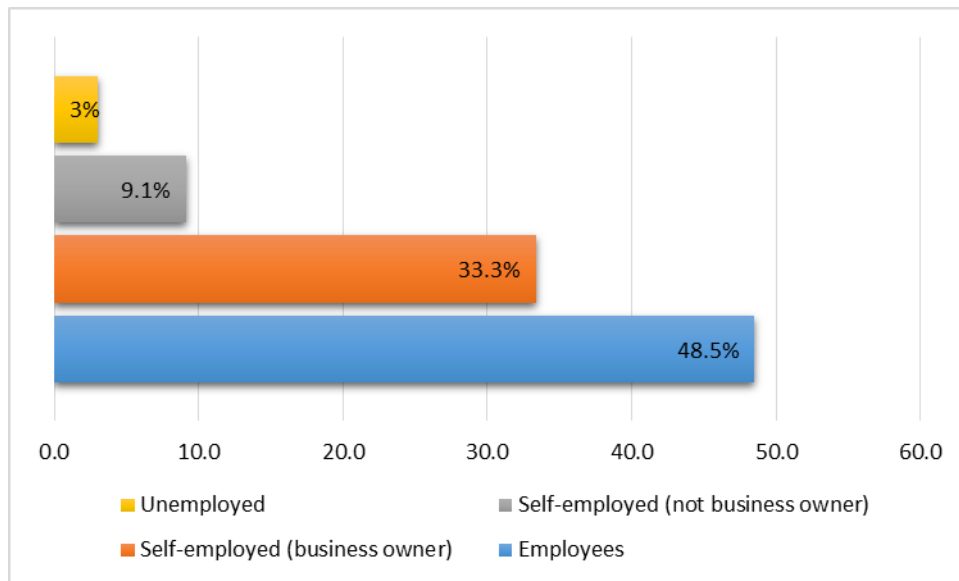


Figure 24 illustrates the parental occupations of participants and reveals that over thirty-three percent (33.3%) of respondents were self-employed business owners while just over nine per cent (9.1%) were self-employed.

## 4.5 New Frontiers Development Programme Descriptive Statistics

### 4.5.1 Areas of Improvement Experienced by Participants

Figure 25 - Ratings for Areas of Improvement Experienced by Participants

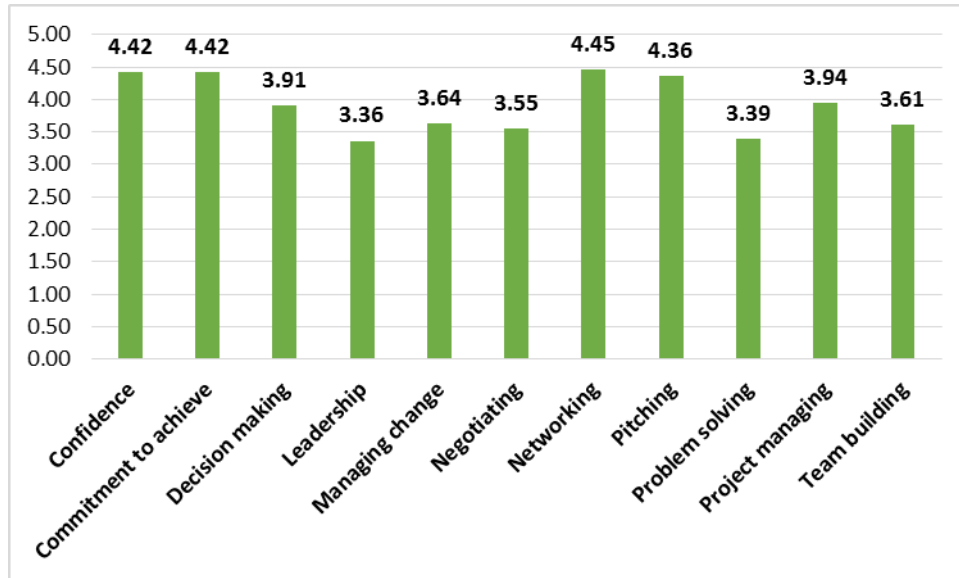


Figure 25 illustrates mean figures for areas of improvement experienced by respondents following participation on the programme. A rating of five (5) represents 'very much improved' while a rating of one (1) represents 'did not improve at all'. Networking skills were rated the highest with a mean figure of 4.45, followed by confidence and commitment to achieve, both with a mean figure of 4.42. Pitching also scored highly at a mean figure of 4.36.



#### 4.5.2 Practical Tools for Business Improvement

Figure 26 - Practical Set of Tools for Business Improvement

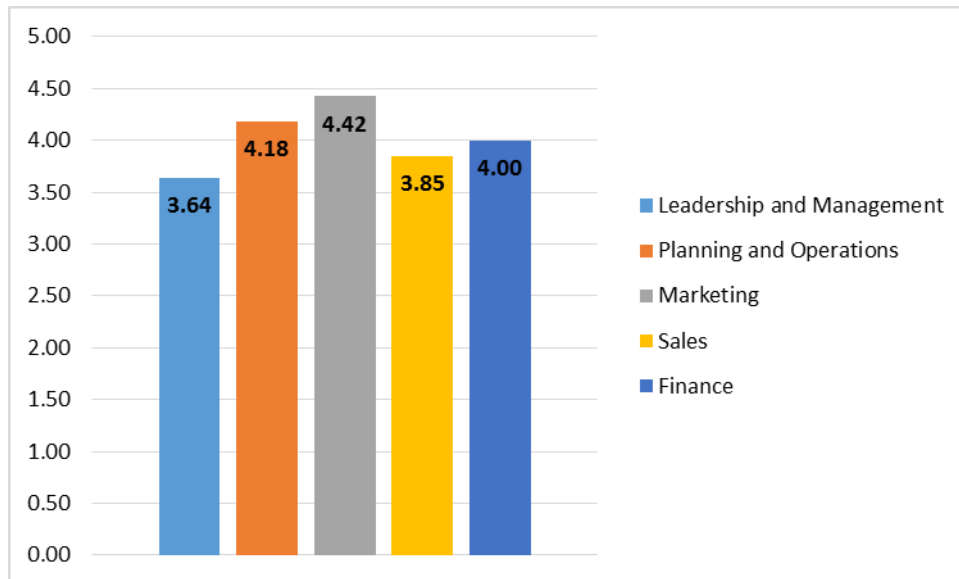


Figure 26 illustrates the mean figures of respondent ratings for practical tools to improve participants' start-ups. Five key areas of the programme content are included. A rating of five (5) represents 'strongly agree' while a rating of one (1) represents 'strongly disagree'. This question implicitly covers the trainer's teaching abilities to impart the practical aspects of these subjects. Marketing scores the highest rating with a mean figure of 4.42 and planning and operations second with a mean figure of 4.18. All five of the subject areas scored comparatively well for practical tools to improve the business start-up.

### 4.5.3 Panel Review (Assessment) and Satisfaction

Figure 27 - Frequency of Panel Review

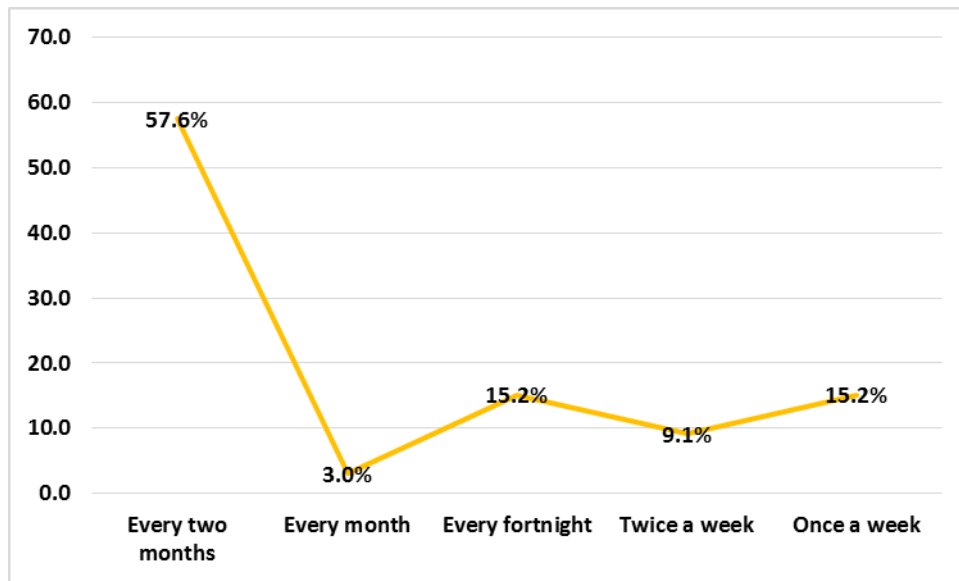


Figure 27 illustrates the results for the frequency of the panel review procedure. Participants were asked how frequently their start-up progress was assessed during the programme. The literature refers to the panel review process as bi-monthly. Over fifty-seven per cent (57.6%) of participants over the past three years reported every two months.

Figure 28 - Satisfaction with Panel Review (Assessment Procedure)

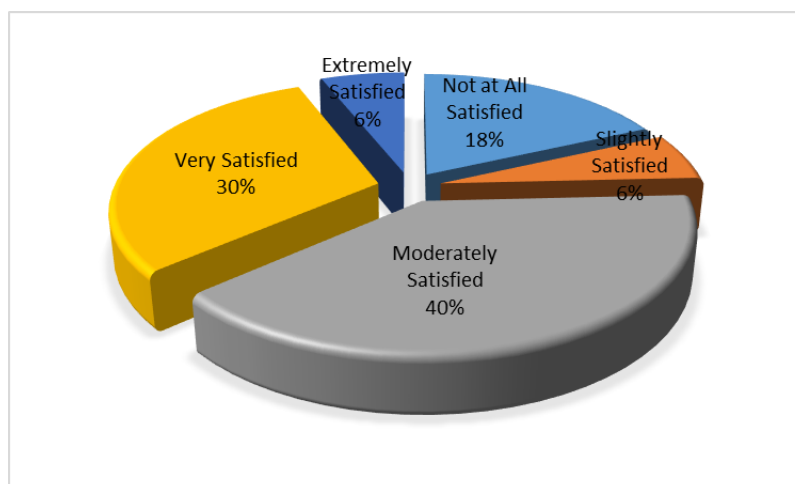


Figure 28 demonstrates satisfaction levels with the panel review procedure. Forty percent (40%) of participants over the past three years were moderately satisfied with the panel review procedure. There was an option to comment on this question and the

most frequent comment was in relation to the panel review members. One participant wrote, *'I did not know who all of the panel members were'*. Another participant commented, *'I would have liked more information on the people sitting on the panel'*. Other comments were in relation to feedback from the panel. One participant wrote, *'more feedback required from all involved in the programme'*. Another participant commented, *'much more honest feedback required'*. Other comments included, *'very satisfied with panel review because of their wide knowledge of the region'*. Another participant wrote, *'a lot of pressure at these reviews, follow up on advice and promises of making contacts must be seen through'*.

#### 4.5.4 Programme Accreditation

Figure 29 - Programme Accreditation

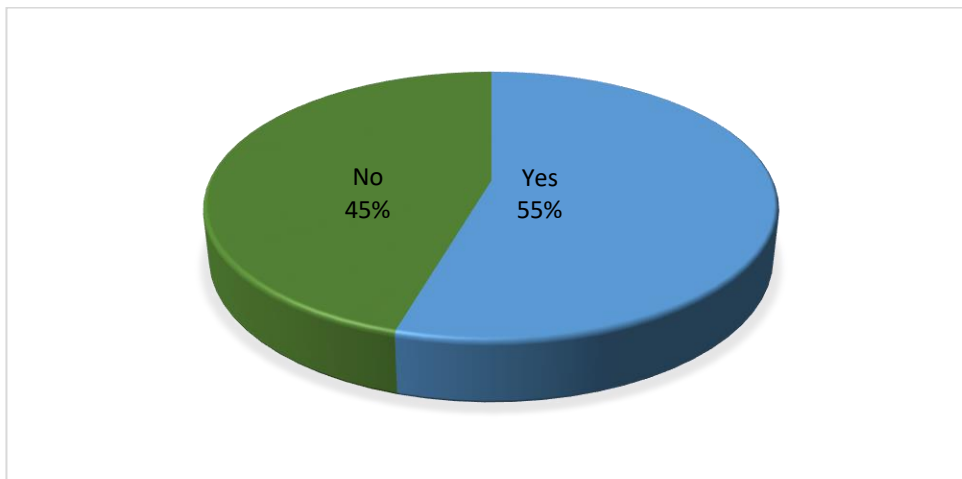


Figure 29 illustrates the results of participants' opinions in relation to programme accreditation. Fifty-five percent (55%) of participants over the past three years believe that the programme should be accredited. This is in sharp contrast to perceptions of the national trainers reported in the qualitative findings where the majority of the trainers were not in favour of programme accreditation. Trainers cited the programme's association with Enterprise Ireland as speaking for itself internationally. The programme manager also felt that accreditation was not applicable to the programme.

#### 4.5.5 Satisfaction with Programme Elements

Figure 30 - Satisfaction with Programme Elements

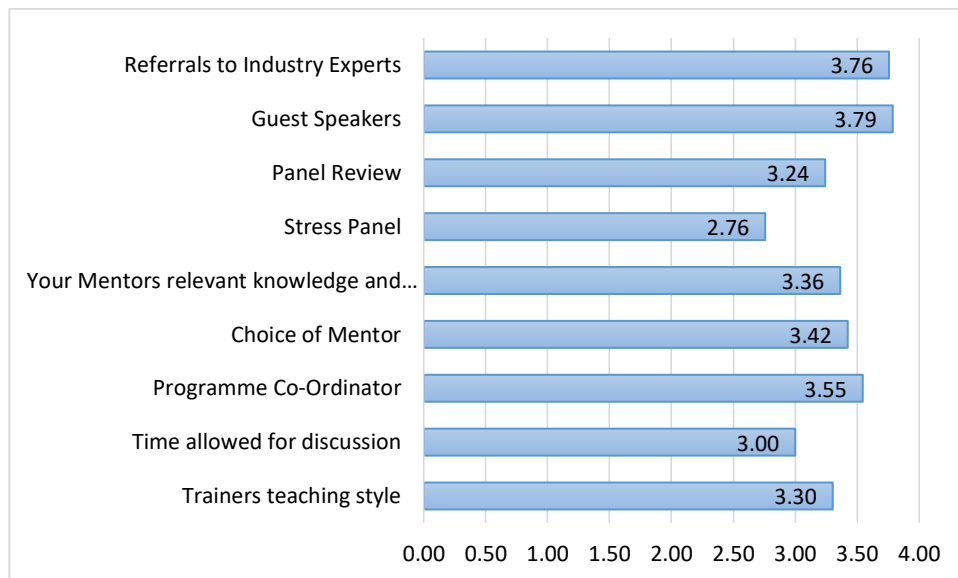


Figure 30 depicts the mean figure ratings for satisfaction with the different programme elements over the past three years. A rating of five (5) represents 'extremely satisfied' while a rating of one (1) represents 'not at all satisfied'. Guest speakers score the highest with referrals to industry experts coming in second. The remaining programme elements all score a proportional average with the stress panel review receiving the lowest rating. The stress panel review is a feature of the programme in County Kerry where participants are assessed by a panel at regular weekly and fortnightly intervals. The frequency of the stress panel review may have confused the results demonstrated in the frequency of the bi-monthly panel review results as 15.2% of participants reported every two weeks and 15.2% of participants reported once a week.

#### 4.5.6 Start-Up Business Results Achieved

Figure 31 - Start-Up Business Results Achieved

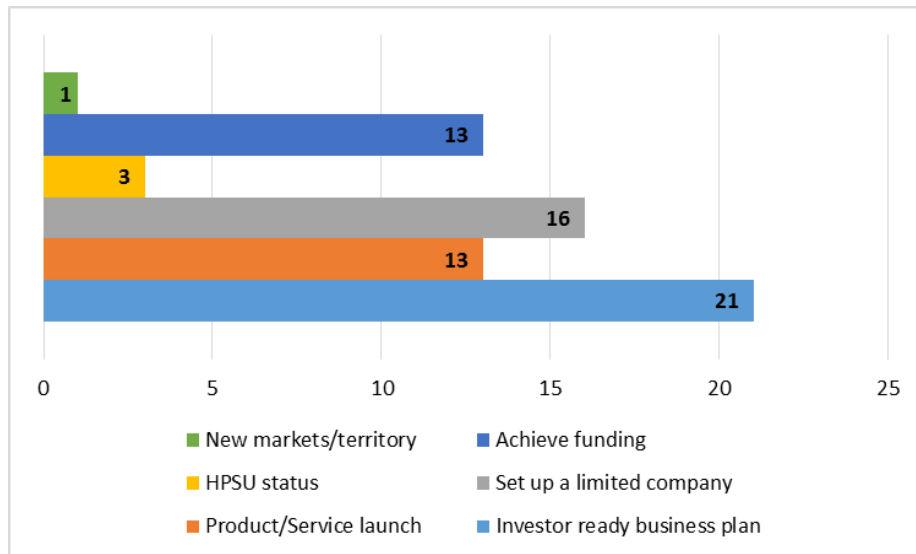


Figure 31 illustrates the results for business results achieved at the end of the programme over the past three years. Twenty-one (21) participants achieved an investor ready business plan and sixteen (16) participants set up a limited company. Thirteen (13) participants launched a product or a service and thirteen (13) participants achieved funding. Three (3) participants attained high potential start-up status with Enterprise Ireland and one (1) participant achieved new markets/territories.

Table 10 illustrates the different types of funding received by the New Frontiers Development programme participants in County Kerry over the past three years.

<b>Types of Funding Achieved</b>	
Capital Start-up Fund (CSF), Venture Capitalist, Business Angel	1
Bank	1
Bank and Local Business Investor	1
Business Angel	2
Competitive Start Fund (CSF)	1
Employment Grant	1
Enterprise Ireland	1
Family investment	2
Local Employment Office (LEO)	1
Local Employment Office (LEO) and Bank	2
LEO Feasibility Grant, European Community Social Innovation Award, EI Innovation Voucher, Government Diaspora Grant	1
Venture Capitalist	2
Valid 16/Total 33	

*Table 10 - Types of Funding Achieved*

Sixteen out of the thirty-three respondent participants achieved funding. Some participants attained a combination of two types of funding. Capital Start-up Fund (CSF) is an investment in an early-stage enterprise in return for equity in that enterprise. Competitive Start Fund (CSF) on the other hand, is offered by Enterprise Ireland (EI) to accelerate the growth of start-up companies that have the capability to become High Potential Start-Ups (HPSU). The local enterprise office (LEO) feasibility grant is intended to assist a start-up enterprise to conduct market research on a product/service to examine the feasibility of that product or service. An innovation voucher supports a start-up enterprise to explore a business opportunity with the help of a registered knowledge provider similar to a higher education institute (HEI) or a public research body.

#### 4.6 Descriptive Statistics, Correlations and Reliability Coefficients

The descriptive statistics, correlations, and reliability coefficients between the different variables are examined and presented in table 11. These are followed by results for the different variables. These variables are underpinned by pre-tested and validated scales, which allowed the researcher to employ and test appropriate statistical techniques to answer the research objectives and questions at the same time as unearthing significant correlations between the different variables.

	VARIABLE	MEAN	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
<b>General</b>																											
1	Gender	.42	.50	1																							
2	Prog Year	2.1	.83	-.09	1																						
3	Age	.39	.50	.06	.32	1																					
4	Educ Attain	.45	.51	-.32	-.14	-.11	1																				
5	Prev Occ Stat	2.3	.68	-.34	-.42*	-.18	.22	1																			
6	Parent Occu	.50	.51	-.03	.23	.09	-.28	.10	1																		
7	Prev Bus Exp	.91	.29	.15	-.11	.04	.29	-.01	.01	1																	
<b>Antecedents</b>																											
8	Subj Norms	3.9	.41	-.21	-.09	.05	.05	.01	-.02	.19	(.77)																
9	Attitude	4.1	.68	-.27	-.06	-.14	-.08	-.13	.19	.06	.21	(.85)															
<b>Entrepreneurial Alertness</b>																											
10	Scan	4.2	.47	-.26	.14	.05	.17	-.19	.13	.44*	.18	.47**	(.77)														
11	Connect	4.0	.59	-.22	-.13	-.02	-.18	-.04	-.16	-.03	-.08	.33	.24	(.87)													
12	Evaluation	4.0	.54	-.08	-.24	.09	-.03	-.08	-.13	-.07	.27	.29	.28	.22	(.77)												
13	EA-Aggregate	3.8	.34	-.27	-.12	.05	-.03	-.14	-.09	.13	.16	.50**	.67**	.73**	.71**	(.25)											
<b>Entrepreneurial Self-Efficacy</b>																											
14	Marketing	3.9	.38	-.16	-.25	-.27	.21	-.10	-.19	.08	.23	.51**	.45**	.22	.28	.47*	(.25)										
15	Innovation	3.6	.55	.07	-.01	-.08	.03	.01	-.07	.14	.26	.34	.03	.30	.32	.32	.17	(.87)									
16	Management	3.7	.26	.07	-.09	-.42*	.13	.19	-.03	.19	.05	.26	.38*	.13	-.03	.21	.29	.04	(.20)								
17	Risk-taking	3.7	.48	.08	-.31	-.27	.14	.30	-.01	.17	.30	.31	.08	.29	.21	.28	.25	.61**	.39*	(.84)							
18	Fin Control	3.8	.71	-.43*	.08	.05	-.05	-.35*	-.21	-.05	.30	.42*	.44*	.25	.51**	.55**	.55**	.38*	.24	.35*	(.92)						
19	ESE-Aggregate	3.7	.34	-.16	-.13	-.21	.01	-.05	-.16	.11	.35*	.53**	.38*	.36*	.44*	.55**	.63**	.71**	.45**	.75**	.81**	(.70)					
<b>Knowledge Framework</b>																											
20	Know-what	3.8	.66	-.04	.06	-.13	.20	-.06	-.08	.02	.07	.35*	.45*	-.00	.14	.25	.36*	.19	.13	.04	.40*	.35*	(.94)				
21	Know-how	4.0	.68	-.11	.23	-.08	.08	-.13	-.08	-.15	.11	.49**	.38*	-.01	.33	.31	.17	.16	.20	.17	.41*	.34*	.49**	(.81)			
22	Know-who	3.3	.79	.02	.09	-.18	.20	-.00	-.07	.11	.02	.44*	.29	.04	.00	.10	.31	.37*	.15	.19	.21	.36*	.53**	.46**	(.85)		
23	KF-Aggregate	3.7	.61	-.07	.19	-.14	.17	-.10	-.09	-.05	.09	.53*	.45*	-.02	.24	.29	.31	.27	.20	.17	.43*	.42*	.76**	.89**	.76**	(.83)	

Table 11 - Descriptive Statistics, Correlations, and Reliability Coefficients

**Note 1:** \*\*Correlation is significant at the 0.01 level (two-tailed) \*Correlation is significant at the 0.05 level (two-tailed)

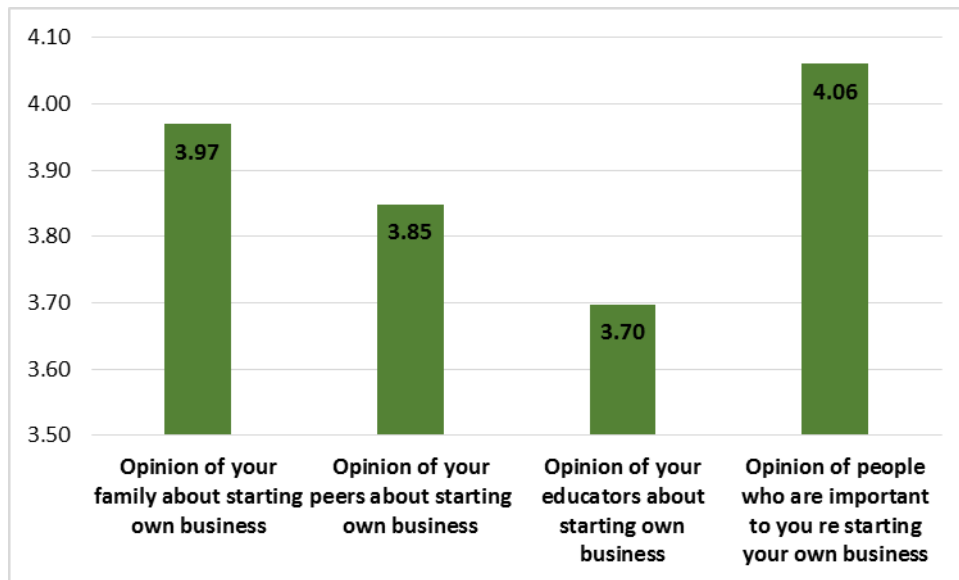
**Note 2:** Numbers in brackets in the diagonal are Cronbach alphas - see Appendix L for calculations

**Note 3:** Numbers in blue are Mean Inter-Item correlation (ideal norm .2 to .4)

#### 4.6.1 Subjective Norms (SN)

Subjective norm was measured using four items concerning family, peers, educators and important others. ( $\alpha = .77$ )

Figure 32 - Subjective Norms (Mean Figures)



The findings demonstrated in Table 11 indicate that subjective norm is positively correlated (at  $p \leq 0.05$ ) with Entrepreneurial Self-Efficacy (ESE) Aggregate.

