



**Entrepreneurship education courses across multidisciplinary programmes
at a South African university of technology: Educator and student
perspectives**

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By

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PLAGIARISM DECLARATION

I, Kariema Price, hereby declare that this dissertation titled, Entrepreneurship education courses across multidisciplinary programmes at a South African university of technology: Educator and student perspectives, is my own work, except where indicated, and that it has not been submitted before for any degree or examination at any university.

Signed by candidate

Kariema Price

04 June 2018

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“You give but little when you give of your possessions. It is when you give of yourself that you truly give”. – Khalil Gibran

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ABSTRACT

Research in the field of entrepreneurship education suggested the need for more studies that focus on the characteristics of the pathways to entrepreneurship education. Previous empirical work in this field has largely been driven by uncovering the link between entrepreneurship education and its impact on students, while fewer researchers have focused on the alignment between the components that constitute entrepreneurship education.

The purpose of this mixed methods study was to explore the contextual factors affecting entrepreneurship courses (design and delivery) and their subsequent effects on student perceptions of entrepreneurship and entrepreneurship education across multidisciplinary programmes within a higher education institution. A key aspect of this study was to determine whether students across disciplines were inspired and stimulated by the content and pedagogical aspects of their courses. In this mixed method convergent parallel design study, the qualitative component consisted of semi-structured interviews, presenting the narrative of ten educators teaching in entrepreneurship education. For the quantitative component, survey questionnaires were administered to a sample of 640 students across multidisciplinary programmes at a higher education institution. These surveys were designed to capture the student perceptions of entrepreneurship and entrepreneurship education, as well as their experience of the entrepreneurship course.

Key findings of this research identified four factors affecting entrepreneurship education courses within the higher education institution as those of: course design and delivery; institutional impact; educator aspect and the student aspect. Analysis of the student aspect established the influence of contextual factors affecting student perception including: employment aspirations; prior exposure to entrepreneurship education; socio-cultural influence; employment confidence and student experience of the course.

This study proposed a conceptual model presenting a framework for teaching in entrepreneurship that highlights the need for an alignment between the factors affecting entrepreneurship education. This conceptual framework therefore provides a map for (a) higher education institutions aiming to implement entrepreneurship education without assimilating its

entrepreneurial flavour, (b) curriculum designers of multi-disciplinary programmes and course planners of entrepreneurship education, and (c) educators in entrepreneurship education aiming to develop not only their teaching practice in this field but also enhance their career trajectory in an fast evolving field of education.

Firstly, this study contributes to the growing field of research in entrepreneurship education as it is offered within the higher education system, particularly in South Africa where keen efforts are directed at improving and developing this field through current and ongoing initiatives and implementation plans. Secondly, this research also offers an insight into the challenges faced by educators teaching in entrepreneurship, the positioning of entrepreneurship education courses, particularly within multidisciplinary programmes taught at university level and the dynamic of the student input factor. Considering these insights could provide opportunities for improving entrepreneurship education curricula within the higher education institution, not only from a course design perspective but also in the way courses are delivered.

Further expectations from this research would be to promote the status of institutionalised entrepreneurship education courses within the higher education community and to acknowledge the written and unwritten role and expectations of educators in this field. This should encourage opportunities for faculty training and development in entrepreneurial learning, benefitting both educator and student.

KEY WORDS

Entrepreneurship education, higher education, multidisciplinary programmes, educators, student experience

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ACRONYMS AND ABBREVIATIONS

ANOVA	Analysis of Variance
BRICS	Brazil, Russia, India, China and South Africa
DTI	Department of Trade and Industry
EDHE	Entrepreneurship Development in Higher Education
EFC	Entrepreneurship Framework Condition
EY	Ernst and Young
FICCI	Federation of Indian of Indian Chambers of Commerce and Industry
GDP	Gross Domestic Product
GEM	Global Entrepreneurship Monitor
GLM	Generalised Linear Model
HE	Higher Education
HEI	Higher Education Institution
QUAL	Qualitative
QUAN	Quantitative
SME	Small and Medium Enterprise
SMME	Small Micro Medium Enterprise
STATSA	Statistics South Africa
TEA	Total Entrepreneurial Activity

CHAPTER 1

INTRODUCTION

Entrepreneurship education is crucial to the future economic prosperity of any country. South Africa is no exception. The country faces a developmental challenge in ensuring employment especially for its youth segment who make up a large percentage of its population. Growing the small business sector through ensuring an entrepreneur pipeline is often touted as the answer to address the challenge of unemployment. Access and exposure to entrepreneurship courses within the educational system are critical because they ensure that target audiences are reached (World Economic Forum, 2014). This study focused on entrepreneurship courses as offered at a South African university.

This chapter introduces the context of entrepreneurship in South Africa through examining entrepreneurship as an enabler of economic activity and includes a brief look at the small, medium, and micro enterprise (SMME) sector, the main beneficiary of entrepreneurship education. I then present an overview of entrepreneurship education in South Africa in the framework of its consideration, as a capacitor of entrepreneurship. I also briefly discuss the literature on entrepreneurship education in higher education institutions for its relevance as an area of learning and development and its consideration in the enhancement of graduate employability skills and prospects. I then outline the research purpose and aims of the study in the context of the research questions before concluding with an overview of the chapters in this thesis.

1.1 Background to the Research

The research conducted through this study is directed at gaining insight into the entrepreneurship courses offered as a course component of multidisciplinary programmes in undergraduate qualifications at a higher education institution in South Africa. Entrepreneurship has been heralded as a key driver of economic growth in South Africa. However there are many barriers to its growth and advancement, including a highly structured regulatory environment, challenges around legislative compliance, obstacles to market access and financial support, and

poor management. Moreover, entrepreneurship education and skills have been identified as key contributors to the failure and success of entrepreneurial business ventures. These contributors have been identified as capacity enhancers because they build key skills and competencies needed by entrepreneurs to navigate the rough economic terrain and to steer their enterprises and its employees through the peaks and troughs of the business cycle (Chimucheka, 2014; Fayolle, 2007).

1.2 Entrepreneurship as an Economic Driver in South Africa

The study is conducted in the context of an emerging economy with an unemployment rate of 26.7% and an even higher youth unemployment rate of 56% (StatsSA, 2018). The unemployment rate, which measures the number of people actively looking for a job as a percentage of the labour force, indicates that the overall unemployment rate in South Africa has fluctuated between 31.2% and 21.5% (Statistics South Africa, 2015). These figures are stark in comparison to other developing countries where unemployment rates are relatively low, for example Brazil (6.2%), Russia (5.8%), India (4.9%) and China (4.1%). According to South Africa's National Development Plan, a key source of employment growth will stem from small-firm entrepreneurship and economic growth (Mahadea & Kaseeram, 2018).

According to Elliot (1983), entrepreneurship has been equated with positive economic growth since the early works of Schumpeter (1934), with entrepreneurs leading the increase in income growth through innovation and the introduction of new services and products (Mahadea & Kaseeram, 2018). Although entrepreneurship has been promoted as a catalyst and economic mainstay for economies across the globe (Mudau & Kruger, 2014), its role as an essential source of economic growth and social development has been underestimated for many decades (Erasmus, Strydom, & Rudansky-Kloppers, 2013). According to the Global Entrepreneurship Monitor (GEM), South Africa's Total Early Stage Entrepreneurial Activity Rate or TEA rankings have been relatively low, a mere 9.1% (StatsSA, 2018), in comparison to its other African peers in the annual Mortimer Harvey Report (Harvey, 2013). The purpose of the TEA index is to provide data on the extent and nature of entrepreneurial activity in a country and shows the number of people, aged between 18 and 64, who are actively involved in a business that is less than three-and-a-half years old that they fully or partially own. South Africa has

ranked 35th out of 54 GEM countries in 2009 (Cassim, Soni, & Karodia, 2014), which is significantly lower than the average of 14.1% for all efficiency-driven economies (Erasmus et al., 2013). An efficiency-driven economy, according to the World Economic Forum, is the phase of economic development where the labour and natural resources are developed for efficiency-driven products and production environment (Pretorius, 2010). It is in efficiency-driven economies, particularly like South Africa, where higher education and training are important factors to enhance economic development, beyond the use of appropriate technologies (Pretorius, 2010).

According to the South African Department of Trade and Industry (DTI), employment growth in South Africa has been further constrained by, among other things, a skills shortage and limited entrepreneurial capacity (DTI, 2008). The government therefore recognised the need to develop and strengthen entrepreneurship and the SMME sector, as a catalyst to enhance economic growth, and declared the Small Business Act of 1996 to further this aim. Intrinsic to strengthening this sector is the development of potential job-seekers equipped with key business management and entrepreneurial skills. Thus, the focus of entrepreneurship education is to be an efficacy enhancer of entrepreneurship. This relevance of entrepreneurship to economic growth and its subsequent benefits to society is demonstrated in Figure 1.

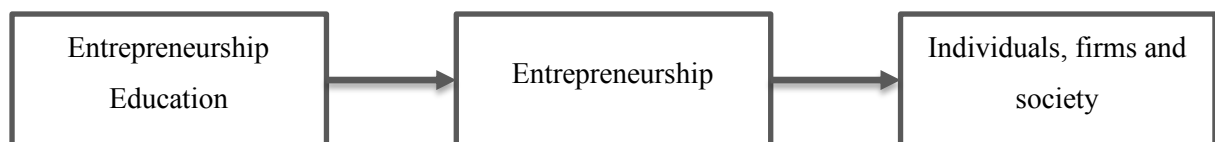


Figure 1: Relevance of Entrepreneurship Education

Source: Chimucheka (2014, p. 411)

Chimucheka (2014) explained that the development of entrepreneurship is preceded by entrepreneurship education. This education is equated with the acquisition of entrepreneurial skills, concepts and knowledge, followed by engagement in entrepreneurial activities that benefit not only individuals, but also organisations and broader society.

1.3 The Small, Medium and Micro Enterprise Sector

“The South African government has since the birth of its democracy recognized the importance of fostering an enabling environment for the creation and growth of small enterprise” (Cassim et al., 2014, p. 24). This emergence and growth of the SMME economy creates opportunities which according to (Hynes, 1996), requires potential entrepreneurs that are educated and upskilled in order to recognise and harness these opportunities. Entrepreneurship education plays a crucial role in developing business management skills in owners, potential owners, and managers of SMMEs (Brijlal, Naicker, & Peters, 2013; Pittaway & Cope, 2007). An absence of these skills has been recognised as one of the largest constraints on small business growth (Botes, 2013; Chimucheka, 2014; Ihua, 2009; Mboniyane & Ladzani, 2011). The variable of management inefficiency, as found in Nigeria and the United Kingdom (UK), in relation to SMME failure and a key contributor to poor decision-making is shown in Table 1.

Table 1: Influence of Business Management Skills on SMME

Country	Influence of poor management on SMME failure	
	Very large extent	Large extent
Nigeria	44 %	47%
United Kingdom	77 %	17 %

Lack of business management skills was identified as a major contributor to the failure rate of SMMEs in both Nigeria and the United Kingdom. However, in Nigeria there are more external factors affecting the failure rate of SMMEs, such as their policy climate and lack of resources as a developing country while, the UK, despite its first world status, still attributed 77% of their SMME failure rate to poor management (Ihua, 2009). This trend of high SMME failure rates and lack of business management skills and education are also prevalent in South Africa and can be addressed through appropriate entrepreneurship education initiatives.

A small, medium and micro enterprise (SMME) is likely to be defined as an enterprise with one or more of the following characteristics: fewer than 200 employees, an annual turnover of less than R64 million, capital assets of less than R23 million and direct managerial involvement by the owners (Erasmus et al., 2013). According to the South African Department of Trade and

Industry (2008), SMMEs are not restricted to formally registered enterprises such as closed corporations, private companies and co-operative enterprises, and thus include informal and non-VAT¹ registered enterprises such as survivalist street trading enterprises, backyard manufacturing and services, and occasional home-based evening jobs. In South Africa, SMMEs constitute about 95% of all enterprises, account for 75% of the employment figures in the country and contribute approximately 56% to the country's Gross Domestic Product or GDP (Trading Economics, 2018). The GDP, which is the total value of all products and services finally produced in a country within a particular period, is expressed in monetary terms and measures the economic growth rate of that country (Erasmus et al., 2013). According to the (OECD & European Commission, 2017) in emerging economies, SMEs contribute up to 45% of total employment and 33% of GDP. SMMEs also account for an increasing proportion of employment growth and economic activity (DTI, 2008; Fayolle, 2007; Kirby, 2004).

As the second largest economy in Africa, the growth rate of South Africa's economy averaged 2.87% from 1993 to 2017, where the highest point was 7.60% in the fourth quarter of 1994, and the lowest was -6.10% in the first quarter of 2009 (Trading Economics, 2018). The South African government recognises the contribution of the SMME sector to employment and economic growth and has designated its development as a key aspect of the government's economic development, poverty alleviation and job creation strategy (DTI, 2008). Small businesses are less inhibited by large bureaucratic decision-making structures enabling greater agility and productivity than larger firms. In developed economies particularly, they employ the majority of the workforce and are responsible for creating wealth and developing new enterprises, while producing most of the products and services. Driven by its entrepreneurial spirit, the small entrepreneurially driven business becomes a catalyst for economic development and job creation, while stimulating competition and improving productivity (Erasmus et al, 2013). The GEM Report has also emphasised the value of entrepreneurship to economic growth through its monitoring of entrepreneurial activity since 1997. According to the GEM Report (2014), entrepreneurship dynamics can be linked to conditions that enhance or inhibit new business creation, known as Entrepreneurship Framework Conditions (EFCs). These conditions play an important role in the shaping of entrepreneurial activity within the

¹ Value Added Tax

entrepreneurship ecosystem and directly influence the existence of entrepreneurial opportunities, capacity and preferences. EFCs identified by the 2014 GEM Report (Singer, Amorós, & Moska, 2015) include the availability of entrepreneurial finance; government policy support; government entrepreneurship programmes; research and development transfer; commercial and legal infrastructure; market entry regulation; access to physical infrastructure; and cultural and social norms. The EFC of entrepreneurship education is defined as “the extent to which training in creating or managing SMMEs is incorporated within the education and training system at all levels” (p. 57). The GEM (2015) South Africa Report identified a number of weak entrepreneurial conditions in South Africa’s entrepreneurship ecosystem. From these conditions, three were identified as critical constraints to entrepreneurial activity including: government policy (61%), access to finance (44%) and education and training (42%) (Herrington & Kew, 2016). Unfortunately, these three areas have been considered critical since 2001 when South Africa first participated in the Global Entrepreneurship Monitor Report. According to Herrington and Kew (2016), an educated and appropriately skilled workforce is not only vital to economic productivity and growth, but also builds self-efficacy and confidence in the individual thus increasing the chances of starting and sustaining successful businesses. Table 2 presents the level of the EFC indicator for entrepreneurship education in South Africa is presented in the context of Africa, of efficiency-driven economies and the GEM average, in Table 2, where 1 = highly insufficient, 9 = highly sufficient.

Table 2: Entrepreneurial Framework Conditions Scores

Entrepreneurial Framework Condition	South Africa	Africa	Efficiency-driven economies	GEM Average
Government entrepreneurship programmes	3.0	3.8	4.1	4.3
Entrepreneurship education: primary and secondary level	3.1	2.4	2.8	3.1
Entrepreneurship education: vocational, professional and tertiary level	4.2	4.0	4.5	3.6

Source: Adapted from the GEM (2015) South Africa Report (Herrington & Kew, 2016)

These low scores for entrepreneurship education and training are part of “a broader problem of deficiencies in the basic education system as a whole” and not necessarily isolated to the quality of entrepreneurship education (Herrington & Kew, 2016). These indicators are representative of the extent to which entrepreneurship education encourages creativity, self-sufficiency, and personal initiative; provides adequate training on market economic principles; and focuses on entrepreneurship and new firm creation. The low scores therefore indicate that South Africa has been ineffective in terms of providing the required levels and quality of entrepreneurship education. Universities have a crucial role to play in creating a fertile ecosystem for entrepreneurial development, which Herrington and Kew (2016) argued is not being fulfilled constructively in the facilitation of knowledge transfer and the stimulation of innovation. According to these authors it is critical to improve the skills base in South Africa and foster positive entrepreneurial attitudes through the education system. Thus, it is important for government policy makers and institutional leadership to ensure that this indicator of entrepreneurship education is developed in all spheres of the education and training spectrum. Maguire and Guyer (2004) agreed, adding that the role played by educational institutions in the provision, facilitation, and support of entrepreneurship programmes is key to the development of entrepreneurship education.

1.4 Entrepreneurship Education as a Capacitor of Entrepreneurship

Entrepreneurship education is assuming an increasing relevance within academic programmes all over the world and ranks high on policy agendas in many countries (Fayolle, 2007; Gibb, 1996; Lorz, Meuller, & Volery, 2013; Morris, 1998; Rae & Woodier-Harris, 2012). Yet, little research has been available to assess its impact and its effects are poorly understood (Alberti, Sciascia, & Poli, 2004). Furthermore, there is little uniformity in entrepreneurship course content and pedagogic approach despite the rapid growth of entrepreneurship education (Donnellon, Ollila, & Williams Middleton, 2014). This is largely due to the ambiguous definition of entrepreneurship and its subsequent interpretation of entrepreneurship education (Fayolle, 2007). In a systematic literature review of entrepreneurship journals from 1970 to 2004, Pittaway and Cope (Pittaway & Cope, 2007) concluded that, “we do not really know what entrepreneurship education actually is” (p. 500). The dominant debate in their meta-review, which included 185 academic papers, centred on what constituted entrepreneurship

education, what entrepreneurship education meant, and what it attempted to achieve. The lack of clarity on the form and nature of entrepreneurship education is a contributor to the pattern of varying pedagogies and institutional approaches to implementing entrepreneurship education in higher education institutions (Bennett, 2006; Fayolle, 2007; Gibb, 1996; Pittaway & Cope, 2007). Another contributor to the lack of clarity around the scope of entrepreneurship programmes and their pedagogical approach is the embeddedness of the institutional approach to implementing entrepreneurship and its subsequent effects on the course structure, educators and students enrolled at the university (Gibb, 1996).

1.5 The Role of the Institution in Entrepreneurship Education

Tertiary institutions are ideally positioned to effect critical skills in the development of an entrepreneurial society. These institutions can “instil in their students at graduate and post-graduate level, a sense of understanding of risks and rewards, of business creation and its causes of failures” (Brijlal, 2011, p. 818). Institutions have a role to play in preparing future graduates not only with knowledge learned in the classroom, but also with tacit information they can translate into the world of work because the “future of work and the future of higher education is inextricably linked” (Friday, 2018, p. 1). Regardless of their ultimate profession, students will need to embark on a path of continuous learning in order to remain employed while future employment prospects may mean varied projects across different sectors (Friday, 2018). The skills developed in entrepreneurship education are applicable in a range of work settings and improve organisational performance (Kirby, 2004). At the same time, the propensity for self-employment often coincides with the life stages of the individual as their needs and circumstances change, either by choice or circumstance. Thus, career aspirations are shaped not only by the influence of education and the educator, but also by the contextual factors in the student's micro and macro environments. According to Henderson and Robertson (1999), future graduates may be faced with a career trajectory that includes periods of self-employment, employment at a firm and unemployment, a pattern they refer to as a portfolio career. In addition, more people in developing and emerging economies are successfully venturing into business as a pathway to employment, as argued by Kaijage and Wheeler (2013). Practitioners and educators therefore need to redefine business education in a way that is relevant to the contextual reality of nascent and aspiring entrepreneurs in all low-income countries, including South Africa.

With the advent of digital technology, traditional degree structures and content at universities may no longer meet the needs of a fast progressing market where students prefer individual courses that immediately increases their employability options (Friday, 2018). According to a 2016 report developed by the Federation of Indian Chambers of Commerce and Ernst and Young (EY), which looks at potential futures for the university sector in 2030, the onset of robotics will lead to programmable human tasks becoming obsolete along with its employees (FICCI & EY, 2016). The report suggests applying innovation to the university mainstream curriculum in order to prepare for this future inevitability. Applying this perspective to entrepreneurship education could encourage more universities to champion its inclusion as a mainstream course that focusses on entrepreneurial skills, such as creativity and problem-solving, as part of the student's personal development. Accompanying the integration of entrepreneurship into the curriculum is the creation of opportunities for engagement between industry and the academic institution, an important consideration because not all learning can occur in the classroom. Birch believes that this integration also introduces opportunities for blended learning and exposure to industry through work-integrated learning (Aronsson, 2004).

Students of entrepreneurship education at university level are registered for diverse programmes across the disciplines of Commerce, Engineering, Design, Health Sciences, Humanities, Law and Science. Following their time in higher education, many job seekers are assuming entrepreneurial roles immediately, with many assuming modes of work that are different from their fields of study (FICCI & EY, 2016). By exposing such a broad spectrum of students to entrepreneurship education, opportunities for cross-fertilisation of skills and knowledge with subsequent possibilities of innovation are increased (Mangan, 2004). This is necessary not only for institutions to remain relevant, by adapting to market needs, but also crucial for income growth in the economy. Institutions offering entrepreneurship education therefore play a key role in the relevance and value of their contribution to the growing number of graduates seeking career awareness, employability skills, and gainful employment, in a world where the concept of a job for life is becoming increasingly obsolete (Maguire & Guyer, 2004; Mudau & Kruger, 2014).

1.6 Research Purpose and Focus

The purpose of this mixed methods study is to explore the contextual factors affecting entrepreneurship courses (design and delivery) and their subsequent effects on student perceptions of entrepreneurship and entrepreneurship education across multidisciplinary programmes within a higher education institution. To achieve this aim, the research study includes two key objectives:

- To understand the factors affecting entrepreneurship courses offered in multidisciplinary programmes,
- To explore the contextual factors influencing student perceptions of entrepreneurship and entrepreneurship education.

The research objectives of this study were addressed through the following questions:

1. What are the contextual factors affecting the course design and delivery of entrepreneurship courses taught on multidisciplinary programmes at a university of technology?
2. What are the internal and external factors influencing student perceptions of learning in entrepreneurship education?
3. How can the outcomes of this mixed method study provide an alternate perspective on studies in entrepreneurship education through its incorporation of the various elements involved in the design, delivery and positioning of the course in a higher education institution and its subsequent effects on students of multidisciplinary programmes?

Thus, the focus of this research is on entrepreneurship courses offered at the level of higher education across multiple faculties at a university of technology. The quantitative student sample comprised of students between year 1 and year 4, enrolled for a national diploma in entrepreneurship across various disciplinary backgrounds exposed to entrepreneurship courses as units of their programmes. The qualitative sample comprised of educators teaching entrepreneurship courses across the various faculty. The focus of data collection in this research project was to capture the views and experiences of entrepreneurship educators in order to understand the affect thereof on the design and delivery of the entrepreneurship course. At the same time the student responses were elicited to establish whether they were inspired and

stimulated by the entrepreneurship courses and how it affected their perceptions of entrepreneurship and entrepreneurship education.

Further supporting data collected from student surveys served to illustrate the presence of other moderating factors that affect student perceptions of EE and entrepreneurship other than their experience of the course. Thus, survey questions explored the student employment aspirations, prior exposure to entrepreneurship, confidence in future employment prospects, awareness of entrepreneurship education at their institution and student self-ranking of their entrepreneurialism. Additional questions served to gather information around the effect of family and social influence, student beliefs in the possibility of pursuing entrepreneurship and the value they placed on learning business and entrepreneurial skills.

A mixed methods approach was deemed appropriate in the study because it enabled the researcher to collect suitable data representative of both the educator and student perspectives, while meeting the aims of the research objectives. Interviews in the qualitative component provided an understanding of the context in which the entrepreneurship courses were taught and the factors affecting their design and delivery. Student surveys in the quantitative component enabled a larger sample of data collection illustrating the student perspectives of their experiences of entrepreneurship courses and their perceptions of entrepreneurship education.

1.7 Rationale and Significance of the Study

Entrepreneurship courses and programmes, albeit varied in terms of their design and delivery and their implementation and positioning within higher education institutions, are consistent in the problems they present to the entrepreneurship education research community. Kamovich and Foss (2017) emphasised the need for entrepreneurship education research to explore the alignment between the components that constitute entrepreneurship education. In their review on published empirical studies on entrepreneurship education (20 journals over a 15-year period, 2000–2015), they concluded that there was a paucity of research on the teaching objectives, teaching methods, and teaching content of entrepreneurship courses together with a lack of alignment between the objectives, delivery, and assessment of the course impact.

These authors argued that while entrepreneurship education research has been driven by uncovering the link between entrepreneurship courses and their impact on the students, researchers have focused less on the rationality between the elements of teaching and learning objectives, delivery mode and impact assessment mode (Kamovich & Foss, 2017). Similarly, little research has been conducted on the antecedents to a supportive context for entrepreneurship (Bergmann, Geissler, Hundt, & Grave, 2018). In addition, (Nabi, Fayolle, Lyon, Krueger, & Walmsley, 2017) found that inspiration from programmes in entrepreneurship education “remains an under-researched phenomenon that warrants further attention” (p. 289).

With more studies focusing on the effects of entrepreneurship programmes and on the subsequent shift in student self-efficacy often offered in the business school environment, this study shifts the focus of entrepreneurship education to multidisciplinary in higher education. The research aimed to fill a gap in the research on entrepreneurship education by drawing attention to the entrepreneurship course not only offered to entrepreneurship students but also to students outside the business school. These students have limited selection bias as the entrepreneurship course was a mandatory part of their chosen discipline of study. The study also conveys the role and perspective of the entrepreneurship educator in relation to the course design and delivery. Finally, it adds to the sparse conversation in entrepreneurship education on the issue of its positioning and integration (pedagogy, weighting, and assessment) as a discipline of instruction in faculties outside the business school.

The study allowed me to gain a deeper understanding of students’ experiences of entrepreneurship education before considering its impact on their perceptions of the courses. In order to meet this research aim, I conducted an exploratory study at a South African university, where entrepreneurship education was offered in multidisciplinary programmes, in order to (a) examine the contextual factors that shaped the entrepreneurship courses and (b) to learn how these entrepreneurship courses influenced the student perceptions of entrepreneurship and entrepreneurship education and whether the students were inspired and stimulated by the course. I am unaware of any research conducted locally that has addressed entrepreneurship course delivery, in a university context, through the use of a mixed method approach that incorporated the experiences and perspectives of both educators and students of

the entrepreneurship courses. The implications of this research are significant for educational institutions which aim to produce a versatile and agile workforce but can no longer rely on the corporate sector to absorb the majority of their graduates. The world of work has changed dramatically over the past few decades and can be expected to change even more rapidly in the decades to come (Friday, 2018).