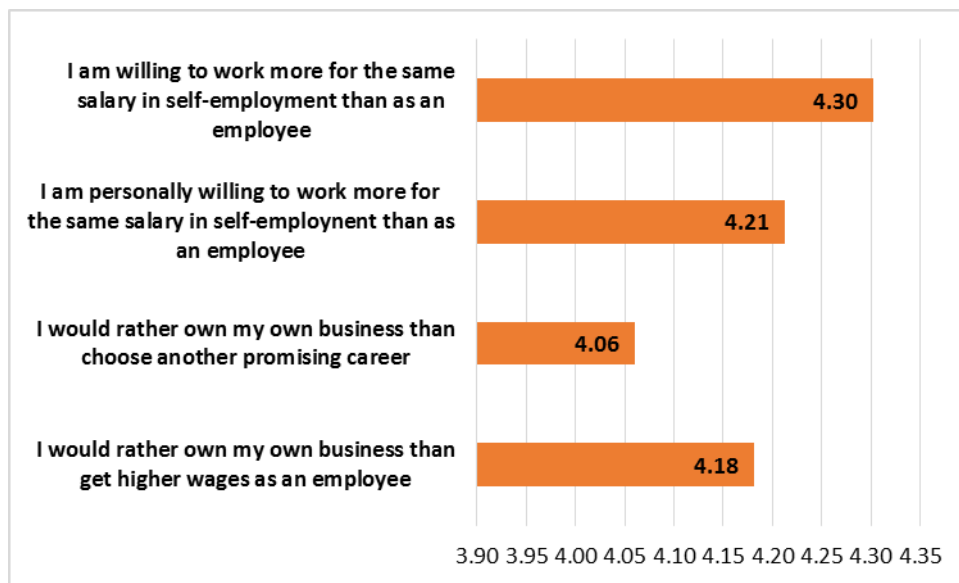
In the rating scale for figure 32, one (1) represents extremely unfavourable while five (5) signifies extremely favourable.



#### 4.6.2 Attitude to Venture Creation (ATB)

Attitude was measured using four statements replicated from the Heuer and Kolvereid (2014) Norwegian study. They adopted attitude measures from Gundry and Welsch (2001) and Kolvereid and Isaksen (2006). ( $\alpha = .85$ )

Figure 33 - Attitude to Venture Creation (Mean Figures)



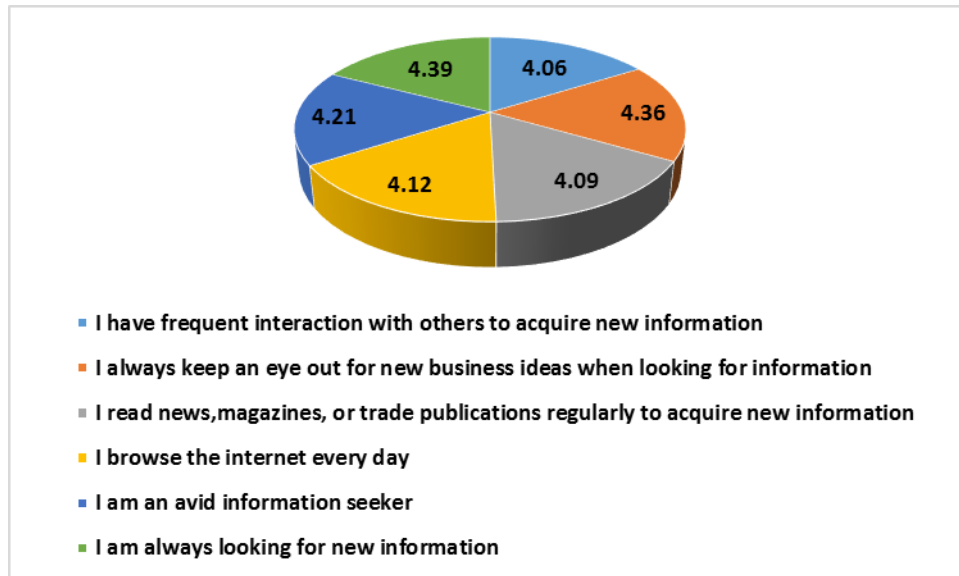
The findings in Table 11 indicate that attitude to venture creation is positively correlated (at  $p \leq 0.05$ ) with Financial Control (ESE), and with Know-what and Know-who of the Knowledge Framework (KF).

The findings in Table 11 also indicate that attitude to venture creation is significantly (at  $p \leq 0.01$ ) and positively correlated with Scan (Entrepreneurial Alertness), Marketing (ESE), and with Know-how (KF).

### 4.6.3 Entrepreneurial Alertness (EA)

Entrepreneurial Alertness (EA) was measured using a 13-item alertness scale replicated from Tang et al. (2012). The scale is subdivided into 3 sets namely, Scan ( $\alpha = .77$ ), Connect ( $\alpha = .87$ ), and Evaluation ( $\alpha = .77$ ). EA Aggregate (Inter-Item Mean correlation = (.25)

Figure 34 - Entrepreneurial Alertness (Scan)

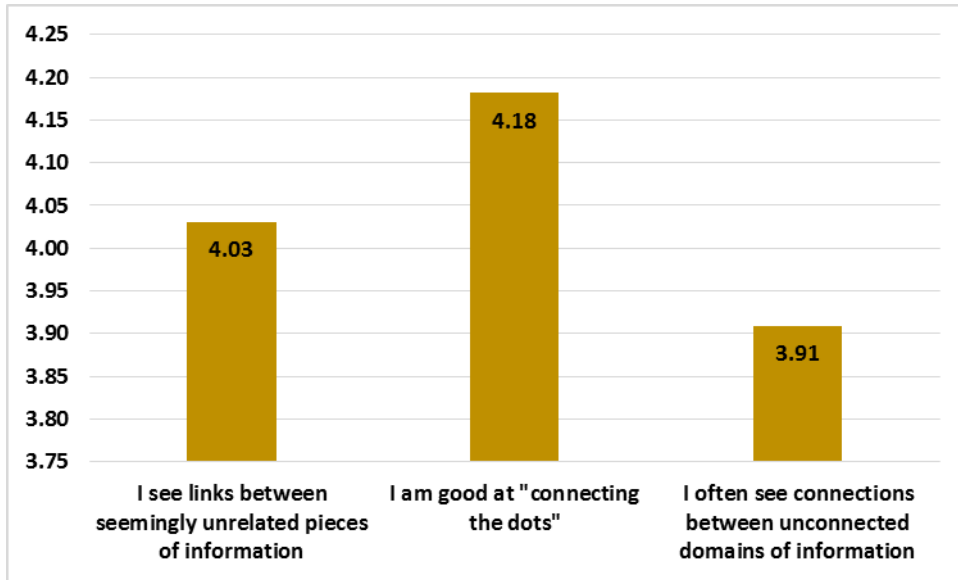


The findings in Table 11 indicate that Scan (EA) is positively correlated (at  $p \leq 0.05$ ) with Management and Financial Control (ESE), and with Know-what and Know-how (KF).

The findings in Table 11 also indicate that Scan (EA) is significantly (at  $p \leq 0.01$ ) and positively correlated with Marketing (ESE).

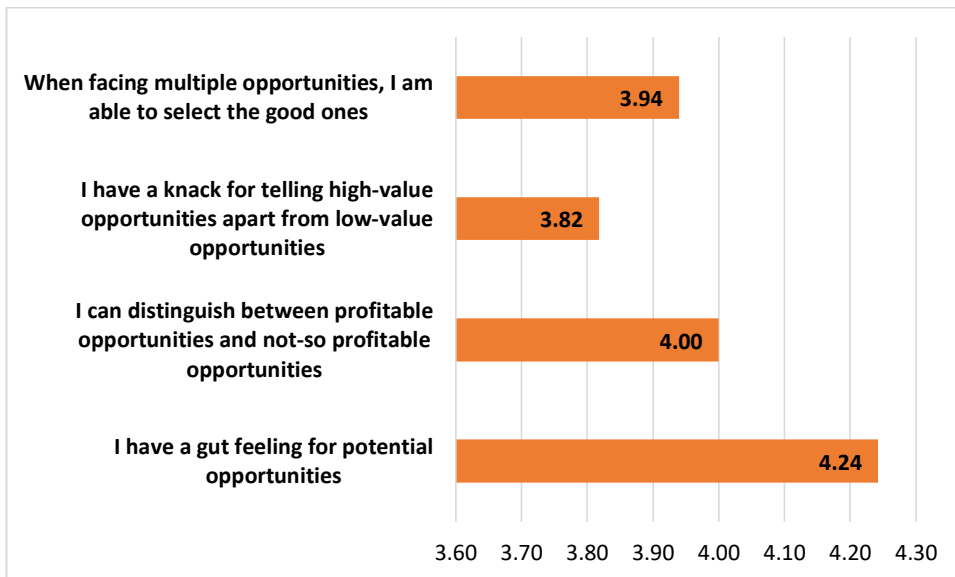
Tang et al. (2014) describe the Scan (EA) variable as consistently scanning and searching the environment for new information. The finding in this study demonstrate that Scan (EA) is positively correlated with Management and Financial Control (ESE) and with the Know-what and Know-how capabilities of the knowledge framework. This concurs with the literature that they are linked in the search for new information (know-what) and know-how.

Figure 35 - Entrepreneurial Alertness (Connect)



The findings in Table 11 indicate that Connect (EA) is significantly (at  $p \leq 0.01$ ) and positively correlated with EA Aggregate.

Figure 36 - Entrepreneurial Alertness (Evaluation)

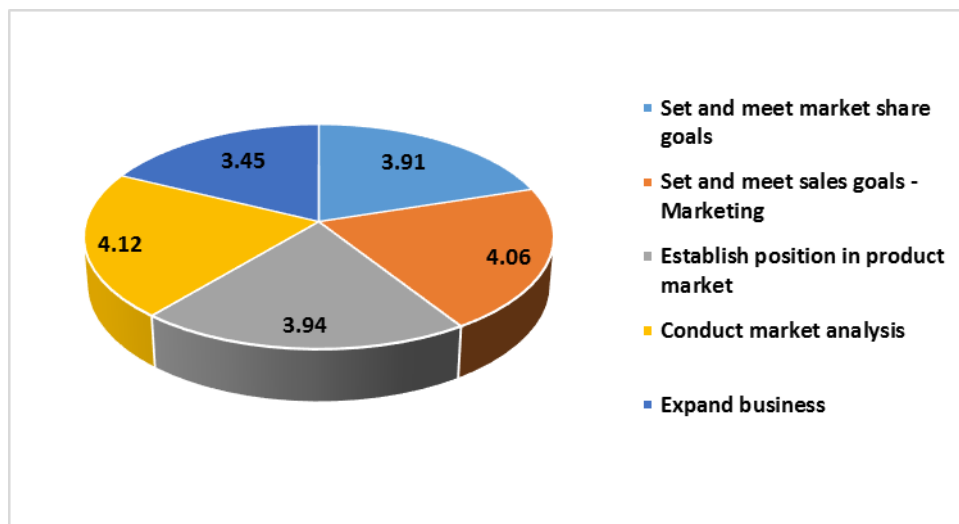


The findings in Table 11 indicate that Evaluation (EA) is significantly (at  $p \leq 0.01$ ) and positively correlated with Financial Control (ESE).

#### 4.6.4 Entrepreneurial Self-Efficacy (ESE)

Entrepreneurial Self-Efficacy (ESE) was measured using a 17-item scale replicated from Chen et al. (1998). The scale is subdivided into five (5) sets namely Marketing (Mean Inter-Item correlation = .25), Innovation ( $\alpha = .87$ ), Management (Mean Inter-Item correlation = .20), Risk-taking ( $\alpha = .84$ ), Financial Control ( $\alpha = .92$ ). ESE Aggregate ( $\alpha = .70$ )

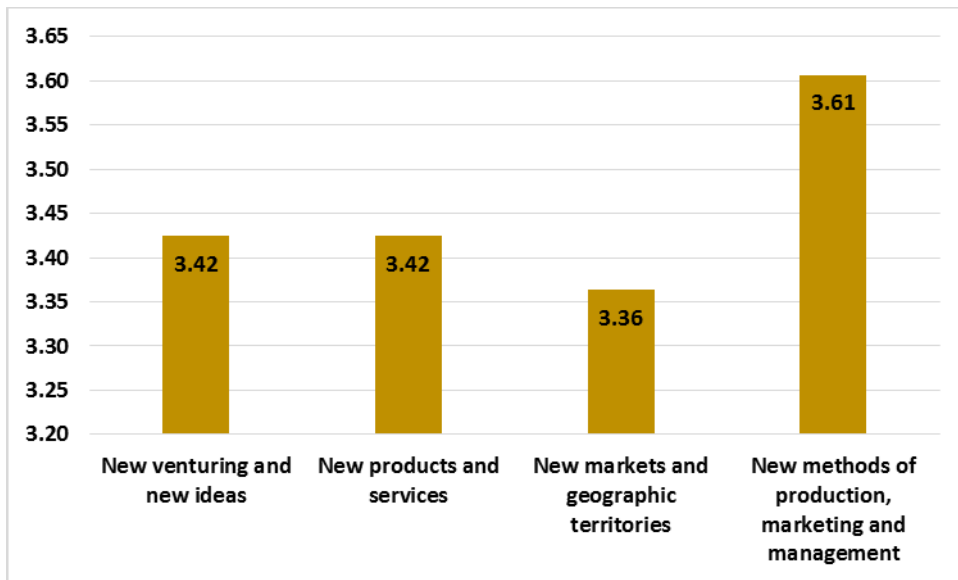
Figure 37- Entrepreneurial Self-Efficacy (Marketing)



The findings in Table 11 indicate that Marketing is positively correlated (at  $p \leq 0.05$ ) with Know-what (KF) and is significantly (at  $p \leq 0.01$ ) and positively correlated with Financial Control (ESE).

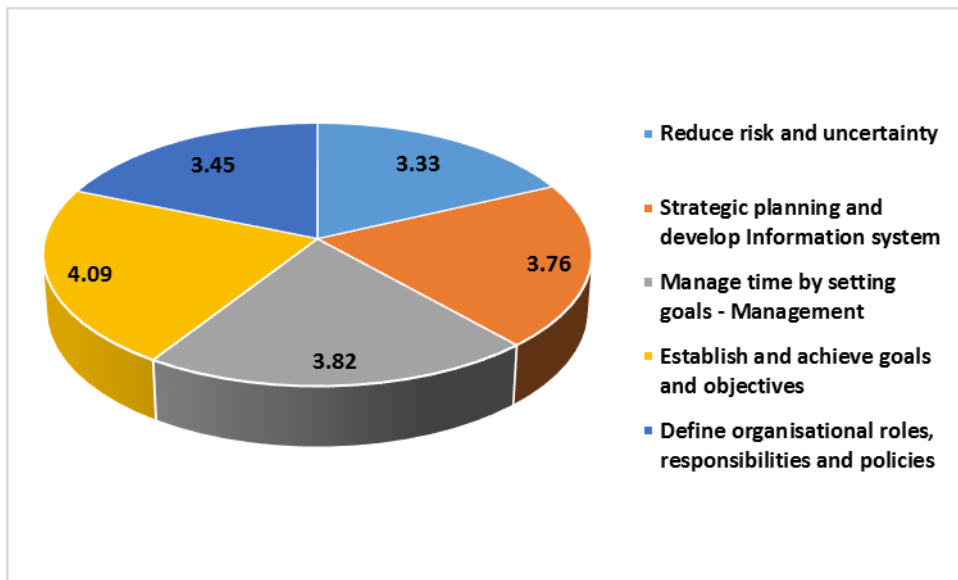
The qualitative findings revealed the marketing module as one of the stronger modules in terms of knowledge acquisition and subsequent application. Figure 37 above reveals above average mean figure scores for respondent's efficacy in performing the five marketing tasks.

Figure 38 - Entrepreneurial Self-Efficacy (Innovation)



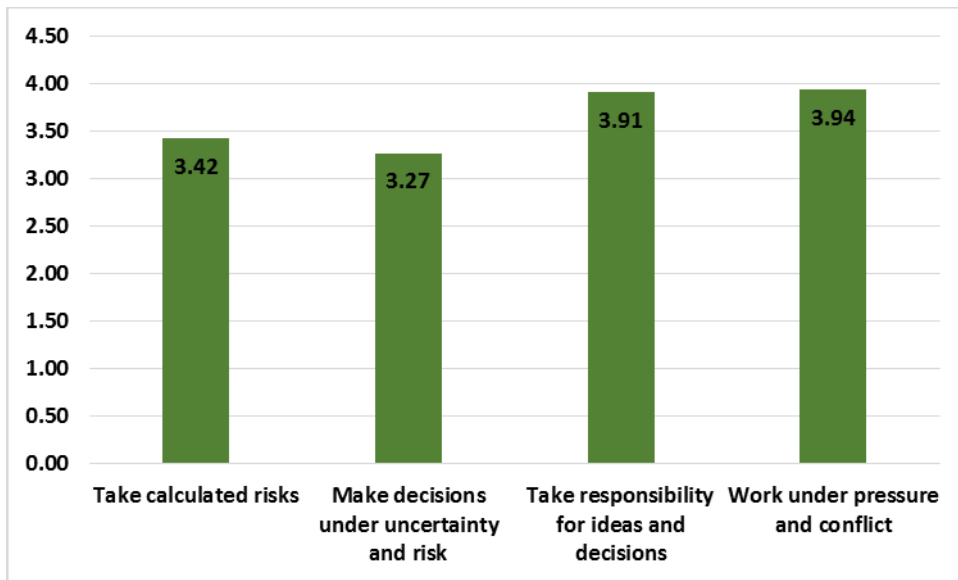
The findings in Table 11 indicate that Innovation is positively correlated (at  $p \leq 0.05$ ) with Financial Control (ESE) and with Know-who (KF). Innovation is significantly (at  $p \leq 0.01$ ) and positively correlated with Risk-taking (ESE).

Figure 39 - Entrepreneurial Self-Efficacy (Management)



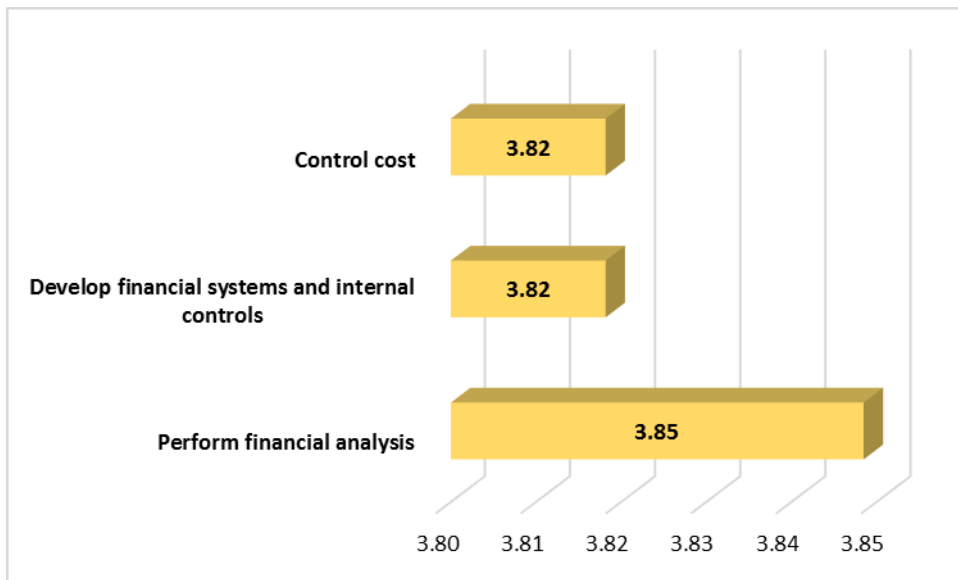
The findings in Table 11 indicate that Management (ESE) is positively correlated (at  $p \leq 0.05$ ) with Risk-taking (ESE).

Figure 40 - Entrepreneurial Self-Efficacy (Risk-taking)



The findings in Table 11 indicate that Risk-taking (ESE) is positively correlated (at  $p \leq 0.05$ ) with Financial Control (ESE).

Figure 41 - Entrepreneurial Self-Efficacy (Financial Control)

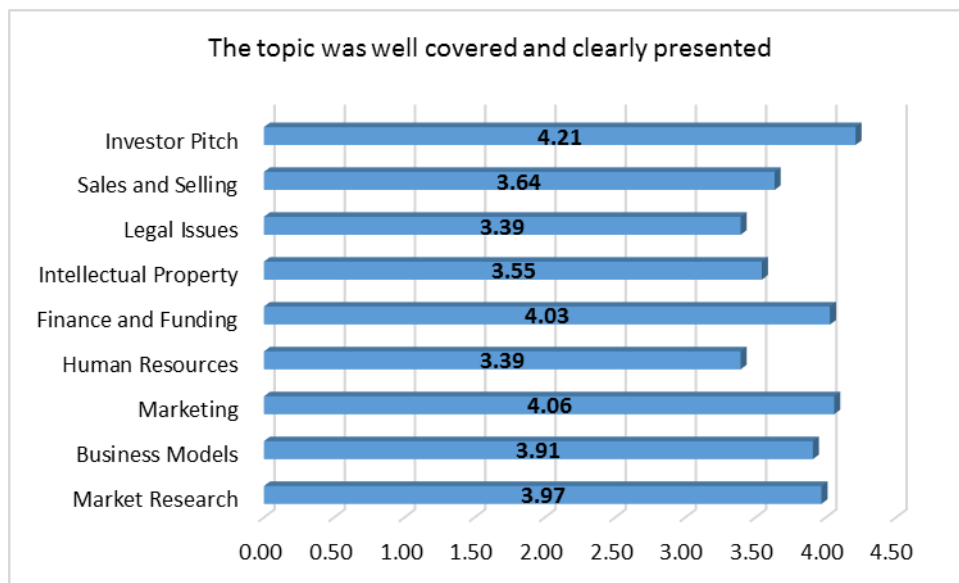


The findings in Table 11 indicate that Financial Control (ESE) is positively correlated (at  $p \leq 0.05$ ) with Know-what, Know-how, and Know-who (KF).

#### 4.6.5 Knowledge Framework (KF)

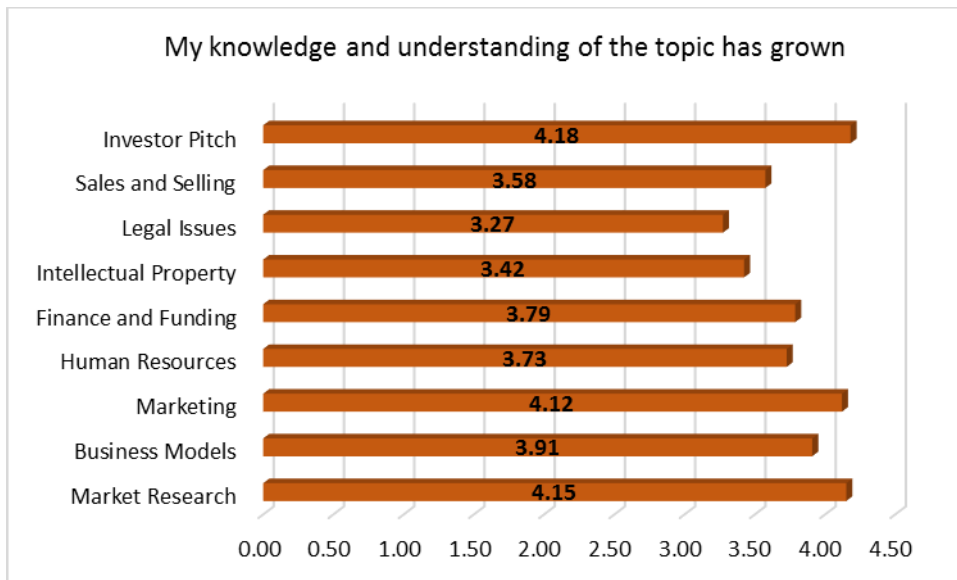
The Knowledge Framework is represented in this case by a set of three statements adapted from Kirkpatrick's (1976 p.31) four levels of learning. Each statement represents a component of the knowledge framework.

Figure 42 - Knowledge Framework (Know-What/Module Content)



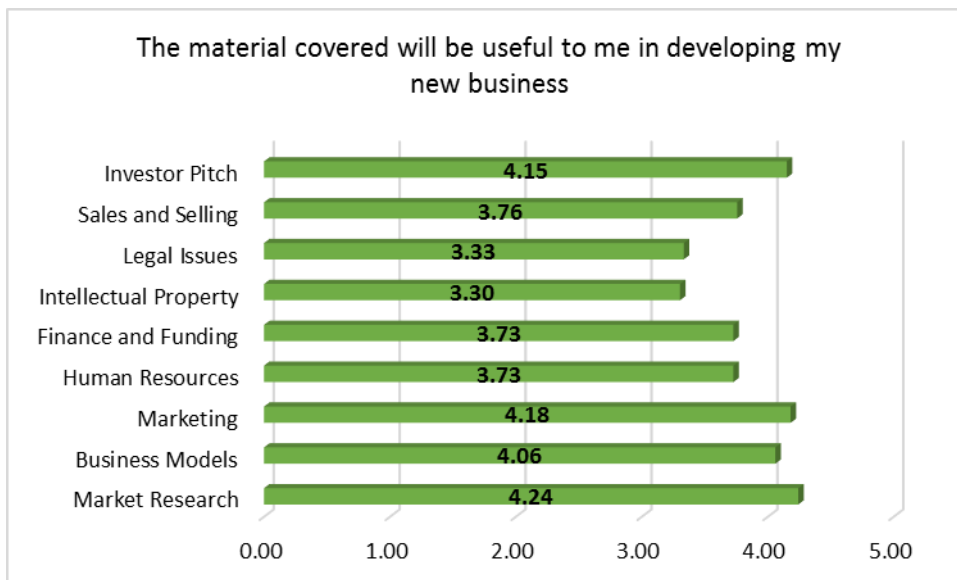
The findings in Table 11 indicate that Know-what is significantly (at  $p \leq 0.01$ ) and positively correlated with Know-how and Know-who (KF).

Figure 43 - Knowledge Framework (Know-How/Skills)



The findings in Table 11 indicate that Know-how is significantly (at  $p \leq 0.01$ ) and positively correlated with Know-who (KF).

Figure 44 - Knowledge Framework (Know-Who)



The findings in Table 11 indicate that Know-who is significantly (at  $p \leq 0.01$ ) and positively correlated with Knowledge Framework Aggregate.



#### 4.7 Summary of Quantitative Findings

A number of analytical tools were used to analyse the quantitative data collected in this research to provide further reliability and validity. It also provided an opportunity to explore the value of enterprise start-up initiatives from a broader range of participants across three cohorts of the New Frontiers Development programme in one region. This provides the basis for further testing across a wider range of regions in future research.

Summary of the Significant Correlations that emerged between the different Variables	
➤	Subjective norm is <b>positively</b> correlated with Entrepreneurial Self-Efficacy aggregate.
➤	Attitude to venture creation is <b>positively</b> correlated with Financial Control (Entrepreneurial Self-Efficacy), and with Know-what and Know-who of the Knowledge Framework.
➤	Attitude to venture creation is <b>significantly and positively</b> correlated with Scan (Entrepreneurial Alertness), Marketing (Entrepreneurial Self-Efficacy), and with Know-how (Knowledge Framework).
➤	Scan (Entrepreneurial Alertness) is <b>positively</b> correlated with Management and Financial Control (Entrepreneurial Self-Efficacy), and with Know-what and Know-how (Knowledge Framework).
➤	Scan (Entrepreneurial Alertness) is <b>significantly and positively</b> correlated with Marketing (Entrepreneurial Self-Efficacy).
➤	Evaluation (Entrepreneurial Alertness) is <b>significantly and positively</b> correlated with Financial Control (Entrepreneurial Self-Efficacy).
➤	Marketing is <b>positively</b> correlated with Know-what (Knowledge Framework) and <b>significantly and positively</b> correlated with Financial Control (Entrepreneurial Self-Efficacy).
➤	Innovation is <b>positively</b> correlated with Financial Control (Entrepreneurial Self-Efficacy) and with Know-who (Knowledge Framework).
➤	Financial Control (Entrepreneurial Self-Efficacy) is <b>positively</b> correlated with Know-what, Know-how, and Know-who (Knowledge Framework).

Table 12 – Summary of Significant Correlations

The significant correlations displayed in table 12 illustrate that the quantitative findings of this study concur in the main with the literature to date. These will be discussed in more detail in chapter five, discussion of the research findings.

## Chapter 5 Discussion of Research Findings

### 5.0 Introduction

The Literature Review highlighted that there is a need to examine entrepreneurship education (EE) and training initiatives and that this is well documented. However, effectiveness studies are limited and frameworks for evaluating entrepreneurship education programmes (EEPs) are considered broad owing to the wide variety of circumstances, objectives, methods, and teaching approaches that are present. The review of literature also proved that the majority of EE research takes place in business schools and undoubtedly reveals the lack of research on andragogic audiences. Evaluation criteria and measurement of its efficacy emerged as crucial. The base criteria of the mixed methods entrepreneurial learning framework (MMEL) featured in the conceptual framework and evolved directly from a combination of previous studies identified in the literature. The mixed methods approach employed and the process of triangulation will expedite the integration and connection of findings from both the qualitative and quantitative research findings to provide a structured discussion on the emergent themes. These emergent themes are aligned to the research objectives and questions and underpinned by the MMEL and thus the conceptual framework (see table 13).

Conceptual Framework (CF)	Research Questions(RQs)	Emergent Themes
<b>Methods and Practices in Enterprise Start-Up Initiatives</b>	<i>How effective are the strategies employed by the various stakeholders to infuse entrepreneurial learning throughout the entire programme?</i>	<ul style="list-style-type: none"> <li>▪ Stakeholder Perceptions and their role in the Learning Process.</li> </ul>
<b>Entrepreneurship: An Evolving Definition</b> <b>The Entrepreneurial Mind-Set</b>	<i>Does entrepreneurial learning have a positive impact on the entrepreneurial mind-set and behaviour of participants of Enterprise Start-up initiatives?</i>	<ul style="list-style-type: none"> <li>▪ Stakeholder Know-How, Methods, and Practices employed.</li> <li>▪ Programme Participants examined through the MMEL.</li> </ul>
<b>Models of EE</b> <b>International Models of Best Practice</b>	<i>What approach to learning can be used to instil enterprise successfully in Enterprise Start-up initiatives in order to cultivate successful enterprise founders?</i>	<ul style="list-style-type: none"> <li>▪ Stakeholder Communications.</li> <li>▪ Programme Development.</li> </ul>

Table 13 - Positioning of CF to RQs and Emergent Themes

## 5.1 Stakeholder Perceptions and their Role in the Learning Process

The literature indicated that education for start-up, and the development of entrepreneurial competencies require enterprise trainers to be 'facilitators of learning' as championed by the European Commission (2011). The trainer findings demonstrate that skills similar to adaptability, practicality, and creativity, where they sometimes teach, sometimes facilitate/coach, and sometimes train are prominent in the methods and practices employed by the trainers in the New Frontiers Development programme in County Kerry. The findings concur with Cooney and Murray (2008) and Gibb (1996), where the enterprising approach requires the trainer to be flexible and responsive to the needs of the participants. Significantly, the findings demonstrate that professional trainers deliver the workshops applying knowledge and practical experience in specific topics. All five trainers are actively involved in the day-to-day running of their own businesses. They are entrepreneurs themselves and perceive their role in the learning process as 'facilitators of learning' giving credence to the European Commission's (2011) recommendation for enterprise educators. The findings provide a great deal of evidence that the trainers keep up to date in their respective fields by reading relevant literature, attending industry seminars and staying abreast with social media and changes in technology through their interactions and practice with private clients and the New Frontiers Development programme participants.

As trainers, they assist in the identification of gaps in participant knowledge and practice. This was exemplified by Tang et al. (2012) in the literature when he discussed Kirzner in the 1970s and the advancement of research on entrepreneurial alertness describing alert individuals as having 'antenna' that facilitate the identification of gaps with limited clues. The quantitative findings demonstrated that the scanning and search entrepreneurial alertness asset 'scan' is positively correlated with the 'financial control' component of entrepreneurial self-efficacy and with the 'know-what' and 'know-how' components of the knowledge framework. This reveals the power of entrepreneurial alertness and the benefits of the know-what and know-how components. As facilitators, the trainers guide the participants in the practice of addressing problems and in the role of coach; they provide feedback on methods of addressing those problems. As Collins and Robertson (2003) determined, if the participants are going to be self-employed,

they need to think for themselves and solve their own problems. Effective facilitation methods can greatly enhance the unearthing of ideas and energy from the participants. The role of the facilitator, as illustrated in the literature, involves assisting the group to achieve a task, at the same time as keeping them on track and working towards consensus being mindful of boundaries. Boundaries must be set as delineated by Collins et al. (2006) in terms of the participant taking the primary role. They advocated that the facilitator must not get too involved and not force their own ideas on the participants. Birdthistle et al. (2007) alluded to the fact that people learn in different ways and that educators must be able to recognise and facilitate this process. All five trainers described themselves as having a combination of the aforementioned roles. This gives rise to the question; do they have the concomitant necessary know-how? That is the application of a diversity of teaching methods, which the literature indicates, requires a lot more personal skills than presenting alone. The 'why' of what is happening is finding the right balance between trainer, facilitator and coach and the know-how to apply a diversity of methods and practices. This is addressed in section 5.2 where stakeholder know-how and the methods and practices that they employ are discussed at length.

The literature revealed that entrepreneurial learning is communicated through a number of stakeholders or external parties. The role of the mentor is exemplified throughout the review and particularly in the international models of best practice. Overall, the interpretation of the findings demonstrate that the mentors are active entrepreneurs and business owners and adept at directing their mentees in using current and contextualised experience and information. The mentor profiles revealed that they are highly qualified and view their role as one of supporting and guiding the mentees to identify solutions. Collins et al. (2006) discussed the identification of solutions with synergistic learning where programme participants are encouraged to vocalise and interact with programme stakeholders and this can lead to the discovery of solutions to problems and the advancement of new ideas. This is parallel to what Tang et al (2012) described as entrepreneurial alertness. The mentors impart knowledge but also impart hands-on experience when they support the mentees to put structures in place. The findings highlight that the mentors see themselves as supporting the mentees in terms of direction and consider themselves as experienced and in a good

position to understand the mind-set of the mentee. This allows the mentees to relate to the mentors and facilitates the imparting of confidence. This is achieved through confirmation, acceptance, and continuous exposure to direct action and reflection. This continuous exposure to direct action and personal reflection is emphasized by Cope and Watts (2000) giving further confidence to the findings. Shaw (1995) also referred to the counselling of mentees and to how it develops a more self-assured sense of know-how and confidence in the entrepreneurial role of the mentee. The quantitative findings revealed that confidence skills were rated the second highest area of improvement experienced by respondents along with commitment to achieve. This finding resonates with Raposo and Paço (2011) where they concluded that entrepreneurship education bestows a sense of autonomy and self-confidence on its audience. Instilling confidence in the programme participants to apply new knowledge was an implicit and integral element in all three examples of the international models of best practice. Johannisson's (1991) taxonomy of entrepreneurial competences included self-confidence as part of the know-why component. The literature review revealed the first year of a start-up's life as the most determining factor for its survival. Carter et al. (2003) argued that the nascent entrepreneur lacks confidence and when this confidence in skills and knowledge is increased, it augments the chances of survival. The high rating achieved for improvement in participant confidence over the past three years is a positive result for the New Frontiers Development programme in County Kerry as it is a key element and goal of the nationwide programme. Commitment to achieve is implicit in its association with newfound confidence.

In the literature review, Rigg and O'Dwyer (2012) highlighted that entrepreneurial identity is developed and related to the interchange between participants and other external parties similar to trainers, mentors, and programme managers. The findings demonstrate that the programme manager is an integral stakeholder and he/she identified his/her role in the learning process as a blend between a facilitator, a guide, a coach, an advisor, and most importantly a pivotal point of contact for participants. Penaluna et al. (2012) concluded that active collaboration of opinions with parties such as the programme manager must be considered when it pertains to the objectives of the programme. Significantly, the programme manager discussed his/her role in the

coordination of workshops, trainers, mentors, guest speakers, and industry experts and how he/she monitors participant progress and deadlines. The quantitative findings revealed that seventy-one percent (71%) of programme participants over the past three years were very satisfied with the programme manager. These findings support Maritz and Brown's (2013) statement that programme managers need to take stock of all parties involved in EEPs and those external parties similar to the programme manager can have a direct or indirect influence on the outcomes of a programme.

## 5.2 Stakeholder Know-How, Methods and Practices

Gibb (1996) suggested that the teaching of entrepreneurship necessitates a practical approach, where information and knowledge are generated among participants. The trainer findings demonstrate that the trainers referred to the participating group as having an influence on both the content and delivery methods. Further analysis revealed that all of the trainers involved in the New Frontiers development programme in County Kerry employ practical approaches that involve interactivity and two-way communications similar to group work and discussions. This practical pedagogic approach was addressed at length in the literature and referred to as active learning or action learning (Krueger 2007). Tenenbaum et al. (2001) established that the fundamental thinking behind the action-learning approach is that the participant/student takes the primary role and the trainer/educator works as a coach or a facilitator of learning as opposed to the traditional teacher. It personifies the role of the facilitator where Hytti and O'Gorman (2004) asserted that the trainer encourages independent work from the participants. The findings from the trainer interviews make it visible, that the teasing out and generation of independent work, functions best when it is centred on activities. In the quantitative findings, activities akin to discussions and role-playing scored the highest ratings. Small group activities, paired activities, and peer reviews also scored well. These high scoring activities all fall under the theme of peer-to-peer learning. Agbim et al. (2013) referred to these types of activities in the literature. They concluded that group work and discussions assist the nascent entrepreneur to learn and practice how to address problems on their own.

Feedback from the trainers emerged as crucial. However, the findings demonstrate that opportunities for consultation after workshops is beyond the remit of the trainers employed in the programme in County Kerry. The majority of respondent trainers did not agree with this strategy and make themselves available to participants through a variety of other channels. Graves (1998) alluded to feedback and its subsequent employment as vital for the entrepreneurial mind-set. It expedites reflectivity where the participant can consider strategies in relation to what to focus on. Significantly, the findings determined that the mentor mentee relationship is an activity of guiding participants to prepare, execute, and reflect upon their business activities. The participating mentees reported on how working with experts helped them to address problems and this is exemplified by Agbim et al. (2013) when they concluded that entrepreneurial learning is best achieved when tacit knowledge is acquired from having extensive know-how in an activity and best acquired while working with experts. These interactions with mentors were highlighted by Williams Middleton (2013) in the creation of entrepreneurial identity. Each participant is a nascent entrepreneur in the process of developing entrepreneurial identity at the same time as being influenced by social norms (know-why and know-who) in relation to the embodiment of the role of founder. The quantitative findings demonstrated that innovation is positively correlated with know-who exemplifying the power of social interactions with experts.

Lubit (2001) referred to active learning strategies as a key part of instilling judgement. Judgement was discussed by Tang et al. (2012) where they argued that it is an essential component of entrepreneurial alertness. It is associated with the development of schematics, which allow individuals to plan and comprehend knowledge, and particularly in the case of emergent start-ups. The quantitative findings demonstrate that participants on the programme over the past three years gave high ratings for practical tools gained to improve their start-ups. Five key areas of the programme content were included with marketing tools and planning and operations tools scoring the highest. These results infer that the trainers are adept in conveying the practical aspects of these subjects. Marketing was found to be positively correlated with know-what and significantly and positively correlated with financial control. These results

demonstrate an increased proficiency in entrepreneurial self-efficacy on the part of the respondent participants.

Reflective action emerged as a key method employed by the trainers involved in the programme in County Kerry. It promotes ownership of learning using learning logs and periods for reflection. This finding is supported by Tseng (2013) where he described it as self-directed learning. Self-directed learning emerged as an important area of inquiry in relation to entrepreneurial learning and entrepreneurial performance. The literature revealed that entrepreneurial learning necessitates a different approach. It is best taught through experiential learning. One of the respondent mentors described the process of explaining to the mentee what to do and then giving reasons for the impact that this can have on their business. The mentee has time to carry out the action and then reflect on it prior to the next mentor mentee meeting. Learning by doing or experiential approaches were cited by Johannisson (1991) as integral components to enterprise start-up initiatives. The Go-Grow accelerator programme in Denmark referred to the use of individual learning logs, and individual reflection as key learning methods. Systematic reflection was cited by Blenker et al. (2006) as an essential ingredient in entrepreneurial learning where links are understood to exist between learning and doing. The findings revealed that the trainer responsible for the delivery of the Presentation and Pitching skills workshop employs experiential learning methods throughout his/her sessions. He/she explained how this facilitates exposure to direct action and reflection on all of the presentation and pitching skills exercises. The quantitative findings revealed that following participation on the programme, pitching skills rated highly at a mean value of 4.36 signifying that the majority of participants were either satisfied or very satisfied with their acquisition of pitching skills. Jones and Iredale (2010) concluded that the implementation of an enterprising approach to learning is further strengthened by experiential learning which facilitates greater student ownership of the learning process. Agbim et al. (2013) stated that it takes an individual an exceptionally long period to decipher which factors to look at, which to ignore, and what are the connections between the key factors. The experienced mentor can smooth this process and identify solutions that the mentee may not have considered. The psychosocial characteristics of the mentee are key and are facilitated



through role modelling the mentor. Shaw (1995) determined that receiving acceptance and confirmation from the mentor encourages the mentee's sense of their own abilities. The mentee is counselled to develop a more assured sense of know-how, confidence, and effectiveness in his/her entrepreneurial role.

The matching of mentors according to the literature facilitates participants to test their abilities and illustrates learning through negotiated experience. The quantitative findings revealed that over sixty-seven per cent (67.2%) of programme participants were very satisfied with their matched mentors' relevant knowledge and experience. The qualitative mentor/mentee findings uncovered methods and practices such as slowing the mentee down, unearthing hard questions and promoting discussion and planning. Cope and Watts (2000) asserted that nascent entrepreneurs work in different business contexts and have highly individualised needs and therefore mentors and mentees must be carefully matched. Shaw (1995) concluded discussion as a critical tool in the mentor mentee relationship and described the process as focussed, flexible learning and generally a worthwhile experience for both sides. Both individuals can benefit from the relationship, which has the capacity to intensify professional and psychosocial development in both individuals. Activities such as meetings, two-way discussions, knowledge sharing, working together, and listening and questioning are methods and practices employed by both of the respondent mentors. Activities parallel to these were cited by Shaw (1995) as facilitating exposure and visibility for both parties.

The literature indicates that entrepreneurial learning occurs through a combination of action learning and verbal exchanges. The mentor/mentee findings demonstrate that the relationship between the mentor and the mentee is more beneficial when the mentee can relate to the mentor and particularly when both parties are in the same line of business. The literature equates this to role modelling. The personal characteristics of the mentor together with their methods of promoting entrepreneurial learning can influence and augment the learning process for the mentee through encouragement, support, and affirmation. Methods and practices employed by mentors similar to discussions via meetings and sharing of knowledge were suggested by St-Jean and Audet (2012) as crucial for the development of the mentee. The findings describe one of the

respondent mentors as taking a hard-line approach and this is emphasised in the literature, where legitimacy can only be granted for the mentee through interaction with critical stakeholders. Rigg and O'Dwyer (2012) asserted that entrepreneurial identity emerges through this interaction and the periods of reflection after meetings with mentors and other stakeholders are critical.

Both Rae (2005) and Williams Middleton (2013) cited the articulation of entrepreneurial intention as the social aspect, the know-why that feeds the 'I can do this'. The know-why and know-how are heavily reliant on continued support. Lepistö and Ronkko (2013) concluded that enterprise educators, mentors, and programme managers have a central role in the development of entrepreneurial mind-sets and competencies. Unlike traditional approaches, it is not just a question of knowledge acquisition (know-what/content). The European Commission (2011) report revealed that entrepreneurial or enterprising competencies (know-how/skills) are best learned through people led (know-who/programme stakeholders) training initiatives that support the participants to transform ideas into action and ultimately into viable start-ups.

### 5.3 Programme Participants examined through the MMEL

The ***know-when*** capability was described in the literature as the optimal time to take a leap of faith and do something about starting a business. Background and social norms were shown to be fundamental to this decision. Fayolle and Gailly (2008) concluded that the know-when capability is parallel to taking advantage of the identification of an entrepreneurial opportunity, which is in harmony with the individual's personal profile. It suggests recognition of the moment in an individual's life, when it is both possible and suitable to take on an entrepreneurial venture. The quantitative findings revealed that multiple age groups participated in the programme in County Kerry over the past three years. These background results provide an opportunity for more insights into the effects of EE on more mature audiences aligned to andragogy as proposed by Maritz and Brown (2013).

Tertiary level educational qualifications prior to programme engagement also featured highly in the results. Matlay and Westhead (2004) asserted that EE is the most effective means to expedite the shift of a growing graduate population from tertiary level into self-employment or employed remunerated work. Twenty-seven percent (27%) of participants were self-employed prior to commencement of the programme while nine percent (9%) of participants reported themselves as business owners. Earlier research reveals that experience in smaller businesses provides more extensive, richer, and comprehensive business experience than in larger organisations. Matlay and Carey (2007) concluded that being self-employed or working in a small firm facilitates experiential and action learning and can contribute to a higher predilection for employees to attempt a changeover into self-employment. Furthermore, forty-six percent (46%) of participants reported themselves as employees and as Gibb (1996) asserted, when the freedom to practice entrepreneurial behaviour within an organisation is inhibited, it can lead to a search for independence and, thus to business start-ups. Six percent (6%) of participants reported unsuccessful business ventures. The Small Firms Association (2016) suggested that entrepreneurs, who have failed in the past, have a higher probability of success in subsequent ventures. Seventy-five percent (75%) of respondents reported working in smaller businesses/firms at some point in their working lives.