This study expects to contribute to the discourse on entrepreneurship education in South Africa by providing insight into the contextual factors contributing towards its effective design and delivery, particularly in a university of technology on multidisciplinary programmes. Contextual factors in this context are served by Rousseau and Fried's (2001) definition of context based on the "Latin root meaning, to knit together or to make a connection" (p.1) and the broader context of higher education systems that offer entrepreneurship as an area of learning and development. Through the insights gained from the data collected and analysed in this research study, I hope to provide a holistic perspective of entrepreneurship when offered as a course component in a multidisciplinary programme within the university context. Furthermore, this research intends to:

- Recognise the role that educators, students, institutions, and society play in shaping and promoting entrepreneurship education within the higher education system.
- Explore alternative frameworks for contextualising the process of teaching an entrepreneurship course within the higher education system.
- Bridge the gap between the practitioner and the academic perspective of entrepreneurship education, with regard to its definition, objectives and implications.

Finally, this research contributes to the field of entrepreneurship education by addressing an issue in relation to the dynamics of entrepreneurship courses when taught on multidisciplinary programmes. It also contributes to the body of research on entrepreneurship education by highlighting the need for greater focus not only on the programme-student effect but also on the educator-programme effect and institution-programme effect. The study emphasises the need for greater focus in entrepreneurship education research on the dynamics of the programme, educator and institution as well as the alignment of these factors and their role in the design and delivery of entrepreneurship courses before measuring the effects

thereof. According to Gartner (1995) as cited in Bull, Thomas and Willard, “observers in the context of entrepreneurship research tend to underestimate the influence of external factors and overestimate the influence of internal or personal factors when making judgements about the behaviour of other individuals,” (p. 70). This study highlights the entrepreneurship course as a unit of analysis and provides an alternate perspective to research in the field of entrepreneurship education with its focus on the impact of EE on student intentionality, learning and teaching models by exploring factors impacting on the course design and delivery. This study further explores these factors by its extension into student perspectives of this unit of analysis as a key contextual factor in the delivery and outcomes of the entrepreneurship course. As Welter (2010) purported the alternate view that studies could explore “how context factors influence the nature and extent of entrepreneurship and not how entrepreneurship impacts its contexts” (p. 175). According to Welter (2010) context is important for “understanding when, how, and why entrepreneurship happens and who becomes involved” (p. 165). The thesis thus further contributes to the general understanding of entrepreneurship courses offered outside the business school environment and makes the point that the unique South African context requires appropriately tailored entrepreneurship education programmes. Although this research was conducted in a South African university, contextual factors affecting entrepreneurship education in the educational environment is a phenomenon experienced globally.

1.8 The Research Site

The research was conducted at a South African university of technology, which differs from mainstream universities through its emphasis on innovative problem-solving and career-directed courses (Farham, 2015). The teaching focus at a university of technology is more on the development of practical skills and less on theoretical concepts, while the qualifications offered are geared toward students becoming technically qualified within a specific field. The level of qualification offered is known as a National Diploma or, for a further year of study, the student can obtain a Bachelor of Technology (BTech) degree. In comparison, a traditional university emphasises theoretical training in a specialised field (Farham, 2015) and is more academically focused than a university of technology. In addition, the levels of qualifications include academic and professional qualifications in undergraduate and postgraduate study. The university of technology in this study was established in 2005 as a result of the merger between

two universities of technology or technikons, as they were previously referred to in South Africa. The merger was part of a national transformation process that transformed the higher education landscape in South Africa. It is the only university of technology in the Western Cape and the largest university in the province. The university is a subsidised, semi-government higher learning institute, with six faculties offering more than 80 undergraduate and postgraduate courses. There are approximately 32 000 students across four campuses and approximately 1890 employees (Mahomed, 2016).

1.9 Outline of Thesis

The thesis is divided into six chapters detailed as follows:

Chapter 1: Introduction

This chapter presents the context of the research study and provides its rationale, research aims and significance. Thereafter it provides a brief overview of the discourse in this field in relation to the research aims of the study. The chapter is concluded by an outline of the thesis by chapter number.

Chapter 2: Literature Review

The chapter is a review of the research conducted in the field of entrepreneurship education. It provides insight into the nature of the research phenomenon, as it exists within the higher education system, and the challenges experienced by the stakeholders in this field are examined. The chapter concludes with insights into entrepreneurship education within the South African context and its relevance to the economy.

Chapter 3: Research Methodology

The chapter presents the research approach and methods used in the research and the philosophical perspective supporting this approach. The nature of the data collection procedures and design, in relation to this mixed methods study are also discussed. The chapter concludes with an illustration of the data analysis techniques used, and the rationale for the data presentation with which this study concludes is outlined.

Chapter 4: Entrepreneurship Course Objectives and Scope

In this chapter an overview of the entrepreneurship courses in this study is presented with regard to the course objectives and scope. A comparative view across discipline and year of study illustrates similarities and commonalities between the entrepreneurship courses.

Chapter 5: Findings and Analysis

In this chapter the qualitative findings and the quantitative results are presented. The qualitative findings draw on the educator views as they relate to the qualitative research question. The quantitative results are drawn from student perceptions of their entrepreneurship courses. The final section of the chapter presents a collective display of both qualitative and quantitative data as merged results that show complementarity and triangulation of the data, in answer to the mixed methods question guiding this research.

Chapter 5: Discussion

The key findings of the research in answer to the qualitative research questions, quantitative research propositions and mixed methods question are highlighted and interpreted. These findings are discussed in the context of other empirical studies in the field of entrepreneurship education in order to establish its positioning within the discourse on entrepreneurship education within the higher education sector.

Chapter 6: Conclusion

The research phenomenon of entrepreneurship courses, as offered within the research context of the study - a university in South Africa - is revisited. The qualitative findings and quantitative results in relation to the guiding research questions and propositions are reviewed. The mixed method question is answered through the presentation of a proposed conceptual model developed as an outcome of this research process. The model is discussed in the context of the qualitative findings, quantitative results, and empirical findings in the field of entrepreneurship education. The chapter concludes with the significance of the outcomes of the research study, its implications for future research in this field as well as its research limitations.

CHAPTER 2

LITERATURE REVIEW

The value of entrepreneurship education to the development and advancement of entrepreneurship is cited by several researchers in this rapidly growing field (Brijlal et al., 2013; Costin, O'Brien, & Slattery, 2018; Erasmus et al., 2013; Fayolle, 2007; Kuratko, 2005; Vinten, 2000). This body of research is of interest for its promise as an enabler of income growth through its ability to bolster entrepreneurship. Growth in entrepreneurial ventures not only means increased income for the country but also the provision of jobs for those individuals unemployed, including the graduate population. According to Hynes (1996), potential entrepreneurs should be prepared to harness and identify opportunities created by the emergence of the SME economy. This literature review will therefore look at the broader landscape of studies conducted in entrepreneurship education, with a greater focus on aspects of entrepreneurship course design and delivery, and the contextual factors that play a contributory role in its effective implementation in higher education institutions.

2.1 Definitions of Entrepreneurship

Gartner (2001) believed that “entrepreneurship scholars need to recognise the very significant differences in the beliefs they hold about entrepreneurship, as this might be a way for them to begin to see how these differences might be aspects of the same whole” (p. 28). Several definitions emerged from the literature on entrepreneurship and entrepreneurship education based on various disciplines and schools of thought. This diversity of conceptualizations and interpretations of what entrepreneurship and entrepreneurs can be a challenge and obstacle to research in this field (Edwards-Schachter, García-Granero, Sánchez-Barrioluengo, Quesada-Pineda, & Amara, 2015). These authors explain that this can “profoundly affect educational purposes, target audiences, courses, content, methodologies and assessment design and procedures” (p. 36). According to Welter (2010) conversations amongst researchers on the diversity of contexts of entrepreneurship enables broader perspectives on its diversity, “which ranges from simple, yet innovative entrepreneurial activities that might serve as stepping stone towards more fundamental ventures in the long run, to growth-oriented and technology-

based ventures” p.178, The nature and context of this study aligns with the following definitions of entrepreneurship as outlined in Table 3.

Table 3: Definitions of Entrepreneurship

Author	Definition
Morris (1998)	Entrepreneurship is the source of strength that allows individuals to continually put themselves into favourable circumstances, regardless of how unfavourable the surroundings are. It enables companies to move quicker, be more nimble, and arrive in places before customers or competitors have been there. It changes the standard by which societies judge themselves, raising the sites and expectations of all citizens.
(Jack & Anderson, 1999)	Entrepreneurship can be defined as a process that is subject to several factors in the internal and external context of its existence, where each entrepreneurial event is unique and as a result of the externalities in that particular context.
(Shane & Venkataraman, 2000, p. 218)	Entrepreneurship involves the study of “sources of opportunities; the processes of discovery, evaluation, and exploitation of opportunities; and the set of individuals who discover, evaluate, and exploit them”.
Barzdin (2012, p. 129)	“An individual’s ability to turn ideas into action and is therefore a key competence for all, helping people to be more creative and self-confident in whatever they undertake”
Erasmus et al. (2013)	Entrepreneurship is the “process of creating something of value from practically nothing in the midst of uncertainty and risk, while having the determination to succeed against all odds” (p. 42).
(Herrington & Kew, 2016)	Entrepreneurship is considered a key driver of sustainable economic growth through job creation, innovation and its welfare effect.

Entrepreneurship can be boosted through many elements within the socio-economic and socio-cultural environment, including government policy. Another accelerator of entrepreneurship, which has received increasing attention in the literature on this field, is entrepreneurship education. Several studies in the field of entrepreneurship education have recognized its value as an enabler to entrepreneurship ((Brijlal et al., 2013; Costin et al., 2018; Fayolle, 2007; Kuratko, 2005), with some studies attributing a lack thereof to poor business performance and limited growth potential (Botes, 2013; Ihua, 2009; Mboniyane & Ladzani, 2011). Entrepreneurship education is a learning area with the potential to influence the knowledge and

skills (von Graevenitz, Harhoff, & Weber, 2010) of the students towards the pursuit and establishment of a new venture. This review will now look at definitions of the entrepreneur and the related skills, attitudes and behaviours before focusing on the literature of entrepreneurship education.

2.1.1 Definition of an Entrepreneur

This study adopted the view that there is no single prototype of the entrepreneur (Morris, 1998). They come from all walks of life and represent a diverse mix of age groups, races, religions, cultures, genders and occupational backgrounds. Increasing attention is focused not only on business entrepreneurs, but academic entrepreneurs, civic entrepreneurs, social and technological entrepreneurs (EDHE, 2018; Luiz & Mariotti, 2011). Earlier studies drew on the psychologists view and focused on who the entrepreneur was, what drove them to do what they did and how they were able to navigate the uncertain terrain of the entrepreneurial landscape (Fayolle, 2007; Gibb, 1996; Luiz & Mariotti, 2011). This resulted in an extrapolation of common characteristics, skills and behaviours visible in those engaged in entrepreneurial activity such as: risk-taking in uncertain environments, creative problem-solving, goal orientated, autonomy, versatility and resourcefulness (Gibb, 1996).

Defining the entrepreneur:

- 1) Historical definitions of the entrepreneur ranged from that of Richard Cantillon (1680-1734) of purchasing items, packaging them and marketing the goods at an uncertain price, to that of Jean Baptiste Say (1767 – 1832) who described the entrepreneur as one who produced and sold a product (Sexton & Landstrom, 2000).
- 2) Entrepreneurs identify opportunities in the marketplace and envision new and creative ways to bring these opportunities to fruition, employing innovation and resourcefulness, while adding value and contributing towards job creation (Erasmus et al., 2013).
- 3) Sarasvathy (2001) described the entrepreneur as an “effectuator: an imaginative actor who seizes contingent opportunities and exploits any and all means at hand to fulfil a plurality of current and future aspirations” (p. 262)

According to Costin et al. (2018) entrepreneurial skills can be associated with the development and creation of new products or services that benefits societal needs and enriches the entrepreneur at the same time. It is therefore important to focus on and invest in the development of individuals to enable and prepare them for a possible entrepreneurial career path. According to (Kirby, 2007) these individuals are regarded as undertakers – people who undertake to make things happen thus changing the status quo and are therefore regarded as change agents. Prior research has provided a list of entrepreneurial skills, attributes and behaviours as shown in Table 4.

Table 4: Entrepreneurial Skills, Attributes and Behaviours

Entrepreneurial skills	Attributes and behaviours
Communication skills (Costin et al., 2018; Kirby, 2004; Rae, 2004)	Commitment, determination and perseverance (Gibb, 1996; Oosterbeek, van Praag, & Ijsselstein, 2010).
Creativity (Erasmus et al., 2013; Ladzani & Van Vuuren, 2002)	Need for achievement (Gürol & Atsan, 2006; Oosterbeek et al., 2010)
Critical thinking (Alberti et al., 2004; Costin et al., 2018; Oosterbeek et al., 2010)	Orientation to goals and opportunities (Alberti et al., 2004; De Clercq, Honig, & Martin, 2013)
Leadership (Alberti et al., 2004; Oosterbeek et al., 2010)	Internal locus of control (Chimucheka, 2014; Erasmus et al., 2013; Gürol & Atsan, 2006)
Negotiation (Oosterbeek et al., 2010)	Tolerance of ambiguity, and uncertainty (Alberti et al., 2004; Gürol & Atsan, 2006; Oosterbeek et al., 2010)
Problem-solving (Costin et al., 2018; Erasmus et al., 2013; Oosterbeek et al., 2010)	Risk-taking (Chimucheka, 2014; Erasmus et al., 2013; Gürol & Atsan, 2006)
Innovation (Erasmus et al., 2013; Ladzani & Van Vuuren, 2002)	Taking initiative and personal responsibility (Gürol & Atsan, 2006; Oosterbeek et al., 2010)

Niewenhuizen and Kroon (2002) in their research study on senior managers and entrepreneurs, identified achievement motivation, an earlier term identified by McClelland as a key factor contributing towards the success of enterprises. McClelland's (1965) study found that individuals with a high achievement motivation gravitated toward entrepreneurial occupations. Niewenhuizen and Kroon (2002) suggested the use of a holistic approach in fostering an entrepreneurial culture in society, where economic and political institutions support the educational system. According to Erasmus et al. (2013), it is necessary to recognise that entrepreneurship is mobilised by the self-efficacy, creativity, skills and expectations of individuals, and that if the entrepreneurial spirit is absent, there will be no production. These entrepreneurial skills include decision-making, a process fundamental to entrepreneurs. Sarasvathy (2001) argued that the notion of effectuation, based on the logic of control, is key to the decision-making selection criteria for entrepreneurs as opposed to causation which is based on the logic of prediction. A distinguishing factor between the processes of causation and effectuation is noted in the set of choices faced by the entrepreneur where the causation processes involves choosing between means to achieve the given effect and effectuation processes "help choose between possible effects that can be created with given means" (Sarasvathy, 2001, p. 251). The development of entrepreneurial skills, attributes and behaviours needs to be incorporated into the learning process as entrepreneurs need a range of skills in order to be successful (Costin et al., 2018), while the developing entrepreneurs need to be educated not only in "knowledge (science), but also new ways of thinking, new kinds of skills and new modes of behaviour (arts)" (Heinonen & Poikkijoki, 2006). Ollila, Williams-Middleton, and Donnellon (2014) agreed and phrased this development of entrepreneurial skills as the identity construction of entrepreneurship education, an aspect which they believed was of equal importance to the content and pedagogical aspects, particularly if the educational objective was learning for the practice of entrepreneurship (Donnellon et al., 2014).

2.1.2 Entrepreneurial Self-efficacy

Studies that focused on understanding the entrepreneur mainly included collecting data on personality traits and factors driving entrepreneurial behaviour. Although great insights have been developed on common attributes of individuals engaged in entrepreneurship, profile development of a typical entrepreneur have reached limited success (Low & MacMillan, 1988). Other than personality traits that influence entrepreneurial behaviour, Boyd and Vozikis (1994)

found in their investigation of self-efficacy that it provided a “more dynamic approach to understanding the process of becoming an entrepreneur” (p. 74). According to Boyd and Vozikis (1994), self-efficacy is a “useful construct in explaining the dynamic process of evaluation and choice” with regard to entrepreneurial intentions and subsequently entrepreneurial behaviour (p. 66). In their research Boyd and Vozikis (1994) expanded Bird’s (1988) model of entrepreneurial intention to include individual self-efficacy as influential to the development of entrepreneurial intentions, actions and behaviours. Chen, Greene and Crick (1998) concluded in their findings that “entrepreneurial self-efficacy was positively related to the intention to set up one’s own business” (p. 295).

This construct of self-efficacy stems from social cognitive theory underpinned by the belief that “people’s beliefs in their capabilities to mobilize motivation, cognitive resources, and courses of action” that will enable them to exercise control over their life events (Bandura & Wood, 1989, p. 364). Lent, Brown and Hacket (1994) described self-efficacy as a dynamic set of self-beliefs that interact complexly with other personal capabilities rather than a passive, static trait. The value of the psychological construct of self-efficacy to the field of education has heightened over the last three decades with increased research on this concept (Boyd & Vozikis, 1994; Chen & Zhou, 2017; Miao, Qian, & Ma, 2017; Piperopoulos & Dimov, 2015). According to McGee, Peterson, Mueller and Sequeira (2009) there remains dissonance among entrepreneurship researchers as to whether a general self-efficacy construct is sufficient or if there is a need for a domain specific view such as entrepreneurial self-efficacy (ESE). Often used as an explanatory variable in studies on entrepreneurial motivations and intentions, this construct measures “a person’s beliefs in their ability to successfully launch an entrepreneurial venture” (McGee et al., 2009, p. 965). Entrepreneurial self-efficacy is defined by Chen et al. (1998) as the “strength of a persons’ beliefs that he or she is capable of successfully performing the various roles and tasks of entrepreneurship. (p. 295). The areas of competence included five factors: marketing, innovation, management, risk-taking and financial control. In Chen et al.’s (1998) study on ESE the respondents included MBA students who attended an elective on entrepreneurship as well as students who selected an organisation psychology elective. Their study measured the entrepreneurial decision of the students on a 5-point scale with the following questions: “how interested they were in setting up their own business; to what extent they had considered setting up their own business, to what extent they had been preparing to

set up their own business, how likely it was that they were going to try hard to set up their own business, and how soon they were likely to set up their own business” (p. 306). Correlations here identified across the sample of respondents that ESE was positively related to entrepreneurial intention and that the number of entrepreneurial friends and relatives as well as the number of business management courses were positively related to the entrepreneurial decision. The study concluded that students who identified a stronger entrepreneurial self-efficacy also showed a stronger intention for starting their own business.

According to Wood and Bandura (1989) there are four ways that self-efficacy beliefs can be strengthened in individuals: (1) mastery experiences (or enactive mastery); (2) modeling (observational learning); (3) social persuasion; and (4) judgments of their own physiological states. Further research on entrepreneurial self-efficacy suggested that training and education can raise the individual’s ESE and contribute to the development of students’ entrepreneurial skills, abilities and attitudes (Chen & Zhou, 2017; Piperopoulos & Dimov, 2015). However, not all programmes or courses in entrepreneurship positively impacts student intentionality to pursue entrepreneurship. As Piperopoulos and Dimov (2015) found that courses with a more theoretical focus led to higher self-efficacy but lower entrepreneurial intentionality, while courses with a greater practical focus resulted in higher self-efficacy with higher entrepreneurial intentionality. According to Graevenitz, Harhoff and Weber (2010), the way students experience the entrepreneurship course could affect their self-efficacy beliefs. On the other hand, Oosterbeek, van Praag and Ijsselstein (2010) believed that when students learn about the complexities of entrepreneurship it could lower their entrepreneurial self-efficacy. At the same time when an individual believes that a certain behaviour is beyond their ability, “he or she will not act, even if there is a perceived social demand for that behaviour”(Boyd & Vozikis, 1994, p. 66). Thus, the construct of ESE has a key role in contributing to studies on entrepreneurship education particularly where the levels of self-efficacy amongst students are tested before and after their experience on an entrepreneurship course, to determine the effects of the course. The key focus of this study is not to highlight ESE as a predictor of student entrepreneurial intentionality but to analyse the entrepreneurship course in relation to its nature and purpose within higher education offered on a multidisciplinary level at a university of technology. The focus on the student is on their experience-based perception of the entrepreneurship course which includes their self-beliefs of capacity for entrepreneurship

amongst other personal and situational factors contributing to their perception of entrepreneurial pursuits. This study also opens up the discussion on efficacy beliefs in entrepreneurship for educators and the institution.

2.2 Entrepreneurship Education

2.2.1 Defining Entrepreneurship Education

Kirby (2004) wrote about the lack of consensus amongst researchers on what constituted entrepreneurship education and how it should be taught. For some scholars it meant teaching students about entrepreneurs and their role and purpose in the economy and society, while for others it was about developing students in entrepreneurial attributes and behaviour while equipping them with business start-up knowledge and skills (Chimucheka, 2014; Fayolle, 2007; Heinonen & Poikkijoki, 2006). This meant developing entrepreneurs who are not only knowledgeable in creating new ventures, or even possessing the functional tools to enable them to do so but are also “equipped with a set of personal attitudes and competences that enable them to see opportunities and bring them to fruition” Kirby (2004, p.22).

Earlier researchers have defined and interpreted entrepreneurship education as follows:

- a) It refers to the “activities aimed at developing enterprising or entrepreneurial people and increasing their understanding and knowledge about entrepreneurship and enterprises” (Heinonen & Poikkijoki, 2006, p. 81).
- b) It is a critical success factor where the individual sees entrepreneurship as a viable career alternative for him/herself (Holmgren & From, 2005).
- c) It includes the areas of business (management) skills development, technical skills in using the knowledge gained in a discipline, and entrepreneurial skills which includes new venture creation and entrepreneurial traits (Nieman, 2001).
- d) It is the “purposeful intervention by an educator in the life of the learner to impart entrepreneurial qualities and skills to enable the learner to survive in the world of business (Isaacs, Visser, Friedrich, & Brijlal, 2007, p. 614).

Entrepreneurship education, when designed and delivered within the framework of these definitions, could serve as a key resource for potential and existing entrepreneurs, while exerting a positive influence on the feasibility and desirability of an entrepreneurial career path. Should entrepreneurship education therefore be viewed as an opportunity to develop entrepreneurial skills, attributes and behaviours with business knowledge across disciplines, it could contribute towards a more transversely equipped graduate, with enhanced employment prospects. Alberti et al. (2004) agrees arguing that entrepreneurship education encourages entrepreneurship and pursuit thereof could lead to value creation for the individual and society.

2.2.2. The Impact of Education in Entrepreneurship

Entrepreneurship education certainly has a positive impact on student intentionality (Pittaway & Cope, 2007), although it differs in the level of intensity. This level of intensity depends on the context of the entrepreneurship course and factors such as entrepreneurship programmes, improved business knowledge and skills, and support of the higher education institution which can also have a positive effect on shaping entrepreneurial intent. Prior studies have termed this inclination to engage entrepreneurially as student propensity for entrepreneurship, entrepreneurial orientation, entrepreneurial intent and entrepreneurial mindset (Fayolle, 2007; Gibb, 1996; Isaacs et al., 2007; Pittaway & Cope, 2007). According to Bergmann, Geissler, Hundt and Grave (2018), when students were exposed to entrepreneurship education, they were likely to feel encouraged to engage in entrepreneurial behaviour and became aware of entrepreneurial opportunities in their environment. However, Lorz, et al. (2013) argued that it was mainly students who had an interest in entrepreneurship who selected entrepreneurship as a subject, although, offering entrepreneurship as a compulsory subject to all students across disciplines, exposes them to it, whether they come into the programme with an initial interest in entrepreneurship or not. Hence, an integrative educational experience can promote the formation of technology transfer from the learning institutions to the market, the formation of new businesses, and create a link between the business and academic communities. There are many aspects in the business operating environment that could boost and support company growth and success when improved (Kritikos, 2014). Examples of these include simplified legislation around business start-ups, a regulatory environment that accommodates and considers the organic growth-related needs of small business in its compliance requirements, and a supportive policy environment to enable and encourage the entrepreneurial journey.

However, these key aspects are slow in their implementation and in South Africa, are still in their infancy, which is why it is important to enable the entrepreneur with knowledge and skills to navigate this rough terrain. Other researchers in this field have also emphasised the value of entrepreneurship education to bolster entrepreneurship (Chen & Thompson, 2016; Costin et al., 2018; Isaacs et al., 2007; Lazear, 2011; Urban, 2013).

2.2.3 Growth of Entrepreneurship Education

Despite the ongoing debate about what entrepreneurship education is and whether it can be taught (Fayolle, 2007; Gibb, 1996), it has experienced enormous growth since Miles Mace taught the first course in entrepreneurship at Harvard University in 1947 (Rae & Woodier - Harris, 2012). Lorz et al. (2013) highlighted the rise in the demand for entrepreneurship education and the subsequent increase in the number of university institutions offering entrepreneurship education, while Kuratko (2005) citing an explosion of 2200 entrepreneurship courses in 1600 schools. The global growth in the demand for entrepreneurship courses has led to a surge of interest in entrepreneurship education as a field of study with several studies being conducted (Donnellon et al., 2014; Fayolle, 2007; Holmgren & From, 2005; Kirby, 2004; Luiz & Mariotti, 2011; North, 2005). Entrepreneurship education has also gained more recognition for its value as an area of learning, teaching and research (Barzdins, 2012; Co & Mitchell, 2006; Kuratko, 2005) with a significant number of studies conducted on teaching and learning pedagogy, institutional policies towards entrepreneurship education and the mapping of provision of teaching programmes in the subject (Pittaway & Cope, 2007). The major themes emerging from a systematic review on the literature in this field by Pittaway and Cope (2007) included teaching entrepreneurship (35.2%), management training (26.7%), enterprising university (25.5%), and student entrepreneurship (18.59%).

2.2.4 Teaching Entrepreneurship

Although entrepreneurship education has been identified as one of the key entrepreneurship framework condition indicators with a direct influence on the entrepreneurial dynamics of an economy (GEM, 2015), there is tension in the literature on whether entrepreneurship can be taught. Hindle (2007) argued that entrepreneurship scholars often dismiss this age-old but highly prevalent belief that entrepreneurship cannot be taught as trivial and pay little attention

to refuting it as incorrect. Teaching entrepreneurs is no different to teaching students in other disciplines and some in their profession will be better than others. Hindle (2007) uses the example of doctors, where some are more talented than others due to a “combination of different intrinsic factors (intelligence, natural dexterity), different levels of stimulus, and extrinsic factors (deeper study, more practice at the craft)” (p. 108). According to Birch, entrepreneurship skills are teachable but, he argues, schools and educators teaching them are not suited to entrepreneurship education (Aronsson, 2004). Many researchers who believe in the value and importance of entrepreneurship education have argued that it can be taught and focus their research efforts on developing the aspects of entrepreneurship education that can be improved to benefit this discipline and strengthen its academic legitimacy and social validation (Brijlal et al., 2013; Costin et al., 2018; Fayolle, 2007; Kuratko, 2005; Morris, 1998; Mudau & Kruger, 2014; Urban, Van Vuuren, & Barreira, 2008). Their efforts have resulted in various research studies that conclude entrepreneurship can and should be taught, while contributing valuable insights to the field and enriching the understanding thereof. Some of these are highlighted in Table 5.