The quantitative background results brought to light the parental occupations of participants. Over thirty-three per cent (33.3%) of respondents have parents who are self-employed business owners while over nine percent (9.1%) of parents of participants were self-employed. The literature revealed that early influences and motivations are founded within background, society, and culture and start at the grass-roots levels similar to education, family, and role models. Garavan and O’Cinneide (1994) established that growing up in an entrepreneurial environment, having relevant education, and gaining work experience are all beneficial. Background factors are key to the subjective norms variable as demonstrated by the Heuer and Kolvereid (2014) study in the literature. In this study, several control variables such as gender and the entrepreneurial background of parents were utilised. Subjective norms were measured using a set of questions concerning family, friends and significant others.

Mwasalwiba (2010) asserted that intentions are made up of constructs parallel to attitudes, subjective norms, and entrepreneurial self-efficacy and can be used to measure the impact of an entrepreneurship education intervention. According to Fayolle et al. (2006), the concept of perceived behavioural control (PBC) is similar to the notion of perceived self-efficacy. Boyd and Vozikis (1994) have demonstrated that intentions of business creation are stronger when the degree of self-efficacy develops due to the existence of an entrepreneurial role model and when influences come from several close relatives, which is aligned to subjective norms. Therefore, the finding in this study that subjective norm is positively correlated with entrepreneurial self-efficacy concurs with the literature.

Williams Middleton (2013) described the social aspect of the *know-why* capability in terms of the articulation of personal logic and reasoning. The voice inside oneself affirms a want or intention to do something. Earlier research has shown that family and business backgrounds can play an important role in influencing entrepreneurial behaviour. One of the programme participants discussed the fact that both his/her parents were self-employed and the positive influence this had on his/her decision to start a business. Studies on entrepreneurial intentions were highlighted in the literature. Douglas and Shepherd (2002) asserted that attitude to autonomy in

particular was found to be related to entrepreneurial intention. The programme participant reported how he/she always wanted to be an entrepreneur/own his/her own business and this response exemplifies the literature where Johannisson (1991) concluded that individuals who want to begin an entrepreneurial career are revealed as personally motivated and committed in relation to their own capability. When nascent entrepreneurs and entrepreneurs demonstrate alertness to opportunities, i.e. identification of an opportunity/start-up, their attitude to venture creation is intrinsic in its identification, therefore the finding in this study that attitude to venture creation is significantly and positively correlated with the *scan* element of entrepreneurial alertness (EA) concurs with the literature.

The literature described the *know-what* capability in terms of the knowledge that an individual needs to start-up a new enterprise. This knowledge is made up of the different subject areas or module content covered by an EEP or it can manifest itself in soft skills akin to networking, which is implicitly gleamed through contact with the various stakeholders involved in the programme. All five of the subject areas covered on the programme scored well for practical tools to improve the business start-up. The mean value of 4.45 signified that the majority of respondent participants were either satisfied or very satisfied with the networking skills acquired following participation on the programme in County Kerry. The literature was profuse with references to the importance of networking to entrepreneurship. Johannisson's (1991) taxonomy of entrepreneurial competences cited the networking capability as part of the know-who component and Wilkinson et al. (1996) maintained that both new and established businesses need to sustain and engage in networking activities to secure external and complementary means to achieve outcomes that otherwise would not happen. All three examples of the international models of best practice referred to networking as a crucial element for their programme participants and Aldrich and Zimmer (1986) determined that networking is an essential prerequisite for entrepreneurial success.

The quantitative findings also revealed that participants rated pitching skills highly for the past three years. The importance of the pitch was referred to in the literature by all three examples of the international models of best practice. The Speed Plus programme in the UK employed the pitch during the recruitment process and pitches were a weekly feature where participating teams pitched to other teams. Participants at MIT's Delta V programme pitched their ideas to investors in three cities across the United States culminating in Demo Day, their grand finale and the Go-Grow programme in Denmark ended their programme with a D-Day finale where pitches were employed to secure funding. At the end of phase two, participants of the New Frontiers Development programme pitch to the most relevant funding supports for their businesses. The high rating for pitching skills improvement in participants over the past three years is a positive result for the programme in County Kerry as it is also a key element of the nationwide programme.

Agbim et al. (2013) described the *know-how* capability as the understanding and subsequent application of knowledge that facilitates methods of handling a variety of circumstances. Ardichvili et al. (2003) asserted that the know-how capability builds on prior experience and guides the nascent entrepreneur to practical revisions of business concepts and decisions. The qualitative findings revealed that the programme participants reported on new skills akin to the acceleration of planning and operations projects as direct result of the programme workshops. This exemplifies the know-how capability. The literature demonstrated how metacognitive experience or the capability of know-how permits individual experiences to act as a conduit through which earlier memories, perceptions, and feelings are used to make sense of the task in hand. Haynie et al. (2010) concluded that the know-how capability embodies the effective use of 'knowing how' decisions are going to manifest. One of the programme participants referred to this capability as giving him/her a sense of safety. Alwis and Hartmann (2008) explained the know-how capability as the practical application of knowledge, presenting itself in individual skills. Middleton and Donnellon (2014) alluded to action-based learning and how it is centred on a combination of the know-what and know-how in terms of the knowledge and practical skills a nascent entrepreneur requires to perform entrepreneurial tasks.

The literature referred to the *know-who* capability in terms of its relationship to and impact on the know-what and know-how capabilities. Fayolle and Gailly (2008) concluded that the know-who capability represents the external parties or stakeholders who can convey and engender knowledge, skills and valuable networks in any given context. In the context of the New Frontiers development programme in County Kerry, the qualitative findings revealed a notable paucity in the assembly of good quality background information on the participating start-up founders. This has implications for the trainers, mentors, programme management and the panel review team as the literature illustrated that valid information is an important component in the intervention process and established that communication is fundamental to breeding entrepreneurial success (Chen et al. 1998, Johannisson 1991). Penaluna et al. (2012) asserted that consideration is required in relation to the active co-operation and exchange of information between stakeholders.

The programme participants reported conflicting opinions on whether all the trainers had entrepreneurial experience and which trainers had done their homework on them and on their start-up. The matching of mentors emerged as a complex activity and communication around the options for mentors were not always made clear. Agbim et al. (2013) alluded to the effective transfer of tacit knowledge and that it requires extensive personal contact, regular interaction, and trust. The absence of consultation with trainers highlights the practice of periods of reflection. These periods of reflection are internalised by the individual. However, both Rae (2005) and Williams Middleton (2013) conclude that dialogue with others i.e. trainers and other integral stakeholders (know-who) shape and legitimise these periods of reflection.

#### 5.4 Stakeholder Communications

The qualitative findings revealed that the participating trainers reported that they have no knowledge of who the other trainers are or what modules they deliver. No opportunity exists where trainers can meet and collaborate with other trainers prior to the delivery of the programme. Communications between the trainers and other stakeholders emerged as an area of concern. Both Chen et al. (1998) and Johannisson (1991) alluded to active communications. Active communications could generate insights and the exchange of ideas between all the stakeholders. Promotion of scheduled communications between stakeholders could enrich the development of entrepreneurial capabilities and could have an unequivocal impact on the learning environment. As already pointed out in the know-who capability, a more detailed profile on the participant would serve to inform trainers, and other integral stakeholders to give them an indication of how ready the participants are in terms of their business idea and their start-up goals. Edgcomb (2002) concluded that instrumental readiness is integral because students and participants have clarity in relation to their business goals and vision. It is significantly linked to the attitudes, backgrounds, and alertness of the participants. Collins and Robertson (2003) asserted that students and participants of EEPs present themselves at differing stages of instrumental readiness and their antecedent experiences have an important influence on their entrepreneurial intentions. In terms of the MMEL framework, it forms part of the know-why component.

The literature revealed that applicable and usable information are significant elements in the mentor/mentee intervention process. The qualitative findings exposed the lack of adequate information that the participating mentors receive in relation to the mentees prior to meeting with them. More communication and organisation within the programme structure was reported by the mentors to enable the mapping of mentee progress and the sharing of the same knowledge. The participating mentors suggested the need for more communication prior to the matching of mentors and mentees and pre-contract meeting with all parties involved were suggested as a time saving mechanism for all involved. Kristiansen and Indarti (2004) concluded that entrepreneurial intention could be explained by self-efficacy together with instrumental readiness, which they described as a contextual variable mirroring an individual's



position in relation to access to funds, networks, and most importantly valid information.

The programme manager qualitative findings revealed that the quality and quantity of participant information leveraged between phase one and phase two as significantly different. The programme manager cited the current feedback procedure for trainers as informal and communicated that the programme structure and process undergo several iterations and modifications of processes and procedures resulting from feedback. Chen et al. (1998) highlighted the importance of feedback when it pertains to performance. They asserted that self-efficacy impacts performance through interest, enthusiasm and persistence, while performance delivers feedback where self-efficacy can be further evaluated and enhanced. Middleton and Donnellon (2014) referred to the role of a coach or mentor in the literature as a facilitator. This role involved guiding the participant or mentee by facilitating feedback and dialogue. Thus, feedback has emerged as crucial and an area that must be addressed in the programme as it establishes thought-provoking methods for learning.

### 5.5 Programme Development

Given the nature of the stakeholder communication findings, the trainers described a more structured process after the initiation of the programme as key. Deeper, more informative profiles were suggested in relation to the programme participants and a more organised plan for coordination between the programme structure and the trainers. An overall awareness of the other modules and trainers was cited as useful because this would provide a more joined up view for all involved. It would go a long way to satisfy what Chen et al. (1998) referred to during the design phase of an EEP, that more emphasis is required on programme designers/managers to consider the attitudes and perceptions of their audience when embarking on the programme objectives. They asserted that an inadequate amount of resources is given to the cognition and belief habits of participants. Hytti and O’Gorman (2004) concluded that the effective operation of any EEP is contingent on what policy makers and educators understand about the various alternatives and objectives of enterprise education. Maritz and Brown

(2013) asserted that EEPs must be developed, not only with the objectives of the programme in mind, but in the context within which they operate. This is fundamental in relation to the programme in County Kerry considering the feedback from stakeholders on communications within the programme structure.

The literature review illustrated that self-efficacy is a key construct in Bandura's (1977, 1986) social learning theory where he explained that human behaviour is made up of a group of three factors including behaviour, cognitive and personal, and environmental events. Each factor affects and is affected by the other two. When an individual performs an action, this can change his/her environment and impacts how he/she perceives self and environment. However, the environment and his/her opinions of self and the environment can also influence his/her behaviour. Therefore, the programme environment is crucial in relation to entrepreneurial self-efficacy and performance. Crucially, respondents highlighted stakeholder communications as an area of concern and the researcher infers that this has a direct impact on the programme environment and the participants. Research carried out by Wood and Bandura (1989) among others concluded that self-efficacy is a useful and effective predictor of performance. Chen et al. (1998 p.298) concluded that performance and self-efficacy combined create "a cycle of mutual reinforcement". Self-efficacy impacts performance through interest, enthusiasm, and persistence, while performance delivers feedback where self-efficacy can be further evaluated and enhanced.

Both Chen et al. (1998) and Noel (2002) asserted that if we can understand how self-efficacy affects the propensity to start a new business and run it effectively, we could achieve a number of things. Mapping of the personal, behavioural, and environmental influences that prompt certain individuals to start a business could be carried out. This would enhance EEPs in the effective infusion of confidence in its audience to apply knowledge successfully.

## 5.6 Conclusion

The stakeholders involved in the delivery of training in the New Frontiers Development programme in County Kerry are flexible and responsive to the needs of the programme participants. They apply knowledge and practical experience in specific topics. All stakeholders are actively involved in the day-to-day running of their own businesses and perceive their role in the learning process as 'facilitators of learning' giving substance to the European Commission's (2011) recommendation for enterprise educators. The stakeholders involved in the delivery of training in the New Frontiers Development programme in County Kerry view their role as one of supporting and guiding the programme participants to identify solutions and actively:

- Assist in the identification of gaps in participant knowledge and practice.
- Guide the participants in the practice of addressing problems and provide feedback on methods of addressing those problems.
- Assist the programme participants in achieving tasks, at the same time as keeping them on track and working towards consensus.
- Direct the programme participants in using current and contextualised experience and information.
- Impart knowledge but also impart hands-on experience where they support the programme participants to put structures in place.
- Support the programme participants in terms of direction and consider themselves as experienced and in a good position to understand the mind-set of the programme participants.
- Develop a more self-assured sense of know-how and confidence in the entrepreneurial role of the programme participants.
- Impart confidence through confirmation, acceptance, and continuous exposure to direct action and reflection.
- Instil a sense of autonomy and self-confidence in the programme participants to apply new knowledge.

The stakeholders involved in the delivery of training in the New Frontiers Development programme employ the following methods and practices:

- Practical approaches that involve interactivity and two-way communications similar to group work and discussions.
- Activities akin to role-playing, paired activities, and peer reviews, which encourage independent work from the programme participants.
- Active/action learning strategies, which assist in the instilling of judgement, an essential component of entrepreneurial alertness and associated with the development of schematics, which allow individuals to plan and comprehend knowledge.
- Reflective activities, which promote ownership of learning i.e. self-directed learning.
- Experiential learning strategies, which facilitate exposure to direct action and reflection on activities akin to presentation and pitching skills.
- Interactive activities that facilitate programme participants to test their abilities and learning through negotiated experience.
- Activities such as meetings, two-way discussions, knowledge sharing, working together, and listening and questioning which help to slow programme participants down when necessary.

The literature review illustrated that academic research on entrepreneurship education (EE) is for the most part conducted on tertiary level students between the ages of 18-25 and brought to light the lack of research on adult audiences more aligned to andragogy. Multiple age groups participated in the programme in County Kerry over the past three years and thus, this research has taken an initial step into the study of enterprise start-up initiatives depicting a picture of an enterprise start-up initiative in a regional setting encompassing methods and practices more aligned to andragogy. The findings revealed that the programme participants displayed early influences and motivations founded within their societal and cultural environs. Education, family, role models, and work experiences featured importantly in the results. These results concur with the literature and highlight the role these antecedents play in influencing entrepreneurial behaviour

and instrumental readiness. The Programme participants reported favourably on increased entrepreneurial self-efficacy, autonomy and self-confidence following programme participation and interaction with the various programme stakeholders with the know-what and know-how capabilities featuring importantly. Stakeholder communications and feedback emerged as areas of concern and need to be addressed in future iterations of the programme. These are individually highlighted and addressed in chapter six where the research conclusions and recommendations are presented.

## Chapter 6 Conclusions, Limitations, and Recommendations

### 6.0 Introduction

This research examined the methods and practices applied in the delivery of training in enterprise start-up initiatives. This was achieved through an extensive and relevant literature review and an empirical investigation of the strategies employed by the various stakeholders involved in the delivery and management of training in the national Enterprise Ireland New Frontiers Development programme in the specific region of County Kerry. This chapter presents the conclusions, limitations, and recommendations of this study. It recommends areas for future research in the fields of entrepreneurship education and training and predominantly in enterprise start-up initiatives and accelerator programmes. The overall objective of this research was to determine the efficacy of the strategies employed by the various stakeholders involved in the delivery of training in Enterprise Start-up initiatives. In meeting the research objectives, the research has completed the following:

1. Analysed the entrepreneurial mind-set by means of the literature review and the empirical research carried out.
2. Identified and analysed the main theoretical models of entrepreneurship training via the literature review and the formation of the mixed methods entrepreneurial learning framework (MMEL).
3. Conducted an empirical investigation into the application and impact of different methods, practices, and styles of the enterprising trainers and other integral stakeholders on the entrepreneurial mind-set and the success of graduates of the New Frontiers Development programme in County Kerry.
4. Compared the effectiveness of the methods, practices, and styles applied in County Kerry with the different entrepreneurial learning strategies noted in the literature and in the international models of best practice.
5. Proposal of a model of best practice for delivering effective entrepreneurship training.

Secondary research carried out by means of the literature review established the significance of the relationship between entrepreneurship and economic growth and explained why entrepreneurship education continues to be viewed as highly relevant. It framed Ireland's position in relation to entrepreneurship and reported on its historical evolution of an enterprise tradition, where resources are allocated to prepare and educate potential entrepreneurs to identify opportunities in the environment. The literature uncovered and critiqued the breadth of knowledge on the entrepreneurial mind-set demonstrating the power it can achieve for thinking and acting in highly uncertain environments. It exemplified a lacuna of theoretical and empirical research on evaluation frameworks to measure the effectiveness of entrepreneurship education programmes (EEPs) and particularly, the marked absence of research on enterprise start-up initiatives and accelerator programmes. These gaps in the literature required the researcher to examine the entrepreneurship/enterprise education and training phenomena including concepts, theories, models, and frameworks associated with entrepreneurial knowledge and learning. Frameworks for evaluating EEPs and international models of best practice were studied and described. These themes and concepts assisted the researcher in the identification of the Maritz and Brown (2013) framework, which was employed concomitantly with the mixed methods entrepreneurial learning (MMEL) framework for the research design. The MMEL was devised and utilised by the researcher for both the qualitative and quantitative aspects of the research to answer the research objectives and questions. Primary research was conducted on the New Frontiers Development programme in County Kerry to determine:

- I. How effective are the strategies employed by the various stakeholders to infuse entrepreneurial learning throughout the entire programme?
- II. Does entrepreneurial learning have a positive impact on the entrepreneurial mind-set and behaviour of participants of Enterprise Start-up initiatives?
- III. What approach to learning can be used to instil enterprise successfully in Enterprise Start-up initiatives in order to cultivate successful enterprise founders?

Section 6.1 will address these questions in describing and discussing the research conclusions.

### 6.1 Conclusions of Research

The research findings revealed that the New Frontiers Development programme in County Kerry embodies many of the best practices described in the literature and particularly in the international models of best practice. The programme is people-led and incorporates several of the pedagogies and strategies characterised in the literature. Learning is transmitted by several stakeholders, involved in the delivery and management of training within the programme concurring with Agbim et al. (2013) that entrepreneurial learning is posited on the fact that acquiring tacit knowledge requires substantial experience in activities while working with experts. The overall conclusions will be addressed relative to the key questions identified at the outset of this study:

***How effective are the strategies employed by the various stakeholders to infuse entrepreneurial learning throughout the entire programme?***

#### *Profile of Programme Stakeholders*

The trainers, mentors, and programme manager (programme stakeholders) are highly qualified individuals with combined years of experience in varying size businesses and industries here in Ireland and abroad. They are entrepreneurs themselves and keen to stay current in their respective fields. Continuous professional development and training is high on their agendas. They actively seek new and relevant knowledge and practice and possess personal skills, which include flexibility, responsiveness, and practicality. The programme stakeholders are capable of guiding participants using current and contextualised experience and information and collectively embody the role that the literature described as 'facilitators of learning'.



### *Pedagogies*

The trainers and mentors apply effective and appropriate enterprising pedagogies and strategies in the delivery of training. Methods include action learning, experiential learning and synergistic learning techniques concurring with the most appropriate methods and practices described in the literature. Respondents of the online survey scored high satisfaction levels with all eleven 'areas of improvement experienced by participants'. The five subject areas for 'practical tools to improve the business start-up' also scored very well. These questions implicitly included the ability of the programme stakeholders to impart the practical aspects of these subjects thus, confirming that the methods and practices applied were more than satisfactory.

### *The Know-how and Know-what Capabilities*

The descriptive statistical results of the online survey demonstrate that the know-how and know-what capabilities were significantly augmented following participation on the programme. These findings are further reinforced by the positive correlations in respondent results for entrepreneurial alertness and entrepreneurial self-efficacy with the know-what and know-how capabilities. Therefore, it can be inferred that the programme stakeholders effectively communicated techniques, tools, methods, and practices to infuse entrepreneurial learning throughout the entire programme.

### *Consultation between Trainer and Participant*

Consultation, a key element in synergistic learning emerged as markedly absent from the programme as the programme structure does not facilitate trainer and participant consultations. More than one session with each trainer would be optimum and the facilitation of one-to-one sessions for participants and trainers to enable consultations would be advantageous.

### *Collective Action for the Direction of Educators*

Concepts associated with synergistic learning approaches parallel to cooperation and collective action did not emerge from the findings. Collective action is part of the synergistic approach where a group of nascent entrepreneurs create and carry out their plans without the direction of educators (Collins et al. 2006).

### *Programme Resources*

Traditional props and tools akin to case studies and slide decks are used for participant engagement methods. However, learning logs were employed and emerged as facilitating ownership of learning and promotion of reflection, which are key elements in experiential learning methods.

### *Limited Time of Individual Trainer Involvement*

The majority of trainers are employed to deliver a one-day workshop. This restricts the trainer's ability to assess participant's learning and progress. The trainers had no knowledge of the diagnostic tool currently deployed by the programme.

### ***Does entrepreneurial learning have a positive impact on the entrepreneurial mind-set and behaviour of participants of Enterprise Start-up initiatives?***

#### *Enterprise Educators play a Key Role*

A critique of the literature concludes that enterprise educators have a central role in the development of entrepreneurial mind-sets and competencies. It is not just a question of knowledge acquisition, (know-what/content). The literature reveals that entrepreneurial or enterprising competencies (know-how/skills) are best learned through people led (know-who/programme stakeholders) training initiatives that support the participants to transform ideas into action and ultimately into viable start-ups.

#### *Role of the Enterprise Development Programme in cultivating the Entrepreneurial Mind-Set*

Developmental experiences illustrated by one of the established entrepreneurs (E01) in the qualitative pilot findings revealed that E01 accelerated an entrepreneurial career on an enterprise development programme. The programme represents a critical developmental experience and this had a significant bearing and change in the cognitive structures of E01. This substantiates Krueger's (2007) assertion that individuals shift from a novice entrepreneurial mind-set to a more expert entrepreneurial mind-set when intervened by critical developmental experiences akin to the programme.

### *Understanding Opportunity Development requires Entrepreneurial Thinking*

A critique of the literature concludes that companies lacking sufficient levels of entrepreneurial activity may be due to an insufficient supply of opportunities perceived by the individuals within the company. This suggests a lack of 'entrepreneurial thinking', or the presence of an entrepreneurial mind-set. Having an understanding of how opportunities develop facilitates understanding of how new businesses develop.

### *External Engagement of Educators*

Extensive collaboration with colleagues was cited as an integral recommendation by the European Commission (2011) in relation to the importance of teacher education systems. Communication between the trainers and other stakeholders emerged as an area of concern particularly when it pertained to the other trainers and what modules they were delivering. Divergent trainer experiences were cited in terms of the quality and quantity of participant information. This is significant in the context of preparation. A more comprehensive participant profile is required to communicate integral information and avoid duplication or overlapping of content.

### *The Mentor as a Role Model*

The qualitative findings demonstrated that the mentors make a significant contribution to entrepreneurial learning. They support the mentees in terms of direction and given their extensive experience, they understand the mind-set of the mentee. The mentee can relate to the mentor facilitating the imparting of confidence. The psychosocial characteristics of the mentee are key and the mentee receives acceptance, approval, and affirmation, which instils confidence in the mentee. The mentee role models the mentor. The quantitative findings demonstrated that confidence scored highly in 'areas of improvement experienced by respondents' concurring with the literature that entrepreneurial learning bestows a sense of autonomy and self-confidence on its audience. The high rating achieved for improvement in participant confidence over the past three years is a positive result for the New Frontiers Development programme in County Kerry as it is a key element of the nationwide programme.

### *Structure of the Mentorship*

The growth of mentorship in entrepreneurship education training programmes reveals that boundaries must be made and are perhaps less easy to define. This indicates that there is a need to respond to this requirement and definitions and structures created.