Table 5: Perspectives on Teaching Entrepreneurship

1985	Drucker	Strongly suggested that entrepreneurship education could be taught
1996	Hynes	Emphasised that there was a growing need to teach and nurture entrepreneurship while focussing research studies on the best way to teach it.
2004	Alberti, Sciascia and Poli	Entrepreneurship education fosters entrepreneurship, with subsequent positive outcomes on individuals firms and society.
2005	Kuratko	Stated that an entrepreneurial perspective could be developed and that entrepreneurship education could be taught.
2007	Fayolle	Argued that entrepreneurship can be taught, and ought to be taught.
2010	Kaplan and Warren	Argued that entrepreneurship could be learned by developing the right characteristics.
2018	Costin, O’Brien and Slattery	Suggested that game simulation can be integrated in the curriculum to enhance entrepreneurial skills development

Therefore, it is clear from several noted scholars that entrepreneurship education can be taught, and that careful consideration is needed for what is being taught, who is teaching it and how it is being taught. At the same time, incorporating the profile of the student and the environmental context are essential to ensuring that the course is designed and delivered effectively. This view is supported by Kamovich and Foss (2017), who remind us that, “ entrepreneurship education interventions do not operate in isolation” and that they are “influenced by the context that surrounds them” (p.14). For them, the framework for teaching entrepreneurship is inclusive of many interacting elements such as teachers, students, the teaching context, learning activities, and course outcomes. A recent study by Viinikainen et al. (2016) looked at the profile of the student leaning to the view of the born entrepreneur and whether the entrepreneurial personality appears early in life. Their study on Type A behaviour traits, identified the leadership dimension (the desire to win or take charge) as relevant to the adolescents’ entrepreneurial propensity and success and suggests that “personality characteristics measured in adolescence could be used to predict entrepreneurial intentions and success” (p. 11). Other than research conducted on aspects of the student, the teaching context and learning activities are a key area in considering the ‘teachability of entrepreneurship’. As Edwards-Schachter et al. (2015) found in their study of entrepreneurial competencies amongst American and Spanish students that creativity was perceived as highly relevant, yet it did not appear to be promoted by the education system or within the training planning of the institutions. In their study, the Spanish students in comparison to the American students felt that the education system made a very poor contribution to the development of their entrepreneurial competencies. According to Heinonen and Poikkijoki (2006) the value of teaching entrepreneurship lies in “integrating knowledge, experience and action within one entrepreneurship programme” (p. 88), where the student gains not only the knowledge(science) but also “new ways of thinking, new kinds of skills and new modes of behaviour (arts)” (p. 84).

Themba and Josiah (2015) in their study on entrepreneurship development in Botswana, Africa, argued that fostering entrepreneurship means acknowledging the contribution of formal education and training as well as identifying individuals with entrepreneurial characteristics and supporting them. The stance of their government was that either way the growth of entrepreneurship needed to be cultivated. While Hindle (2007) favoured the human capital approach referring to the age-old debate of whether entrepreneurship can be taught as the

“hoary old non-teachability chestnut” (p. 110), one which needs to be tossed in the fire). Hindle (2007) concludes that “there is no priori reason that entrepreneurship cannot be taught” emphasising that “we can teach it; we can teach about it and teach it in lots of different ways and places” (p. 110).

2.2.5 Efficacy in Entrepreneurship Education

Pittaway and Cope (2007) argued that measuring the effectiveness of entrepreneurship education could be problematic as the outputs (objectives) of entrepreneurship education were generally unclear amongst academic institutions. This is not surprising given the fact that no consensus has been reached on a uniform definition for entrepreneurship, and subsequently entrepreneurship education (Fayolle, 2007). Piperopoulos and Dimev (2015) agreed explaining that the term “entrepreneurship course, cannot be treated as monolithic” and that there should be more “in-depth examination of its nature and purpose” (p. 4). According to Alberti et al. (2004), the goals of the entrepreneurship programme should correlate with the programme audience, the course or module content, pedagogy and methods of assessment for entrepreneurship education to be effective. Further to this, these programmes should also be subject to rigorous evaluation and assessment (Fretschner & Weber, 2013).

At Ulster University, where they introduced entrepreneurship education as a module, they still achieved many aims that could benefit both the student and the university, although the students may not all have been transformed into business tycoons, according to Maguire and Guyer (2004). One of the aims was gaining insight into the culture of enterprises and awareness of the feasibility of establishing and engaging in an entrepreneurial venture (Maguire & Guyer, 2004). Alberti et al. (2004) agreed that education had a positive effect on the knowledge base of the entrepreneur, improved their communication skills with stakeholders and enhanced their ability to evaluate opportunities. The same could apply for developing their ability to evaluate risk and improve the quality of their decision-making.

The effectiveness of any programme, whether in entrepreneurship education or other fields, depends on what that programme sets out to achieve and what efforts are made in pursuit of achieving those aims (Jack & Anderson, 1999; Maguire & Guyer, 2004). The literature in this

field has evidenced that the way entrepreneurship and entrepreneurship education are defined depends on its research context, i.e. the country and university where it is being studied. Because the entrepreneurial culture varies from region to region, and across universities, its definition needs to be adapted accordingly in order to provide enabling parameters particular to that context. In an emerging economy, it may mean providing awareness and stimulation amongst students to consider entrepreneurship as a career option, while preparing them with the basic tools for a career in self-employment or as a survivalist entity. At the same time in a developed economy, it may mean focusing more on innovation, creativity and the development of opportunity driven skills. Both these definitions may also apply in one economy, or one region where there are fluctuations in the skills and affluence of the students.

Thus, what constitutes effectiveness of an entrepreneurship programme, may not always be the production of entrepreneurs or entrepreneurial intent with immediate effect, but should rather be measured according to the objectives of the specific programme. It is also important to remember the role of entrepreneurship education as a bolster of entrepreneurship in its contribution to economic growth, thus flexing its paradigms in a way that is not constrictive but allows it to progress as a field, academically, and in its societal and economic contributions. Urban et al. (2008) reflecting on past research findings, believed that those with formal education tended to start high-potential ventures with substantial growth prospects. This view was supported by Morris, Pryor and Schindehutte (2012) who asserted that education and training was accompanied by increased confidence in abilities, future awareness and orientation, and opportunists who tended to produce more high-growth ventures. Sexton and Landstrom (2000) felt that when a team was enabled, their capabilities could help them overcome, or even avoid, problems, barriers and challenges related to the business growth. Piperopoulos and Dimev (2015) opined that the nature of entrepreneurship courses in an educational setting creates a “contextual frame for entrepreneurship in promotion or prevention terms” (p. 2). These authors argued that when students’ self-efficacy beliefs are associated with this contextual frame of the entrepreneurship course, they can strengthen or weaken the student intention for future entrepreneurial pursuits.

2.3 The Role of the Curriculum in Entrepreneurship Education

2.3.1 Objectives in Entrepreneurship Education

A systematic literature review by Pittaway and Cope (2007) on the need to understand what entrepreneurship education was trying to achieve resulted in categorising the outputs of entrepreneurship education into two forms: the enhancement of graduate employability and the encouragement of graduate enterprise. These authors believed that it was possible to understand entrepreneurship education systemically through the identification of contextual factors, inputs into a system, educational processes, and outputs. Rigour in learning outcomes and emphasis on the process and substance of learning are key support mechanisms in entrepreneurship education and enable a holistic learning approach through the balance of right brain, creative, intuitive thinking with left brain, analytical thinking (Vinten, 2000). Kroon and Meyer (2001) supported this view and reflected on the learning culture of the past education system in South Africa which, according to these authors, leaned towards a teacher/reproduction, rather than a learner/experimental culture. Here the focus was more on left brain linear thinking and less on creativity and right brain focus. As discussed above, the inputs into entrepreneurship programmes are varied in nature, depending on various factors including the institution, society and government policies. One factor that contributed to the diversity of inputs into entrepreneurship courses was the polysemy of the outputs such as graduate ventures, general education, business education, improved employability and business skills. This, Pittaway and Cope (2007) maintained, was because the objectives were often unclear as to what the programme offering entrepreneurship education was meant to achieve.

2.3.2 The Scope of Entrepreneurship Education Programmes

Educating students on the aspects of entrepreneurship often depends on what those aspects are, as conceived by the social, economic and cultural environment in which it is being delivered and by the educators and institutions facilitating the entrepreneurial courses (Fayolle, 2007; Pittaway & Cope, 2007). According to Lorz et al. (2013), entrepreneurship courses, activities and programmes all differ, including their pedagogy, cultural settings and participant profiles. Kao (1997), as cited in Kirby (2004), claimed that entrepreneurship education was not just about new venture creation or small business management, but rather about making a change.

The entrepreneurship course must therefore include awareness of entrepreneurship as a career option (Jack & Anderson, 1999; Maguire & Guyer, 2004; Mudau & Kruger, 2014). This role of entrepreneurship education was affirmed by Mudau and Kruger (2014), who found in their study at a South African university that the curriculum had a purposive role in developing the student and preparing them for entrepreneurship as a career option. Case studies conducted on the skills of SME service providers in South Africa in order to address the issue of high business failure rate amongst SMEs, identified three skills dimensions of entrepreneurial performance training. According to Ladzani and van Vuuren when training is of a high quality and trainers are experts in their fields, it could lead to reduced failure rates of small and medium businesses, increased profits and company growth and sustainability. The three dimensions of the content of entrepreneurial performance training is outlined in Table 6 (Ladzani & Van Vuuren, 2002).

Table 6: Content of Entrepreneurial Performance Training

Motivation	Entrepreneurial Skills	Business Skills
Need for achievement	Creativity	Business Management/leadership skills
Ability to inspire	Innovation	Business Plans
Expectations of the high achiever	Risk-taking Propensity	Financial skills
Obstacles or blocks	Ability to identify opportunities	Marketing skills
Reactions to success or failure	Vision for growth	Operations skills
Support	Interpret successful role models	Human Resource skills

Source: Adapted from Ladzani and van Vuuren (2002)

The curriculum for those intending to pursue entrepreneurship should include a variety of skills development within the educational system or in the working environment (Chen & Thompson, 2016), while work-integrated learning provides the opportunity for students to learn more about the working environment (Mudau & Kruger, 2014). The entrepreneurship curriculum should include the spectrum of entrepreneurial experience from start-up to growth and maturity of the enterprise. This does not necessarily mean broadening the course offerings but increasing the quality and focus thereof (Fayolle & Kickul, 2007).

According to the Interman Directory (1991) the scope of entrepreneurship programmes typically includes new venture creation and/or small business management with little focus on developing entrepreneurial skills, attributes and behaviours (Kirby, 2004). It classified entrepreneurship programmes into the following three types:

- 1) Entrepreneurship orientation – focuses on general information about entrepreneurship and encourages entrepreneurship as a career option amongst participants.
- 2) New enterprise creation – develops competencies that lead to self-employment, economic self-sufficiency and employment generation.
- 3) Programmes that focus on small business survival and growth.

According to Isaacs et al. (2007), learners can benefit from the learning process when teacher-training programmes incorporate the two themes of (a) the entrepreneur as a person, and (b) the entrepreneurial process as shown in Table 7.

Table 7: Themes of Entrepreneurship Teacher-training Programmes

The Entrepreneur (as a person)	The Entrepreneurial Process
<i>Entrepreneurial qualities</i> , e.g. achievement motivation, creativity, decision-making, initiative, innovation, locus of control, and risk taking.	<i>Economic education</i> , e.g. unemployment, economic growth, tax, personal financial management, productivity, and industry knowledge.
<i>Entrepreneurial skills</i> , e.g. strategy formulation, leadership, planning and time management, financial concepts, communication and negotiation skills, and self-knowledge.	<i>Business idea</i> , e.g. searching for an idea, creativity, and innovation, compiling a business plan, and starting a business (Costin et al., 2018; Hynes, 1996).

The Consortium for Entrepreneurship Training (2004) perceived entrepreneurship education as a life-long learning process consisting of five stages. Their learning model also incorporated the themes of the entrepreneur – the person and the entrepreneurial process, as outlined by Isaacs et al. (2007). The five-stage model of entrepreneurship training prepares the student for an entrepreneurial career by moving through a series of learning objectives designed to develop both entrepreneurial skills and business skills on various levels. The first three stages introduce the economic context within which the student would need to operate after graduation, while

starting with early career identification prospects. Within these stages the student is also exposed to basic entrepreneurial competencies and business applications of their selected occupation, while being given the opportunity to develop a sense of real-world business-related issues. Stages four and stage five are linked to job experience development, with the focus on job training and education. During these stages, the student is introduced to policy and procedure development related to their industry and is exposed to problem-solving and growth strategies. The five-stage model of entrepreneurship is graphically presented in Figure 2.

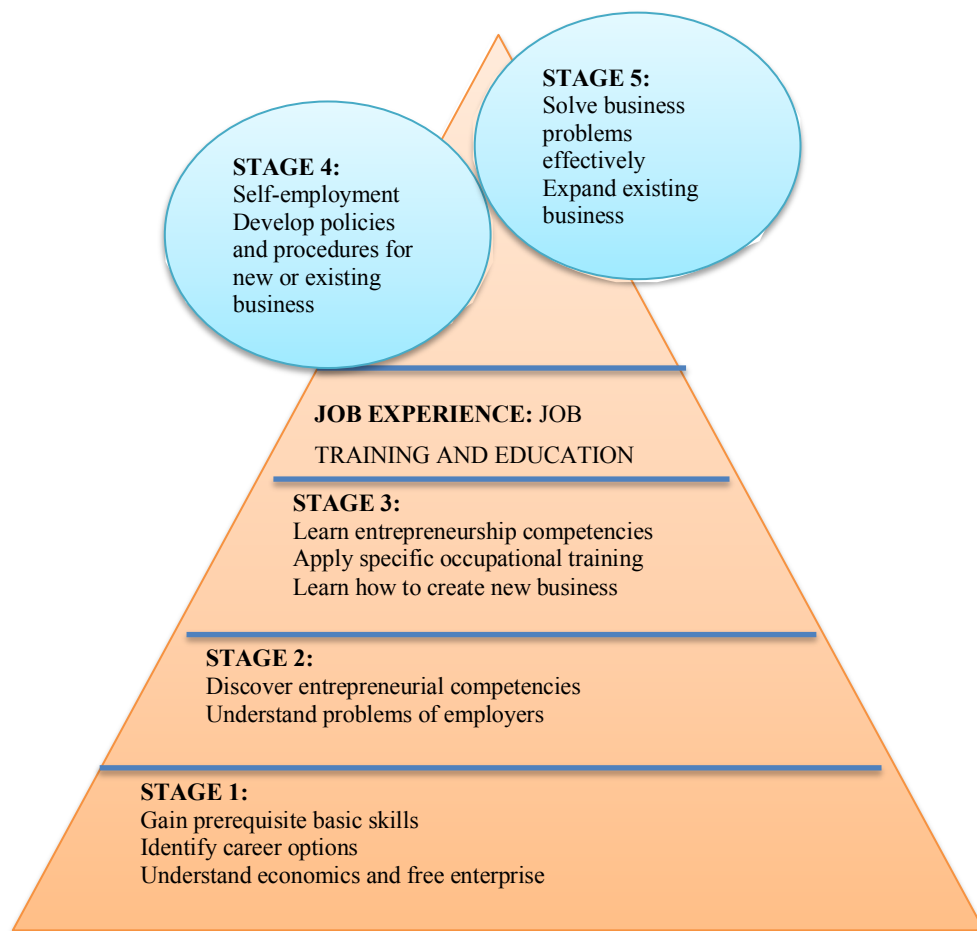


Figure 2: Five Stage Model of Entrepreneurship Training

Source: Consortium for Entrepreneurship Training (2004)

This model is sufficiently versatile to be implemented in entrepreneurship courses across disciplines and spanning across a three to four-year undergraduate programme. It could also

intensify its entrepreneurial focus by the inclusion of entrepreneurial skills and exposure to entrepreneurial role models during Stage 1 through to Stage 5 of the programme.

2.3.2.1 Apprenticeships in Entrepreneurship Education

The five-stage model in Figure 2 could also be adapted to flow within a typical three to four-year undergraduate programme, where the entrepreneurship module is facilitated in stages along with the student development, both technically and academically. The objectives of stage three are to learn entrepreneurship competencies, apply specific occupational training and learn how to create new business, are ideally suited to link with work integrated learning modules. These modules are normally offered in the third or fourth year of study and usually span between three to six months of the programme. According to Mudau and Kruger (2014), work-integrated learning presented the student with opportunities to learn more about and be exposed to the working environment. Thus, work integrated learning, when applied to entrepreneurship education, could be presented as an apprenticeship with an entrepreneur, where students have an opportunity to apply not only their technical skills, but also their entrepreneurial skills. Birch suggested the inclusion of apprenticeships into the entrepreneurship curriculum, a process he explained that occurred in the training of most professions (Aronsson, 2004). When applied to entrepreneurship education, the student could select a small or medium size business in which to gain their work experience. There they would be exposed to practical aspects of their profession, the reality of the highs and lows, and the skills and characteristics required of an entrepreneurial career. An initiative like this provides the opportunity for the student to develop valuable skills, it creates awareness and offers insight into entrepreneurial ventures over and above the practical application of their technical/professional skills, as would be the case in a corporate/larger firm. Exposure to entrepreneurship, through work-integrated learning, may stimulate awareness and propensity for entrepreneurship among students (Maguire & Guyer, 2004), in the same way that exposure to large firms could entrench the route of being an employee as the only and most suitable option. When entrepreneurship is offered as a course component in multidisciplinary programmes, it allows students to combine their entrepreneurship course with their discipline of choice when applying for their work-integrated learning component of the programme.

2.3.3 Pedagogy in Entrepreneurship Education

The institutional approach to the implementation of entrepreneurship education and its pedagogy is often governed by its embeddedness within the institution as well as by government policy (Gibb, 1996). Debates on appropriate pedagogy have therefore centred on what entrepreneurship education means to the institution and what they hope to achieve (its outputs) in the context of the wider society and culture within which the institution is rooted (Pittaway & Cope, 2007).

Previous studies on pedagogy in entrepreneurship education found that there were extensive variations in the teaching methods employed in entrepreneurship education and that these variations were often linked to assumptions of what entrepreneurship education was (Fayolle, 2007). However, irrespective of conceptual differences in understanding how entrepreneurship should be taught and its variety of teaching contexts, entrepreneurship education has still needed to include teaching and learning activities that support its defined objectives (Kamovich & Foss, 2017). Preferred methods of teaching entrepreneurship included: action learning (Antonites, 2003; Rasmussen & Sørheim, 2006); new venture simulations (Costin et al., 2018), and mentoring (Alberti et al., 2004; Tisani & Madiba, 2013). While commonly used pedagogical methods were reading, lectures, guest speakers, case studies, on-site visits, research papers, theses and workshops. Laukkannen (2001) distinguished two areas of entrepreneurship education, those of (a) education about entrepreneurship and (b) education for entrepreneurship, while a further pedagogical distinction was made by Gibb (1996) who was amongst the first researchers to describe approaches to learning as ‘through entrepreneurship’. Table 8 illustrates the areas and learning approaches of entrepreneurship education:

Table 8: Areas of Entrepreneurship Education

About Entrepreneurship	For Entrepreneurship	Through Entrepreneurship
<p>Based on transference of knowledge about the field, developing and learning theoretical concepts relevant to entrepreneurs and the entrepreneurial process (Isaacs et al. 2007).</p> <p>Teaching methods used in this approach include consulting services by students and researchers</p>	<p>Emphasis placed on the learning experience and the development of competencies and skills, practical experience enhances the managerial skills of entrepreneurs (Lange, Marram, Brown, Marquis, & Bygrave, 2014).</p> <p>Teaching methods used in this approach include videos, practical work, writing business plans, computer simulations, role-playing games, working with entrepreneurs (Costin et al., 2018; Kaijage & Wheeler, 2013)</p>	<p>Process based or experiential learning approach. Learning by doing , where students go through an actual entrepreneurial learning process (Edwards-Schachter et al., 2015).</p> <p>Teaching methods used in this approach is more student and activity centred, such as curricular and extra-curricular outreach activities.</p>

Gibb (1996) argued that an enterprising teaching approach was essential for connecting conceptual knowledge to a range of entrepreneurial behaviours. Morris (1998) agreed, stating that traditional teaching methods might stifle entrepreneurship. The discussion on pedagogical methods identified earlier that guest speakers and role models were more than a means of knowledge transfer to an entrepreneurial student. Vygotsky's (1978) early contributions to constructivism identified that social learning played a key role in the process of cognitive development, where the engagement with entrepreneurs in a learning environment allowed the student to develop on a social and individual level (Reis, 2015). Vygotsky also referred to a more knowledgeable other, as any individual who had a better understanding about a particular knowledge area than the student. It could be the educator, a peer or even input from the internet. Observing entrepreneurs also contributed toward the development of an entrepreneurial perspective for the student and presented an opportunity where the student could learn from the experiences of the entrepreneur, while gaining insight into their personality traits and characteristics as applied to entrepreneurial activities and behaviour (Kuratko, 2005; Pandit, Joshi, & Tiwari, 2018; B. Singh, Verma, & Rao, 2015).

Ultimately the success of a programme is measured in its outcomes which should not only reflect the quantity of learning gained about entrepreneurship or whether “students are

satisfied with the courses, but also whether they are inspired from the programme” Nabi et al.(2017, p. 289). Limited research on novel ways of assessing the impact of entrepreneurship education has been conducted as Nabi et al. (2017) found in their systematic review of 159 published papers between 2004 – 2016. The review identified only four studies that explored the approach of emotion in assessing the impact of entrepreneurship education programmes. Souitaris, Zerbinati and Al-Laham (2007) cited inspiration as the key benefit of entrepreneurship education linking it positively to entrepreneurial intentions. This perspective could be extended to the role of the educator in delivering the content of entrepreneurship courses in a way that inspires and stimulates student thinking and behaviour. Bechard and Gregiore (2002), in their review on 112 journal articles on entrepreneurship education at university level, argued that due to the scholarly focus on ‘what’ should be taught, less focus is placed on ‘how’ entrepreneurship education should be taught and how both entrepreneurship students and practitioners could master the content of these courses. They further argued that most scholars have limited pedagogical training and proposed that “questions of knowledge transfer and education are likely to remain peripheral for them” (p. 13-14).

2.3.4 Assessment in Entrepreneurship Education

The assessment criteria need to be aligned to the pedagogic practices and intended outcomes of the entrepreneurship course in order for it to be delivered effectively (Kamovich & Foss, 2017). This alignment was captured by Biggs (1999) in the model of constructive alignment. According to Biggs (1999) when designing teaching methods consideration of the intended outcomes are crucial in order to elicit what was intended by the curriculum objectives. The model provides a formula to guide curriculum structure for entrepreneurship education and can be applied in most contexts where it is offered (p. 360). The model of instruction advocates that:

- Teachers are clear about what they want students to learn and how that learning should manifest in terms of their performance and understanding
- Opportunities need to be provided for students to demonstrate and elicit the required learnings
- Required evidence that the learning has met the stated objectives should be derived from either teacher-set or learner-set tasks

According to Maguire and Guyer (2004), students were more motivated when they saw a purpose and relevance to the assessment tasks. This model of assessment could benefit entrepreneurship education in that:

- a) it addresses the discourse in the literature on entrepreneurship education around the existence of unclear course objectives.
- b) it requires creativity and purposive design of the assessment tasks.
- c) it provides an ideal opportunity to link the entrepreneurship course to other subjects in the programme.

According to Cameron (1999), assessment could have two objectives: a main objective and a secondary objective. Assessment did not end at graduation and student life was an opportune time to develop important life skills. Cameron further explained that the main objective was to be clearly identified by the course outline or instructor and it should assess whether the student had learnt enough to pass. In this process, the educator was to be cognisant of maintaining institutional standards. Enough, in this context, meant that students were able to show understanding and practical application of the concepts and techniques they learnt in class (Cameron, 1999). The author recommended the use of case studies, to test the student's ability to use "relevant concepts appropriately, even creatively in a particular situation" (p. 151). This would aid the educator in achieving the secondary objective of assessment that of helping learning take place. These techniques have been used with students across disciplines of study as learning how and when to apply knowledge is a transferable skill, regardless of the career choice. When applying this view of assessment in the context of entrepreneurship courses, it raises questions around what constitutes effective teaching methodologies and the way in which these courses are assessed. In addition to the steps of alignment discussed earlier in Biggs (1999) model of constructive alignment, there is also the importance of aligning the assessment in entrepreneurship education with the course objectives (primary and secondary), as outlined by the course curriculum, its educator and the department within which it is offered.

2.4 The Role of the Institution

According to Isaacs et al. (2007), the interest in entrepreneurship is cultivated at school level and tertiary level and where young people should be taught the skills, knowledge and attitudes

to create their own future, manage their own affairs, and solve their own problems. Schools offering entrepreneurship education therefore play a key role in the relevance and value of their contribution to the growing number of graduates seeking career awareness, employability skills and gainful employment (Maguire & Guyer, 2004). Universities also play an exigent role in creating a climate that fosters entrepreneurial thinking and behaviour (Costin et al., 2018; Hynes, Costin, & Birdthistle, 2010; Maguire & Guyer, 2004).

The National Council for Graduate Entrepreneurship (NCGE) was launched in the United Kingdom (UK) in 2004 to develop the link between industries, students and HEIs. Its aims included the facilitation of an efficient ‘enterprise culture’ within UK universities. A positive and encouraging entrepreneurial culture at universities was necessary for the successful implementation of entrepreneurship courses as it was within this culture that educators taught, students learnt and career initiatives were launched. A recent study at German universities found that students felt more inspired to engage entrepreneurially through idea generation when their university offered entrepreneurship competitions and faculty officers were visibly involved in these activities (Bergmann et al., 2018). However, support from the universities was lacking as the study showed that only 0.39% of the total university budget was spent on supporting entrepreneurship. It is unfortunate when a lack of support is shown in this way, as “universities can serve as engines for entrepreneurship development as they are ideally located to unlock creativity and innovation” (Harvey, 2013, p. 1), while at the same time they play an instrumental role in catalysing entrepreneurship through the development of entrepreneurial capabilities. Developing these capabilities would include engaging students with the concepts of risks and rewards, and business creation and destruction at graduate and postgraduate level (Davies, 2001; Rae, 2004). For this reason, universities are responsible not only for teaching and research, but also for fulfilling the task of being regional engines for innovation and economic growth (Laukkanen, 2003).

Since the 1930s, the trend in business education in American universities has been to provide professional training which simply prepares the business school graduate for a life of work as an employee (Örtenblad, Koris, Farquharson, & Hsu, 2013), as opposed to developing entrepreneurial characteristics in their students (Kirby, 2004; Gibb, 1996). Vinten (2000) agreed, stating that the past educational systems placed greater emphasis on traditional school

education in the form of academic knowledge, i.e. theoretical dominance with less practical application, than on encouraging the spirit of entrepreneurship, which would encourage creative and entrepreneurial talents. According to Kirby (2004), educational systems in the past were not geared towards the development of entrepreneurship and self-employment but rather to the production of employees for larger companies. However, this was at a time when the economy was robust enough to absorb the increasing number of graduates who were trained mainly for the job market (Munyanyiwa & Mutsau, 2015). The world of work is changing and universities need to reassess their mission to nourish entrepreneurship and support opportunity creation and discovery, linking it to the institutional strategy (Hazeldine & Miles, 2007).