### ***What approach to learning can be used to instil enterprise successfully in Enterprise Start-up initiatives in order to cultivate successful enterprise founders?***

#### *Mentor Background*

Mentors with a blend of functional area and entrepreneurial expertise emerged as the optimal type of mentors applicable to the programme in cultivating new entrepreneurs. Inadequate mentee profiles emerged as an area without structure. The sharing of adequate mentee profiles with the mentors can facilitate learning in cultivating enterprise founders. A more structured process can facilitate mentors to assess their own suitability and thus, assisting in the preparation of content and skills. Effective communications between the mentors and other stakeholders similar to the trainers and the programme management team would facilitate the sharing of knowledge on the progress of the mentee.

#### *Knowledge of Participant Pre-Training*

The sharing of participant feedback with the trainers emerged as an area without structure. The sharing of participant feedback with the trainers can facilitate learning in cultivating enterprise founders. A more structured process for effective coordination and communication between trainers and the programme structure is reported as being necessary to achieve this.

#### *Accreditation*

The trainers and the programme manager are generally not in favour of programme accreditation.

### *Mentor Engagement Pre-Programme*

Communications between the mentors and the programme structure surfaced as an area without structure. Pre-contract meetings between the mentors and the other stakeholders can facilitate learning in cultivating enterprise founders. A more defined procedure for the pairing of the mentors and mentees involving coordination and communication between mentors and the programme structure is reported as necessary to achieve this

## 6.2 Limitations of Research

The population selected for the empirical research consisted of a regional subset of the New Frontiers Development programme, specifically the research setting, County Kerry in the southwestern region of Ireland. As already described, the programme is accessible at campus incubation centres adjunct to 14 Institutes of Technology (IOTs) located throughout Ireland. However, each host IOT operates in a unique regional environment and susceptible to the strategic goals and policies, and the cultural and external forces of each regional market. Therefore, the programme and regional setting selected for empirical investigation is in itself a limitation as each of the additional 13 programmes and corresponding IOTs operate within their own particular environments. They too, are subjected to the individual policies and external forces unique to each regional market and culture.

The qualitative data yielded a large volume of data thus, presenting the researcher with the probability of personal bias, which can lead to misinterpretation of data. Whilst all participants were accommodating, they took care to portray the programme and their role as stakeholders in a positive manner. Therefore, the subjectivity of respondents' attitudes and opinions can cause a degree of bias. Every attempt was made to counter bias through triangulation. This expedited the amalgamation of research findings from both the qualitative and quantitative research from the perspectives of the programme stakeholders. Every situation during the observational research, micro-ethnographic shadowing, and in-depth interviews had a context and was positioned in a social environment. How these situations are viewed within, different social environments have an impact on the constructed understandings. These understandings are

constructed and executed through interpretation and are limited by subjectivity as in the researcher's own life experiences and limited by intersubjectivity through interaction with others where the researcher reconstructs the views of others through verbal and written text (Grbich 2013).

The mixed methods entrepreneurial learning (MMEL) framework was adapted from the literature and devised by the researcher to design the online questionnaire. Preferably, this research should have involved a larger sample size. The results from the research were contingent on 37 participants from three consecutive years of the New Frontiers Development programme in County Kerry where a random sample size of 33 was achieved. Albeit, the high response rate achieved, it represents a distinct limitation. The survey findings cannot be generalised to all New Frontiers Development programmes in Ireland and future research is recommended on a larger sample size. Continuous data analysis of both qualitative and quantitative methods were conducted throughout the research programme to assist in the circumvention of bias towards one method or the other.

## 6.3 Recommendations for the Development of Enterprise Start-Up Initiatives

### *Model of Best Practice*

The research drew attention to the marked absence of theoretical and empirical research on appropriate frameworks to evaluate the effectiveness of entrepreneurship education programmes and on the lack of research on enterprise start-up initiatives and accelerator programmes. This study has identified and proposed a Model of Best Practice accordingly (see section 6.3.1).

### *Recommendations for a Multi Discipline Mentor Team*

Mentors with a blend of functional area and entrepreneurial expertise emerged as the optimal type of mentors applicable to the programme in cultivating new entrepreneurs. Both types of mentor are advantageous. A multi-discipline mentor team is recommended.

### *Recommendations for a Multi Actor Programme Development Team*

Communications emerged as an area of concern in relation to the programme structure and programme procedures before during and after the programme. A multi-actor programme development team could examine and redefine these areas of concern and make recommendations for the development of the programme. A multi-actor programme development team is recommended.

### *Recommendations for a Multi Actor Delivery Team*

Communications between the trainers and other stakeholders emerged as an area of concern in relation to valid participant profile information and programme planning. A multi-actor delivery team could examine and redefine these areas of concern and make recommendations to enhance the preparation and quality of workshop/module content and avoid duplication of content. The distribution of programme scheduling and planning would assist trainers in their preparation for the delivery of content. A multi-actor delivery team is recommended.

### *Recommendation for a Need for Evaluation*

The research reveals that no standardised formal evaluation process for entrepreneurship education programmes and enterprise start-up initiatives exists. The absence of this prohibits evaluation of programmes of this nature. The development of a standardised evaluation process is recommended.

#### 6.3.1 Proposed Model of Best Practice

In view of the research findings of this study advanced through the operation of the Maritz and Brown (2013) and MMEL frameworks, the researcher recommends the following best practice framework for the effective delivery of entrepreneurship training. The Maritz and Brown (2013) framework has seven components which include context, objectives, audiences, content, pedagogy, assessment, and outcomes. The mixed methods entrepreneurial learning (MMEL) framework which originated from this research includes the know-why, know-what, know-how, know-who capabilities and entrepreneurial self-efficacy as perceived achievement. The model of best practice for the effective delivery of entrepreneurship training proposed in this study has evolved from both these models and has itself seven components. This model expands access and scope of a diagnostic tool to trainers and mentors and will enhance feedback, assessment and communications for participants and all stakeholders involved in the delivery and management of training in entrepreneurship education programmes (EEPs). It will alleviate logistical problems similar to travel and time constraints indicated in the research findings.



The seven components of the proposed model of best practice are environmental influences, contextual aims, learner profiles, contextual evaluation, knowledge transfer, learning landscape, and programme impact. Environmental influences represent the context in which the programme is being delivered. Contextual aims represent the wide diversity of programme objectives. Learner profiles represent the sociodemographically diverse audiences. Contextual evaluation represents stakeholder assessment, programme content assessment and assessment of the programme structure, which includes evaluation of processes and procedures between the interrelated components and stakeholders. Knowledge transfer relates to knowledge acquisition of the content of the programme. The learning landscape pertains to application of knowledge including practical pedagogies that are action learner-centred and experiential. Programme impact represents learner perceived achievement, results achieved, and hard metrics parallel to job creation structural funding supports. Table 14 illustrates the proposed model of best practice for the effective delivery of entrepreneurship training.

<b>Model of Best Practice for Delivery of Effective Entrepreneurship Training</b>	
<i>Components</i>	<i>Proposed Best Practice</i>
<b>Environmental Influences</b>	<ul style="list-style-type: none"> <li>▪ Where is the programme being delivered? Local, regional, national, international?</li> <li>▪ Educational level of Learners? Primary, Secondary, Tertiary?</li> <li>▪ State sponsored or commercial?</li> </ul>
<b>Contextual Aims</b>	<ul style="list-style-type: none"> <li>▪ Promotion of an enterprise culture.</li> <li>▪ Increasing the number of Start-ups.</li> <li>▪ Preparation &amp; development of individuals to become enterprise founders.</li> <li>▪ Instilling and development of entrepreneurial mind-set, intrapreneurship/entrepreneurship.</li> </ul>
<b>Learner Profiles</b>	<ul style="list-style-type: none"> <li>▪ Students across all levels of education.</li> <li>▪ Unemployed.</li> <li>▪ Start your own business.</li> <li>▪ People with disabilities.</li> <li>▪ Nascent entrepreneurs/Innovators.</li> <li>▪ Business professionals/Management.</li> <li>▪ Educators/Trainers/Lecturers/Facilitators/Coaches/Mentors.</li> </ul>
<b>Contextual Evaluation</b>	<ul style="list-style-type: none"> <li>▪ Programme design evaluation.</li> <li>▪ Participant assessment.</li> <li>▪ Satisfaction with programme elements sheets.</li> <li>▪ Trainer/educator/mentor/external contributors' assessment.</li> <li>▪ Methods &amp; practices assessment.</li> <li>▪ Programme structure evaluation.</li> </ul>
<b>Knowledge Transfer</b>	<ul style="list-style-type: none"> <li>▪ Knowledge participant needs. This is contingent on environmental influences, contextual aims, learner profiles, contextual evaluation, &amp; knowledge transfer components of the model.</li> <li>▪ Knowledge acquisition of content of programme applicable through subject areas / modules / content of programme</li> <li>▪ Key competencies/capabilities/skills intrinsic in knowledge content</li> </ul>
<b>Learning Landscape</b>	<ul style="list-style-type: none"> <li>▪ Application of knowledge by means of people-led enquiry &amp; discovery that facilitates methods of handling a variety of circumstances, contingent on all components of the model.</li> <li>▪ Action learner-centred, experiential, &amp; synergistic learning pedagogies, learning activities that apply practical approaches.</li> <li>▪ Facilitating, coaching, enabling of ideas into action, guiding participants to practical revisions of concepts, building on prior experience of participant.</li> </ul>
<b>Programme Impact</b>	<ul style="list-style-type: none"> <li>▪ Results achieved, an exhaustive list e.g. investor ready business plan, funding achieved, set-up ltd company, revised plans etc.</li> <li>▪ Learner perceived achievement in ability to perform module/subject related tasks &amp; skills given as a questionnaire at set intervals throughout the programme.</li> <li>▪ Hard metrics such as job creation, structural funding supports.</li> </ul>

Table 14 - Proposed Model of Best Practice

## 6.4 Recommendations for Future Research

The literature revealed that a dearth of research exists on enterprise start-up initiatives and accelerator programmes. This study provides a foundation for future researchers to conduct similar research on enterprise start-up initiatives and accelerator programmes here in Ireland and abroad. In order for the field of entrepreneurship education training in enterprise start-up initiatives and accelerator programmes to progress in a significant sense, the researcher has identified a number of areas that warrant further research and suggests the following recommendations:

### *Mature Participant Needs' Analysis*

Research on more mature audiences akin to andragogy is markedly absent from the literature (Maritz and Brown 2013). This research examined multiple age groups with participants from disparate backgrounds and at divergent levels of instrumental readiness and start-up stage on a regional sample. However, research on a larger scale would decipher the optimum methods and practices to be taught to differing audiences analogous to mature participants. This would provide opportunities for a more comprehensive understanding into the effects of entrepreneurship education on andragogic audiences.

### *Uniform Evaluation procedure for National Programme*

The evaluation process for programmes akin to the New Frontiers Development programme is suggested as an area to be further researched. The programme operates in fourteen regional areas of Ireland and the development of a standardised formal evaluation framework would facilitate comparison and assessment of the effectiveness and value of the programme nationally. This would inevitably provide invaluable data for policy makers and stakeholders working in the field of entrepreneurship education and training.

### *Social Networking*

Social networks have been determined as a vital element to all stakeholders involved in the delivery of training in entrepreneurship education programmes as evidenced throughout the literature, findings, and conclusions of this study. Research on formal networking exists but not to the same extent with regard to informal networking most notably social networking. Quantitative research similar to Birley (1985) or social network analysis (SNA) which incorporates quantitative research as utilised by Allen et al. (2007) is suggested to examine social networking activities amongst stakeholders. This would prove beneficial for stakeholder involvement and policy makers alike.

### *Continual Professional Development*

The findings revealed that all five trainers persevere with staying up-to-date in their fields with on-going professional development and actively seeking relevant knowledge and practice. This proved to have a positive result on the effectiveness of the methods and practices applied in the programme. The literature exposed the lack of on-going training for educators across all levels of education (European Commission 2011). Further research is suggested in the area of continuous professional entrepreneurship education training for educators across all levels of the educational system. This would present further research opportunities into the organisation, and structuring of such programmes including job shadowing for apprentices and on how these training programmes could be rolled out. If such a programme were rolled out, the 'ripple-down' effect it would have is another area of research suggested for future research.

### *Longitudinal Study on Impact of Entrepreneurship Training Programme*

A longitudinal study is recommended to assess the impact of entrepreneurship training programmes and to investigate the creation of an entrepreneurial culture. This would facilitate comparison and assessment of the effectiveness and value of entrepreneurship training programmes and provide valuable data beyond hard metrics for policy makers and stakeholders working in the field of entrepreneurship and enterprise.

#### *MMEL as a Mixed Methods Research Tool*

The mixed methods entrepreneurial learning (MMEL) framework is recommended as a Mixed Methods Research Tool for future research. It was adapted from the literature and devised by the researcher to design the online questionnaire and in the framing of the in-depth interview questions structure. It incorporated quantitative and qualitative approaches and given a larger sample size could facilitate the emergence of variables and themes for future testing and enquiry.

#### *MMEL as an Entrepreneurial Learning Framework*

The mixed methods entrepreneurial learning (MMEL) framework is recommended as an entrepreneurial learning framework for future research. It formed the basis for the examination of the methods and practices applied in the delivery of training in enterprise start-up initiatives. It facilitated the identification of relevant constructs and variables applicable to the theory and practice in the entrepreneurship-training field and laid the foundations for the development of the proposed model of best practice.

### 6.5 Contribution to Relevant Literature and Practice

This research and in particular, the conclusions, limitations, recommendations, and the proposed model of best practice, can act as a source of information for policy makers, practitioners, researchers, and collaborating agencies and academics both nationally and internationally on:

#### *A Tool for Evaluation of International Models of Best Practice*

The researcher utilised the seven components of the Maritz and Brown (2013) framework as a structure and guide in the examination of the international models of best practice in the UK, Denmark, and USA. The proposed model of best practice can be utilised to evaluate entrepreneurship training across a wide variety of contexts.

*Qualitative Research Technique: Value of Shadowing as Research Methodology*

Shadowing proved to be a valuable research technique during the exploratory phase of the research. The researcher shadowed two established entrepreneurs and two trainers specifically at their place of work. The shadowing phases allowed the researcher to observe them in their natural setting and observe ongoing behaviour. This enabled the researcher to focus in on the context of where the behaviour was actually happening but also enabled the researcher to observe the way in which each individual acted in response to what was going on around them. Observational records taken during the shadowing phases permitted the researcher to construct and direct more insightful and open-ended questions for the ethnographic interviews where rich and thick data emerged.

*Promotion, Use, and Expanding Access to the Programme Diagnostic Tool*

It is recommended to expand the access and scope of the programme diagnostic tool to all relevant stakeholders. This will enhance feedback, assessment and communications for participants and all stakeholders involved in the programme and alleviate procedural and logistical problems. It is recommended that participant milestone inputs/uploads should be incorporated on the trainers' and mentors' dashboard/access. An option for commentary/feedback for the trainers and mentors would be optimal.

*Recommendations for the Development and Promotion of Flexible Learning Options*

The development and promotion of flexible learning options and forums similar to on-line offerings, symposiums, and regional networking opportunities are recommended for entrepreneurship educators across all levels of the education system.

## 6.6 Conclusion

This study has revealed the positive value and impact of entrepreneurial learning methods and practices for enterprise start-up initiatives. Significant insights have been gained through the application of the MMEL, a mixed methods approach in its research design. The importance of a multi-stakeholder, programme development team, and the practice of interactive, real-world based active learning strategies have emerged as key elements in the cultivation of entrepreneurial mind-sets. As Fayolle and Gailly (2008 p.572) put forward, “entrepreneurship education can open people’s minds and extend their knowledge”. However, it is the efficacy of the strategies employed by the various entrepreneurship education stakeholders and trainers, which invariably determine the degree of their effectiveness. For the future of entrepreneurship education, Fayolle (2013 p.693) concludes that two major evolutions are required:

*First, we need robust theoretical and conceptual foundations, drawing from the fields of entrepreneurship and education to support entrepreneurship programmes and courses. Second, we need to reflect upon our practices and take a more critical stance, breaking away from the far too common ‘taken for granted’ position (Fayolle 2013 p.693).*

## Bibliography

- Adler, P.A. & Adler, P., 1987. *Membership Roles in Field Research*, Volume 6, Sage.
- Adler, P.A. & Adler, P., 1998. *Peer Power: Preadolescent Culture and Identity*, Rutgers University Press, New Brunswick, NJ.
- Agbim, K., Owutuamor, Z. & Oriarewo, G., 2013. Entrepreneurship Development and Tacit Knowledge: Exploring the Link between Entrepreneurial Learning and Individual Know-How. *Journal of Business Studies*, 5(2), pp.112–130.
- Ajzen, I., 1991. The Theory of Planned Behavior. *Organizational Behavior and Human Decision*, 50, pp.179–211.
- Ajzen, I. & Fishbein, M., 1975. *Belief, Attitude, Intention and Behaviour: An Introduction to Theory and Research*, Addison Wesley, Reading, MA.
- Ajzen, I. & Fishbein, M., 1974. Effects of Information on Interpersonal Attraction: Similarity versus Affective Value. *Journal of Personality and Social Psychology*, 29(3), pp.374–380.
- Ajzen, I. & Fishbein, M., 1980. Predicting and Understanding Consumer Behavior: Attitude-Behavior Correspondence. In *Understanding Attitudes and Predicting Social Behavior*. pp. 148–172.
- Alberti, F., Sciascia, S. & Poli, A., 2004. Entrepreneurship Education: Notes on an Ongoing Debate. In *IntEnt 2004, Internationalising Entrepreneurship Education and Training*. Napoli, 4-7 July: University of Napoli Federico II.
- Aldrich, H.E. & Zimmer, C., 1986. Entrepreneurship Through Social Networks. In *D.L. Sexton and R.W. Smilor (Eds.), The Art and Science of Entrepreneurship*. Ballinger, Cambridge, MA, pp. 3–24.
- Allen, B.A. & Armour-Thomas, E., 1993. Construct Validation of Metacognition. *The Journal of Psychology*, 127(2), pp.203–211.
- Allen, J., James, A.D. & Gamlen, P., 2007. Formal versus informal knowledge networks in R&D: A case study using social network analysis. *R & D Management*, 37(3), pp.179–196.
- Anderson, A.R., Dodd, S.D. & Jack, S.L., 2012. Entrepreneurship as Connecting: Some Implications for Theorising and Practice. *Management Decision*, 50(5), pp.958–971.
- Anderson, A.R., Kirkwood, S.L. & Jack, S.L., 1998. Teaching Entrepreneurship: A Mentoring Experience. *Journal of European Business Education*, 8, pp.82–94.
- Ardichvili, A., Cardozo, R. & Ray, S., 2003. A Theory of Entrepreneurial Opportunity Identification and Development. *Journal of Business Venturing*, 18(1), pp.105–123.
- Armitage, C.J. & Conner, M., 2001. Efficacy of the Theory of Planned Behaviour : A Meta-Analytic Review. *British Journal of Social Psychology*, 40, pp.471–499.



- Athayde, R., 2009. Measuring Enterprise Potential in Young People. *Entrepreneurship Theory & Practice*, 33(2), pp.481–500.
- Audretsch, D., Verheul, R. & Wennekers, I., 2002. *Entrepreneurship: Determinants and Policy in a European-US Comparison*, Kluwer, Boston, MA.
- Bain, K., 2012. *What the Best College Students Do*, Harvard University Press, Cambridge.
- Baker, S.E. & Edwards, R., 2012. How Many Qualitative Interviews is Enough: Expert Voices and Early Career Reflections on Sampling and Cases in Qualitative Research. *National Centre for Research Methods Review Paper*, pp.1–43.
- Bandura, A., 1986. *Social Foundations of Thought and Action*, Prentice Hall, Englewood Cliffs, NJ.
- Bandura, A., 1977. *Social Learning Theory*, Prentice Hall, Englewood Cliffs, NJ.
- Batha, K. & Carroll, M., 2007. Metacognitive Training Aids Decision Making. *Australian Journal of Psychology*, 59(2), pp.64–69.
- Baumol, W.J., 1993. *Entrepreneurship, Management, and the Structure of Payoffs.*, MIT Press/Macmillan, Cambridge, MA.
- Béchar, J. & Grégoire, D., 2005. Entrepreneurship Education Research Revisited: The Case of Higher Education. *Academy of Management Learning and Education*, 4(1), pp.22–43.
- Bechar, J.P. & Toulouse, J.M., 1998. Validation of a Didactic Model for the Analysis of Training Objectives in Entrepreneurship. *Journal of Business Venturing*, 13(4), pp.317–332.
- Becker, H., 2007. *Telling About Society*, University of Chicago Press, Chicago.
- Bell, J. et al., 2004. Internationalising Entrepreneurship Education. *Journal of International Entrepreneurship*, 2(2), pp.109–124.
- Bennett, R., 2006. Business Lecturers' Perceptions of the Nature of Entrepreneurship. *International Journal of Entrepreneurial Behaviour & Research*, 12(3), pp.165–188.
- Birch, D.G.W., 1979. *The Job Generation Process*, MIT Program on Neighborhood and Regional Change.
- Birdthistle, N., Hynes, B. & Fleming, P., 2007. Enterprise Education Programmes in Secondary Schools in Ireland: A Multi-Stakeholder Perspective. *Education + Training*, 49(4), pp.265–276.
- Birley, S., 1985. The Role of Networks in the Entrepreneurial Process. *Journal of Business Venturing*, 1(1), pp.107–117.
- Birmingham Post, 2012. Business Entrepreneurs Emerging from West Midlands Universities will Continue to be able to Access Support to get a New Business Venture Off the Ground after a £4 Million Boost. *Birmingham Post*.
- Blenker, P. et al., 2006. Learning and Teaching Entrepreneurship: Dilemmas,

- Reflections and Strategies. In A. Fayolle & H. Klandt, (Eds.) *International Entrepreneurship Education. Issues and Newness*. Edward Elgar, Cheltenham, UK, pp. 21–33.
- Botham, R. & Mason, C., 2007. *Good Practice in Enterprise Development in UK Higher Education*, National Council for Graduate Entrepreneurship (NCGE).
- Boyd, N.G. & Vozikis, G.S., 1994. The Influence of Self-Efficacy on the Development of Entrepreneurial Intentions and Actions. *Entrepreneurship Theory & Practice*, 18(April), pp.63–77.
- Brady, G., 2016. *Ibec Policy Brief*, Ibec For Irish Business.
- Brand, M., Wakkee, I. & van der Veen, M., 2007. Teaching Entrepreneurship to Non-Business Students: Insights from two Dutch Universities. In Fayolle, A. (Ed.), *Handbook of Research in Entrepreneurship Education: Contextual Perspectives, Vol. 2*. Edward Elgar, London, pp. 52–83.
- Bransford, J.D., Brown, A.L. & Cocking, R.R., 1999. How People Learn Brain, Mind, Experience, and School. In *National Academy Press*. p. 319.
- Brennan, S. & Department of Enterprise and Employment, 1994. *Task Force on Small Business*, Department of Enterprise and Employment, Stationery Office, Dublin: Ireland.
- Bruner, J.S., 1957. On Perceptual Readiness. *Psychological Review*, (64), pp.132–133.
- Bruyat, C. & Julien, P., 2000. Defining the Field of Research in Entrepreneurship. *Journal of Business Venturing*, 16, pp.165–180.
- Burrell, G. & Morgan, G., 1979. *Sociological Paradigms and Organizational Analysis*, Heinemann, London.
- Bygrave, W.D., 2007. The Entrepreneurship Paradigm (I) Revisited. In *The Handbook of Qualitative Research Methods in Entrepreneurship*. Edward Elgar Cheltenham, pp. 17–48.
- Campbell, D.T. & Fiske, D.W., 1959. Convergent and Discriminant Validation by the Multitrait-Multimethod Matrix. *Psychological Bulletin*, (56), pp.81–105.
- Carayannis, E.G., Evans, D. & Hanson, M., 2003. A Cross-Cultural Learning Strategy for Entrepreneurship Education: Outline of Key Concepts and Lessons Learned from a Comparative Study of Entrepreneurship Students in France and the US. *Technovation*, 23(9), pp.757–771.
- Carsrud, A.L., Gaglio, C.M. & Olm, K.W., 1986. Entrepreneurs – Mentors, Networks and Successful New Venture Development: An Exploratory Study. *Frontiers of Entrepreneurship Research, Babson College, Wellesley, MA*, pp.229–243.
- Carter, N.C. et al., 2003. The Career Reasons of Nascent Entrepreneurs. *Journal of Business Venturing*, 18(1), pp.13–39.
- CBS, 2015a. Copenhagen School of Entrepreneurship (CSE). *Copenhagen Business School*. Available at: <http://cse.cbs.dk/> [Accessed March 16, 2016].