It is important to note however, that the approach and capability of the institution, in the provision of entrepreneurship courses and their intended outcomes, are influenced directly and indirectly by factors within that institution's environment such as the university context (its infrastructure, supply of faculty and commercial policies) and its interface with other organisations such as academic entrepreneurship, outreach activities, student entrepreneur activities and management development activities (Pittaway & Cope, 2007). Yet, Ladzani and van Vuuren (2002) have argued that for an institution to claim that it provides entrepreneurship training is not enough; the content and process of what is provided, the analysis of potential entrepreneurs and the expertise of trainers also play an important role. The support of the business community is also a key contributor to fluid implementation of entrepreneurship education in the university, through the provision of education, training, role models and financial support. Therefore, for entrepreneurship education to become embedded in the university context, a successful culture of entrepreneurship needs to be established, through alignment between stakeholders and participants in the higher education environment (Bergmann et al., 2018). According to Mugler (2000), the entrepreneurial spirit could be fostered by an appropriate framework; however if entrepreneurship was not valued within a societal culture, the government subsidies and other forms of economic support to encourage entrepreneurial development might be ineffective. Therefore, in order for an entrepreneurial economy to flourish, it must be supported by business and government structures and be valued by society. This need for support and value should also be extended to all the tenets of entrepreneurship, including its educational institutions and academic structures.

Entrepreneurship requires leadership from not only from the university management but also from the society within which it operates, as concluded by Mudau and Kruger (2014).

2.4.1 Positioning Entrepreneurship Education in Higher Education Institutions

Although the literature on entrepreneurship education advocates that entrepreneurship courses are required to be integrated, supported and developed within the higher education system, the question remains how and where. Debates around the place of entrepreneurship education in universities have been part of the entrepreneurship education dialogue since the initial, yet ongoing, discussions about what entrepreneurship education is, and whether it can be taught (Chimucheka, 2014; Drucker, 1985; Fayolle, 2007; Gibb, 1996; Kuratko, 2005; Rae & Woodier-Harris, 2012).

According to Bergmann et al. (2018), the way that entrepreneurship courses have been positioned within university programmes have important implications for improving the entrepreneurial climate at the university, whether as a compulsory course component or an elective module. According to these authors, students may have been unaware of entrepreneurship prior to their being exposed to it as a compulsory module on their programme. The students in their study were required to take the entrepreneurship course, regardless of their entrepreneurial intentions or attitudes. According to Birch, many business schools taught the opposite of entrepreneurship, in that they taught the student to work for somebody, to be a “good servant” (Aronsson, 2004, p. 290). He further explained that teaching people to work for entrepreneurs was not the same as teaching them to become entrepreneurs. This discourse around the positioning of entrepreneurship education courses is part of a global phenomenon, especially since its expansion from the business school to other faculties, including humanities, medical sciences, social sciences and numerous technical fields (Barzdins, 2012; Mangan, 2004; Turner & Gianiodis, 2018). When reflecting on previous literature reviewed in this study, it would appear that the positioning of the entrepreneurship course should not detract from its level of efficacy, which can be achieved if the institution leads the implementation and development of an entrepreneurial culture and establishes a teaching and learning context that validates and recognises entrepreneurial achievements, both academically and in practice.

2.5 The Role of the Educator

Educators play a crucial role in entrepreneurship education by contributing to its effective design and delivery within the higher education institution. Isaacs et al. (2007) defined this role as the, “purposeful intervention by an educator in the life of the learner to impart entrepreneurial qualities and skills to enable the learner to survive in the world of business” (p. 614). In his interview, Birch stated that only educators with prior experience as an entrepreneur should teach in entrepreneurship and argued that the educators needed to have the practical experience and understanding themselves, in order to teach it (Aronsson, 2004, p. 289). Jack and Anderson (1999) agreed, suggesting that practitioners in entrepreneurship education should be capable of grasping intricate academic concepts on entrepreneurship and acquiring management skills, resulting in a balanced educator. This balanced practitioner, whom these authors believed should be developed by the university and course planners, might also be presented with an opportunity in the process to pursue an entrepreneurial approach in their career. Nevertheless, as identified by Kuratko (2005), while the attitude of the educator is a key consideration when developing educators for entrepreneurship education, there remains the challenge of developing the existing programmes in entrepreneurship education and the faculties. Maguire and Guyer (2004) added that many faculties still viewed entrepreneurship courses as “lightweight and superfluous” (p. 378), and that there was a domino effect between this attitude and the student seeking advice on module choices, particularly on programmes where it was offered as an elective.

In a study by Maguire and Guyer (2004), educators in the United Kingdom were concerned about and resistant to the inclusion of entrepreneurship education into the curriculum at their universities. They expressed uncertainty around the relevance and allocation of teaching time to entrepreneurship courses that they felt could be of more value in the traditional subjects. Similarly, faculty members in an American university study by Mangan (2004) were also resistant to implementing entrepreneurship education, believing that the commercial implications of entrepreneurship would detract from the focus and value of the other courses offered in the programme, despite being one of eight universities that received significant funding for the development of entrepreneurship programmes. The faculty at this university believed that entrepreneurship education belonged in the business school, although champions of entrepreneurship education at the other American universities who had also received the

grants, believed that it was time to broaden the scope of students exposed to entrepreneurial skills, including those enrolled in non-business programmes.

Other studies linking the role of the educator to the entrepreneurship education programme efficacy, include that of Mudau and Kruger (2014) who found that the lecturer had a statistically significant influence on the student's level of interest in entrepreneurship. The educators in their study also displayed autonomy and largely influenced the curriculum design of the entrepreneurship courses. Another study in entrepreneurship education that included educators as a variable, found that the educators needed to "facilitate the course, as opposed to teaching it, in order to foster creativity, curiosity, analytical ability and to build confidence in the students" (Costin et al., 2018, p. 138). According to Fayolle and Kickul (2007) educators in this field need to be "more proactive and innovative in how they plan and organise their programs to develop entrepreneurs" (2007, p. 2).

Although the focus in entrepreneurship education research is largely on its outcomes, that of the student's intentionality for entrepreneurship, it could benefit research in this field to place more attention on the inputs to the entrepreneurship education process, including the educators of entrepreneurship courses. According to Fayolle (2013) there is a lack of studies "into who entrepreneurship educators are and what they really do in their interventions" as well as the issue of "whether educators and instructors in EE need to have prior entrepreneurial expertise" has not been examined in the literature (p. 695). Munyanyiwa and Mutsau (2015) suggested the implementation of a change management strategy, aimed at changing the mindset of students as well as the educators. Lorz et al. (2013) believed that it was important, for the progression of entrepreneurship education, that educators in this field were cognisant of the implications of entrepreneurship education, its design and its pedagogic effects. The entrepreneurship education curriculum, the institutional context and the educators all exert an influence on the student's experiences and perceptions of entrepreneurship and entrepreneurship education, as discussed above. However, although these factors have a great influence on the student, they are not the only aspects to consider in teaching entrepreneurship. The students too, contribute to the environment within which they are taught and, as the target audience of entrepreneurship education, also play a role in shaping it.

2.6 The Role of the Student in Entrepreneurship Education

Student vocations and the level and adaptability of student orientation and capabilities should be included when considering factors that affect the structure of entrepreneurship education curricula, in addition to the influence of departmental philosophies (Gibb, 1996; Morris, 1998). Employment aspirations are shaped not only by the influence of education and the educator but also by the contextual factors in the student's micro and macro environment. The propensity for self-employment often coincides with the life stages of the individual, as their needs and circumstances change, either by choice or circumstance. The body of research focusing on the student's intent to pursue entrepreneurship, as an employment option, includes studies on personality traits and entrepreneurial characteristics, as well as socio-economic and socio-cultural influences on entrepreneurial intent. These studies have enriched the literature on entrepreneurship education by providing unique insights into factors that influence student intent to pursue entrepreneurship and attitudes about self-employment, some of which are featured in Table 9 (Lüthje & Franke, 2002).

Table 9: Influences on Student Intent to Pursue Entrepreneurship

Personality traits were found to be linked to attitudes about self-employment (Gibb, 1996; Kritikos, 2014; Lüthje & Franke, 2002).
Inadequate business knowledge and perceived risks were found to be significant barriers across faculties (Hynes, 1996).
Perceived barriers of the business environment and the supporting environment of HEIs were linked to entrepreneurial intent (Luthje & Franke, 2003). This included cultural, political and micro-economic factors (Urban, 2013).
Gender, family experience of entrepreneurship, age and educational level all have a direct impact on entrepreneurial intent (Rae & Woodier-Harris, 2012).
Programmes of entrepreneurship education could shift intentionality and perceptions on the desirability and feasibility of starting a new venture (Davies, 2001; Peterman & Kennedy, 2003).

Studies on student intent to pursue entrepreneurship are often based on theoretical underpinnings from the field of psychology, particularly Ajzen's theory of planned behaviour (1988, 1991) and theories of social learning and self-efficacy (Bandura, 1977). The premise of these theories is that intent is the "cognitive representation of a person's explicit will to adopt a given behaviour, and it is considered as an immediate antecedent of behaviour" (Fayolle &

Gailly, 2015, p. 80). Other factors that focus on student intent in entrepreneurship education research are the teaching process, the entrepreneurship curriculum, educators in the field and the student who should also be considered as a contributory factor for their role in the efficacy of entrepreneurship education. More research in this area is needed because a graduate's behaviour is influenced by a number of personal and environmental factors, including choices around employment and the uncertainty of career trajectories (Fayolle & Gailly, 2015). Future graduates may be faced with a portfolio career which implies a career trajectory that includes periods of self-employment, employment at a firm and unemployment (Henderson & Robertson, 1999).

Student employment as an outcome of entrepreneurship education has been linked to that of human capital, which is a growing concern for governments investing in this fast growing field of entrepreneurship within the education system (Martin, McNally, & Kay, 2013). These authors argue that there is little evidence to support the effects of entrepreneurship education to the advancement of entrepreneurship and entrepreneurs. They cite human capital theory as a link to entrepreneurial outcomes, stating that with increased knowledge and skills groups will achieve improved performance outcomes. However, knowledge obtained through education and experience as well as the "cognitive and noncognitive skills" contributes to the individual's productive capacity" (Blumberg & Pfann, 2016, p. 336). Theorists in this knowledge area, who have contributed to the field of entrepreneurship, believe that the 'attitudes and intentions', as an outcome of entrepreneurship human capital, are important ingredients for entrepreneurship (Estrin, Meyer, & Bytchkova, 2006). Honig (2001) posited that education was central to high-growth entrepreneurs, from the perspective that as an investment it could yield significant remunerative compensation, in lieu of the individual's diversity of skills, knowledge and training. Kantor (2017) supported this view where the returns on human capital could be really high when individuals were able to attract a higher income as a result of their higher levels of education. According to Kantor (2017), these educated individuals could realise the benefits of their skills, not only for themselves but also "generate positive externalities for the community at large" (p.130). If Kantor's view were considered in the context of entrepreneurship education then positive externalities for the community could include job creation, funding for community projects and addressing socio-economic needs.

2.7 Entrepreneurship Education in South Africa

2.7.1 Higher Education in South Africa

“Higher Education means all learning programmes leading to qualifications higher than Grade 12 or its equivalent in terms of the National Qualifications Framework”, according to the Higher Education Amendment Act 2008 (Mahomed, 2016, p. 1). Higher Education and Training or Tertiary Education includes education for undergraduate and postgraduate degrees, certificates and diplomas. Enrolments in the higher education sector continue to grow with the Department of Higher Education and Training reporting enrolment figures of 1,035,931 students at public universities in January 2016 (Mahomed, 2016).

However, despite its growth, the higher education sector in South Africa still faces numerous challenges including a shortage of academic staff, the gap in standards between secondary and higher education, high dropout rates and a skills mismatch in the labour market. Challenges also affecting this sector have been the recent protests around the increase in university fees, with Fees Must Fall protests across universities in October 2015 (Mahomed, 2016). Additional constraints facing higher education institutions in South Africa are the low literacy and numeracy rates affecting the quality of entrants into this sector, stemming from the primary and secondary school education systems. Subsequently, the quality of graduates entering the workplace is affected. In addition, there is the mismatch between the skills needed to develop the South African economy and the skills that graduates offer (Mahomed, 2016). According to Mahadea and Kaseeram (2018), when an economy prepares itself with not only the necessary infrastructure and investor-friendly policies, but also the required skill set, it will advance economic growth and subsequently, small business development. Therefore, despite the numerous challenges that the higher education sector faces, it has the potential to produce and contribute toward the skills needed by the South African labour market. Previously, higher education institutions provided a resource pool for large corporations, but this role needs to be redefined to meet the needs of a growing stakeholder group in the country’s economic activity, i.e. small and medium businesses (Co & Mitchell, 2006). High levels of unemployment (26.7%) means that individuals are more likely to turn to entrepreneurship out of necessity to earn an income and seek employment (Mahadea & Kaseeram, 2018). It is for this reason that South African educational institutions cannot afford to produce a workforce with one dimensional skills; rather they need to develop graduates with the propensity to innovate and

create employment opportunities. South African youth are to be encouraged to become job creators instead of job seekers once they leave the educational system (Co & Mitchell, 2006).

2.7.2 Early Stages of Entrepreneurship Education

Entrepreneurship education in South Africa has been described as an uncultivated field, where business training is to be improved in order to strengthen SMME success rates. This can be partially attributed to inappropriate learning methodologies, educational programmes not being outcome or skills development based, and the promotion of a large firm culture through the education system as opposed to entrepreneurship as a career option (Antonites, 2003; Davies, 2001; Gibb, 1996; Ladzani & Van Vuuren, 2002).

One of the earliest studies on entrepreneurship education in South Africa was at primary school level in 1992 in Pretoria, where a pilot core syllabus was tested. According to the Department of Education and Culture: House of Assembly (1992, p. 1), it was initially called Economic Education and included objectives such as participants becoming skilful consumers by developing the ability to manage their own money, realising that they are role-players in the economy and developing the potential to engage successfully in entrepreneurial activities (North, 2005). According to Isaacs et al. (2007), entrepreneurship education at school level did not receive a high priority in the South African context. The results of their study showed that almost 60% of secondary schools offered no entrepreneurship training programmes, which meant that fewer than 50% of learners coming into tertiary institutions had had no prior exposure to entrepreneurship education and training. The results of the GEM (2008) showed that there was a low level of entrepreneurship education at primary school level as well. In 1994, a strategy was developed to nurture entrepreneurship development and training through the 2005 Revised National Curriculum for Grades R-9. This strategy was implemented for grade 10, in 2006, for grade 11, in 2007 and for grade 12 in 2008 (Isaacs et al., 2007).

The learning culture of the past education system in South Africa did not encourage learners towards entrepreneurship (Kroon & Meyer, 2001; Mudau & Kruger, 2014) and leaned towards a teacher/reproduction rather than a learner/experimental culture. Then, the focus was more on left brain linear thinking and less on creativity and right brain focus. In a study on higher

education students in Potchefstroom, South Africa, Kroon and Meyer (2001) found that students had been mainly educated to work in large companies. The students in their study felt that they had been raised to avoid risk and to find a job with financial security, medical aid, pension plans and other benefits. These findings were similar to those of Isaacs et al. (2007) who reported that the secondary school learners, in their study, were taught to be job seekers rather than job creators. Many other studies in the field of entrepreneurship education also confirmed these findings; where an entrepreneurial career focus was not considered as an employment option (Davies, 2001; Gibb, 1996; Kirby, 2004; Mudau & Kruger, 2014; Munyanyiwa & Mutsau, 2015). In the university context, this promotion of a large firm culture as the main area of employment still needs to transition to enable the implementation and integration of entrepreneurship education as an alternate pathway to employment.

Curriculum design and delivery in entrepreneurship education is still being developed not only in South Africa but also globally, with uncertainty around suitable pedagogic practices, course scope and position within the institution. In a national study on South African universities, which focused on common pedagogic practices, the findings showed that there was no evaluation system in place to determine whether the teaching techniques used could accomplish the course objectives (Co & Mitchell, 2006). To improve the entrepreneurship course design and delivery, these authors recommended practices such as the evaluation of teaching and assessment methodologies, curriculum development, increased usage of interactive teaching methods (role-playing and simulation) and the use of outside classroom methods (internships, small business consulting and community development). These techniques were suggested to encourage exposure to the actual problems and experiences of entrepreneurs (Co & Mitchell, 2006). In a more recent study at a South African university, researchers found the curriculum to be lacking in content that supported entrepreneurship or explored entrepreneurial opportunities (Mudau & Kruger, 2014). Luiz and Mariotti (2011) concluded that the education field in South Africa did not nurture entrepreneurship, while Isaacs et al. (2007) suggested that in order to establish a successful culture of entrepreneurship, it was crucial to focus on education. This includes the support and investment of stakeholders such as government, educators and learners themselves.

2.7.3 Growth and Development of Entrepreneurship Education

In recent years, the South African government has partnered with the educational institutions to develop entrepreneurship education in the country. A key initiative is the Implementation Plan for the Entrepreneurship Development in Higher Education (EDHE) Programme 2018-2020. A previously under-served area of university development has now been addressed through a platform created from within the University Education Branch of the Department of Higher Education and Training. The goals of this programme, according to the implementation plan are three-fold and outlined as follows:

Goal 1: Student Entrepreneurship

Mobilise the national student and graduate resource to create successful enterprises that will ultimately lead to both wealth and job creation

Goal 2: Entrepreneurship in Academia

Support academics in instilling an entrepreneurial mindset within all students and graduates through the offering of relevant knowledge, transferal of practical skills and the application of business principles to a specific discipline. This should take place both through the curriculum and through research

Goal 3: Entrepreneurial Universities

Create a conducive environment that will enable universities to adapt strategically and embark on projects whereby third-stream income can be generated through innovative business ideas (DHET, 2018).

Entrepreneurship education in South Africa has been provided an opportunity, through this initiative, to achieve academic legitimacy and social validation in the higher education context. As outlined in the Implementation Plan for EDHE, 2016, its aims are to develop the entrepreneurial capacity of not only the students, but also the academics and leaders. Ideally the outcomes of this initiative would be to create an entrepreneurially active student, who could

grow and develop into an entrepreneurially active graduate with the ability to make an easier transition into the world of work (DHET, 2018). At that stage, selecting an entrepreneurial career option would be ingrained as one of the options available when considering post-graduation employment opportunities. This initiative has incorporated other critical considerations into its planning, design and implementation, namely:

- Developing of faculties across disciplines to encourage an entrepreneurial mind-set
- Positioning the entrepreneurship course in all disciplines thereby making it accessible to all students
- Placing emphasis on the relevancy and context of the curriculum to the South African context.

Vast improvements in the South African higher education system such as the implementation and integration of entrepreneurship education across disciplines, universities and regions in the country are thus underway. As with any new initiative, the process is buoyed by hope, enthusiasm and promise of meeting the planned outcomes, yet at the same time, as identified by researchers who have studied initiatives at their universities or in their countries across the globe, this is not without challenges. However, by bringing entrepreneurship education into universities in South Africa as a subject providing additional skills and broadened career options, would leave an indelible mark on students, academics, leaders and their communities.

Entrepreneurship and entrepreneurship education cannot thrive in an unsupportive ecosystem with leadership who does not champion its establishment, development and implementation. Over time, governments have linked the importance of entrepreneurship and entrepreneurship education to the stimulation and revival of economic growth (DTI, 2008) and its accompanying relief to high unemployment. Not only has the South African government recognised the value of a growing small and medium business sector (DTI, 2008) through its SME policies, but it has also emphasised the need for universities to play a key role in entrepreneurial development (DHET, 2018).

2.8 Theoretical Associations in this Study

The objectives of this research were pragmatically driven and the research questions designed to learn more about the implementation of a critical resource to the South African economy – that of education – in a discipline heralded as a potential engine for growth, entrepreneurship. In order to uncover more about this dynamic as it existed in the higher education environment a combination of literature on previous studies in entrepreneurship education at university level as well as consideration on what it would entail to facilitate this exploration provided the anchors for the development of the research questions. Theories used in this study (Table 10) provided a guideline and parameters to narrow the focus of my research questions and the extent of data gathering and analysis. Examples of this, as identified in Table 10, would be Bandura (1977)'s Social Learning Theory which directed my data collection questions on role models and guest speakers and Social Cognitive Theory that informed my quantitative survey questions on student beliefs, confidence and aspirations. Other theories infused in this thesis such as theory of planned behaviour, pragmatist theory, self-efficacy theory, human capital theory, career theory, Thus the relationship between theories referenced, empirical work conducted and the research questions in this study is interwoven to meet the aims of this research and to illustrate the practical application and translation of theories used in this field. Entrepreneurship education research has employed theoretical underpinnings, largely from the disciplines of psychology and economics. Prior studies that have drawn from psychology theory, focused on self-efficacy, student intention to pursue entrepreneurship, their personality traits, characteristics and entrepreneurial passion as antecedents to formulating entrepreneurial intention (Bird, 1988; Fayolle, 2007; Isaacs et al., 2007; Lorz et al., 2013; Pittaway & Cope, 2007). Anchor theories used in entrepreneurship education research include Ajzen's theory of planned behaviour (1991), Bird's model of intentions (1988), Bandura's social learning theory and social cognitive theory (1977), as well as Shapero and Sokol's (1982) entrepreneurial event model. An affiliation between the research aims and context of my study is shown in the theories – see Table 10. Greater clarity was developed when viewing the research problem through these theoretical lenses.

Table 10: Theoretical Alignment Framework

Theory	Theory Application	Link to Study
Pragmatist theory (Dewey, 1952)	Dewey believed that formal schooling was lacking in potential, and referred to it as the traditional teacher-focused method. He argued that the pragmatist theory could benefit the education system, in that it placed the learner as the focus rather than the teacher (Reis, 2015).	Entrepreneurship education could benefit from the implementation of this learning theory as the perspective on education lends itself to using different delivery approaches, combined with practical activities to cater for multidisciplinary individuals, with varied learning preferences.
Early contributions to constructivism (Vygotsky, 1978)	Vygotsky also referred to a ‘more knowledgeable other’, as any individual who has a better understanding about a particular knowledge area than the student (Reis, 2015).	This learning approach could benefit entrepreneurship education and applies to the student population at tertiary level, who relates to peers and role models in their social circles.
Social learning theory (Bandura, 1977)	People learn by observing others, thus modifying their behaviour. They also model their behaviour on that of others.	Social learning in the context of my study would include the pedagogic practice of using guest speakers to share their experiences in class, as well as assignments that involve spending time with entrepreneurs.
Social Cognitive theory with reference to Self-efficacy (Bandura & Wood, 1989)	Bandura (1986) argued that individuals’ beliefs regarding their self-efficacy was linked to their motivation levels as seen in both the effort expended and the length of perseverance when faced with challenges to the task.	Self-efficacy relates to my study in that quantitatively I extract the student beliefs about their ability and inclination to pursue entrepreneurship. Qualitatively I also gain the educator perspective on their beliefs on teaching entrepreneurship.
Theory of planned behaviour (Ajzen, 1991)	Theories of social learning and self-efficacy. The premise of studies anchored in these theories associates with the role of beliefs in human behaviour. The theory of planned behaviour deals with the antecedents of attitudes that ultimately determines intentions and actions.	Students’ perceptions can inform their approach to a particular subject and how they conceive its potential, thus affecting their behaviour and engagement in entrepreneurial activity.

<p>Entrepreneurial event model (Shapero & Sokol, 1982)</p>	<p>Shapero suggests that an individual's "attitude towards entrepreneurship would be directly influenced by their prior exposure to entrepreneurship, prior work experience and the existence of role models" (Peterman & Kennedy, 2003, p. 131)</p>	<p>This theory is enabling to the field of entrepreneurship education research and provides constructive input on how programmes can incorporate pragmatic aspects to strengthen and develop entrepreneurship education. Lorz and Mueller (2013) linked this model to entrepreneurship education, suggesting that inspiring events such as guest speakers could change the perceptions about the "feasibility and desirability of the entrepreneurial intention or action" (p. 145).</p>
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The theories in Table 10 therefore align with the research focus of this study, particularly on the aspects identified within the programme context, as depicted in Figure 3.

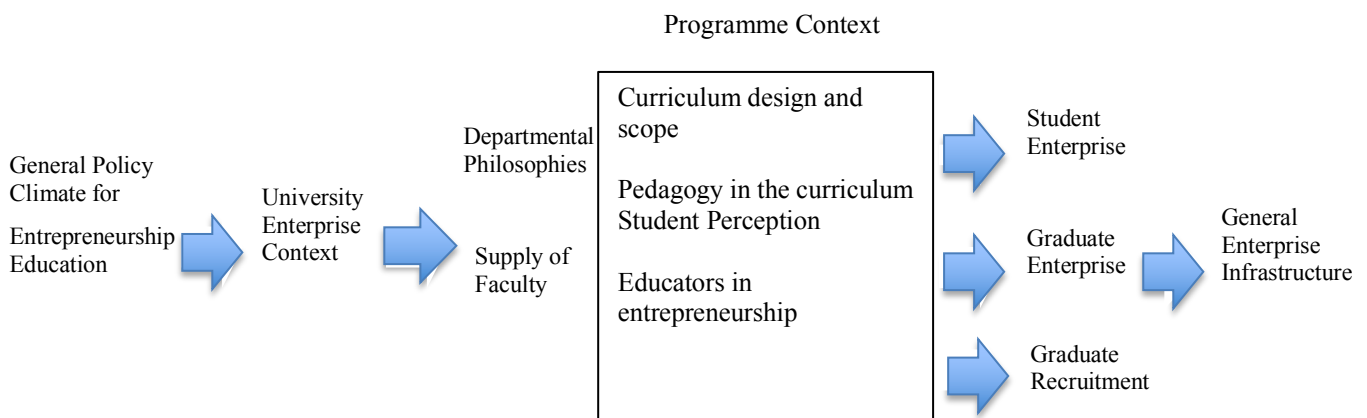


Figure 3: Pipeline of Entrepreneurship Education in Higher Education

Source: Adapted from Pittaway and Cope (2007)

Figure 3 illustrates the focus of this study within the broader landscape of entrepreneurship education research. Pittaway and Cope (2007) have highlighted the factors that influence the institution's approach and capabilities within its environment. My research will focus on aspects of the programme context and its contextual contributors, from both the supply and the demand or outcomes sides.

In summation of the literature review relative to the research objectives of this study it highlighted the diversity of educational, cultural and economic settings. It acknowledges the growth and development of research in this field through the reflection of earlier and recent perspectives on what entrepreneurship education is, how it is being taught, where and by whom. This serves the purpose of providing a context for the unit of analysis of this research, i.e. the entrepreneurship course. The literature review then hones in on factors particular to the environment where the phenomenon exists in order to establish how these factors surface in studies within the broader spectrum of entrepreneurship education research. Thus, the literature review included research conducted on the entrepreneurship curriculum, educators, students and the institutions where it is offered. This perspective allowed the researcher to develop questions for data collection that would provide the information needed to answer the research questions.