- CBS, 2015b. CSE Academic Director William B. Gartner. *Copenhagen Business School*. Available at: <http://cse.cbs.dk/teaching-education/cse-academic-director/> [Accessed March 14, 2016].
- Charmaz, K., 2014. Grounded Theory in Global Perspective Reviews by International Researchers 20(9), pp.1074-1084. *Qualitative Inquiry*, 20(9), pp.1074–1084.
- Chen, C.C., Greene, P.G. & Crick, A., 1998. Does Entrepreneurial Self-Efficacy Distinguish Entrepreneurs from Managers? *Journal of Business Venturing*, 13(4), pp.295–316.
- Cohen, L., Manion, L. & Morrison, K., 2013. *Research Methods in Education* 5th Ed., RoutledgeFalmer, Taylor and Francis Group, London and New York.
- Collins, A. & Robertson, M., 2003. The Entrepreneurial Summer School as a Successful Model for Teaching Enterprise. *Education + Training*, 45, pp.324–330.
- Collins, L.A., Smith, A.J. & Hannon, P.D., 2006. Applying a Synergistic Learning Approach in Entrepreneurship Education. *Management Learning*, 37(3), pp.335–354.
- Commission of the European Communities, 2006. Implementing the Community Lisbon Programme. Fostering Entrepreneurial Mindsets through Education and Training. *Eur-Lex*. Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52006DC0033> [Accessed June 1, 2015].
- Conner, M. & Armitage, C.J., 1998. Extending the Theory of Planned Behavior: A Review and Avenues for Further Research. *Journal of Applied Social Psychology*, 28(15), pp.1429–1464.
- Cooney, T.M. & Murray, T.M., 2008. *Entrepreneurship Education in the Third-Level Sector in Ireland*, Dublin Institute of Technology (DIT).
- Cope, J., 2005. Toward a Dynamic Learning Perspective of Entrepreneurship. *Entrepreneurship Theory and Practice*, 29, pp.373–397.
- Cope, J. & Watts, G., 2000. Learning by Doing. An Exploration of Experience, Critical Incidents and Reflection in Entrepreneurial Learning. *International Journal of Entrepreneurial Behaviour & Research*, 6(3), pp.104–124.
- Copenhagen Start-Up Community, 2014. #CPHFTW – Copenhagen, for the Win. Available at: <http://cphftw.dk/> [Accessed February 6, 2016].
- Corden, A. & Sainsbury, R., 2006. Using Verbatim Quotations in Reporting Qualitative Social Research : Researchers ' Views. *Working Paper at the University of York, Social Policy Research Unit*, (March), pp.1–37.
- Coventry University, 2016. International Centre for Transformational Entrepreneurship. Available at: <http://www.coventry.ac.uk/business/transformational-entrepreneurship/> [Accessed June 5, 2016].
- Coviello, N.E. & Jones, M. V., 2004. Methodological Issues in International

- Entrepreneurship Research. *Journal of Business Venturing*, 19(4), pp.485–508.
- Creswell, J.W., 2009. *Research Design, Qualitative, Quantitative and Mixed Methods Approaches*. 3rd Ed., Sage, London.
- Crotty, M., 1998. *The Foundations of Social Research: Meaning and Perspective in the Research Process.*, Sage Publications. Thousand Oaks, CA.
- CrunchBase, 2016. Discover Innovative Companies and the People Behind them. *CrunchBase*. Available at: <https://www.crunchbase.com/person/alex-farcet#/entity> [Accessed May 18, 2016].
- CSE, 2015. Proof Program From Idea to Business. *Copenhagen School of Entrepreneurship*. Available at: <http://cse.cbs.dk/student-entrepreneurs/proof-program/> [Accessed May 2, 2016].
- Curran, J. & Stanworth, J., 1989. Education and Training for Enterprise: Some Problems of Classification, Policy, Evaluation and Research. *International Small Business Journal*, 7(2), pp.11–22.
- Dana, L.P. & Dana, T.E., 2005. Expanding the Scope of Methodologies used in Entrepreneurship Research. *International Journal of Entrepreneurship and Small Business*, 2(1), pp.79–88.
- Danermark, B. et al., 2002. *Explaining Society. Critical Realism in the Social Sciences*, Routledge, London and New York.
- Davidsson, P., 1995. Determinants of Entrepreneurial Intentions. *International Business*, pp.1–31.
- DCLG, 2016. Department for Communities and Local Government. Available at: <https://www.gov.uk/government/organisations/department-for-communities-and-local-government> [Accessed April 15, 2016].
- Deakins, D. & Freel, M., 1998. Entrepreneurial Learning and the Growth Process in SMEs. *The Learning Organization*, 5(3), pp.144–155.
- Deakins, D. & Freel, M.S., 2003. *Entrepreneurship and Small Firms* 3rd Ed., McGraw-Hill Education, London.
- Delmar, F. & Davidsson, P., 2000. Where Do They Come From? Prevalence and Characteristics of Nascent Entrepreneurs. *Entrepreneurship and Regional Development*, (12), pp.1–23.
- Denzin, N.K., 1978. *The Research Act: A Theoretical Introduction to Sociological Methods*, Praeger, New York.
- Department of An Taoiseach, 2012. *Action Plan for Jobs 2012*, Department of An Taoiseach.
- Dewey, J., 1938. *Logic: The Theory of Inquiry*, New York: Holt, Rinehart and Winston.
- Dickson, P.H., Solomon, G.T. & Weaver, K.M., 2008. Entrepreneurial Selection and Success: Does Education Matter? *Journal of Small Business and Enterprise*

- Development*, 15(2), pp.239–258.
- Donnellon, A., Ollila, S. & Williams Middleton, K., 2014. Constructing Entrepreneurial Identity in Entrepreneurship Education. *The International Journal of Management Education*, 46, pp.1–10.
- Douglas, E. & Shepherd, D., 2002. Self-Employment as a Career Choice: Attitudes, Entrepreneurial Intentions, and Utility Maximization. *Entrepreneurial Theory and Practice*, 26(3), pp.81–90.
- Draycott, M. & Rae, D., 2011. Enterprise Education in Schools and the Role of Competency Frameworks. *International Journal of Entrepreneurial Behaviour & Research*, 17(2), pp.127–145.
- Drucker, P., 1985. *Innovation and Entrepreneurship*, Heinemann London.
- Edgcomb, E.L., 2002. What Makes for Effective Microenterprise Training ? *Journal of Microfinance*, 4(1), pp.99–114.
- Eisenhardt, K.M., 1989. Building Theories from Case Study Research. *The Academy of Management Review*, 14(4), pp.532–550.
- Enterprise Ireland, 2012. Minister Sherlock Launches Entrepreneur Recruitment Campaign. Available at: <http://www.enterprise-ireland.com/en/News/PressReleases/2012-Press-Releases/Minister-Sherlock-launches-entrepreneur-recruitment-campaign.html> [Accessed April 17, 2015].
- Enterprise Ireland, 2015a. New Frontiers Entrepreneur Development Programme. Available at: <http://www.enterprise-ireland.com/en/Start-a-Business-in-Ireland/Supports-for-High-Potential-Start-Ups/New-Frontiers-Entrepreneur-Development-Programme.html> [Accessed April 17, 2015].
- Enterprise Ireland, 2015b. Starting a High Potential and Internationally Focused Business. Available at: <http://www.enterprise-ireland.com/en/Start-a-Business-in-Ireland/> [Accessed April 17, 2015].
- Ericsson, K.A. & Charness, N., 1994. Expert Performance. *American Psychologist*, 49(8), pp.725–747.
- European Commission, 2006. *Annual Report on Growth and Jobs.*, European Commission, Brussels.
- European Commission, 2011. Entrepreneurship Education: Enabling Teachers as a Critical Success Factor. *A Report on Teacher Education and Training to prepare Teachers for the Challenge of Entrepreneurship Education*, pp.1–78.
- European Commission, 2010. *Report and Evaluation of the Pilot Action High Level Reflection Panels on Entrepreneurship Education*, initiated by DG Enterprise and Industry and DG Education and Culture.
- De Faquite, D. et al., 2003. Education and Training for Entrepreneurs: A Consideration of Initiatives in Ireland and the Netherlands. *Education + Training*, 45(8/9), pp.430–438.

- Fayolle, A., 2010. *Handbook of Research in Entrepreneurship Education, Volume 3: International Perspectives*, Edward Elgar, Northampton, MA.
- Fayolle, A., 2002. Insights to Research on the Entrepreneurial Process from a Study on Perceptions of Entrepreneurship and Entrepreneurs. *Journal of Enterprising Culture*, 10(4), pp.257–285.
- Fayolle, A., 2013. Personal Views on the Future of Entrepreneurship Education. *Entrepreneurship & Regional Development*, 25(7–8), pp.692–701.
- Fayolle, A. & Gailly, B., 2008. From Craft to Science: Teaching Models and Learning Processes in Entrepreneurship Education. *Journal of European Industrial Training*, 32(7), pp.569–593.
- Fayolle, A., Gailly, B. & Lassas-Clerc, N., 2006. Assessing the Impact of Entrepreneurship Education Programmes: A New Methodology. *Journal of European Industrial Training*, 30, pp.701–720.
- Fenton, M. & Barry, A., 2011. The Efficacy of Entrepreneurship Education. Perspectives of Irish Graduate Entrepreneurs. *Industry and Higher Education*, 25(6), pp.451–460.
- Fiet, J.O., 2000a. The Pedagogical Side of Entrepreneurship Theory. *Journal of Business Venturing*, 16(2), pp.101–117.
- Fiet, J.O., 2000b. The Theoretical Side of Teaching Entrepreneurship. *Journal of Business Venturing*, 16(1), pp.1–24.
- Fiske, S.T. & Taylor, S.E., 1991. *Social Cognition 2nd Ed.*, Mcgraw-Hill Book Company, New York, NY.
- Fitzsimons, P. & O’Gorman, C., 2011. *Entrepreneurship in Ireland 2011*, Global Entrepreneurship Monitor (GEM).
- Fitzsimons, P. & O’Gorman, C., 2013. *Entrepreneurship in Ireland 2013*, Global Entrepreneurship Monitor (GEM).
- Flavell, J.H., 1987. Speculations about the Nature and Development of Metacognition. In *FE Weinert & RH Kluwe (Eds.) Metacognition, Motivation and Understanding*. Hillsdale, New Jersey., pp. 21–29.
- Florida, R., 2004. America’s Looming Creativity Crisis. *Harvard Business Review*, 82(10), pp.122–131.
- Gaglio, C.M. & Katz, J.A., 2001. The Psychological Basis of Opportunity Identification: Entrepreneurial Alertness. *Small Business Economics*, 16(2), pp.95–111.
- Garavan, T. & O’Cinneide, B., 1994. Entrepreneurship Education and Training Programmes: A Review and Evaluation – Part 1. *Journal of European Industrial Training*, 18(8), pp.3–12.
- Garavan, T.N., Fleming, P. & O’Cinneide, B., 1997. *Entrepreneurship and Business Start-Ups in Ireland*, Oak Tree Press, Dublin.

- Gartner, B. & Vesper, H., 1997. Measuring Progress in Entrepreneurship Education. *Journal of Business Venturing*, 12, pp.403–421.
- Gartner, W.B., 1985. A Conceptual Framework for Describing the Phenomenon of New Venture Creation. *Academy of Management Review*, 10(4), pp.696–706.
- Geertz, C., 1973. *The Interpretation of Cultures: Selected Essays (Vol. 5019)*, Basic Books.
- van Gelderen, M. et al., 2008. Explaining Entrepreneurial Intentions by Means of the Theory of Planned Behaviour. *Career Development International*, 13(6), pp.538–559.
- van Gelderen, M., 2012. Perseverance Strategies of Enterprising Individuals. *International Journal of Entrepreneurial Behaviour & Research*, 18(6), pp.630–648.
- Gibb, A., 1993. Entrepreneurship and Small Business Management: Can We Afford to Neglect Them in the Twenty-first Century Business School? *British Journal of Management*, 7(4), pp.309–321.
- Gibb, A., 1996. Entrepreneurship and Small Business Management: Can We Afford to Neglect Them in the Twenty-First Century Business School? *British Journal of Management*, 7, pp.309–321.
- Gibb, A., 2002. In Pursuit of a New “Enterprise” and “Entrepreneurship” Paradigm for Learning: Creative Destruction, New Values, New Ways of Doing Things and New Combinations of Knowledge. *International Journal of Management Reviews*, 4(3), pp.233–269.
- Go-Grow, 2016. Enabling Focused Startups to reach International Growth. *Go Grow Programme in conjunction with CBS, Industry Partners and the Danish Industry Foundation*. Available at: <http://go-grow.dk/> [Accessed March 10, 2016].
- Gómez-Mejía, L.R., Balkin, D.B. & Cardy, R.L., 2001. *Managing Human Resources 3rd Ed*, Prentice Hall, Upper Saddle River, NJ.
- Goodbody Economic Consultants, 2002. *Entrepreneurship in Ireland*, Goodbody Economic Consultants, Forfas, Dublin.
- Gorman, G., Hanlon, D. & King, W., 1997. Some Research Perspectives on Entrepreneurship Education, Enterprise Education and Education for Small Business Management: A Ten-Year Literature Review. *International Small Business Journal*, 15(3), pp.56–77.
- Graff, C.J., 2014. Mixed Methods Research. In H.R. Hall & L.A. Rousell (Eds.), *Evidence-Based Practice: An Integrative Approach to Research, Administration, and Practice*. Jones and Bartlett Learning, Burlington, MA., pp. 45–64.
- Graves, E.G., 1998. *How to Succeed in Business Without Being White: Straight Talk on Making It in America*, Harper Collins, New York.
- Grbich, C., 2013. *Qualitative Data Analysis*, London, England: Sage Publications Ltd.
- Greene, P. & Rice, M., 2007. Entrepreneurship Education. In *International Journal of*

- Entrepreneurship and Small Business*. Edward Elgar Publishing Ltd., pp. 1–23.
- Greer, C.R., 2001. *Strategic Human Resource Management: A General Managerial Approach*, Prentice Hall, Upper Saddle River, NJ.
- Guba, E.G. & Lincoln, Y.S., 1994. Competing Paradigms in Qualitative Research. In *Handbook of Qualitative Research*. pp. 163–194.
- Gundry, L.K. & Welsch, H.P., 2001. the Ambitious Entrepreneur : High Growth Strategies of Enterprises. *Journal of Business Venturing* 16,, 16(312), pp.453–470.
- Hair, J.F. et al., 1998. *Multivariate Data Analysis, International Edition* 5th ed., Prentice-Hall Inc., Upper Saddle River, NJ.
- Hammersley, M., 1992. *What's Wrong with Ethnography? Methodological Explorations.*, Longman, London.
- Hanlon, G., 2014. The Entrepreneurial Function and the Capture of Value : Using Kirzner to Understand Contemporary Capitalism. *Ephemera Theory and Politics in Organization*, 14(2), pp.177–195.
- Harrison, R.T. & Leitch, C.M., 2005. Entrepreneurial Learning: Researching the Interface Between Learning and the Entrepreneurial Context. *Entrepreneurship Theory and Practice*, 29(4), pp.351–371.
- Harvard, 2015. Strategies for Qualitative Interviews. Available at: [http://sociology.fas.harvard.edu/files/sociology/files/interview\\_strategies.pdf](http://sociology.fas.harvard.edu/files/sociology/files/interview_strategies.pdf) [Accessed July 14, 2016].
- Haynie, J.M. et al., 2010. A Situated Metacognitive Model of the Entrepreneurial Mindset. *Journal of Business Venturing*, 25(2), pp.217–229.
- Heider, F., 1958. *The Psychology of Interpersonal Relations*, New York: Wiley.
- Henry, C., 2013. Entrepreneurship Education in HE: Are Policy Makers Expecting Too Much? *Education + Training*, 55(8), pp.836–848.
- Henry, C., Hill, F. & Leitch, C., 2005. Entrepreneurship Education and Training: Can Entrepreneurship be Taught? Part I. *Education + Training*, 47(2), pp.98–111.
- Heuer, A. & Kolvereid, L., 2014. Education in Entrepreneurship and the Theory of Planned Behaviour. *European Journal of Training and Development*, 38(6), pp.506–523.
- Hindle, K. & Cutting, N., 2002. Can Applied Entrepreneurship Education Enhance Job Satisfaction and Financial Performance? An Empirical Investigation in the Australian Pharmacy Profession. *Journal of Small Business Management*, 40(2), pp.162–167.
- Hitt, M.A., Keats, B.W. & DeMarie, S.M., 1998. Navigating in the New Competitive Landscape: Building Strategic Flexibility and Competitive Advantage in the 21st Century. *The Academy of Management Executive*, 12(4), pp.22–42.
- Honig, B., 2004. Entrepreneurship Education : Toward a Model of Contingency-Based



- Business. *Academy of Management Learning and Education*, 3(3), pp.258–273.
- Honig, B. & Karlsson, T., 2001. Business Plans and the Nascent Firm: A Study of Instrumental and Institutional Theories. In *Frontiers of Entrepreneurship Research (FER), Babson College Entrepreneurship Research Conference (BCERC)*. pp. 13–37.
- Huber, G.P., 1991. Organizational Learning : The Contributing Processes and the Literatures. *Organisation Science*, 2(1), pp.88–115.
- Hynes, B., 1996. Entrepreneurship Education and Training – Introducing Entrepreneurship into Non-Business Disciplines. *Journal of European Industrial Training*, 20(8), pp.10–17.
- Hytti, U. & O’Gorman, C., 2004. What is “Enterprise Education”? An Analysis of the Objectives and Methods of Enterprise Education Programmes in Four European Countries. *Education + Training*, 46(1), pp.11–23.
- Innovation Task Force, 2010. *Report of the Innovation Task Force*, Government of Ireland, Innovation Task Force, Dublin.
- Ireland Duane, R., Hitt, M.A. & Sirmon, D.G., 2003. A Model of Strategic Entrepreneurship : The Construct and its Dimensions. *Journal of Management*, 29(6), pp.963–989.
- Ireland Duane, R., Webb, W.J. & Coombs, J.E., 2005. Theory and Methodology in Entrepreneurship Research. In *Ketchen JR, David J. and Bergh, Donald D (Eds.) Research Methodology in Strategy and Management Volume 2*. pp. 111–41.
- Jack, S.L. & Anderson, A.R., 1999. Entrepreneurship Education within the Enterprise Culture: Producing Reflective Practitioners. *International Journal of Entrepreneurial Behaviour and Research*, 5(3), pp.110–125.
- Jack, S.L. & Anderson, A.R., 2002. The Effects of Embeddedness on the Entrepreneurial Process. *Journal of Business Venturing*, 17(5), pp.467–487.
- Jick, T.D., 1979. Mixing Qualitative and Quantitative Methods : Triangulation in Action. *Qualitative Methodology*, 24(4), pp.602–611.
- Johannisson, B., 1991. University Training for Entrepreneurship: Swedish Approaches. *Entrepreneurship & Regional Development*, 3(1), pp.67–82.
- Johannisson, B. & Lundberg, H., 2002. Entrepreneurship as Breaking and Making Sense—Learning Beyond Boundaries. In *RENT XVI – Research in Entrepreneurship and Small Business, Barcelona, Spain*.
- Johnson, R.B. & Onwuegbuzie, A.J., 2004. Mixed Methods Research: A Research Paradigm Whose Time Has Come. *Educational Researcher*, 33(7), p.14.
- Johnson, R.B., Onwuegbuzie, A.J. & Turner, L.A., 2007. Toward a Definition of Mixed Methods Research. *Journal of Mixed Methods Research*, 1(2), pp.112–133.
- Jones-Evans, D., Williams, W. & Deacon, J., 2000. Developing Entrepreneurial Graduates: An Action-Learning Approach. *Education + Training*, 42(4/5), pp.282–288.

- Jones, B. & Iredale, N., 2010. Enterprise Education as Pedagogy. *Education + Training*, 52(1), pp.7–19.
- Jones, C., 2010. Accounting for Student/Educator Diversity: Resurrecting Coaction Theory. In *Fayolle, A. (Ed.) Handbook of Research in Entrepreneurship Education, Volume 3: International Perspectives*. Edward Elgar Northampton, MA, pp. 71–85.
- Kailer, N., 2007. Evaluation of Entrepreneurship Education: Planning Problems, Concepts and Proposals for Evaluation Design. In *Fayolle, A. (Ed.) Handbook of Research in Entrepreneurship Education, Volume 2: Contextual Perspectives*. pp. 221–244.
- Kirby, D.A., 2006. Entrepreneurship Education: Can Business Schools Meet the Challenge? In *Fayolle, Klandt, Heinz (Eds.), International Entrepreneurship Education*. Edward Elgar, Cheltenham, UK, pp. 35–54.
- Kirkpatrick, D., 1976. Evaluation of Training. In R. Craig & L. Bittel, eds. *Training and Development Handbook*. Mc Graw-Hill, New York, pp. 18–27.
- Kirkpatrick, D.L. & Kirkpatrick, J.D., 2006. *Evaluating Training Programs: The Four Levels* 3rd ed., Berrett-Koehler Publisher, Inc. San Francisco, CA.
- Kirzner, I.M., 1973. *Competition and Entrepreneurship*, University of Chicago Press, Chicago, IL.
- Kirzner, I.M., 1999. Creativity and/or Alertness: A Reconsideration of the Schumpeterian Entrepreneur. *Review of Austrian Economics*, (11), pp.5–17.
- Kolb, D.A., 1984. *Experiential Learning: Experience as the Source of Learning and Development*, New Jersey: Prentice Hall.
- Kolvereid, L., 1996. Prediction of Employment Status Choice Intentions. *Entrepreneurship Theory & Practice*, 21(1), pp.47–57.
- Kolvereid, L. & Amo, B.W., 2007. Entrepreneurship Among Graduates from Business Schools: A Norwegian Case. In *Fayolle, A. (Ed.) Handbook of Research in Entrepreneurship Education, Volume 2: Contextual Perspectives*. Edward Elgar, Cheltenham, pp. 207–221.
- Kram, K.E., 1983. Phases of the Mentor Relationship. *Academy of Management Journal*, 26(4), pp.608–625.
- Kristiansen, S. & Indarti, N., 2004. Entrepreneurial Intention Among Indonesian and Norwegian Students. *Journal of Enterprising Culture*, 12(1), pp.55–78.
- Krueger, N., 1993. The Impact of Prior Entrepreneurial Exposure on Perceptions of New Venture Feasibility and Desirability. *Entrepreneurship Theory and Practice*, pp.5–21.
- Krueger, N. & Dickson, P.R., 1994. How Believing in Ourselves Increases Risk Taking: Perceived Self-Efficacy and Opportunity Recognition. *Decision Sciences*, 25(3), pp.385–400.
- Krueger, N.F., 2000. The Cognitive Infrastructure of Opportunity Emergence.

- Entrepreneurship Theory and Practice*, 24(3), pp.5–12.
- Krueger, N.F., 2009. The Microfoundations of Entrepreneurial Learning and Education : The Experiential Essence of Entrepreneurial Cognition. In *Handbook of University-Wide Entrepreneurship Education*. pp. 35–59.
- Krueger, N.F., 2007. What Lies Beneath? The Experiential Essence of Entrepreneurial Thinking. *Entrepreneurship Theory & Practice*, 31(1), pp.123–138.
- Krueger, N.F. & Brazeal, D. V., 1994. Entrepreneurial Potential and Potential Entrepreneurs. *Entrepreneurship Theory and Practice*, 18, pp.91–104.
- Krueger, N.F. & Kickul, J., 2006. So You Thought the Intentions Model Was Simple? Cognitive Style and the Specification of Entrepreneurial Intentions Models. *SSRN Electronic Journal*, (312), pp.1–24.
- Kuratko, D., 2003. Entrepreneurship Education: Emerging Trends and Challenges for the 21st Century. *US Association of Small Business Education*, pp.1–39.
- Kuratko, D.F., 2005. The Emergence of Entrepreneurship Education: Development, Trends, and Challenges. *Entrepreneurship Theory and Practice*, 29, pp.577–598.
- Lans, T., Blok, V. & Wesselink, R., 2014. Learning Apart and Together: Towards an Integrated Competence Framework for Sustainable Entrepreneurship in Higher Education. *Journal of Cleaner Production*, 62, pp.37–47.
- Laukkanen, M., 2000. Exploring Alternative Approaches in High-Level Entrepreneurship Education: Creating Micromechanisms for Endogenous Regional Growth. *Entrepreneurship & Regional Development*, 12(1), pp.25–47.
- Lean, J., 1998. Training and Business Development Support for Micro Businesses in a Peripheral Area. *Journal of European Industrial Training*, 22(6), pp.231–236.
- Lepistö, J. & Ronkko, M., 2013. Teacher Students as Future Entrepreneurship Educators and Learning Facilitators. *Education + Training*, 55(7), pp.641–653.
- Levie, J., 1999. *Entrepreneurship Education in Higher Education in England: A Survey*, London Business School, London.
- Long, W., 1983. The Meaning of Entrepreneurship. *American Journal of Small Business*, 8(2), pp.47–56.
- Lund Research, 2013. Laerd Statistics. Available at: <https://statistics.laerd.com/statistical-guides/pearson-correlation-coefficient-statistical-guide.php> [Accessed July 15, 2016].
- Lunienska Jensen, M., 2015. Copenhagen Start-Up City Guide. *Startus Magazine*. Available at: <http://magazine.startus.cc/copenhagen-startup-city-guide/> [Accessed June 12, 2016].
- Maritz, A. & Brown, C.R., 2013. Illuminating the Black Box of Entrepreneurship Education Programs. *Education and Training*, 55, pp.234–252.
- Marshall, C. & Rossman, G.B., 2014. *Designing Qualitative Research 4th Ed.*, Thousand

Oaks, Sage Publications.

- Martin, T., 2011. Entrepreneurship Education in Ireland - Research Mapping and Analysis. , p.153.
- Matlay, H., 2005. Researching Entrepreneurship and Education: Part 1: What is Entrepreneurship and Does it Matter? *Education + Training*, 47(8/9), pp.665–677.
- Matlay, H., 2006. Researching Entrepreneurship and Education: Part 2: What is Entrepreneurship Education and Does it Matter? *Education + Training*, 48(8/9), pp.704–718.
- Matlay, H., 2008. The Impact of Entrepreneurship Education on Entrepreneurial Outcomes. *Journal of Small Business and Enterprise Development*, 15(2), pp.382–396.
- Matlay, H. & Addis, M., 2002. Competence-Based Training, Vocational Qualifications and Learning Targets: Some Lessons for the Learning and Skills Council. *Education + Training*, 44(6), pp.250–260.
- Matlay, H. & Westhead, P., 2004. From e-Innovation to e-Entrepreneurship: European Perspectives. In *27th ISBA National Small Firms Policy and Research Conference, University of Teesside, Middlesbrough, November*.
- McClelland, D.C., 1961. *The Achieving Society*, Princeton, New Jersey: Van Nostrand.
- McMullan, E., Chrisman, J.J. & Vesper, K., 2001. Some Problems in Using Subjective Measures of Effectiveness to Evaluate Entrepreneurial Assistance Programs. *Entrepreneurship Theory & Practice*, 26(1), pp.37–54.
- McMullen, J.S. & Shepherd, D.A., 2006. Entrepreneurial Action and the Role of Uncertainty in the Theory of the Entrepreneur. *Academy of Management Review*, 31(1), pp.132–152.
- Mialaret, G., 2005. *Les sciences de l'éducation* 10th ed., Presses Universitaires de France (PUF), Paris.
- Middleton, K.W. & Donnellon, A., 2014. Personalizing Entrepreneurial Learning: A Pedagogy for Facilitating the Know Why. *Entrepreneurship Research Journal*, 4(2), pp.167–204.
- Miettinen, A., 2006. Mentoring for Entrepreneurs as an Education Intervention. In *Fayolle, Klandt, Heinz (Eds.), International Entrepreneurship Education*. pp. 112–132.
- Milena, Z.R., Dalnora, G. & Alin, S., 2008. Qualitative Research Methods: A Comparison Between Focus-Groups and In-Depth Interview. *The Journal of the Faculty of Economics - Economic*, 4(1), pp.1279–1283.
- Miles, M. & Huberman, A.M., 1984. *Qualitative Data Analysis.*, Sage Publications, Beverly Hills, CA.
- Miller, P. & Bound, K., 2011. *The Startup Factories*,

- Miner, J.B., 1990. Entrepreneurs, High Growth Entrepreneurs and Managers: Contrasting and Overlapping Motivational Patterns. *Journal of Business Venturing*, 5(4), pp.221–234.
- MIT Trust Centre, 2016. MIT delta v. Available at: <http://entrepreneurship.mit.edu/accelerator/> [Accessed May 18, 2016].
- Morgan, G. & Smircich, L., 1980. The Case for Qualitative Research. *The Academy of Management Review*, 5(4), pp.491–500.
- Muijs, D., 2013. *Doing Quantitative Research in Education with SPSS*, Sage Publications, Thousand Oaks, New Delhi.
- Mwasalwiba, E., 2010. Entrepreneurship Education: A Review of its Objectives, Teaching Methods, and Impact Indicators. *Education + Training*, 52(1), pp.20–47.
- Neergaard, H., 2007. Sampling in Entrepreneurial Settings. In *The Handbook of Qualitative Research Methods in Entrepreneurship*. pp. 253–278.
- Nelson, T.O., 1996. Consciousness and Metacognition. *American Psychologist*, 51(2), pp.102–116.
- Netemeyer, R., Ryn, M. Van & Ajzen, I., 1991. The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50, pp.179–211.
- New Frontiers, 2015. New Frontiers Entrepreneur Development. Available at: <http://www.newfrontiers.ie/about> [Accessed April 17, 2015].
- Noel, T.W., 2002. Effects of Entrepreneurial Education on Intent to Open a Business. In *Journal of Entrepreneurship Education - An official Journal of the Academy of Entrepreneurship*. pp. 3–13.
- Nonaka, I., Toyama, R. & Konno, N., 2000. SECI , Ba and Leadership : a Unified Model of Dynamic Knowledge Creation. *LRP, Long Range Planning*, 33, pp.5–34.
- Oosterbeek, H., Van Praag, M. & Ijsselstein, A., 2010. The Impact of Entrepreneurship Education on Entrepreneurship Skills and Motivation. *European Economic Review*, 54(3), pp.442–454.
- Palinkas, L. et al., 2015. Purposeful Sampling for Qualitative Data Collection and Analysis in Mixed Method Implementation Research. *Administration and Policy In Mental Health and Mental Health Services Research*, 42(5), pp.533–544.
- Pardo, C.A., 2013. Is Business Creation the Mean or the End of Entrepreneurship Education?: A Multiple Case Study Exploring Teaching Goals in Entrepreneurship Education. *Journal of Technology Mngement & Innovation*, 8(1), pp.1–11.
- Penaluna, K., Penaluna, A. & Jones, C., 2012. The Context of Enterprise Education: Insights into Current Practices. *Industry and Higher Education*, 26(3), pp.163–175.
- Pennings, J.M., 1982. The Urban Quality of Life and Entrepreneurship. *Academy of Management Journal*, 25(1), pp.63–79.
- Polit, D.F., Beck, C.T. & Hungler, B.P., 2001. Essentials of Nursing Research. *Methods.*

pp.460–472.

- Politis, D. & Gabrielsson, J., 2009. Entrepreneurs' Attitudes Towards Failure: An Experiential Learning Approach. *International Journal of Entrepreneurial Behaviour & Research*, 15(4), pp.364–383.
- Rae, D., 1997. Teaching Entrepreneurship in Asia: Impact of a Pedagogical Innovation. *Entrepreneurship, Innovation and Change*, 6(3), pp.193–227.
- Rae, D., 2010. Universities and Enterprise Education: Responding to the Challenges of the New Era. *Journal of Small Business and Enterprise Development*, 17(4), pp.591–606.
- Rae, D. & Carswell, M., 2001. Towards a Conceptual Understanding of Entrepreneurial Learning. *Journal of Small Business and Enterprise Development*, 8(2), pp.150–158.
- Rae, D. & Woodier-Harris, N.R., 2013. How Does Enterprise and Entrepreneurship Education Influence Postgraduate Students' Career Intentions in the New Era Economy? *Education + Training*, 55, pp.926–948.
- Raffo, C. et al., 2000. Teaching and Learning Entrepreneurship for Micro and Small Businesses in the Cultural Industries Sector. *Education+ Training*, 42(6), pp.356–365.
- Ragin, C.C. & Becker, H.S., 1992. *What is a Case?*, Cambridge University Press, New York.
- Rankin, N., 2005. The New Prescription for Performance: The Eleventh Competency Benchmarking Survey. *Competency & Emotional Intelligence Benchmarking Supplement*, pp.181–191.
- Raposo, M. & do Paço, A., 2011. Entrepreneurship Education: Relationship Between Education and Entrepreneurial Activity. *Psicothema*, 23(2001), pp.453–457.
- Revans, R., 1982. *The Origin and Growth of Action Learning.*, Chartwell Bratt, London.
- Ries, E., 2011. *The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses*, Crown Business, New York, NY.
- Rigg, C. & O'Dwyer, B., 2012. Becoming an Entrepreneur: Researching the Role of Mentors in Identity Construction. *Education + Training*, 54(4), pp.319–329.
- Ruskovaara, E. & Pihkala, T., 2013. Teachers implementing entrepreneurship education: classroom practices. *Education + Training*, 55(2), pp.204–216.
- Sarasvathy, S., 2001. Toward Causation and Effectuation : A Theoretical Shift From Inevitability to Economic Entrepreneurial Contingency. *The Academy of Management Review*, 26(2), pp.243–263.
- Sarasvathy, S.D. & Venkataraman, S., 2011. Entrepreneurship as Method: Open Questions for an Entrepreneurial Future. *Entrepreneurship Theory and Practice*, 35(1), pp.113–135.

- Saunders, M.N. et al., 2011. *Research Methods for Business Students, 5th Ed.*, Pearson Education, India.
- Schmidt, A. & Ford, K., 2003. Learning Within a Learner Control Training Environment: The Interactive Effects of Goal Orientation and Meta-Cognitive Instruction on Learning Outcomes. *Personnel Psychology*, 56(2), pp.405–429.
- Schoon, I. & Duckworth, K., 2012. Who Becomes an Entrepreneur? Early life Experiences as Predictors of Entrepreneurship. *Developmental Psychology*, 48(6), pp.1719–1726.
- Schumpeter, J.A., 1934. *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle*, Transaction publishers.
- Seale, C., 1999. *The Quality of Qualitative Research*, London:, London, England: Sage Publications Ltd.
- Shah, D., 2016. Keynote Address. *Demo Day at MIT's Delta V Accelerator*. Available at: <http://entrepreneurship.mit.edu/accelerator/demo-day/> [Accessed June 14, 2016].
- Shane, S.A., 2003. *A General Theory of Entrepreneurship: The Individual-Opportunity Nexus.*, Edward Elgar Publishing.
- Shane, S. & Venkataraman, S., 2000. The Promise of Entrepreneurship as a Field of Research. *Academy of Management Review*, 25(1), pp.217–226.
- Shapiro, A. & Sokol, L., 1982. The Social Dimensions of Entrepreneurship. In D. L. S. & K. H. V. (Eds. . C.A. Kent, ed. C. Kent, D. Sexton, & K. Vesper (Eds.), *Encyclopedia of Entrepreneurship*. Englewood Cliffs, Prentice Hall, NY, pp. 72–90.
- Shaver, K.G., Gartner, W.B. & Gatewood, E.J., 2001. Attributions About Entrepreneurship: A Framework and Process for Analyzing Reasons for Starting a Business. *Entrepreneurship: Theory and Practice*, 26(2), pp.5–32.
- Shaw, R., 1995. Mentoring. In *in T. Kerry and A.S. Mayes (Eds), Issues in Mentoring*. Routledge and Open University, London, pp. 260–267.
- Slife, B.D. & Williams, R.N., 1995. *Discovering Hidden Assumptions in the Behavioral Sciences.*, Sage Publications. Thousand Oaks, CA.
- Small Business Forum Ireland, 2006. Small Business is Big Business. *Report of the Small Business Forum*, May, p.71.
- Small Firms Association, 2016. Next Generation Business - A Vision for Small Firms in Ireland. *Report by the Small Firms Association*, pp.1–28.
- Smith, K. et al., 2014. Enterprise Skills and Training Needs of Postgraduate Research Students. *Education & Training*, 56(8/9), p.745.
- Solesvik, M. et al., 2013. Entrepreneurial Assets and Mindsets P. Harry Matlay, ed. *Education + Training*, 55(8/9), pp.748–762.
- Solomon, G., 2007. An Examination of Entrepreneurship Education in the United

- States. *Journal of Small Business and Enterprise Development*, 14(2), pp.168–182.
- Solomon, G.T., Duffy, S. & Tarabishy, A., 2002. The State of Entrepreneurship Education in the United States: A Nationwide Survey and Analysis. *International Journal of Entrepreneurship Education*, 1(1), pp.65–86.
- Šorgo, A. et al., 2012. A Cross-National Study of Prospective Elementary and Science Teachers' Creativity Styles. *Journal of Baltic Science Education*, 11(3), pp.285–293.
- SPEEDPlus, 2016. Student and Graduate Enterprise in the West Midlands. Available at: <http://www.speed-plus.org/> [Accessed April 16, 2016].
- St-Jean, E. & Audet, J., 2012. The Role of Mentoring in the Learning Development of the Novice Entrepreneur. *International Entrepreneurship and Management Journal*, 8(1), pp.119–140.
- Stevenson, H.H., 1983. A Perspective on Entrepreneurship. *Harvard Business School Background Note*, October 19, pp.384–131.
- Stevenson, H.H. & Jarillo, J.C., 1990. A Paradigm of Entrepreneurship: Entrepreneurial Management. *Strategic Management Journal*, 11, pp.17–27.
- Storey, D., 2000. Six Steps to Heaven: Evaluating the Impact of Public Policies to Support Small Businesses in Developed Economies. In D. Sexton & H. Landstrom, eds. *The Blackwell Handbook of Entrepreneurship*. Oxford: Blackwell Business Series, pp. 176–194.
- Swain, R., 2000. Awareness and Decision Making in Professional Ethics : The New Code of the Psychological Society of Ireland. *European Psychologist*, 5(1), pp.19–27.
- Swedburg, R., 2000. Introduction and Practical Applications. In *Oxford Management Readers (Ed.), Entrepreneurship - The Social Science View*. Oxford University Press, p. 403.
- Tang, J., Kacmar, K.M. (Micki) & Busenitz, L., 2012. Entrepreneurial Alertness in the Pursuit of New Opportunities. *Journal of Business Venturing*, 27(1), pp.77–94.
- Tenenbaum, G. et al., 2001. Constructivist Pedagogy in Conventional On-Campus and Distance Learning Practice : An Exploratory Investigation. *Learning and Instruction*, 11, pp.87–111.
- Tripsas, M., 2008. Customer Preference Discontinuities: A Trigger for Radical Technological Change. *Managerial and Decision Economics*, 29(213), pp.79–97.
- Tseng, C.-C., 2013. Connecting Self-Directed Learning with Entrepreneurial Learning to Entrepreneurial Performance. *International Journal of Entrepreneurial Behaviour & Research*, 19(4), pp.425–446.
- Ucbasaran, D. et al., 2010. The nature of entrepreneurial experience, business failure and comparative optimism. *Journal of Business Venturing*, 25(6), pp.541–555.
- University of Wolverhampton, 2016. Support for Students and Graduates. Available at: <http://www.wlv.ac.uk/business-services/starting-and-growing-your->



business/support-for-students-and-graduates/ [Accessed May 12, 2016].

- Venkataraman, S., 1997. The Distinctive Domain of Entrepreneurship Research: An Editor's Perspective. In *J. Katz & R. Brockhaus (Eds.), Advances in Entrepreneurship, Firm Emergence, and Growth*. JAI Press, Greenwich, CT, pp. 119–138.
- Verzat, C. & Bachelet, R., 2006. Developing an Entrepreneurial Spirit Among Engineering College Students: What are the Educational Factors? In *International Entrepreneurship Education*. pp. 191–217.
- Vesper, K. & McMullan, E., 1997. New Venture Scholarship Versus Practice: When Entrepreneurship Academics Try the Real Thing as Applied Research. *Technovation*, 17(7), pp.349–358.
- Vesper, K.H., 1994. Experiments in Entrepreneurship Education: Successes and Failures. *Journal of Business Venturing*, 9(3), p.179.
- Wasserman, N., 2009. Planning a Start-Up? Seize the Day. *Harvard Business Review*, 87(1), p.27.
- White, N., 1983. *Epictetus. The Handbook. Translated and Introduction by Nicholas White*, Hackett Publishing, Indianapolis.
- Wilkinson, I.F., Mattson, L.G. & Easton, G., 1996. International Competitiveness and Trade Promotion Policy from a Network Perspective. *Journal of World Business*, 35(3), pp.275–299.
- World Economic Forum, 2009. *Unlocking Entrepreneurial Capabilities to Meet the Global Challenges of the 21st Century*, A Report of the Global Education Initiative at the World Economic Forum.
- Wottawa, H. & Thierau, H., 1990. *Lehrbuch Evaluation*, Bern, Stuttgart and Toronto: Verlag Hans Huber.
- Yin, R., 2003. *Case Study Research: Design and Methods (Vol. 5)*, Sage Publications. Thousand Oaks, CA.

## Appendices

### Appendix A – G\* Power 3 (Required Sample Size)

G\* power 3 software was employed to determine a required sample size.

The chi square procedure determined a required sample size of 32 based on the following input parameters:

- a. Effect size = 0.5
- b.  $\alpha$  err prob = 0.05
- c. Power = 0.80
- d. Degrees of freedom = 1

The Mann-Whitney procedure determined a sample size of 34 based on the following input parameters:

- a. Effect size = 0.9
- b.  $\alpha$  err prob = 0.05
- c. Power = 0.80
- d. One-tailed test
- e. Parent distribution = normal
- f. Allocation ration  $N2 / N1 = 1$

## Appendix B – Generic Interview Protocol

*So just to explain what is involved in this one-to-one interview....*

Firstly, NAME XXXXX, I would like to thank you for taking the time out of your busy schedule to aid me in my research. I appreciate that you are busy, so I will quickly explain what is involved in this interview. Simply put today's interview is a relatively unstructured one-to-one interview on a number of nominated topics which spring from both my literature review and interviews I have already carried out with other stakeholders involved in the programme. The purpose of this interview is to acquire more detailed information on the methods and practices employed in enterprise start-up initiatives. Your answers will provide context to my research and will provide me with a more complete picture.

The interview will take no longer than thirty minutes. Furthermore, I would like to assure you that the information provided by you today will not be used for any non-research purpose and that it will be kept anonymous and confidential as outlined in the consent form I gave you.

I would also like to inform you that I wish to use recording equipment with your consent. This is solely for the purpose of my convenience as simply taking notes; I may miss some valuable information. There are no correct or incorrect answers – only your experience matters to me and is very important to my research. We need to cover a series of questions so I may need to move the discussion along from time to time so please do not be offended.

**Participant Consent Form**  
Information Sheet

**Purpose of the Research**

As part of the requirements for the Postgraduate Research Degree Programme in the Institute of Technology Tralee, I have to carry out a research study. The title of the research study is: Explore and evaluate the methods and practices applied in the delivery of training in Enterprise Start-Up Initiatives.

**What will the research involve?**

The study will involve a discussion on a number of nominated topics in an effort to acquire information that is more detailed. It will take no longer than thirty minutes.

**Why have you been selected to take part?**

You have been selected to take part because you have been identified as an expert in your field and specifically to provide suitable data.

**Do you have to take part?**

Participation is voluntary and you have the option of withdrawing before, during and after the study. You can withdraw from the study within two weeks of participation and request the data to be destroyed.

**Will your participation in the study be kept confidential?**

I will ensure that no clues to your identity appear in the thesis. Any extracts from what you say that are quoted in the thesis will be completely anonymous.

**What will happen to the information, which you give?**

The data will not be used for any non-research purpose and will be kept confidential for the duration of the study. On completion of the thesis, it will be retained securely for six months and then destroyed.

**What will happen to the results?**

The results will be presented in the thesis and will be seen by my supervisors Breda O Dwyer, Brigid Crowley, a second marker and an external examiner. Future students on the course may read the thesis and it may be published in an academic journal.

**What are the possible disadvantages of taking part?**

I have consulted with my supervisors on your selection and I do not envisage any negative consequences for you in taking part.

**Use of recording equipment**

I consent to the use of recording equipment:

*Please tick yes or no as appropriate*

**Participant Declaration**

I have read the information sheet and I understand the contents. I voluntarily agree to be part of this study, though without prejudice to my legal and ethical rights. I understand I may withdraw from the study at any time. I have received a copy of this consent form.

**Participant's Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Researcher's Statement**

I have explained the nature and purpose of this research study. I have offered to answer any questions and believe that the participant understands my explanation and has freely given informed consent.

**Researcher's Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

The Informed Consent Form draws extensively on a document created by Swain (2000) of UCC, Ireland and adapted for the purposes of this research.

*Entrepreneurs E01 & E02*

**Background Questions**

1. New businesses are not created by accident. Why did you start your own business?
2. Did negative circumstances in former work-experiences form part of your reason for setting up your own business?
3. Do you come from a business/self-employed background - parents? Had you ever been self-employed prior to this venture? Are you first born? Did you play team sports during childhood? Did you ever sell things as a child?
4. Were you a good student? (Uniform grades) What educational qualifications/level do you hold?
5. Did you start out on your own? How do you handle uncertainty?
6. Did you ever fail in a business in the past?
7. Did you hold many different types of Jobs in the past? Do you think that this has helped you to become what you are today?
8. With regard to our discussion during my observation period yesterday – we discussed boundary-spanning roles – do you consider yourself a generalist or a specialist? Put another way – do you follow a habitual or fixed way of doing things or do you prefer doing different tasks and spontaneity?
9. What motivated you to become an entrepreneur? Do you believe you possess high need for achievement? What motivates you?
10. Would you consider yourself an extrovert? Independent? Self-reliant? Insightful? Decisive?
11. Do you consider yourself a risk-taker?
12. How well do you manage change?
13. Do you believe that outcomes are a consequence of your own behaviour? Or do you believe that events are independent of your own behaviour?
14. Do you believe chance was an important element of your venture creation process? Did you come up with the idea?
15. Does self-fulfilment play a part in your motivation to succeed?
16. Are your family/personal networks supportive?