Finally, the South African context was reviewed as entrepreneurship education evolved in this country not only through the organic evolution as a field of study but also as a result of the country's political and economic history and its' accompanying development of the educational system. Understanding the context of the phenomenon being researched allows the findings to be viewed in perspective of its environment. Other than its' observation by scholars with backgrounds across disciplines and theoretical perspectives, entrepreneurship education does not exist in isolation and is fundamentally affected by its context. I have found limited research that explores the roles and parameters of contextual factors surrounding entrepreneurship courses and the subsequent effect of its interplay on design and delivery of the entrepreneurship course. There is more to learn in this area as well as on the contributory role of the student to this dynamic. With a dominant focus in entrepreneurship education research on the students' entrepreneurial intent and the effect of entrepreneurship programmes it shadows the what, how, who and why of entrepreneurship courses with subsequent limited research focus on these aspects.

2.9 Conclusion

Entrepreneurship education is a growing phenomenon both globally and in South Africa with increased demands for entrepreneurship courses at universities (Fayolle, 2007). Several studies have been conducted on various aspects of the field (Pittaway & Cope, 2007). A large part of the research has been conducted on pedagogical practices, student propensity towards entrepreneurship and the influence of personality traits on entrepreneurship as a career choice, while findings around curricula have shown a lack of consensus about what entrepreneurship education is and what it is trying to achieve (Fayolle, 2007; Gibb, 1996; Hazeldine & Miles, 2007; Co & Mitchell, 2006; Pittaway & Cope, 2007). Cultivated from the seeds of economics, psychology, sociology, and the education and management sciences disciplines, entrepreneurship education still has no consistent definition that fully portrays its inherent capabilities and potential. This study views entrepreneurship as the process of engaging in entrepreneurial activity, whether opportunity driven, or survivalist driven, whether creating new ventures or expanding organisation capabilities; it is a way of contributing goods or services to the economy, benefiting the self-employed individuals, their employees and the communities within which they exist. Entrepreneurship exists at varying levels of intensity and establishments across the globe, and within individual countries, so it makes sense to customise its definition in such a way that ignites its possibilities to that population of aspiring job-seekers, to their benefit and to the benefit of the economy.

This chapter has provided an overview of the research on entrepreneurship education and of the contextual factors affecting its context growth and development, while highlighting early and recent debates in this field. The contributions of prior research studies anchored in theoretical contributions from the disciplines of psychology and economics have been recognised in this literature review. This study also drew on research from the disciplines of human resources and education and was informed by theory on learning approaches and human capital. These theories allowed for the development of an enabling perspective on a broadly researched field, where clarity and consensus around its curricula structures and pedagogic and assessment practices are still inconclusive amongst researchers. The specifics of course design and delivery, the institutional context and the positioning of entrepreneurship education within the university context were examined, and the role of educators and their influence on the entrepreneurship course design and delivery were also considered in this chapter. Finally, the

student, not only as an outcome of entrepreneurship education, but also as an input, with its own influencing factors, to the educational system was explained in this review.

The next chapter will discuss the research methodology that was applied for this mixed methods study and its research purpose and design, before introducing the qualitative research questions and quantitative research propositions guiding this research. The chapter also provides an overview of the data collection methods and analysis used to determine the outcomes of this research.

CHAPTER 3

RESEARCH METHODOLOGY

This research aimed to contribute toward the understanding and development of entrepreneurship education offered in multidisciplinary programmes at the level of higher education. I opted for a mixed methods research design to achieve this aim. The entrepreneurship course, being the unit of analysis, was explored from both the perspective of the educators and the students in its context of delivery, the institutional environment. Data collection tools for the two sample populations were selected according to the information required to realise the research objectives. These included a survey instrument to unearth the views of a large student population on entrepreneurship courses, and an interview schedule to capture the educator groups' experiences and perceptions of the entrepreneurship courses they taught. I found the convergent parallel design to be a pragmatic approach to collect information from two different sample groups where the data collection tools varied for each group. The qualitative and quantitative data were analysed separately using data analysis techniques suited to examine the rich data load collected. The data were interpreted collectively within the framework of the qualitative research question, the quantitative research proposition and the mixed method research question.

3.1 Philosophical Foundations for Research

3.1.1 Pragmatist Worldview

This mixed methods study was based on the pragmatist worldview. This worldview was considered suitable for this type of research because pragmatism draws on many ideas, emphasises what works in its diverse approaches, and values both objective and subjective knowledge (Creswell & Plano Clark, 2011; Tashakkori & Teddlie, 2009). Pragmatism also focuses on the “consequences of the research, on the primary importance of the question asked rather than the methods, and on the use of multiple methods of data collection to inform the problems under the study” (Creswell & Plano Clark, 2011, p. 41). Bryman and Bell (2011) agreed that practical considerations are important criteria to consider when deciding on a research strategy, over and above the philosophical debates. Yet, it is important to acknowledge

that the findings and conclusions of the research are ultimately embedded in paradigms adopted by the researcher (Terre Blanche, Durrheim, & Painter, 2006). Thus, the epistemological stance of each paradigm could work together to corroborate the findings or reveal complementary or even contradictory outcomes (Saldaña, 2011).

3.1.2 Worldview Elements of Pragmatism

This study followed a highly inductive approach beginning with the building of a conceptual framework based on the current research literature, mini-theories and intuition. For the pragmatist researcher, reality means that the phenomenon of the study may not only be explained by a theory, a single reality, but also by assessing the varied individual input into the nature of the phenomenon, i.e. multiple realities (Creswell & Plano Clark, 2011). According to Tashakkori and Teddlie (2009), pragmatic research on any given question, at any point in time, falls somewhere within the inductive-deductive research cycle. The worldview elements of pragmatism are expanded in Table 11.

Table 11: Pragmatist Approach as Applied to this Study

Worldview Element	Pragmatism	Application to the study
Ontology (the nature of reality)	Diverse viewpoints; Singular and Multiple realities	The mixed methods approach will present both realities.
Epistemology (the relationship between the researcher and that being researched)	Practicality (the data were collected by what works to answer the research question), both objective and subjective points of view, depending on the stage of the research cycle	The qualitative data were collected through personal interviews, while survey data collection allowed me to collect a broader range of opinions.
Axiology (the role of values)	Multiple stances (biased and unbiased perspectives) and role of the researchers' values in interpreting the results	My bias and resultant insights were due to experience of teaching in entrepreneurship at a HEI and my experience as entrepreneur
Methodology	Both QUAL and QUAN. I answered the research questions using suitable methods.	Both inductive and deductive approaches were used.

Source: Adapted from Creswell and Plano Clark (2011) and Tashakkori and Teddlie (2009)

3.2 Research Purpose

The purpose of this research was to explore and understand the factors affecting entrepreneurship courses (design and delivery) and their subsequent effects on student perceptions of entrepreneurship and entrepreneurship education across multidisciplinary programmes in the context of a higher education institution. To achieve the aims of the study, a convergent parallel mixed methodology was used. The study was conducted using a mixed methods approach to answer the research questions which enabled me to “develop more effective and refined conclusions by using the results from one method to inform or shape the use of the other method” (Ivankova & Plano Clark, 2016). Both qualitative and quantitative methods were used to gain different perspectives of the issue, where (a) qualitative, semi-structured interviews were conducted to capture the views and experiences of educators who taught entrepreneurship courses and (b) quantitative, survey questionnaires were administered to students enrolled for entrepreneurship courses to determine their perceptions and experiences of entrepreneurship education.

3.2.1 The Research Questions

The mixed methods research question evolved from the qualitative research question and the quantitative research propositions described below.

3.2.1.1 The Qualitative Research Question

The following sub-questions were used to ultimately compose the qualitative research question:

Sub-question (1)

How do the design, objectives and scope affect the entrepreneurship course delivery?

Sub-question (2)

How does the context of the entrepreneurship course in a multidisciplinary programme contribute to its design and delivery?

Sub-question (3)

How do entrepreneurship course educators shape the entrepreneurship course design and delivery?

Sub-question (4)

How do students contribute to the efficacy of the entrepreneurship course?

The following qualitative research question was formulated as an outcome of the sub-questions:

What are the contextual factors affecting the course design and delivery of entrepreneurship courses taught on multidisciplinary programmes at a university of technology?

3.2.1.2 The Quantitative Research Proposition

Two propositions were formulated and expanded upon to inform the mixed methods question.

Proposition 1

There are various internal and external factors that influence students' perceptions of the importance and value of entrepreneurship education.

Proposition 1(a)

Student perceptions of the value of entrepreneurship education are influenced by their aspirations for future employment options.

Proposition 1(b)

Student perceptions of the value of entrepreneurship education are influenced by their prior exposure to entrepreneurship education.

Proposition 1(c)

Student perceptions of the value of entrepreneurship education are influenced by how they ranked themselves to be entrepreneurial.

Proposition 1(d)

Student perceptions of the value of entrepreneurship education are influenced by how confident they feel in their future employment prospects.

Proposition 1(e)

Student perceptions of the value of entrepreneurship education are influenced by their level of exposure to entrepreneurship within a higher education institution.

Proposition 1(f)

Student perceptions of the value of entrepreneurship education are influenced by their year of study.

Proposition 1(g)

There is a positive relationship between student experiences of the entrepreneurship course and their perceptions of entrepreneurship and entrepreneurship education.

Proposition 1(h)

Variables such as family influence, entrepreneurial beliefs, business start-up knowledge, business management knowledge and entrepreneurial skills have an influence on students' perceptions of the value of entrepreneurship education.

Proposition 2

There are differences in how students are stimulated and inspired by entrepreneurship education across disciplines and the years of study.

Proposition 2(a)

Entrepreneurship course content and pedagogy stimulate students differently across disciplines.

Proposition 2(b)

Entrepreneurship course content and inspiration from the pedagogy stimulate students differently across the years of study.

3.2.1.3 Mixed methods question

The qualitative and quantitative questions were then used to develop and formulate the following mixed methods question:

How can the outcomes of this mixed method study provide an alternate perspective on studies in entrepreneurship education through its incorporation of the various elements involved in the design, delivery and positioning of the course in a higher education institution and its subsequent effect on students of multidisciplinary programmes?

3.3 Research Design

3.3.1 Motivation for Selecting a Mixed Methods Approach

According to Creswell and Plano Clark (2011), a research approach is determined by the research problem as well as its sub-problems. A key rationale for using mixed methods in this study was complementarity which is used to obtain more complete conclusions through the use of both qualitative and quantitative methods to achieve complementary results about different facets of phenomena (Ivankova & Plano Clark, 2016). I applied complementarity through the use of qualitative methods to explore the teaching process of entrepreneurship courses, while quantitative methods were used to examine the outcomes of that process, i.e. students' perceptions of entrepreneurship and entrepreneurship education. I also applied complementarity by using a triangulation protocol to interpret the mixed results. The results were displayed side by side and complimentary themes were identified. I felt that choosing either qualitative or quantitative research might have resulted in a narrow perspective of the issue (Flick, 2015). Qualitative and quantitative researchers often use mixed methods to explore different aspects of their area of interest (Bryman & Bell, 2011).

Other motivations for selecting a mixed method approach for this study included:

1. Completeness –the researcher can gain a comprehensive picture of the area of interest through qualitative and quantitative methods.
2. Different research questions –qualitative and quantitative research can answer different research or sub questions.
3. Explanation – findings of one are used to shed light on findings of the other.
4. Credibility –the integrity of the findings can be enhanced when both methods are used.
5. Utility of the findings –combining the two approaches will result in findings that will be more useful to practitioners (Bryman & Bell, 2011).
6. According to Saldana (2011), numbers can add deeper meaning and context to the body of qualitative data in reports.

3.3.2 The Mixed Methods Convergent Parallel Design

I reviewed the six major mixed methods research designs as depicted in Figure 4 (Creswell and Plano Clark 2011) and selected the convergent parallel design as a suitable match for the research problem. The convergent design was guided by the umbrella paradigm of pragmatism in that it framed the merging of the qualitative and quantitative approaches into a larger understanding.

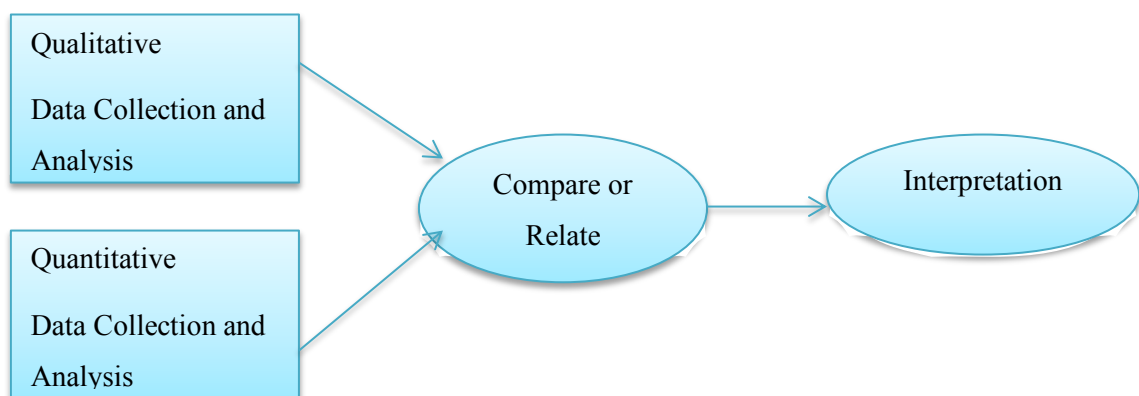


Figure 4: Mixed Methods Convergent Parallel Design

Source: Adapted from Creswell and Plano Clark (2011)

Bazely (2018) and Creswell and Plano Clark (2011) wrote about the use of concurrent timing for a mixed method study, where the qualitative and quantitative components of the research are implemented during the same phase of the research process. I followed this approach when the data collection of this mixed methods study was coordinated.

The convergent parallel design is one of the most well-known approaches to mixing methods and the most common approach across disciplines. In using this design, I prioritised each method equally, kept the qualitative and quantitative strands separate during the analysis phase and then mixed the strands during the overall interpretation (Creswell & Plano Clark, 2011). These authors also argued that the participants selected in a convergent research design study could be the same participants for both the qualitative and the quantitative strands of the study, or the participants for each strand of the study could be different. In this study, where the aim was to synthesise information on the form, nature and intended purpose of entrepreneurship education, suitable participants from the higher education institution were used.

Although there are many purposes for the convergent design, this study elected to illustrate the qualitative findings with the quantitative results, synthesise the complementary qualitative and quantitative results to develop a complete understanding of entrepreneurship education from different perspectives, and then compare the multiple levels within the system.

Characteristics of the convergent parallel design will be presented in the following section (3.3.2.1)

3.3.2.1 Characteristics of the Convergent Parallel Design

The prototypical characteristics of the convergent design as it related to this research study are depicted in Table 12.

Table 12: Prototypical Characteristics of the Convergent Parallel Design

Prototypical Characteristic	Convergent Design	Relation to the study
Definition	Concurrent qualitative and quantitative data collection, separate analysis, and merging of the two data sets	Data collected from both the surveys and semi-structured interviews were conducted synchronously. This data as well as the data gathered from the course documents, were then analysed separately and merged for collective interpretation of results.
Design purpose	The researcher needed a more in depth understanding of the topic	The study aimed to gain a dual perspective on the form, nature and purpose of entrepreneurship courses in higher education institutions and its effect on students.
Typical paradigm foundation	Pragmatism as an umbrella philosophy	As the research aim was to gain a multi-faceted view of the research problem, collection of both objective and subjective views was necessary to present data that could meet these aims. This included collecting data on the entrepreneurship course content from the faculty handbooks.
Level of interaction between qualitative and quantitative strands	Interactive	The data strands exerted a level of influence on one another, and there was a two-way flow of information between the qualitative and quantitative data strands.
Priority of the data strands	Equal emphasis	Both qualitative and quantitative data strands were viewed as equally important with regard to their contribution to the research.
Timing of the strands	Concurrent	The data was collected within a parallel time frame.

Primary mixing strategy	Merging of the two strands occurred after the data was analysed separately and with further analysis.	The data sets were integrated to develop a more complete understanding of the entrepreneurship education course. This included perspectives of the course educators, students and documented course content.
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Source: Creswell and Plano Clark (2011)

3.3.2.2 Benefits and Challenges of the Convergent Parallel Design

The benefits of this design included:

- The design made intuitive sense.
- The design was efficient because both types of data could be collected during one phase of the research at roughly the same time.
- The data could be individually collected and analysed using the techniques suitable to the data type (Creswell & Plano Clark, 2011).

The challenges associated with this design included:

- The concurrent data collection that had equal weighting in the research required effort and expertise.
- Another challenge was the merging of data from different samples and sample sizes due to the qualitative and quantitative approaches. Creswell and Plano Clark (2011) suggested that researchers design their studies so that the qualitative and quantitative data address the same concepts. The data collection process therefore aimed to collect information from participants on different aspects of the same research focus in order to construct a broad understanding of the research problem. In this study the research focus was the entrepreneurship courses at a multidisciplinary higher education institution.
- Due to the nature of the convergent design (data collection and analysis and merging of qualitative and quantitative results at one time), philosophical assumptions behind the research can become problematic because of the different worldviews typically associated with each research method. I therefore followed the suggestion of Creswell and Plano Clark (2011) where instead of mixing paradigms, the researcher uses the

paradigm of pragmatism because its assumptions are well-suited to frame a merging of two approaches into a larger understanding. In addition, the authors believed that more than one worldview could be used in a mixed methods study, depending on the type of mixed methods design.

3.3.3 The Qualitative Component of the Mixed Methods Design

Leedy and Ormrod (2010) described a phenomenological study as one that attempts to understand people's perceptions, perspectives, and understandings of a particular situation, while Creswell and Poth (2018) portrayed it as a common meaning for a group of individuals of how they have experienced a phenomenon. The phenomenological research approach is also embedded within the philosophical framework of pragmatism which guided this research study. The phenomenological research approach lies somewhere on a continuum between qualitative and quantitative research (Creswell & Poth, 2018) and was therefore suited to answer the qualitative component of this mixed methods study. Bryman and Bell (2011) suggested the use of a qualitative research strategy for researchers “interested in the world view of members of a certain social group” (p. 24), while Creswell (2013) maintained that in qualitative research it is important to keep focus on the meaning that the participants hold about the issue.

I included a qualitative strand to the mixed methods study to understand the participants’ context in which the research would occur (Creswell & Poth, 2018). Conversing with the educators of the entrepreneurship courses within their teaching environments provided me with a deeper understanding of the form, nature and purpose of the entrepreneurship course. This component of the research may not have been sufficiently explored through quantitative measures alone and could have resulted in a lack of fit with the research problem.

Benefits of qualitative research

One of the key strengths of qualitative research is that it provides for depth of the collected data and creates an understanding of the lived experiences of participants (Bowen, 2005). Collecting data on the research phenomenon in the way that it occurs naturally, from the participant perspective it also allows the researcher to determine how and why things happen

as they do (Miles, Huberman, & Saldaña, 2014). A further benefit of qualitative research is the amount of detail it allows the researcher to relate about the phenomenon of the research in a specific context (Bryman & Bell, 2011).

Challenges of qualitative research

According to Bryman and Bell (2011), the following disadvantages are often associated with qualitative research: (a) there may be a degree of subjectivity where the researcher's interpretation of the data could be influenced by research biases in that the researcher both collects and analyses the data (b) generalisation in the qualitative findings has been identified as a concern in qualitative research (Leedy & Ormrod, 2014) and (c) the replication of qualitative findings could become challenging due to a lack of transparency and insufficient audit trails. I dealt with these issues through clarifying my role as the researcher, noting the limitations regarding generalisability and ensuring maximum transparency and clear audit trails.

3.3.4 The Quantitative Component of the Mixed Methods Design

The quantitative component, like the qualitative component, was considered to be of equal value to this mixed methods study. Quantitative research is defined as the collecting of numerical data, having an objectivist conception of social reality and viewing the theory-research relationship as deductive (Bryman & Bell, 2011). A quantitative component was included in the study because numbers can sometimes add insight, texture and context to the repository of qualitative data in a report, as suggested by Saldana (2011). In addition, the study wanted to find out the state of something and find out how one group of factors could be related to or predict changes in other factors, or variables, in keeping with Muijs (2004).

Benefits of quantitative research

According to Terre Blanche et al. (2006), the benefit of this form of research lies in its ability to measure things and make comparisons with "good quality quantitative data and statistics" (p. 132). The authors also reported the primary strengths of quantitative research to be findings that were generalisable and data that were objective. However, this depends on the accuracy of

statistical information, explaining that objectivity and generalisability are not standards but ideals that quantitative researchers strive towards. Terre Blanche et al. (2006) further argued that generalisability of the results depends on the way in which the sample was selected, and objectivity on the way in which the investigated phenomenon was conceptualised and measured.

Challenges of quantitative research

Critics of quantitative research describes it as an approach that could fail to distinguish people and social institutions from the world of nature in which meanings of events to individuals are ignored, and that lacks clarity on how such findings connect to everyday contexts (Bryman & Bell, 2011). Thus, employing a research strategy that also drew on a qualitative approach balanced the above critique of quantitative research, i.e. it created a sense of a “static social world, separate from the individuals who make up that world” (Bryman & Bell, 2011, p. 174).

3.4 Mixed Methods Research Activities

The following sections include a discussion of the mixed methods research activities including the samples, qualitative and quantitative research designs, the pilot study, data collection and analysis. An overview of the research activities is presented as flowchart in Figure 5.

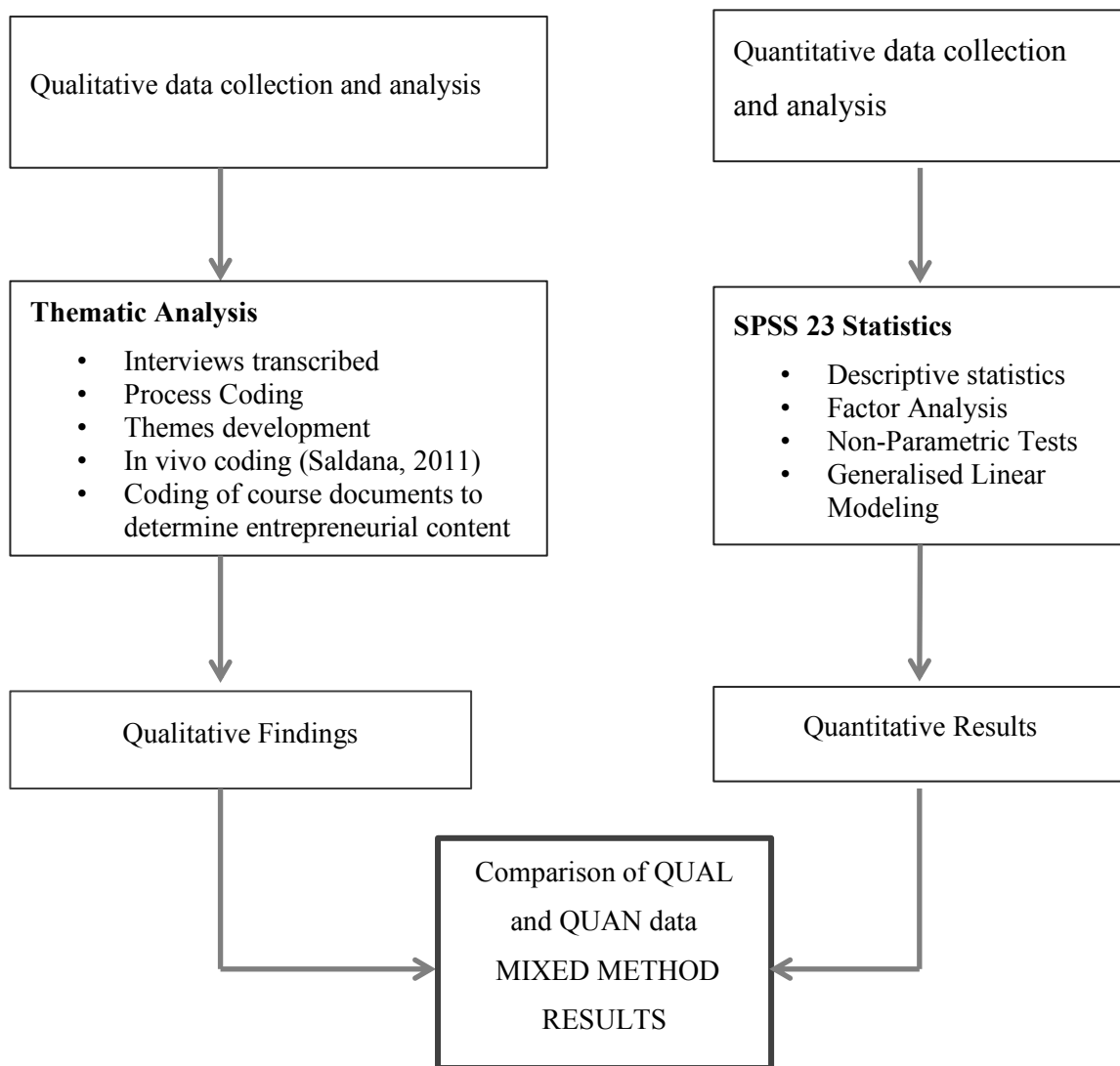


Figure 5: Overview of Research Activities Flowchart

Source: Adapted from Creswell and Plano Clark (2011)

3.4.1 Mixed Method Sample

Sampling in this convergent parallel research design included different population groups to participate in the qualitative and quantitative components of the study. Creswell and Plano Clark (2011) explained that different individuals may be used when the researcher is trying to synthesise information on a topic from different levels of participants. The commonality amongst these two participant groups was the entrepreneurship course where (a) the educators were involved in its design and delivery and (b) the students were experiencing the course. Selecting the sample in this way benefitted this research as the respondent groups were able to

provide alternate perspectives on the same phenomenon, the entrepreneurship courses. Creswell and Plano Clark (2011) cautioned that when using different participants in the same study, extraneous information that may influence the process of merging the results could be introduced into the study. This concern was addressed by continual reference to the QUAL² and QUAN research questions to ensure that only the requisite information was retained and examined.

Creswell and Plano Clark (2011) also suggested that the sample of the qualitative strand be much smaller than that of the quantitative strand as this could help the researcher to obtain an in-depth qualitative exploration and a rigorous quantitative examination of the topic. These authors proposed that a size differential between the qualitative and quantitative strands is not problematic because of the different intents of the data gathering for the two databases: qualitative data collection seeks to develop a deeper understanding from a few people and quantitative data collection is aimed at making generalisations about a population.