### **The Enterprise Platform Programme You Participated On**

17. What were your objectives in doing the EPP programme? Did you achieve these objectives and how? Did the EPP help you develop your vision and goals for the future?
18. As a result, of your participation in the EPP, which areas did you most benefit? Which module was the most valuable to you? Which skills did you improve? Do you still use what you learnt today in your day-to-day business?
19. In which elements/modules of the EPP did your knowledge increase following your participation?
20. What personal impact/personal outcomes did you hope to achieve following your participation on the EPP? How did you achieve this personal impact?
21. How did your participation on the EPP influence your problem solving and decision making skills? Did this have an impact on your confidence levels?
22. Did the trainers do any research/have knowledge on the participants before delivering the training?
23. It is said, "Firms do business plans for institutional reasons rather than for instrumental reason", – and how important/significant is the business plan at the start-up stage? Do you think it should be taught during these types of programmes?
24. How would you rate the programme? Would you recommend a start-up initiative/accelerator programme to other budding/nascent entrepreneurs?
25. Having participated on an EPP – what changes would most improve the EPP module mix.
26. What change would most improve programmes of this nature?
27. Other than your participation on the EPP – what steps did you take to establish your business?
28. Did the organisers of the EPP use a diagnostic tool to assess the viability of your business idea and aid in the generation of a business plan?

**About your Business – Your role as a Successful Entrepreneur. (These questions spring from the researcher’s observations)**

30. Would you consider your business idea to be an innovation or rather use of an established or slightly modified product for an existing market?
31. What were the significant barriers you encountered in setting up and running your business?
32. In relation to Sales and my observations yesterday – would you consider yourself to be committed to third entities/parties? (Partnerships resellers etc.)
33. Do you take aggressive or modest steps to achieve profit? What is your primary motivation in this regard?
34. Are you goal and action oriented or do you carry out policies and procedures to achieve your goals?
35. Do you believe that environmental factors have contributed to your success?
36. What tools do you utilise to continuously improve your business?
37. To what extend is a diversified team essential to the development of your business?
38. How important is the diversity of your team members?
39. How would you describe your leadership style? Are you good in dealing with people?
40. “Firms are not islands” - How important are role models and mentors in the establishment of both formal and informal networks and advisors?
41. Do you consider networking to be a cumulative process?
42. From my observations yesterday - Do you believe that your networking skills have helped you to externalise some of your non-core activities?
43. Did you and do you encounter problems accessing capital? What did you learn from the EPP in this regard?
44. Has any module or element that you learned in the EPP come into use or do you use in day-to-day operating of your business?



## Enterprise Start-Up Initiative Programmes

### Your Background

\* 1. Are you?

- Male  
 Female

\* 2. Which of the following best describes your parental/family occupations?

- |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|
| Employees             | Self-employed         | Unemployed            | Business Owners       |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

\* 3. Prior to your participation on the New Frontiers Programme, were you or did you ever?

- |                            |                          |
|----------------------------|--------------------------|
| An Employee                | <input type="checkbox"/> |
| Self-employed              | <input type="checkbox"/> |
| A Business Owner           | <input type="checkbox"/> |
| Fail at a Business Venture | <input type="checkbox"/> |

\* 4. Please indicate the highest level of educational qualifications you hold.

- |                       |                           |                       |                       |                        |
|-----------------------|---------------------------|-----------------------|-----------------------|------------------------|
| Secondary Level       | Undergraduate Certificate | Undergraduate Degree  | Postgraduate Masters  | Postgraduate Doctorate |
| <input type="radio"/> | <input type="radio"/>     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>  |

Other (please specify) \_\_\_\_\_



## Enterprise Start-Up Initiative Programmes

### Your Experiences

\* 5. Are your family/personal networks supportive of your new Enterprise?

- Yes  
 No

\* 6. Do you consider yourself to be a risk-taker?

- Yes  
 No

\* 7. Please select ANY or ALL of the following statements if they form part of your reason for wanting to set up your own Enterprise?

- I have always wanted to be an entrepreneur/own my own business  
 I always kept an eye out for new business opportunities  
 I am motivated by successful entrepreneurs in the region  
 I have always been motivated by financial gain  
 I am passionate about my product/service regardless of financial gains  
 I have a high need for achievement/success  
 Self-fulfilment plays a major part in my motivation  
 Lack of opportunity in the labour market  
 Negative circumstances in former work-experiences

## Enterprise Start-Up Initiative Programmes

### The New Frontiers Entrepreneur Development Programme

\* 8. Please select the Institute in which you participated on the New Frontier's Programme.

- Athlone Institute of Technology
- Blanchardstown Institute of Technology
- Carlow Institute of Technology
- Cork Institute of Technology
- Dublin Institute of Technology
- Dundalk Institute of Technology
- Galway-Mayo Institute of Technology
- Institute of Art, Design and Technology Dun Laoghaire
- Letterkenny Institute of Technology
- Limerick Institute of Technology
- Institute of Technology Sligo
- Institute of Technology Tallaght
- Institute of Technology Tralee
- Waterford Institute of Technology

Enterprise Start-Up Initiative Programmes

The New Frontiers Entrepreneur Development Programme

\* 9. List three of your Enterprise Start-up Goals (in order of importance) that you had at the outset of your participation on the New Frontiers Programme.

Goal 1:

Goal 2:

Goal 3:

\* 10. As a result of your participation on the New Frontiers Programme, did you achieve your Enterprise Start-up Goals identified in Q.9 above?

Not at all

A little

Moderately

A lot

A great deal



Enterprise Start-Up Initiative Programmes

The New Frontiers Entrepreneur Development Programme

\* 11. As a result of your participation on the New Frontiers Programme, which areas of the training/workshops did you most gain most benefit?

	Not at all	A little	Moderately	A lot	A great deal
Networking with Peers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Market Research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Development of the Market	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Crafting the Business Plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lean Start-Up Model	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Marketing Strategy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social Media Tools & Technologies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
HR Strategy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business Strategy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Finance & Funding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intellectual Property	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sales	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Pitch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mentors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Enterprise Start-Up Initiative Programmes

The New Frontiers Entrepreneur Development Programme

\* 12. Please rank the Programme components in order of contribution they made to your Enterprise development.

1 being the most beneficial and 5 being the least.

	1	2	3	4	5
Workshops	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Peer to peer networks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Advisors/Experts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1-1 Mentors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accessing capital	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. As a result of your participation on the New Frontiers Programme, have your skills in the following improved?

	Not at all	A little	Moderately	A lot	A great deal
Networking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Problem Solving	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Decision Making	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leadership	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Finance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Selling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Marketing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accessing Capital	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pitching	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Managing Change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Enterprise Start-Up Initiative Programmes

The New Frontiers Entrepreneur Development Programme

\* 14. How did the different types of Business Enterprises that participated on your programme blend together?

Not at all

Slightly

Moderately well

Very well

Extremely well

Please Comment

\* 15. As a result of your participation on the New Frontiers Programme, what components of the training/workshops do you continue to use in the day-to-day operation of your Enterprise?

\* 16. Whilst participating on the New Frontiers Programme, did the Trainers have adequate information on you as a participant and on your new Enterprise?

Yes

No

Please comment



Enterprise Start-Up Initiative Programmes

Your Perceptions

\* 17. Whilst participating on the New Frontiers Programme, were you ever contacted by any of the workshop Trainers to ask you for content specific requirements prior to the training/workshop?

Yes

No

Please comment

18. Overall, were you satisfied with the Trainers' training skills?

Extremely dissatisfied

Moderately dissatisfied

Dissatisfied

Moderately satisfied

Extremely satisfied

Please comment

\* 19. Overall, were you satisfied with the Trainers knowledge of the Programme Content?

Extremely dissatisfied

Moderately dissatisfied

Dissatisfied

Moderately satisfied

Extremely satisfied

Please comment



Enterprise Start-Up Initiative Programmes

Your Perceptions

20. Please rate the New Frontiers Programme materials (slide deck/handouts/visual aids).

	Not at all	Slightly	Moderately	Very	Extremely
Useful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worthwhile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organised	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Practical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

21. Please rate the New Frontiers learning activities.

	Not at all	Slightly	Moderately	Very	Extremely
Discussions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Small-group activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paired activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Peer Review	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning Logs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feedback forms	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reflections	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Role Play	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Game-based learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Case Studies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

22. Whilst participating on the New Frontiers Programme, which of the following best describes the Trainers' teaching methods.

- Chalk and Talk
- Interactive
- Participatory
- Experiential
- Blended





Enterprise Start-Up Initiative Programmes

Your Perceptions

\* 23. Were the rooms/facilities/conditions provided for workshops/training/pitches satisfactory?

Yes

No

Please comment

\* 24. Whilst participating on the New Frontiers Programme, how much contact did you have with the Programme Co-Ordinator/Manager?

Not at all

A little

Moderate

A lot

A great deal

Please comment

\* 25. How well organised was the New Frontiers Programme?

Not well organised

Slightly well organised

Somewhat organised

Very well organised

Extremely well organised

Please comment



Enterprise Start-Up Initiative Programmes

Your Perceptions



Enterprise Start-Up Initiative Programmes

Thank you for completing this survey.

## Appendix F – In-depth Interview Questions - Trainers

*Trainers T01, T02, T03, T04, T05*

### **About You**

1. Which workshops (modules) do you deliver for the programme and where have you delivered them?
2. Can you tell me a little about your own professional background? How did you get involved in the delivery of training for the programme?
3. How do you perceive your role in the programme?
4. Have you ever participated on a train the trainer or similar programme of education?
5. Participants' experiences and perspectives are full of possibility and learning. How do you stay current in your field?

### **Methods and Practices**

6. How would you describe your method of delivery? Can you give me an example of the methods/practices that you employ?
7. Learning objectives or goals are often included in a slide deck at the opening stage of a workshop; can you tell me about the types of learning objectives you include in your workshops?
8. Learning logs, diaries, and feedback forms are frequently used methods of assessing participant learning, can you describe what methods you employ to assess student learning?
9. Please describe the techniques/tools/props you employ to keep participants actively involved during a workshop.
10. How do you manage your workshops to suit the different participant learning styles?
11. Describe what you consider as the model environment for delivering your workshops.

### **Programme Structure**

12. How much communication do you have with the programme co-ordinator prior to, during and after the training?
13. Have you ever been invited to meet and collaborate with the other trainers prior to the delivery of a programme? Do you think this would be beneficial and why?
14. In your experience, what do you feel is important to know about the participants prior to delivering the workshop? How do you gather this information? Can you explain how this is or is not important to you in your preparation for the training?
15. Have you ever had the opportunity to meet and collaborate with mentors who are working with participants on the same programme that you are delivering training?
16. Do you receive participant feedback and how do you use this feedback?
17. Are you familiar with the diagnostic tool or a similar tool which some centres use to assess participant progress? Do you believe it would benefit all parties if you could feed into/access this tool?

### **Opinion**

18. From your experience of teaching on the programme, what changes would you like to see and explain the possible benefits of these changes?
19. Finally, do you think the programme should be accredited? That is participants would receive a qualification.

## Appendix G – In-depth Interview Questions - Mentors

### *Mentors M01, M02*

1. Can you give me a brief account of your background?
2. How did you get involved/signed up as a mentor for the programme?
3. How do you perceive your role in the programme process?
4. Valid information is an important component in the intervention process – how much information are you given on the participant prior to your first meeting? Who gives you this information and do you feel this information is adequate? Please elaborate.
5. At present, Enterprise Ireland and the programme coordinators carry out the pairing of mentors and mentees and then the participant chooses a mentor out of a possible three. An enterprise clinic would work the other way around and allow you to interview a number of participants. Which method do you think is optimal and why?
6. In which phase or at which point of the mentoring relationship do you feel you can offer most benefit to the mentee? (*initiation, cultivation and separation phases*)
7. In your experience as a mentor, do you believe that the mentee should have multiple mentors during the course of the programme to cover the different functional areas?
8. Which do you believe is the most preferred type of mentoring and why? Functional area expertise or entrepreneurial expertise?
9. Do you believe in the value of mentor reporting? Should it be shared with the trainers?
10. What strategies do you employ to encourage or increase the autonomy of the mentee to take his or her own decisions?
11. How do you distinguish the boundaries between yourself and the mentee?
12. What business and personal benefits have you experienced from your participation on the Mentoring programme?

## Appendix H – In-depth Interview Questions - Programme Manager

### *Programme Manager PM01*

1. Can you give me a brief account of your own background?
2. What are the main objectives of the programme?
3. How do you perceive your role in the programme process?
4. Would you describe yourself as an enterprising individual? Please elaborate.
5. How do you screen participants for entry into phase one?
6. Describe the selection process for phases two and three.
7. How much contact do you have with participants during each phase? Please elaborate.
8. How do you select the trainers you employ to deliver the different workshops?
9. How do you monitor participant's progress?
10. Do you use diagnostic tools for this purpose? If yes, please explain/describe.
11. How do you assess the trainer's effectiveness?
12. Describe the system in place to receive feedback on participant progress from trainers/mentors.
13. What are your thoughts on the current stipend process? Do you think the process could benefit from controls that are more stringent?
14. Do you think the programme should be accredited? Participants receive a formal qualification.
15. From your experience as programme manager, what changes in the current format would enhance the programme and describe the benefits of these changes.

## Appendix I – Interview Questions - Programme Participants

### *Programme Participants PP01, PP02, & PP03*

1. Can you tell me a little about your background?
2. What motivated you to become an entrepreneur?
3. Are your family networks supportive?
4. Do you come from an entrepreneurial background; were your parents' employees/self-employed/business owners?
5. Did the availability of the programme here in XXXXXX influence your decision to apply?
6. Do you think the location of the college adjunct to the innovation centre had any impact on your learning?
7. Do you think the trainers had enough information on you and your business idea?
8. Were you asked to pin down your start-up objectives or goals at the start of the programme?
9. Which of the modules do you think were the most beneficial to you and to your business?
10. Did the programme have an impact on your skills akin to networking, problem solving, decision-making, managing change, leadership, pitching, risk taking.
11. How do you think the blend of sectors on the programme worked?
12. Was it apparent which trainers had entrepreneurial experience themselves?
13. How would you describe the trainer's style/method/approach?
14. Was your mentor a good match for your business?
15. What elements of your learning from the programme do you continue to use today?
16. During the programme, did you make other contacts that were useful to your business?
17. During the six months of phase two, how often did you meet the panel?
18. Would you recommend the programme to others?

## Appendix J – Cover Letter Email to Participants with link to Main Survey

My name is Máire Vieux, a postgraduate student with CEED at the Institute of Technology in Tralee. I am currently carrying out research on the methods and practices applied in the delivery of training in enterprise start-up initiatives in the County Kerry region.

This is the link to my survey: <https://www.surveymonkey.com/r/HZ6JYQR> that should take less than 10 minutes to complete.

The research draws on an extensive review of entrepreneurship literature together with international models of best practice. The data collected from this survey is anonymous and will not be used for any non-research purpose. Resulting data will be presented in my thesis and will only be seen by my two supervisors, an internal examiner, and an external examiner. Future students on the research programme may read the thesis and it may be published in an academic journal. No explicit programme data will be published without prior consent from the Programme Manager.

If you require any further information in relation to my research, please email [Maire.Vieux@research.ittralee.ie](mailto:Maire.Vieux@research.ittralee.ie) or contact me on XXX XXX XXXX. My supervisors are Breda O Dwyer and Brigid Crowley.

Sincere thanks for your time and support and all the best in your enterprise venture.

Máire Vieux  
Postgraduate Researcher

**Centre for Entrepreneurship and Enterprise Development (CEED)  
Tom Crean Innovation Centre  
Institute of Technology Tralee  
County Kerry**



## Enterprise Start-Up Initiatives

### ABOUT YOU

1. Are you male or female?

- Male
- Female

2. Please indicate which year you participated on the programme.

- 2015 / 2016
- 2014 / 2015
- 2013 / 2014

3. What age are you?

- 18 - 30
- 31 - 40
- 41 - 50
- 51 - 60
- 60 +

4. Please indicate the highest level of educational qualification you have completed.

- No formal education
- Primary level
- Secondary level
- Undergraduate certificate/diploma
- Undergraduate ordinary degree
- Undergraduate honours degree
- Postgraduate Masters
- Postgraduate Doctorate



5. Please select one or more of the following which best describes your former occupation.

- Student
- Unemployed
- Employee
- Self-employed
- Business owner
- Unsuccessful business venture

6. Which of the following best describes your parental/family occupations?

- Employees
- Self-employed (business owner)
- Self-employed (not business owner)
- Unemployed
- Other (please specify)

7. Did you ever work in a small business/firm?

- Yes
- No



Enterprise Start-Up Initiatives

**YOUR MOTIVATIONS**

8. What do you believe is the opinion of the following people in relation to your decision to start your own business?

	Extremely Unfavourable	Unfavourable	Neither Unfavourable/Favourable	Favourable	Extremely Favourable
Your family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your peers e.g. your friends, co-workers, fellow participants etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your educators (past and present)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other people that are important to you e.g. partner, employer etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. Please indicate your level of agreement with the following statements:

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
I would rather own my own business than get higher wages as an employee.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would rather own my own business than choose another promising career.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am personally willing to sacrifice a lot so that my own business survives.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to work more for the same salary in self-employment than as an employee.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Enterprise Start-Up Initiatives

THE NEW FRONTIERS DEVELOPMENT PROGRAMME

10. Please indicate your level of agreement with the following statement for each of the workshops:

**"The topic was well covered and clearly presented"**

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Market Research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business Models	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Marketing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Human Resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Finance / Funding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intellectual Property	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Legal Issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sales & Selling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Investor Pitch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Please indicate your level of agreement with the following statement for each of the workshops:

**"My knowledge and understanding of the topic has grown"**

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Market Research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business Models	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Marketing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Human Resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Finance / Funding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intellectual Property	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Legal Issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sales & Selling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Investor Pitch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. Please indicate your level of agreement with the following statement for each of the workshops:  
**"The material covered will be useful to me in developing my new business"**

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Market Research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business Models	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Marketing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Human Resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Finance / Funding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intellectual Property	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Legal Issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sales & Selling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Investor Pitch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. Having participated on the programme, please indicate how much you feel you have improved in the following areas?

	Very Much	Somewhat	Undecided	Not Really	Not at All
Confidence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Commitment to achieve	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Decision Making	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leadership	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Managing Change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Negotiating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Networking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pitching	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Problem Solving	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Project Management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Team Building	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. Do you have a practical set of tools to improve your business in the following areas:

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Leadership and Management Tools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Planning and Operations Tools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Marketing Tools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sales Tools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Finance Tools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15. How frequently was your enterprise development progress assessed (panel review)?

- Once a week
- Twice a week
- Every fortnight
- Every month
- Every two months
- Never

16. How satisfied were you with the assessment procedure? (panel review)

- |                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Not at All Satisfied  | Slightly Satisfied    | Moderately Satisfied  | Very Satisfied        | Extremely Satisfied   |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Optional to comment in relation to assessment procedures.

17. Do you believe the programme should be accredited? (Participants would receive a qualification)

- Yes
- No

Optional to comment

18. Overall, were you satisfied with the following programme elements?

	Not at All Satisfied	Slightly Satisfied	Moderately Satisfied	Very Satisfied	Extremely Satisfied
Trainers teaching style	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time allowed for discussion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Programme Co-Ordinator	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your choice of Mentor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your Mentors relevant knowledge and experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stress Panel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Panel Review	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Guest Speakers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Referrals to Industry Experts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Optional to comment



**Enterprise Start-Up Initiatives**

**YOUR PERCEPTIONS**

19. Please indicate your level of agreement with the following statements:

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
I have frequent interaction with others to acquire new information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I always keep an eye out for new business ideas when looking for information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I read news, magazines, or trade publications regularly to acquire new information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I browse the internet every day.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am an avid information seeker.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am always actively looking for new information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

20. Please indicate your level of agreement with the following statements:

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
I see links between seemingly unrelated pieces of information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am good at "connecting dots".	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often see connections between unconnected domains of information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

21. Please indicate your level of agreement with the following statements:

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
I have a gut feeling for potential opportunities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can distinguish between profitable opportunities and not-so profitable opportunities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a knack for telling high-value opportunities apart from low-value opportunities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When facing multiple opportunities, I am able to select the good ones.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



## Enterprise Start-Up Initiatives

### YOUR OUTCOMES

22. Having participated on the programme, please indicate your degree of certainty in performing each of the following marketing tasks:

	Completely Unsure	Unsure	Neutral	Sure	Completely Sure
Set and meet market share goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Set and meet sales goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establish position in product market	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conduct market analysis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Expand business	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



23. Having participated on the programme, please indicate your degree of certainty in performing each of the following innovative tasks:

	Completely Unsure	Unsure	Neutral	Sure	Completely Sure
New venturing and new ideas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
New products and services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
New markets and geographic territories	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
New methods of production, marketing and management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

24. Having participated on the programme, please indicate your degree of certainty in performing each of the following management tasks:

	Completely Unsure	Unsure	Neutral	Sure	Completely Sure
Reduce risk and uncertainty	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strategic planning and develop information system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manage time by setting goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establish and achieve goals and objectives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Define organisational roles, responsibilities and policies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

25. Having participated on the programme, please indicate your degree of certainty in performing each of the following risk-taking roles:

	Completely Unsure	Unsure	Neutral	Sure	Completely Sure
Take calculated risks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make decisions under uncertainty and risk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Take responsibility for ideas and decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work under pressure and conflict	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

26. Having participated on the programme, please indicate your degree of certainty in performing each of the following financial tasks:

	Completely Unsure	Unsure	Neutral	Sure	Completely Sure
Perform financial analysis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Develop financial systems and internal controls	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Control cost	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

27. Following your participation on the programme, please indicate one or more of the following business results you achieved?

- Investor ready business plan
- Product/Service launch
- Set up a limited company
- HPSU status
- Achieve funding
- Other (please specify)

28. If you achieved funding please indicate which type of funding you received? e.g. Competitive Start Fund (CSF), Local Enterprise Office (LEO) capital/employment grant, Online Trading Voucher, Venture Capitalist, Bank, Business Angel, Other.

Appendix L – Cronbach Alpha Workings

Cronbach Alpha – To assess Scale Reliability (Norm > 0.7)

Measures of Subjective Norms

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.771	.769	4

Measures of Attitude

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.734	.752	4

Entrepreneurial Alertness Asset (Scan)

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.767	.774	6

Entrepreneurial Alertness Asset (Connect)

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.763	.787	3

### Entrepreneurial Alertness Asset (Evaluation)

#### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.767	.765	4

### Entrepreneurial Self-Efficacy (Marketing)

#### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.632	.623	5

Since the number of items in this scale is small then an alternative to the Cronbach Alpha is the Mean Inter-Item correlation (ideal norm .2 to .4)

#### Summary Item Statistics

	Mean	Min	Max	Range	Max / Min	Variance	N of Items
Item Means	3.897	3.455	4.121	.667	1.193	.069	5
Item Variances	.514	.172	.693	.521	4.022	.042	5
Inter-Item Covariances	.131	-.057	.506	.563	-8.900	.024	5
Inter-Item Correlations	.248	-.164	.892	1.056	-5.426	.078	5

### Entrepreneurial Self-Efficacy (Innovation)

#### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.867	.868	4

### Entrepreneurial Self-Efficacy (Management)

#### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.516	.560	5

Since the number of items in this scale is small then an alternative to the Cronbach Alpha is the Mean Inter-Item correlation (ideal norm .2 to .4)

**Summary Item Statistics**

	Mean	Min	Max	Range	Max/Min	Variance	N of Items
Item Means	3.691	3.333	4.091	.758	1.227	.091	5
Item Variances	.595	.314	.943	.629	3.000	.064	5
Inter-Item Covariances	.105	-.125	.330	.455	-2.636	.018	5
Inter-Item Correlations	.203	-.190	.680	.870	-3.570	.064	5

**Entrepreneurial Self-Efficacy (Risk-Taking)**

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.837	.839	4

**Entrepreneurial Self-Efficacy (Financial Control)**

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.921	.925	3