3.4.2 Sample Identification

A unit of analysis, as defined by Tashakkori and Teddlie (2009), “refers to the individual case or group of cases that the researcher wants to express something about when the study is completed”(p.169). The unit of analysis for this study was courses taught within the scope of entrepreneurship education, either as a programme component, or as a stand-alone programme.

To establish the sample for the study, I downloaded faculty handbooks from the university website and used these as a resource to locate programmes/courses offering entrepreneurship education. An analysis of the course outlines resulted in a typology of 73 key words (Appendix A) typically found across courses within the scope of entrepreneurship education. The typology of key words was then grouped according to meta-themes as displayed in Table 13.

² QUAL is an acronym for Qualitative and QUAN is an acronym for Quantitative

Table 13: Typology of Key Words for Entrepreneurship Education

ENTREPRENEURIAL SKILLS & ABILITIES	ENTREPRENEURSHIP	START-UP ACTIVITIES & SME DEVELOPMENT	BUSINESS KNOWLEDGE & SKILLS
entrepreneurial characteristics	entrepreneurial environment	creating a small business	creating a business idea (practical)
entrepreneurial mindset	entrepreneurial process	entering into family business	financial factors for the entrepreneur
Creativity and Business Opportunity	Entrepreneurial human capital	setting up an architectural practice	operations management for entrepreneurs
entrepreneurial skills	intrapreneurship	employment or self-employment	economic viability of small enterprises
provide potential entrepreneurs with the tools they require	implementation factors of entrepreneurship	starting and managing a business venture in tourism	technically-oriented students-aware of the world of business
Thinking creatively and turning ideas into opportunities.	develop a culture of entrepreneurship	translate a creative idea into a feasible commercial product	establishment and general management of an enterprise

Source: Price (2018)

A total of 34 courses, across multiple disciplines and years of the study, were initially identified by the researcher using this typology. I was able to gain access to 14 entrepreneurship courses taught on multidisciplinary programmes which subsequently formed the basis of the sample in this study. The course objectives and scope of these 14 courses are presented in the following chapter. Of the 17 educators who were contacted, ten educators responded positively, four were not available to be interviewed because they were either on leave or their class semester had ended. The remaining three educators contacted were excluded because they had not responded to my email request to participate in the research study. As a result, only the entrepreneurship courses taught by the educators who had agreed to participate in the study were included in the sample. These educators also provided access to the students enrolled in the entrepreneurship courses they taught. The participants were contacted based on the sample database developed by the researcher. The sample database thus included the educators for the qualitative strand of the research and the students for the quantitative strand of the research. The samples for the qualitative and quantitative components of the study are discussed in further detail in the section below.

3.4.2.1 Qualitative Sample

Educators who taught entrepreneurship courses formed the qualitative component of the study. The following were pertinent aspects:

- (a) Sample site: A higher education institution in the Western Cape offering entrepreneurship courses as a component of multidisciplinary qualifications, as well as a complete qualification.
- (b) Participants for the study: Faculty of the higher education institution who taught the entrepreneurship courses.
- (c) Purposive sampling strategy: Participants were selected on the basis that they could provide the necessary information. Purposive sampling in qualitative research means that researchers intentionally select participants on the basis of their knowledge and purpose of the study (Babbie, 2013). As Saldana (2011) advised when selecting participants to interview, it is important to find persons who will be most likely to provide substantive answers and responses to the researcher enquiries.
- (d) Number of participants: A feature of the phenomenological approach is the exploration of a group of individuals who have experienced the phenomenon, that could vary in size from three to four, or ten to fifteen (Creswell & Poth, 2018). According to Saldana (2011), three to six people can provide a broader spectrum of data analysis; however depending on the methodology used, ten to twenty participants can ensure more credible findings. This sample size consisted of ten educators of entrepreneurship from multidisciplinary programmes across five faculties of the university. Reviewing the faculty handbooks played a key role in identifying programmes that incorporated entrepreneurship courses particularly with a multidisciplinary environment and especially programmes offered outside the business faculty. This document review was thus integral to the selection of purposive participants for this study.

3.4.2.2 Quantitative Sample

Students enrolled in the identified entrepreneurship courses formed the quantitative component of the study. The following were pertinent aspects:

- a) Sample Site: A higher education institution in the Western Cape offering entrepreneurship courses as a component of multidisciplinary qualifications, as well as a complete qualification.

- b) Participants for the study: Students who had experienced the entrepreneurship course as a component of their programme or as a complete programme. The student sample ranged between year one and year four, where the 1st year students were in term three of the academic year.
- c) Purposive sampling strategy: Participants were selected based on their being able to provide the necessary information, which included their experiences of the entrepreneurship courses and their perceptions of entrepreneurship education.
- d) Number of participants: The sample size was 640 students across campus from various disciplines of study, between year one and year four. These students were enrolled for an undergraduate, national diploma or a post-graduate Bachelor of Technology (BTech) programme. The sample selection was based on students who had attended entrepreneurship courses within the 2016 and 2017 academic years. The number of participants in the in-class survey was based on the number of students who had attended the class on the day when the survey was administered. All students present on that day completed the survey. Printed copies of the survey questionnaires were personally administered and collected by me and the course educators during the class time of the student participant group. I also remained in the class, during the survey, to clarify any questions that the students had on the survey questions. This approach lessened the chances of a low response rate, and improved the quality of the completed surveys, allowing minimal errors due to a lack of understanding from the students.

3.4.3 Pilot Study

A pilot study is a small scale implementation of the research design where a small amount of data is collected to test the data collection procedures to be used in the actual research study (Tashakkori & Teddlie, 2009). According to these authors, conducting pilot studies can benefit the research study in:

- assessing whether the research protocol is realistic and workable,
- establishing whether the sampling frame and technique is effective,
- identifying logistical problems that might occur using the proposed methods, and
- estimating variability in outcomes to help determine sample size.

Bryman and Bell (2007) advised that pilot studies could be used to provide interviewers with some experience in using the data collection tool and increase their confidence in its usage as well as allow the researcher to determine whether the instructions are adequate for participants completing a questionnaire. Leedy and Ormrod (2013) explained that if the questionnaire is not suitably structured and administered, it could lead to the receipt of data that is not interpretable, and at the same time, result in abysmally low return rates. Thus, a pilot study was conducted from a sample of the population of interest to test the research instruments. The feedback received from the pilot study was used to adjust the data collection tools and improve of the alignment between the research questions and my techniques, as shown in Table 14.

Table 14: Pilot Study Feedback and Implications

Qualitative Data Collection Instrument Feedback	Quantitative Data Collection Instrument Feedback
<p>Questions too lengthy and unclear - needed clarification.</p> <p>Questions repeated in a different format.</p> <p>Maximum time of 35 to 45 minutes approved by the participants.</p> <p>Interview data answered the research questions and provided an opportunity for convergence with the QUAN data</p>	<p>Lack of clarity in some of the questions.</p> <p>Students requested simpler wording</p> <p>Many students were confused with the range and direction of the ranking tables.</p> <p>The completion of the comments section was affected by class time and students' attention span.</p>
Adjustment to QUAL data collection tool	Adjustment to QUAN data collection tool
<p>Ambiguous questions were clarified and shortened.</p> <p>Repetitive questions on the questionnaire were omitted.</p>	<p>Additional comments section was removed because most students found it tedious and time consuming to complete.</p> <p>The ranking tables were revised for ease of understanding from very unimportant (1) to very important (4)</p>

The feedback from the qualitative component helped me develop a sense of ease and confidence in conducting the subsequent interviews. Adjustments were made to the questionnaire as a result of the comments and observations regarding timing and content.

3.5 Data Collection Procedures

In this mixed methods study, the qualitative and quantitative data were collected independently and in parallel. Three sources of data were used to meet the research aims of this study, i.e., understanding the nature and purpose of entrepreneurship courses in a multidisciplinary education context. These sources of data collection included analysis of Faculty handbooks offering entrepreneurship as a course, qualitative interviews with educators teaching entrepreneurship courses and survey questionnaires administered to students enrolled in these courses.

3.5.1 Data Collection Instruments

3.5.1.1 Qualitative Instruments

Faculty handbooks across multiple disciplines were reviewed to identify programmes that included entrepreneurship courses as a programme component. Qualitative data collected through interviews with the educators of entrepreneurship courses at the higher education institution were recorded, with their permission, using an iOS (iPhone Operating System) application on my cellular device, called Voice Memos. The recordings of the interviews were then uploaded to the iOS cloud storage facility called iCloud Drive, for safe-keeping.

3.5.1.1.1 Document Analysis

“Documents can serve a variety of purposes as part of a research undertaking” (Bowen, 2009, p. 29). Providing information on the context of the research environment and its participants while suggesting possible directions for enquiry as part of the research are some of the ways that documents can provide supplementary research data (Bowen, 2009). Reviewing the content of the entrepreneurship courses allowed the researcher to develop insights and an understanding of the context of the unit of analysis of this research. As Rousseau & Fried (2001) suggested that the use of documents, logos and other devices can flesh out the setting for the reader. According to Miles, Huberman and Saldana (2014) qualitative research have many genres and can be conducted in several ways including content analysis, used to review the objectives and scope of the entrepreneurship courses in this sample according to the information provided in the faculty handbooks and subject guides where provided by the course

educators. Using this method provided the opportunity to pay meticulous attention to the “embedded meanings of literally every single word in the data corpus as part of the analytical process” (Miles et al., 2014, p. 8).

3.5.1.1.2 Semi-structured Interviews

Interviews are a natural way of interacting with people that give the researcher an opportunity to really understand how they think and feel (Terre Blanche et al., 2006). Interviews are also one of the most commonly recognized forms of qualitative research methods (Mason, 2002). Stake (2010) agreed that interviews could extract unique information or interpretations held by the person being interviewed during a qualitative research study. Thus, this data collection method suited the research objectives of the study; i.e. to explicate meaning from the participants. There are both strengths and weaknesses associated with using interviews as a data collection method in a qualitative study. Interviews are good for measuring attitudes and eliciting content from the research participants. They allow for probing by the interviewer and can provide in-depth information. However, in-person interviews can be expensive and time-consuming, reactive, investigator effects may occur, and data analysis can be time-consuming for open-ended items.

3.5.1.1.3 Developing the Interview Schedule

The nature of the interview questions was influenced by previous studies in entrepreneurship education and guided by the research questions. The interview questions were grouped according to aspects of the teaching process and context of the entrepreneurship course. The procedure depicted in Figure 6 is a graphical representation of the steps followed by the researcher to prepare and plan for the qualitative interview questionnaire.

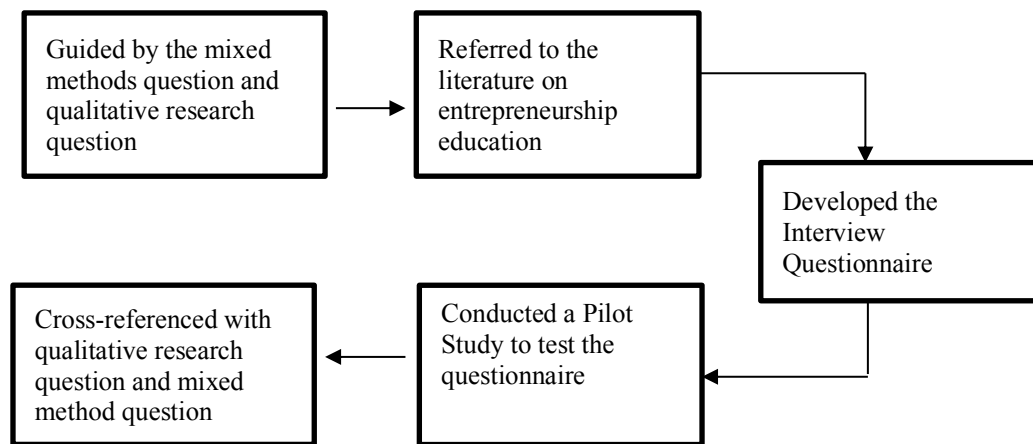


Figure 6: Procedure to Prepare Interview Schedule

Source: Price (2018)

For additional detail regarding the interview questions, please see Appendix B.

3.5.1.2 Quantitative Instruments

3.5.1.2.1 Student Survey Questionnaire

According to Leedy and Ormrod (2010), survey research entails gathering information about one or more groups of people, including their characteristics, opinions, attitudes or previous experiences, by asking them questions and tabulating the answers. Surveying a population sample enables the researcher to learn about a larger population of interest (Leedy & Ormrod, 2013). The survey instrument used in this research study (Appendix C), was previously used in a study on student and faculty attitudes toward entrepreneurship and entrepreneurship education. The study was conducted at the Appalachian State University, North Carolina in the United States of America. Shinnar, Pruett and Toney (2009) examined students' level of interest in entrepreneurial education, perceptions of motivations, barriers to start-up businesses and occupational aspirations. The four year university programme in their study included a variety of disciplines. The survey instrument which they used originated at the University of Alicante in Spain. It was then translated into English and back into Spanish to check for consistency prior to being administered at the Appalachian State University (Shinnar, Pruett, & Toney, 2009). I then requested permission from the research team in North Carolina to use

the survey questionnaire which I then adapted to meet the research aims of my study and to ensure its relevance to the South African higher education institutional environment.

3.5.1.2.2 Developing the Survey Questionnaire

The majority of the survey questionnaire consisted of Likert-type scale questions, ranging from 1 to 4, except the question on entrepreneurial ranking which ranged from 1 to 6. According to Leung (2011), the Likert (1932) scale is widely accepted for its usage as an instrument to measure opinions, preferences and attitude. The number of items in a Likert scale can range between 4 to 7 points or categories each, as follows: *1 = None at all, 2 = A little, 3 = Some, 4 = A lot*. Contextual items included in the survey related to the students' year of study, specific qualifications and department. My objective was to keep the questionnaire short to maintain the students' interest and increase the quality of their responses.

Questions from the pre-tested survey (Shinnar et al., 2009) were amended to answer the quantitative research propositions in this study and to support the qualitative data in answering the mixed methods question. Additional questions to the pre-tested instrument included those around beliefs about entrepreneurship, experiences of the course, importance of entrepreneurial skills and business know-how, employment aspirations, exposure to entrepreneurship and perceptions of the value of entrepreneurship education. These questions were grouped as follows:

Section 1: Original questions from the Shinnar et al. (2009) study were adapted as follows:

1. How much knowledge does this subject provide you in terms of starting your own business?
2. Has this subject improved your understanding of the business world?
3. What is your primary aspiration for future employment?
4. On a scale of 1 to 6, indicate the degree to which you consider yourself to be entrepreneurial, full of ideas and initiative to start your own business.
5. Is there someone in your immediate circle who has started his or her own business?

6. How would your family react if you decided to start your own business?
7. Do you think it is important to learn about how to start a business in your industry of choice?
8. Do you think it is important to learn about entrepreneurship?
9. Do you think that business education can improve your chances of being a successful entrepreneur?
10. Do you believe that is possible to become an entrepreneur in your industry of choice?
11. How important would learning about the following business knowledge and skills be to your starting a business? (13 items in tabular form).

Section 2: To explore the dynamics between students' experiences of the entrepreneurship courses, employment aspirations and students' perceptions of entrepreneurship education, the following were included in the survey questionnaire:

1. Does this subject inspire you to start your own business?
2. Does the content of this subject stimulate and inspire you towards entrepreneurship?
3. Does the way in which this subject is taught inspire you towards entrepreneurship?

Section 3: The following questions were included to determine the level of students' exposure to entrepreneurship and entrepreneurship education?

1. Did you do business or entrepreneurship as a subject at school or prior to starting this course?
2. Are you aware that there is a Department of Entrepreneurship at your university?
3. Have you met or learnt about entrepreneurs as part of this subject?

Section 4: This question included 11 items in tabular form where students were asked to rate the importance of entrepreneurial skills and business knowledge. These questions were influenced by literature on the personality traits of entrepreneurs.

Response to the Survey Questionnaire

As stated previously, printed copies of the survey questionnaires were personally administered by me during the class time of the student participant group. This approach lessened the chances of a low response rate, cited as a challenge when handing questionnaires to unknown participants with little to gain (Leedy & Ormrod, 2013; Muijs, 2004). According to Babbie (2013), the response rate is also referred to as the “completion rate or in the case of self-administered surveys, the return rate: the percentage of questionnaires sent out that are returned” (p. 247). The number of unreturned questionnaires can be substantial, with response rates well below 50% and almost none (except compulsory student feedback) receiving 100% responses rates (Muijs, 2004). I distributed 640 surveys and received the same number of completed surveys from the respondents. According to Wilson and Maclean (2011) the response rate is a survey is “simply the percentage of people in the sample who actually completed the survey” (p. 274). The response rate is important as it indicates the level of bias that may exist in the final sample of respondents (Wilson & MacLean, 2011). These authors further added that a lower response rate could also imply a greater likelihood that such biases may influence the findings and result in limiting the ability to generalise the findings.

3.6 Data Analysis

3.6.1 Qualitative Data Analysis

3.6.1.1 Preparing the Data for Analysis

The recorded data was transcribed and saved into a Microsoft Word document for analysis. Prior to the commencement of the analysis, I reviewed all the transcriptions while listening to the interview recordings to check for missing or unclear information during the transcription process.

3.6.1.2 Analysing the Qualitative Data

The key task in analysing the data was to identify common themes in how people describe their experiences of a phenomenon. I opted not to use computer aided software analysis tools but to conduct the qualitative analysis manually. I prefer tactile processes therefore this was a suitable method for me to dissect the data.

Ryan and Bernard (2003) described themes as originating both from the data (an inductive approach), and from the investigator's prior theoretical understanding of the phenomenon under study (an a priori approach). According to these authors, theme identification is one of the most fundamental tasks in qualitative research. I found these two approaches both practical and useful in dissecting a large qualitative data set. Analysing texts, like transcribed interviews, involves the following tasks presented schematically in Figure 7.

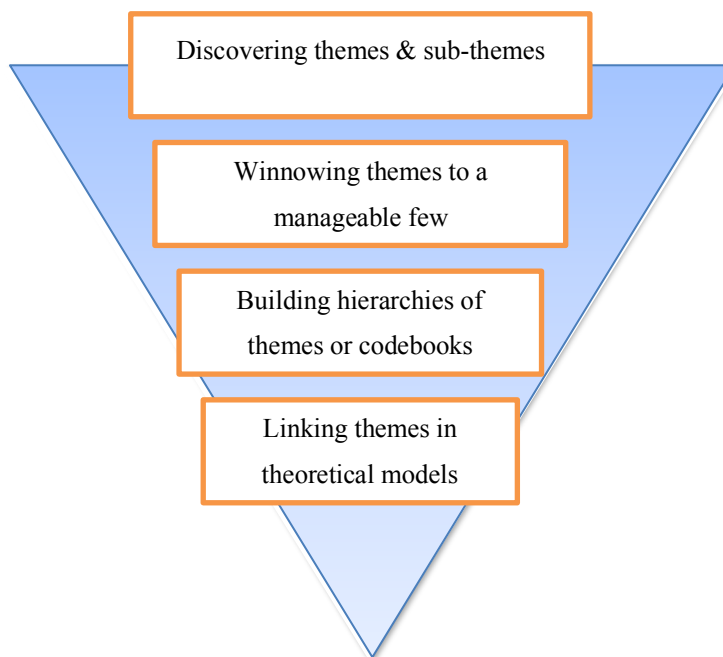


Figure 7: Theme Identification Process

Source: Adapted from Ryan and Bernard (2003)

3.6.1.3 Steps Followed in the Data Analysis

The following seven steps were followed in the qualitative data analysis of the semi-structured interviews:

Step 1

Each transcription was read while listening to the audio version to review it for accuracy, and to develop a sense of the data. While listening to the voices of the participants, I was able to recall sensory information of the research site and nuances in the participants' tone and manner.

Step 2

Microsoft Word was then used to highlight initial words and phrases that appeared meaningful to me in relation to the qualitative research question as well as the mixed methods question.

Step 3

Then, Microsoft Excel was used to do a cross-section of the participants and initial categories of interview texts, based on the interview questions. This allowed me to complete a broad dissection of the data mass and gain an overview of participant views.

Step 4

Each category of Initial Coding Sheet 1 was revisited to highlight prominent words or phrases and recurring words or phrases across the participants which led to the creation of Coding Sheet 2 and the first set of emergent themes from the qualitative data.

Step 5

The emergent themes were then grouped into themes about (a) the lecturer, (b) the entrepreneurship course, (c) the students and (d) factors that affected the entrepreneurship course.

Step 6

I then followed selected words or phrases that stood out as summative or significant of what was being said, based on the actual words of the participant. This process is referred to as in vivo coding (Creswell & Plano Clark, 2011; Saldaña, 2011). It resulted in collapsing some of the codes and creating new codes that conveyed the participants' views with deeper expression which allowed the participants' narrative to emerge.

Step 7

Through the process of in vivo coding I grouped words and phrases with similar meaning and tone which resulted in the development of new and additional themes.

Step 8

I used analytic memos to reflect on the themes uncovered to gain a sense of the theme interrelatedness.

Step 9

I then wrote all the key themes on paper squares and created a collage to gain a broad, visual sense of how the themes could be linked.

Step 10

Finally, I reviewed all the participants' transcripts through the lens of the emergent themes to collect any missed information from the initial coding process, while at the same time, I checked for any additional themes that might have surfaced.

Document Analysis

Bowen (2009) defines document analysis as “a systematic procedure for reviewing or evaluating documents, both printed and electronic material” (p.27). Electronic documents available in the public domain and outlining the programme content across faculties were downloaded for analysis. I systematically reviewed each faculty handbook to identify programmes that included entrepreneurship education in their programme outline. I then analysed the content of the identified programmes to locate the courses teaching entrepreneurship. The listed courses were then recorded onto a schedule for ease of reference. Finally, I reviewed each course outline and only retained the courses aligned with the scope of entrepreneurship education. These courses then formed the basis of my research sample and the subsequent selection of the research participants.

3.6.2 Quantitative Data Analysis

The quantitative data was analysed using statistical software called SPSS 23 (Statistical Programme for the Social Sciences). The results were considered independently with regard to how they answered the quantitative research propositions.

3.6.2.1 Preparing the Data for Analysis

Each survey was numerically identified by me and I checked for missing information before loading the survey data into SPSS 23. The raw data was converted into a form useful for analysis, which meant scoring the data by assigning numerical values to each response, cleaning data entry errors and recoding items on instruments with inverted scores. Answers to the survey questions ranged from *1 = A lot* to *4 = None at all*. This range was re-ordered during the analysis stage so that all answer options on the questionnaire could range from negative to positive for ease and clarity of interpretation. The items were therefore modified to be *1 = None at all*, *2 = A little*, *3 = Some* and *4 = A lot*. All tests were then run on the modified data.

3.6.2.2 Analysing the Data

The statistical analysis was completed using SPSS 23 and included *t* tests, multivariate analysis and Generalised Linear Modeling. Levene's test (Muijs, 2004) was used to test for significant differences in variances between the groups. When found, equal variances in the subsequent *t* tests were not assumed in the case of the comparison of two groups. The choice of statistical tests for this study was based on the objectives of presenting the description of trends in student views on entrepreneurship education across campus and the relationships between the independent and dependent variables identified in the quantitative strand (Creswell & Plano Clark, 2011).

3.6.2.3 Describing the Sample Data

Descriptive statistics were used to describe the basic features of the data collected from the student surveys and to provide summaries of the data. Babbie (2013) explained that descriptive statistics can be used to present quantitative data in manageable forms. I based the selection of descriptive statistics on Leedy and Ormrod's' (2013) definition that explains its function as

describing what the data look like, the breadth of their spread, their midpoint, and how closely two or more variables within the data are intercorrelated. The following process by Creswell and Plano Clark (2011) was followed:

- The raw data were converted into a form useful for data analysis and a statistical computer software programme was used to analyse the data.
- The data were explored to develop an overview of the trends and a preliminary understanding of the database.
- A descriptive analysis was conducted (the mean, standard deviation and variance of responses to survey questions) to look for general trends in the data
- The data was analysed based on the type of questions before using the appropriate statistical test.

Further statistical analyses were conducted using factor analysis and generalised linear modelling, in addition to using frequencies in descriptive statistics to obtain an initial view of the data and extrapolate sample characteristics. According to Leedy and Ormrod (2013), statistical tools can be used to extrapolate meaning from numerical data in order to see their nature and gain a better understanding of their interrelationships. These tools were therefore suitable for meeting the quantitative research aims, which included examining relationships between the variables.

3.6.2.4 Determining the Variables and Constructs

A reliability test was conducted on the constructs, using Cronbach's alpha (Gliem & Gliem, 2003). This type of reliability test determines whether the items on a test are consistent with one another in that they represent one, and only one, dimension (construct) or area of interest (Salkind, 2011). According to Gliem and Gliem (2003), when using Likert-type scales, it becomes imperative to calculate and report Cronbach's coefficient alpha to test internal consistency and reliability of scales used in the study. The higher the value of the alpha, the more confidence one can have that this is a test that is internally consistent or measures one thing, and that one thing is the sum of what each item evaluates. Factor analysis was used to determine which variables were related to one another and could therefore provide a better outcome when reduced to a single construct, as opposed to the individual variables. The names given to these constructs aimed to reflect the content and the ideas underlying how they might

be related (Salkind, 2011). Thus, constructs were named so that they made sense and were about the items that they consisted of. The factor analysis and Cronbach's Alpha resulted in the following construct formations and alpha values, as shown in Table 15.

Table 15: Constructs and Alpha Values

No.	Construct	Cronbach's Alpha
1.	Student perception of entrepreneurship education	.627
2.	Student experiences of the course	.859
3.	Importance of business start-up knowledge	.876
4.	Importance of business management knowledge	.748
5	Importance of entrepreneurial skills	.906

The variables in the QUAN component of this study included:

- a) Dependent variable: Students' perceptions of entrepreneurship education
- b) Independent variables: Student experience of the entrepreneurship courses, business start-up knowledge, business management knowledge, knowledge of entrepreneurial skills, employment aspirations, prior exposure to entrepreneurship education, entrepreneurial beliefs, entrepreneurial ranking, employment confidence, awareness of entrepreneurship education on campus and socio-cultural influence.

The constructs and variables as they related to items on the survey questionnaire are listed below:

Dependent Variable

Student perceptions of entrepreneurship education were treated as the dependent variable for the purposes of this study.

Independent variables and constructs

The independent variables that showed low Cronbach's Alphas when grouped were treated as individual variables. These variables and constructs are listed in the following section.

Construct 1: Student perceptions of entrepreneurship education

Q11 - Do you think it is important to learn about how to start a business in your industry of choice?

Q10 - Do you think it is important to learn about entrepreneurship?

Q18 - Do you think that business education can improve your chances of being a successful entrepreneur?

Construct 2: Student experience of the entrepreneurship course

Q1 - How much knowledge does this subject provide you in terms of starting your own business?

Q2 - Does this subject inspire you to start your own business?

Q6 - Have you met or learnt about entrepreneurs as part of this subject?

Q13 - Does the content of this subject stimulate and inspire you to entrepreneurship?

Q14 - Does the way in which this subject is taught inspire you to entrepreneurship?

Q15- Has this subject improved your understanding of the business world?

Construct 3: Business start-up knowledge

Q12 (Part 1) - How important would learning about the following business knowledge and skills be to your starting a business?

- Managing your finances
- Marketing your products and services
- Risk Management
- Compiling a business plan
- How to register a business
- Industry knowledge
- Business processes
- Types of start-up capital

Construct 4: Business management knowledge noticed that the spacing is different below

Q12 (Part 2) - How important would learning about the following business knowledge and skills be to your starting a business?

- Business ideas
- Employing staff

- Working in teams
- Customer satisfaction
- Support from others

Construct 5: Knowledge of entrepreneurial skills

Q19 - How important would you rate the following entrepreneurial skills and qualities to your personal development?

- Planning and time-management
- Opportunity recognition
- Communication
- Problem-solving
- Leadership
- Creativity
- Decision-making
- Critical Thinking
- Innovation
- Ability to take risks
- Negotiation

The rest of the variables did not meet the reliability tests when grouped, and were therefore considered as individual items in the analysis process as follows:

Employment Aspirations

Q3 - What are your employment aspirations for future employment?

Prior Exposure to Entrepreneurship Education

Q5 - Did you do business studies or entrepreneurship as a subject at school or prior to starting this course?

Entrepreneurial Ranking

Q4 - On a scale of 1 to 6³, indicate the degree to which you consider yourself to be entrepreneurial, full of ideas and initiative to start your own business.

³ This was the only question rated on a scale of 1-6. All other questions were rated on a scale of 1-4

Entrepreneurial Beliefs

Q7 - Do you believe that is possible to become an entrepreneur in your industry of choice?

Employment Confidence

Q16 - How confident do you feel that you will find employment after graduation?

Awareness of entrepreneurship education at the institution

Q17 - Are you aware that there is a Department of Entrepreneurship at your university?

Socio-cultural Influence

Q8 - Is there someone in your immediate circle who has started his or her own business?

Q9 - How would your family react if you decided to start your own business?

3.6.2.5 Testing for Differences in the Sample Data

Differences between departmental responses and year of study were tested using *t* tests or ANOVA. These tests were calculated in SPSS 23 and were designed to test whether the means of two or more samples differed (Muijs, 2004). In the case of two groups Levene's test (Muijs, 2004) was used to test for significant differences in variances between the groups. When found, equal variances in the subsequent *t* tests were not assumed. Statistically significant results were reported.

3.6.2.6 Testing for Relationships in the Sample Data

The Spearman's rank-order coefficient (Muijs, 2004) was used to examine the strength of the relationship between the independent and the dependent variable in this study. This non-parametric test was suitable for testing relationships between two variables because significant positive or negative relationships between the variables and constructs were reported. Computing a correlation coefficient tells you the degree to which two variables are related to one another. The correlations can also be used as a basis for the prediction of the value of one variable from the value of another (Salkind, 2011).

3.6.2.7 Generalised Linear Model

This study examined the contribution of the independent variables to the dependent variable of students' perceptions of entrepreneurship education. The Generalised Linear Model was used with a gamma probability distribution and log link function. The gamma distribution was suitable for this analysis because the dependent variable was a Likert-scale variable between 1 and 4. All the records with missing data were deleted. All variables were included in the initial model and parameter estimates were used to determine the stepwise regression model. This form of multiple regression also looks at how more than one variable can predict another and, as in the case of this study, how a group of variables can contribute to an outcome. Variables and constructs that showed a significant and positive effect on the dependent variable were retained in the final model. All the variables were left in the regression model if they had significant interactions with other variables, even when they were not significant.

3.6.2.7.1 Theoretical Background to the Generalised Linear Model

The Generalised Linear Model consists of three components: a random component, a systematic component and a link function. The assumptions of the classic linear model, as outlined by McCullagh and Nelder (1989), are:

- 1) each component of the dependent variable, Y , is independent and normally distributed, having a common variance (random component),
- 2) the covariates are combined to give the linear predictor (systematic component),
$$\eta_i = \alpha + \beta_1 X_{i1} + \beta_2 X_{i2} + \dots + \beta_k X_{ik}$$
- 3) a link function, $g(\cdot)$, which specifies the relationship between the random component and the systematic component

$$g(\mu) = \eta_i = \alpha + \beta_1 X_{i1} + \beta_2 X_{i2} + \dots + \beta_k X_{ik}$$

In the case of this model, the first assumption is relaxed such that the dependent values may be from one of the exponential family of distributions, which includes the Normal, Poisson, gamma and binomial distributions. At the same time, the variance does not have to be common, and the link function mentioned in the third assumption is monotonic and differentiable. Link functions are chosen according to the data type and the context of the data. In this study, the

dependent variable was a numerical variable, thus a log link function $g(\mu) = \log(\mu)$ was selected, where μ , for example, is the value of the selection made by a specific profile (Olsson, 2002).

The gamma regression model relating the predictors (independent variables, i.e. $x_1, x_2 \dots, x_k$) to a specific p are written as:

$$\log(\mu) = \alpha + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_k x_k \quad (1)$$

From (1) the value of a specific selection made by a specific profile can be calculated as

$$\mu = e^{\alpha + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_k x_k} \quad (2)$$

3.6.2.7.2 Theoretical Background to Gamma Regression

Gamma regression may be appropriate when modelling dependents with non-negative values which are skewed in distribution. For instance, Chard and Arango (2003) used gamma regression in a World Bank study where the dependent variable was a Likert scale item where 85% of respondents had chosen 4 or 5 on a 5-point scale. In general, gamma regression may be preferred to linear regression when the normality assumption is violated. Gamma regression assumes the distribution if the response variable is continuous. When the response variable has a small to moderate number of values, then Poisson or negative binomial regression may be preferred (Hardin & Hilbe, 2001).

3.7 Issues of Validity

Regarded as the most important criterion of research, validity is concerned with the integrity of the conclusions generated from the research (Bryman & Bell, 2011). Although validity differs in qualitative and quantitative research, it serves the purpose of checking the quality of the data, the results and the interpretation (Creswell & Plano Clark, 2011). When assessing validity in a mixed methods research study, the focus would not be on the specific measurement instrument, but rather on the overall effort of the research (Leedy & Ormrod, 2013). Thus, in order for the overall data to be considered of high quality, the QUAL and QUAN strands would each need to be valid and credible (Tashakkori & Teddlie, 2009).

A challenge facing mixed methods researchers is that the process of assessing the quality of their data can be complicated due to the collection, analyses and the mixing of two different data sets (Tashakkori & Teddlie, 2009). Ivankova and Plano Clark (2016) advised that mixed methods researchers adhere to established, quality criteria used in both qualitative and quantitative research.

External validity is concerned with whether the results of a study can be generalised beyond the specific research context, thus it becomes crucial how people or organisations are selected to participate in research (Babbie, 2013).

Internal validity, for this study, was addressed through the choice of data analysis and collection methods, representability and homogeneity in the sample selection, a carefully designed questionnaire that took the possibility of bias into account, a pilot study of the questionnaire, and approved and appropriate data analysis techniques.

3.7.1 Credibility and Validity in the Qualitative Component

Credibility is defined as the extent to which the qualitative findings can be perceived as accurately representing the study participants' experiences (Ivankova & Plano Clark, 2016). With regard to credibility and trustworthiness, the participants in the qualitative part of the research were selected for their in-depth knowledge, understanding and experience of teaching an entrepreneurship course in a multidisciplinary programme. Thus, the participants included full-time and part-time faculty who taught entrepreneurship courses, and students from first year to fourth year who were enrolled in these courses. The quality of the data was strengthened by my validation efforts by receiving feedback from participants on the interview transcripts. One of the most logical sources of corroboration is the people who are interviewed who can act as judges when they evaluate the initial findings (Miles et al., 2014). This member checking (Creswell, Shope, Plano Clark, & Green, 2006) was carried out by the researcher with key participants in the sample. Documents used in this research are available in the public domain and obtainable without the author's permission. According to Bowen (2009) documents are unaffected by the research process and thus "counters concerns related to reflexivity (or the lack of it) inherent in other qualitative research methods" (p. 31).

3.7.2 Reliability and Validity in the Quantitative Component

Validity in quantitative studies means that the scores received from participants are meaningful indicators of the construct being measured, where the source is external to the researcher, i.e. statistical procedures (Creswell & Plano Clark, 2011).

Reliability in quantitative studies means that scores from past uses, assessed in terms of a reliability co-efficient need to be addressed. This study used the internal consistency reliability test to examine whether the tested items were consistent with one another in that they represented one, and only one, dimension, construct, or area of interest (Salkind, 2011). The measure of internal consistency was represented by the Cronbach's Alpha. According to Gliem and Gliem (2003), Cronbach's alpha reliability coefficient normally ranges between 0 and 1; the closer it is to 1.0, the greater the internal consistency of the items in the scale. These authors used the George and Mallery (2010) rule of thumb i.e. "(> .9) Excellent, (> .8) Good, (> .7) Acceptable, (> .6) Questionable, (> .5) Poor and (< .5) Unacceptable"(p.231). The constructs tested in this study were all based on multi-item scales as opposed to single-item questions. According to Gliem and Gliem (2003) single item scales are not reliable and should therefore not be used in drawing conclusions and making inferences.

3.7.3. Triangulation

Triangulation is defined in social sciences as viewing a research issue from at least two vantage points, while using multiple methodological approaches in the analysis from two or more points. According to Flick (2015) and Stake (2010), triangulation is the incorporation of different perspectives on an issue when answering research questions with the different perspectives being treated equivalently as far as possible.

One challenge with the mixed methods approach in this study was the differences in worldviews between the two approaches when mixing them in one research project. The qualitative approach accounted for the subjective views and experiences of the participants, while the quantitative approach viewed the collected data independently from the participants, i.e. as facts. Flick (2015), however, proposed the concept of triangulation as a means to bridge

the two different worldviews so as to collectively interpret data gathered on the research problem.

Bryman and Bell (2007) suggested that the triangulation of data facilitates the cancelling out of limitations of one method by using another to cross-check the findings. Furthermore, Flick (2015) argued that triangulation (of different methods or sorts of data) should provide additional knowledge, while promoting quality in the research. In this way, knowledge is produced on different levels and expands on the knowledge that using one approach only can provide.

Kelle and Erzberger (2004) described triangulation as becoming concrete at the level of the results produced, cited in Fick (2015). They explain how combining the two approaches could link the results as follows:

- *Convergence* – the results confirm each other or partly confirm each other and support the same conclusions. An example from this study would be the alignment of educator statements from the semi-structured interviews with those of students from the results of a survey questionnaire
- *Focusing on different aspects of an issue* – the results from the interviews may complement the findings obtained from survey data, through deepening, expanding, or explaining the findings.
- *Divergence or contradiction* – the views from interviews may be different from those in the survey questionnaires, which could introduce further investigation. An example from my study would be the intended form, nature and purpose of entrepreneurship courses as perceived by the faculty staff, which may differ from how the students viewed and have experienced the entrepreneurship courses.

Bazely (2018) concluded that methodological triangulation employed to test convergence of results, either to corroborate or validate conclusions should include a separate data gathering and analysis process within a similar time frame for at least two of the methods being used. This author explained that when the process is conducted concurrently, the phenomenon being studied does not change, and after the separate analysis of each method, conclusions can be drawn from the parallel sets of data.

3.8 Informed Consent and Research Ethics

Ethical guidelines applicable to this study included protection from harm, voluntary and informed consent, and the participants' right to privacy regarding any personal information revealed to the researcher (Leedy & Ormrod, 2013). I obtained permission from the Research Ethics Committee of the higher education institution, after which permission was obtained from the various departmental heads, educators of the entrepreneurship courses and the students selected for the sample. I was respectful of the site regulations and the norms and culture of the participants, as advised by Creswell and Poth (2018), and I agreed to meet the participants at a time and place of their selection. The students were surveyed during class time which meant that I had to be available during the time slots allocated by the educators and adhere to the agreed survey times. Details that may have exposed the participants' identities were suppressed when writing up the results of my analysis, as directed by Babbie (2013). The details of the higher education institution were disguised, and the participants given a pseudonym with which to represent their views.

3.8.1 Permissions and Access

I was granted ethical approval at the University of Cape Town's Graduate School of Business (Appendix D) and provided proof thereof to the departmental heads when requesting contact details of the educators. Once this had been received, I then contacted the educators individually via electronic mail to explain the nature of the research and to request permission to conduct an interview. The nature of the study was explained, and the interviewed participants asked to sign an informed consent form (Appendix E). I also used this opportunity to request permission to personally administer a survey to the students of that educator in his/her class time. Prior to distribution of the student surveys in class, I informed the students in writing about the nature of the study, assured their anonymity and that it was optional to participate (Appendix F).

3.9 Conclusion

This chapter detailed the mixed methods convergent parallel design as the research approach for this study. Mixed methods research is defined by Bazely (2018) as research involving multiple sources and types of data/or multiple approaches to the analysis of that data in which

“integration of data and analysis occurs prior to drawing final conclusions about the topic of the investigation” (p. 7). Using this approach allowed me to understand entrepreneurship courses from two different perspectives; that of the educator and that of the student. Further understanding of the entrepreneurship courses in this study was gained through reviewing the course objectives and scope across disciplines and year of study, as presented in the next chapter.

I gathered a large number of student views through survey administration and quantified the responses through statistical procedures. These quantitative procedures allowed me to test for relationships between the variables in the study, as well as determine the effects of independent variables on the dependent variable, thus providing a framework for the conversion of the raw data to statistically significant outcomes. In this way, the research propositions viz., factors influencing students’ perceptions of entrepreneurship education and the relationship between students’ experiences of the entrepreneurship courses and students’ perceptions of entrepreneurship and entrepreneurship education, could be examined.

At the same time, engaging in discourse through personal interviews with the educators of the entrepreneurship courses, allowed me to explore the qualitative research question; i.e., factors affecting the course design and delivery of entrepreneurship courses in a higher education institution. Discussions with the educators facilitated the narrative of what was being taught as entrepreneurship education, how it was being taught and in what context. Thematic analysis of the interview data led to the emergence of themes that categorically shaped the nature, form and purpose of the entrepreneurship courses.

Both QUAL and QUAN data were analysed separately and merged at the stage of interpretation at which point themes from both components of the research were compared for convergence or divergence across the results. Therefore, collectively, the mixed methods contributed to a deeper understanding of the effects of entrepreneurship education on students’ perceptions of entrepreneurship and entrepreneurship education.

The following chapter provides an overview of the course objectives and scope of the entrepreneurship courses within the confines of this study. It also provides a comparative and contrastive view of the courses across the year of study with regard to their similarities and differences to provide contextual knowledge of entrepreneurship education within the chosen higher education institution.

CHAPTER 4

ENTREPRENEURSHIP COURSE OBJECTIVES AND SCOPE

This chapter provides an overview of the entrepreneurship courses, within the scope of entrepreneurship education, offered across the Faculties of Business Sciences, Applied Sciences, Design, Health Sciences and Engineering at the university in this study. The courses presented in the chapter are confined to those from which the educator and student perspectives were collected. This chapter expands on the objectives and scope of the courses, as identified through review of the Faculty handbooks and through interview data collected from the course educators. The courses' content, as offered across the years of study, is summarised and is also compared and contrasted across the disciplines. A comprehensive analysis of what is taught within the scope of entrepreneurship education and what it is meant to achieve at this research site is presented. Lastly, how the entrepreneurship courses converge or deviate across multidisciplinary faculties and year of study is considered, with regard to their objectives and scope.

4.1 Entrepreneurship Education in First Year

The courses offered within the scope of entrepreneurship education in the first year of study covered a broad range of topics and spanned across multiple disciplines. The courses that formed part of the sample for the study are presented in Table 16.

Table 16: First Year Entrepreneurship Courses

Course/s	Programme	Faculty
Business Studies 1	Fashion Design Industrial Design Surface Design Graphic Design	Design
Entrepreneurial Skills 1	Financial Management	Business Sciences
Small Business Management 1	Entrepreneurship	Business Sciences

These courses are discussed with regard to their objectives and scope, as outlined in the relevant faculty handbooks and subject guides.

1) Faculty of Design

In the Faculty of Design, the business studies course had recently been changed to a multidisciplinary course. Previously, the four individual design departments had offered the course independently. At the time of the study, students from the Departments of Fashion Design, Surface Design, Industrial Design and Graphic Design were combined for their sessions in entrepreneurship through a single semester course; viz. Business Studies 1.

Table 17: Business Studies 1

Business Studies 1 (Semester 1 and 2)
<p>Course objectives:</p> <ul style="list-style-type: none"> • To introduce and develop entrepreneurial thinking through interactive class sessions and activities. • To create meaning and ideas by brainstorming, for concept development, and engaging in exercises to re-evaluate problems in personal and contextual terms.
<p>Session Summary:</p> <p>The essence of design, Entrepreneurship, Global versus local economy, Business ownership, Ethics in business, Business calculus and statistical analysis, Financial management, Business opportunities and the business plan, Options for employment or self-employment, Personal qualities of a successful entrepreneur, Entrepreneurship and the economy, Economic systems.</p>

2) Faculty of Business Sciences

In this faculty, entrepreneurship education at first year level was offered in various departments. The material centred on entrepreneurship and covered how to manage a small business. The subject was regarded as one with an extensive scope covering various fields; however, the main objective was to develop the principles of entrepreneurship as practised in a commerce environment. The courses that were included in the study, within the Business Sciences Faculty were Entrepreneurial Skills 1 and Small Business Management 1.

Table 18: Entrepreneurial Skills 1

Entrepreneurial Skills 1 (Semester 1 and 2)
Course objectives: <ul style="list-style-type: none">• To equip the student with the skills that will enable them to work in the business sector or to be self-employed.• To provide an overview of the knowledge and skills needed in the business sector to work in industry or to start their own business.• For the student to consider the knowledge and practical abilities that they have.• To demonstrate the relevant skills needed to succeed in entrepreneurship.• To develop innovative and creative products and services to fill a gap in the market.• To demonstrate the ability to provide self-analysis in the context of an entrepreneurial career.
Session summary: <p>Analysing the entrepreneurial mindset, creativity and opportunity evaluation, Understanding the basic theory behind creativity and innovation, Application of market research techniques to evaluate a business idea, Application of functional management principles and techniques to effectively and efficiently run the daily business operations and business planning, An overview of what entrepreneurship is all about, Characteristics of an entrepreneur, Market analysis for start-up business and business planning for start-ups.</p>

Table 19: Small Business Management 1

Small Business Management 1 (Semester 1 and 2)
Course objectives: <ul style="list-style-type: none">• To develop the student's entrepreneurial talent, capacity and skills.• To make students aware of business opportunities, both locally and globally by increasing their innovativeness and creativity.• To create an awareness of the pivotal role small businesses can play in the economic development of South Africa.• To provide the learner with the principles of managerial planning, organisational skills and control, and leadership skills• To equip the learner with the required decision-making skills to be able to put the theory into practice.• To demonstrate the relevant skills needed to succeed in entrepreneurship.• To develop innovative and creative products and services to fill a gap in the market
Session summary: <p>Introduction to entrepreneurship, Skills set of an entrepreneur, Setting business goals, Networking, Entrepreneurship leadership and management, Creativity and innovation, Marketing, Operations management for entrepreneurs, Financial skills, Business registration and business plans, Human resources management for small enterprise development.</p>

4.1.1 Summary of the Course Objectives

An analysis of the aims of the first year entrepreneurship courses showed that the emphasis was firstly, on the development of entrepreneurial skills and competencies such as idea generation, problem-solving and decision-making skills, opportunity recognition and innovation through new product development. Secondly, the broad objective across the first year courses was to create awareness, to expose students to entrepreneurship and to equip students with skills, whether for self-employment or as employees. Lastly, the outcomes of the courses included the development of a versatile student who could combine their technical knowledge and skills with their entrepreneurial and business management skills to enhance their employability options post-graduation.

4.1.2 Similarities and Differences in the Course Scope

The key difference between the courses in Business Sciences and Design was in the structure of the courses. The course objectives in business sciences were clearly defined and expansive and emphasised on entrepreneurial development; whereas in Design, the objectives were neither clearly defined nor expansive. A commonality across the three courses was the inclusion of topics on business management particularly the business plan, although the Entrepreneurship Skills 1 and the Small Business Management 1 course emphasised the focus on start-ups and small businesses. All the courses also had a strong entrepreneurial focus in their course scope with sessions directed at introducing the student to entrepreneurs and entrepreneurship. Overall the topics covered in first year were more general than specific.

4.2 Entrepreneurship Education in Second Year

The courses offered within the scope of entrepreneurship education in the second year of study that formed part of this sample were from the Faculties of Design and Business Sciences. These courses are listed in Table 20.

Table 20: Second Year Entrepreneurship Courses

Course/s	Programme	Faculty
Business Studies 2	Fashion Design Industrial Design Surface Design Graphic Design	Design
Small Business Management 2	Entrepreneurship	Business Sciences
Marketing 2	Entrepreneurship	Business Sciences

These courses are discussed with regard to their objectives and scope as outlined in the relevant faculty handbooks and subject guides.

1) Faculty of Design

Similar to the first year course in the Faculty of Design, Business Studies 2 had been merged across the Departments of Fashion, Industrial, Surface and Graphic Design. This course was now offered on a multidisciplinary workshop basis.

Table 21: Business Studies 2

Business Studies 2 (Semester 1 and 2)
<p>Course objectives:</p> <ul style="list-style-type: none"> • The course is aimed at deepening the students' understanding of business management concepts. • The course aims to give the students fundamental background skills, not directly related to their core subjects, but that will enable them to successfully participate in a professional design practice.
<p>Session summary:</p> <p>Business is an important aspect of design courses and introduces students to the principles of economics, business administration and entrepreneurship, Human resources, Financial statements, Compiling a business plan, Financing of a business, Market research for the design product and the cost of doing business.</p>

2) Faculty of Business Sciences

According to the Faculty Handbooks (2015), both courses outlined in this section were offered as course components of the National Diploma in Entrepreneurship from the first year of study to the third year of study.

Table 22: Small Business Management 2

Small Business Management 2 (Semester 1 and 2)
Course objectives: <ul style="list-style-type: none">• To understand the decision to become an entrepreneur and develop successful business ideas.• To equip learners with fundamental theoretical and practical experience to establish their own businesses.
Session summary: Ability to conduct a feasibility analysis and develop a business plan, Understanding the importance of financing or funding, Determining how to select a market and establishing a position, Understanding the different internal and external growth strategies for business growth, franchising and establishing a franchise system, Understanding how to conduct an industry and competitor analysis and understanding the requirements and legal statute of business.

Table 23: Marketing 2

Marketing 2 in Entrepreneurship (Semester 1 and 2)
Course objectives: <ul style="list-style-type: none">• To equip students with a comprehensive knowledge about the nature of strategic marketing with specific emphasis on emerging markets (Africa).• To enable students to compile a marketing strategy.
Session summary: Understand the impact of macro-environmental factors on business and be able to analyse the various components thereof and how they affect market strategy, Identify and understand the steps to follow in conducting basic industry and market analyses, Understand and be able to perform competitor analysis, Understand the framework for internal analysis and be able to carry out strategic internal analysis on an organisation, Be able to identify and formulate market strategies, competitive strategies, stakeholder relationship strategies and strategies for going global.

4.2.1 Summary of the Course Objectives

An examination of the aims of the second year entrepreneurship courses showed that the emphasis was on deepening the students' understanding of the concepts of business management learnt in their first year of study. A further aim was the focus on equipping and enabling the students with practical tools and experiences to implement their class learnings, be it to start their own businesses or implement their practical experiences in business management elsewhere.

4.2.2 Similarities and Differences in the Course Scope

The courses in the second year of study were similar in that they all had a strong business management focus, with less focus on entrepreneurial aspects in their outline. Both the course scopes included compiling a business plan, financial well-being of the business, exposure to the macro-economic environment and marketing strategy and research. In comparison, the Small Business Management 2 course had a greater orientation on start-up enterprise in its teaching content and covered information that was geared at enabling informed decision-making around feasibility and positioning of new ventures. The course also introduced the aspiring entrepreneur to the regulatory and legal environment in the South African context, whereas the Business Studies 2 course had a more general business management focus. In the Marketing for Entrepreneurs and Business Owners course, the scope was oriented towards business management with no mention of start-up or small business.

4.3 Entrepreneurship Education in Third Year

The three year undergraduate diploma offered at the university of technology culminates in a national diploma qualification, at which stage the graduate can enter the job market. The courses offered within the scope of entrepreneurship education in the third year of study that formed part of this sample were from the Faculties of Design, Health Sciences and Applied Sciences. These courses are listed in Table 24.

Table 24: Third Year Entrepreneurship Courses

Course/s	Programme	Faculty
Business Studies 3	Fashion Design Industrial Design Surface Design Graphic Design	Design
Business Practice 1	Dental Sciences	Health Sciences
Business Principles 3	Marine Sciences	Applied Sciences

These courses are discussed with regard to their objectives and scope as outlined in the relevant faculty handbooks and subject guides.

1) Faculty of Design

Similar to the first year and second year courses in the Faculty of Design, Business Studies 3 had also been merged across the departments of Fashion, Industrial, Surface and Graphic Design. This course was now offered as a multidisciplinary workshop as outlined in Table 12.

Table 25: Business Studies 3

Business Studies 3 (Semester 1 and 2)
<p>Course objectives:</p> <ul style="list-style-type: none"> • To prepare the individual for post-graduation through an increased focus on business start-up activities. • To practise analytical and critical thinking that allows for creativity to emerge and to facilitate innovation. • To develop a contextualised understanding of concepts covered in the course outline.
<p>Session summary:</p> <p>Social and lifestyle design projects, Students create meaningful ethical designs and are encouraged to include entrepreneurship within the creative process of design, Protecting your business, Legal issues in running a business, Taxes and government regulations, Statutory issues, Business management, Competitor analysis and strategic marketing, Design process management, Business administration and entrepreneurship, Key financial concepts and operations management, Entrepreneurial studies and the analysis of design products for marketing and promotional purposes.</p>

2) Faculty of Health Sciences

The National Diploma in Dental Sciences did not offer an entrepreneurship course in the first or second year of study. The first time these students were exposed to entrepreneurship education was in the third year of their undergraduate diploma. Details of this course is provided in Table 26.

Table 26: Business Practice 3

Business Practice 1 (Semester 1 and 2)
Course objectives: <ul style="list-style-type: none">• To expose students to business start-ups and small business activities.• To make students aware of the business environment and expose them to the business world so that they can look beyond the technical aspects of their course.• To be able to conduct themselves as professionals and set business goals and objectives.
Session summary: Strategic planning and motivating, as well as the logistics of establishing a laboratory, Functions of a business, Compilation of a business plan, Consumer Protection Act, Financial well-being of the business (including basics of bookkeeping), Business environment, Forms of ownership, Managing a small business, A chapter on entrepreneurship (The entrepreneur - behaviour, work ethic and personality traits), Conflict management, Communication and negotiation skills.

3) Faculty of Applied Sciences

The entrepreneurship course was offered on the Marine Sciences programme in the Department of Biodiversity and Conservation Management as part of the three year National Diploma in Marine Sciences. It was only offered in the third year of study. The information on this course is presented in Table 27.

Table 27: Business Principles 3

Business Principles 3 (Semester 1)
Course Objective: <ul style="list-style-type: none">• The purpose of the course is for students to acquire the necessary knowledge and skills required for organising and carrying out entrepreneurial activities.• To develop the ability of analysing and understanding business situations in which entrepreneurs interact.• To develop the ability of analysing various aspects of entrepreneurship – especially of taking over the risk, and the specificities as well as the pattern of entrepreneurship development and finally,• To contribute to their entrepreneurial and managerial potentials.
Session summary: <p>The state of entrepreneurship in South Africa, Distinguishing between business management and entrepreneurial skills, Enterprise planning and practice, Start-up businesses, Small business operations and problems, Personnel supervision, Capitalisation and investment and taxation, Business law and regulations, E-commerce, Home business operations and applications to marine sectors, Products and services.</p>

4.3.1 Summary of the Course Objectives

Entrepreneurship courses in the third year of study had a strong focus on preparing the student for post-graduation. This type of focus is crucial at this level of study as these students would graduate with a national diploma at the end of the third year of study and become eligible to enter the world of work. The aims of these courses included an emphasis on business start-up activities as a means to stimulate students to think creatively about their post-graduate employment options.

4.3.2 Similarities and Differences in the Course Scope

The courses in the third year of study were similar in that they all focussed on developing a contextualised understanding of the concepts covered in the session summaries. The third year courses included more aspects of entrepreneurship and focussed less on the business management functions. The areas of business administration and business management that were covered had a strong small business and start-up orientation. The difference between the course in the Faculty of Design and the other two faculties was that the business start-up activities and business management concepts were structured around specific products created by the Design students in their core programme. These students, therefore, had a tangible

concept to work with in terms of product promotion and development whereas, the scope of the other two courses did not focus on product development and presented a more general focus. However, the other two courses included aspects where students were exposed to start-up enterprises in their industries to become aware of and envision entrepreneurial possibilities in their field.

4.4 Entrepreneurship Education in Fourth Year

On completion of the three year undergraduate programme, students had the option to complete a fourth year of study and be awarded a Bachelor of Technology (BTech) qualification which is equivalent to a Bachelor's Degree at a traditional university. The courses offered within the scope of entrepreneurship education in the fourth year of study that formed part of this sample were from the Faculties of Design, Health Sciences, Business Sciences and Engineering. These courses are listed in Table 28.

Table 28: Fourth Year Entrepreneurship Courses

Course/s	Programme	Faculty
Business Studies 4	Fashion Design Industrial Design Surface Design Graphic Design	Design
Business Practice 2	Dental Sciences	Health Sciences
Entrepreneurship 4	Medical Imaging and Therapeutic Sciences	Health Sciences
Advanced Project Management 4	Entrepreneurship	Business Sciences
Building Entrepreneurship 4	Construction Management and Quantity Surveying	Engineering

These courses are discussed with regard to their objectives and scope as outlined in the relevant faculty handbooks and subject guides.

1) Faculty of Design

This faculty's handbook had identified in its section on career opportunities that in addition to careers in retail stores and manufacturing companies, graduates would also be equipped to develop small businesses in these sectors. A total number of three subjects were required to obtain the BTech degree, one of which was Business Studies 4.

Table 29: Business Studies 4

Business Studies 4 (Semester 1 and 2)
Course objectives: <ul style="list-style-type: none">• To prepare students to start their own business through concept development and taking that concept to market.• To prepare students for entrepreneurship with industry-specific knowledge.
Session summary: Business start-up activities (how to start a business, how to register trademarks and logos), Evaluate opportunities and threats in the national and international fashion markets, Develop and present a business plan for a fashion or related business, Research, identify and analyse various fashion marketing opportunities in South Africa and internationally, Design marketing strategies for various identified markets and to plan the implementation of the Africa marketing programme.

2) Faculty of Health Sciences

There were two courses in this faculty from which both the educators and students participated in the research study. These included Business Practice 2 which was offered to the BTech students in Dental Science, and Entrepreneurship 4 which was offered to the fourth year, Bachelor of Science students in the Medical Imaging and Therapeutic Sciences Department. The Entrepreneurship 4 course was offered as an elective for the first time in 2017, on a multidisciplinary basis in the Medical Imaging and Therapeutic Sciences Department. These courses are outlined in Table 30.

Table 30: Business Practice 2

Business Practice 2 (Semester 1 and 2)
Course objectives: <ul style="list-style-type: none">• To prepare the student with the necessary skills and knowledge that would equip them to run a business.• To equip the student with the acquired competencies and skills to efficiently and effectively manage a laboratory.
Session summary: Strategic planning and motivating, as well as the logistics of establishing a laboratory, The functions of a business, Compilation of a business plan, Consumer Protection Act, The financial well-being of your business.

Entrepreneurship 4 (Semester 1 and 2)
Course objectives: <ul style="list-style-type: none">• To provide students with opportunities to acquire knowledge and develop skills necessary to plan and begin a business.• To understand the role that entrepreneurs play in the country, society and economy.• Demonstrate or display an understanding of the entrepreneurial process and the economic effects of entrepreneurial activity.
Session summary: Identify the common characteristics of successful entrepreneurs and how these characteristics influence performance, Forms of business ownership, Identify and evaluate the business opportunity, Develop, examine and understand a financial plan, Explain the human resource planning process, Identify and explain different types of physical resources and information resources, Identify and understand the types of regulatory systems in place that affect a business, Identify risk and the management thereof, Understand the importance of ethical behaviour and to apply ethics in business and health care, Define a business plan and explain its function and importance, Compile a business plan and the role of marketing in an organisation.

3) Faculty of Business Sciences

This course was offered in the BTech Management in Entrepreneurship programme, which is a National Qualifications Framework (NQF)⁴ level 7 qualification.

Table 31: Advanced Project Management 4

Advanced Project Management 4 (Semester 1 and 2)
Course objectives: <ul style="list-style-type: none">• To provide a structural and logical approach to project management, and an outline of the planning, co-ordination and control techniques which are utilised by entrepreneurs.• To enable better decision-making when acting upon the myriad choices that confront the conscientious entrepreneur.• To understand the strategic importance of project management as a discipline that enhances entrepreneurial endeavours.• To understand the project management environment within the entrepreneurship management context.
Session summary: <p>The project management process and its association to business management principles; The project life cycle, project selection considerations, scope management and feasibility study; The ability to effectively and efficiently procure and allocate the correct resources to projects; To develop understanding of project planning and control and to present learners with techniques to evaluate and manage quality and risks in a project.</p>

4) Faculty of Engineering

The BTech level entrepreneurship course in this faculty was offered on a multidisciplinary basis and included students from the Departments of Construction Management, Construction, Health and Safety, and Quantity Surveying as presented in Tale 32.

⁴ The NQF level is operated by SAQA - South African Qualifications Authority (Act No. 58 of 1995). This body also provides initial accreditation to HEIs.

Table 32: Building Entrepreneurship 4

Building Entrepreneurship 4 (Semester 1 and 2)
Course objectives: <ul style="list-style-type: none">• The outcome of this course is for the student to be able to establish themselves in the world of business.• To equip them with the knowledge and skills to operate a successful construction business.
Session summary: Understanding the relationship between the economy and the entrepreneur, Discovering the essential difference between entrepreneurship and small business management, Establishing a strategy for ethical responsibility, Innovation in the construction company, Financial factors for the entrepreneur, The construction business plan, Fundamentals of entrepreneurship, Construction entrepreneurship, Corporate entrepreneurship and intrapreneurship, Business opportunity and entrepreneurship motivation, The political factor, The cultural impact and international cultural environments, The economic environment, The monetary system and foreign exchange markets.

4.4.1 Summary of the Course Objectives

Entrepreneurship courses in the fourth year of study had a strong focus on preparing students to start and manage their own businesses. Each discipline incorporated this main objective into the objectives of the entrepreneurship course they offered, whether it was through concept development for market access in the Design faculty, or to enable informed and strategic decision-making in the Management in Entrepreneurship Programme.

4.4.2 Similarities and Differences in the Course Scope

The courses on this BTech showed similar content in their course outlines. The key content focus of the courses offered at BTech level was designed to develop competencies and skills in the student in order to equip them with the basic tools to enter the world of start-up enterprises or the management of an enterprise in their industry. Students had already graduated with national diplomas in their chosen disciplines and now required industry-specific knowledge that would strategically enhance their entrepreneurial pursuits. The only differences between the courses offered in the fourth year were the Entrepreneurship 4 courses offered in the Faculty of Health Sciences and in Engineering. These courses emphasised some of the introductory aspects of entrepreneurship courses such as: fundamentals of entrepreneurship, understanding the entrepreneur and characteristics of the entrepreneur. The courses offered in Design and on the Entrepreneurship programme, focused on the more mature aspects of

entrepreneurship education such as familiarising the student with the start-up enterprise context and accompanying knowledge and skills. The reason for this difference was that it was the first time that these fourth year students were exposed to an entrepreneurship course. This course was not offered on the undergraduate level in their programme, whereas Business Sciences and Design students would have been exposed to entrepreneurship concepts and practices from their first year of study until their third or fourth year.

4.5 Conclusion

This chapter provided an overview of the entrepreneurship courses offered on the multidisciplinary programmes that were included in the sample of this research study. Although several courses were identified within the scope of entrepreneurship education at the research site, limited responses from entrepreneurship educators were received. Thus, the courses identified and analysed above formed the backdrop to the findings of the educator interviews and the results of the student surveys. The courses in this study were offered as either a component of a three year national diploma programme, a BTech programme or as an elective. The objectives of the courses across the multiple disciplines in the first year of study were governed by the key objective of exposing the student to entrepreneurship education and introducing them to the world of business, with entrepreneurship as a feasible career option. In the second year of study, the course content covered more aspects of business management and even though it included a small business focus, the attention to entrepreneurial skills development was limited. In the third and fourth years of study, greater focus was placed on preparing the student for post-graduate employment, both as an employee and for the pursuit of an entrepreneurial career path. This aspect of the course scope outlined aspects of business start-up knowledge and aimed to equip the student with the basic tools needed to take their venture into the South African business environment.

The next chapter will present qualitative findings collected from the educators on their perspectives of teaching the entrepreneurship courses as well as quantitative survey response data collected from students enrolled for these courses. The data will illustrate how respondents engaged with the entrepreneurship courses and the role that they played in affecting its design and delivery within a multidisciplinary educational environment.

CHAPTER 5

FINDINGS AND ANALYSIS

This chapter will present the qualitative findings and the quantitative results of a mixed methods study on entrepreneurship education in a higher education institution. The results will demonstrate the views of the educators teaching entrepreneurship and the students enrolled in entrepreneurship courses across multidisciplinary programmes. These results will include the narrative presentation of how entrepreneurship courses are shaped and delivered in this higher education institution and will empirically demonstrate their influence on the students' perception of entrepreneurship and entrepreneurship education. In this study, both the qualitative and quantitative components were considered to be of equal weighting and importance. As per the convergent parallel research design used for this study, the data for each component were collected and analysed separately and merged at the stage of interpretation.

The results will be presented in this chapter as follows:

5.1 Qualitative findings

5.2 Quantitative results

5.3 Mixed methods results

5.1 Qualitative Findings

In order to gain a meta-view of the entrepreneurship course, this unit of analysis was investigated in the context of its delivery. This investigation included interviews with educators of entrepreneurship courses in the sample to develop a comprehensive understanding of its form, nature and purpose, as well as the factors affecting its delivery. The qualitative findings of this mixed methods study are presented in this section in answer to the following research questions.

5.1.1 Qualitative Research Questions

The following main qualitative question and its sub-questions were used to gather the views of the educators in the sample:

Main qualitative question: What are the contextual factors affecting the course design and delivery of entrepreneurship courses taught on multidisciplinary programmes at a university of technology?

Sub-question 1: How do the design, objectives and scope affect the delivery of the entrepreneurship courses?

Sub-question 2: How does the context of the entrepreneurship courses within the higher education institution contribute to their design and delivery?

Sub-question 3: How do entrepreneurship course educators shape the entrepreneurship courses' design and delivery?

Sub-question 4: How do students contribute to the efficacy of the entrepreneurship courses?

5.1.2 Sample Overview

The interviewed respondents were ten educators across 11 programmes within one higher education institution, each selected for their experience and in-depth knowledge of the unit of analysis, i.e. the entrepreneurship course as shown in Table 33.

Table 33: Educators of the Entrepreneurship Courses

Respondent	Programme	Faculty
Raj	Marine Sciences	Applied Sciences
Eric	Dental Sciences	Health Sciences
Miranda	Medical Imaging and Therapeutic Sciences	
Jamal	Construction Management and Quantity Surveying	Engineering
Nadine Adel	Fashion, Surface, Industrial and Graphic Design	Design
Abe Sarah Robert	Management in Entrepreneurship Entrepreneurship	Business Sciences
Rose	Internal Auditing and Financial Information Systems	

In some of the departments, one educator taught in multiple programmes, and in other departments, educators taught more than one year of study. Eight of the ten educators in this sample had previously been engaged in entrepreneurial activity and two were still engaged in consulting practices. These educators spoke passionately about their earlier experiences as entrepreneurs, which provided them with insight into the context of the entrepreneurship courses that they taught, with reference to the programme environment, their beliefs and experiences of teaching entrepreneurship, and the challenges they faced in delivering an entrepreneurship course to a diverse student population.

5.1.3 Factors Affecting the Entrepreneurship Courses' Design and Delivery

The qualitative findings of the research illustrated the effects and interplay of the following four factors on the delivery of the various entrepreneurship courses as depicted in Figure 8:

- Course design
- The role of the institution
- The role of the educator
- The role of the student

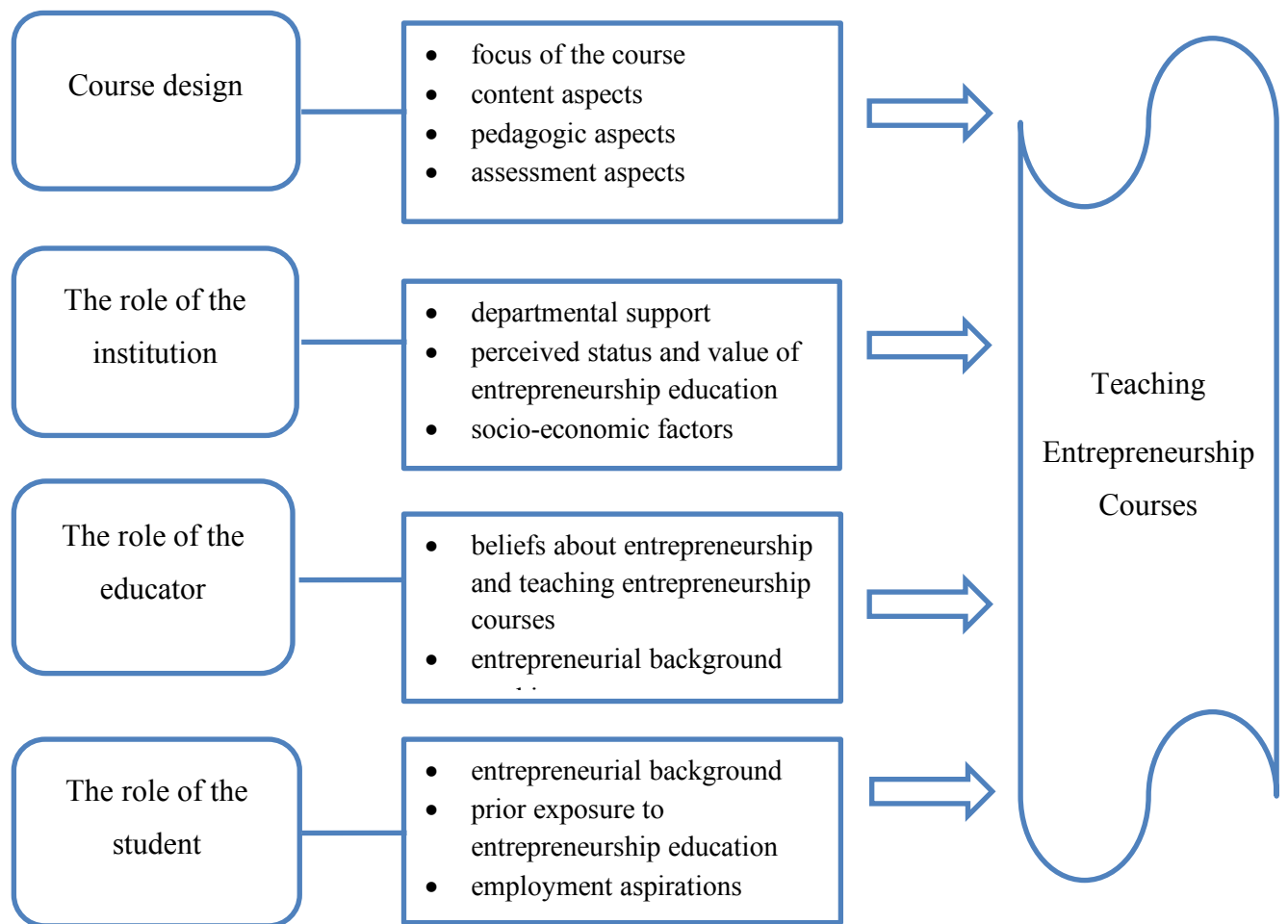


Figure 8: Factors Affecting Design and Delivery of the Entrepreneurship Courses

5.1.3.1 Course Design

Sub-question 1: How do the design, objectives and scope affect the delivery of the entrepreneurship courses?

The first factor to be considered was that of the entrepreneurship course design. An exploration of the entrepreneurship courses is undertaken by expanding on elements of the course design, particularly, their focus and characteristics, before presenting their key challenges around content, pedagogy, assessment and positioning of the entrepreneurship courses within their programmes of delivery.

Focus of the course

The entrepreneurship courses in this sample focused on entrepreneurship and small business management with an emphasis on the words ‘foundation’, ‘enablement’ and ‘encouragement’. These courses, as delivered in the non-business programmes, were designed for non-business students as part of a programme that trains designers, marine scientists, building contractors, quantity surveyors, dental and other technicians in the medical field. All the respondents interviewed stressed the importance of a learner-centred and practical application focus. The fundamentals of entrepreneurship, entrepreneurial characteristics and personality traits were emphasised, particularly within the first year of study. It was then that the students were exposed to the concepts of entrepreneurship, including creativity and innovation as the vital drivers of entrepreneurial activity and economic growth. Abe, an educator from the Department of Entrepreneurship in the Faculty of Business Science, described the course he taught as “a foundational subject targeting the opening of the mind of the student to creativity and innovation but primarily looking at South African circumstances”. He said the focus of the subject was “trying to get the student to start thinking of the kinds of things that can emerge that would support socio economic development”.

Each entrepreneurship course was tailored to the discipline within which it was taught. Two of the departments, Entrepreneurship and Dental Sciences, used an industry advisory board to provide advice on the relevance of the course content. Nadine, an educator from the Faculty of Design, explained that although there were guidelines, they adapted the content in relation to their context. “What they focus on in Durban would be different to Cape Town, will be different to Johannesburg, Pretoria, Port Elizabeth or wherever the fashion school is”.

At the beginning of the course, the focus was on introducing the students to the language of business as Abe, in Business Sciences, explained, “In first year we expose the students to all of these different concepts, where they fit into the economic structure and we create awareness of social problems”. Abe continued with, “We explore how the student can address these problems within their industry through creative solutions, while empowering themselves financially, creating a job for themselves and others”. Sarah, also from Business Sciences, agreed. “First year is a lot more theoretical. We build solid theory, but there's a strong focus on

application. To give it the entrepreneurial flavour, we use case studies of South African small businesses”.

Although the entrepreneurship courses covered general, small business management and entrepreneurship, each department had a discipline-specific focus. The educators believed that it was important to balance the depth of the theoretical concepts with sufficient knowledge required by the student to enable practical application of that concept. Business plans used in this context were aimed at teaching the skill of thinking through the various aspects of setting up a business. According to Nadine in Design:

That already makes them think about how they will run their own business. I take them through most of the things that you might encounter when you want to start your own label because I found that this is what students want in their fourth year.

Eric, from the Department of Dental Sciences in the Faculty of Health Sciences, commented, “We do a little bit of the fundamentals of bookkeeping - really basic, because they are not accountants”.

According to the respondents, there is a growing interest in the entrepreneurship courses. Faculties that did not offer the subject in all their departments previously had introduced it as an elective for the first time in 2017. Miranda, from the Department of Medical Imaging and Therapeutic Sciences in the Faculty of Health Sciences, was surprised when the majority of her fourth-year students selected entrepreneurship as opposed to other courses on offer. Raj, from the Marine Sciences Programme in the Faculty of Applied Sciences, spoke about how the demand for entrepreneurship courses had increased over the last decade, where non-business faculties have begun to “offer entrepreneurship as an elective to provide the student with additional options”.

Characteristics of the entrepreneurship courses

Key characteristics of the entrepreneurial courses taught in this study included:

- start-up focus of the course content
- practical application focus of the course pedagogy
- learning focus of the course assessments
- teaching focus in order to equip the student for an entrepreneurial career
- relevancy and customisation of the course material
- business management with a small business focus

These characteristics were found throughout the faculties whether the entrepreneurship course was offered as a core or as an elective course. Miranda, from Health Sciences, aptly explained:

The aim of this elective is to provide students with opportunities to acquire knowledge and develop skills necessary to plan and begin a business. And to understand the role that entrepreneurs play in the country, society and economy.

There was also the meta-objective of influencing the students' attitudes towards an entrepreneurial perspective as expressed by Sarah, also from Business Sciences:

The student mind-set has to change from being an employee to being an employer. That's a big one - if we are able to change that mind-set on the course.

Practical aspects of the curriculum included setting up a business bank account, registering a business and tax registration, access to funding, the functional areas of business management, product development and market analysis, the skills of negotiation, and people skills.

The educators of the entrepreneurship courses believed that they needed to balance the teaching content with industry requirements, student needs and abilities, theoretical depth to meet higher education standards and sufficient practicality to expose and engage students with aspects of

entrepreneurship. The content of the entrepreneurship courses that they taught were therefore not only inclusive of entrepreneurial skills and concepts, but also covered the basics of business management, with a start-up and small business focus. In addition to this, was the dimension of cultivating the students' attitudes toward entrepreneurship, while influencing their perceptions of the value of entrepreneurship education. Jamal, from the Construction Management and Quantity Surveying Department in the Faculty of Engineering, believed that “apart from giving them the knowledge, we have to develop their attitude towards business”.

Students were encouraged and made aware throughout their course as to how they could respond to market needs through entrepreneurship. They were taught to “focus on their product [and] also to focus on what the actual market need was” and “what the potential opportunities and threats were”, as well as “getting along with team members and focusing on relationships”, said Adel, from Design.

Challenges of the entrepreneurship course design

Challenges emerging from the respondent interview data centred around content, pedagogy and assessment of the entrepreneurship course.

(1) Content Challenges

Educators spoke about the challenge of finding suitable teaching material that adequately addressed the scope of an entrepreneurship course that was relevant to the South African business operating environment. All ten respondents expressed similar views on this issue, adding that they mostly used their own teaching materials, sourced online, or through the combination of excerpts from multiple textbooks. Eric, in Health Sciences said, “I designed my own notes, using my experience of teaching for more than twenty years and augmented my teaching material with information from the radio and news”. Robert, from Business Sciences added:

There is a prescribed textbook, but it's flexible because I don't rely on one textbook, as there are different materials that one would come across, that are much more relevant. After all, we are teaching a business subject where everything changes continuously.

The following limitations around teaching material were recounted by all the educators:

1. The material not being sufficiently focused on the South African context.
2. The material not being adequately specific and relevant to start-up requirements and small business management issues.
3. More material being available on business management but less material available with an entrepreneurial focus.

These limitations are examined in the sections that follow.

Limitation 1: More local and less global focus

Sarah, from Business Sciences, felt that the international textbooks were “pitched a little too high given our demographic profile” and that they required teaching material where the “case studies were more South African related, the language a little bit simpler, and way the textbook was laid out”. There was also a lack of South African specific teaching material with a small business focus, as observed by Adel in Design:

The textbook is not relevant from a South African perspective in terms of our specific company laws, or our tax laws and how Cipro⁵ works, because the text book is international.

⁵ CIPRO is the Companies and Intellectual Property Registration Office

Limitation 2: Not adequately specific and relevant to start-up and small business knowledge requirements

Adel, in Design, found that entrepreneurship textbooks did not provide information relevant to start-ups and that they lacked a practical focus specific to industry requirements, “The textbook might not be small business or practical design orientated enough”. Raj in Applied Sciences agreed:

If I open this book [on entrepreneurship], you will see that all the chapter content is based on management and very little on entrepreneurship. There's actually one chapter that's dedicated to entrepreneurship. Nothing on overcoming barriers, things like goal setting, innovation and to an extent, maybe networking and time management.

Limitation 3: More material being available on business management but less material available with an entrepreneurial focus.

Eric, in Health Sciences, found space allocated to entrepreneurship in traditional management textbooks to be limited. “There is only one chapter on entrepreneurship, covering the what and how of an entrepreneur, how he works, thinks, and goes about doing his business”.

The challenge in finding suitable teaching material may be linked to the interrelated and overlapping learning areas of entrepreneurship and business management. Adel, from Design, was clear on the distinction between entrepreneurship and business management and argued that some educators believed that it was one and the same. She stressed the point that, “often times educators see entrepreneurship as an extenuation [extension] of business management, and it's not. It's different”.

Raj, from Applied Sciences, agreed and blamed the confusion on societal interpretations of the subject.

There is this tendency of society to interpret small business management, entrepreneurship, and management as the same thing. It's not the same thing. This book (respondent points to a book) is an example of this. It's called *Entrepreneurship and New Venture Management*. Yet, it's nowhere near what an entrepreneurship skills development program curriculum should look like.

Educators were also aware of their target audience, typically aged 18- 25, lived in the digital age, and in some cases, they “prefer[red] students going online, as often hand books become old and it is important for to students to keep abreast with the latest trends in their industry”, remarked Nadine from Design. Adel, also in Design, agreed that this appealed to her students as “their attention spans aren't very long with the advent of digital technology and constantly getting a Facebook update”.

Some of the departments used an industry development board to advise them on the curriculum content and to ensure that the course content was aligned to real-world requirements. Sarah, from Business Sciences, mentioned that they received “tremendous guidance” from their advisory board. This network provided a guide for educators to deliver content that was suitable and relevant for students to operate within the business environment of their discipline. As Robert, from Business Sciences explained, “I look out for what is happening in the industry, what exactly are they doing”. Sarah, his colleague in the department, confirmed this. “We are investigating the curriculum on an annual basis to check for alignment between industry requirements and our teaching content, as that match is important”.

(2) Pedagogic challenges

Entrepreneurship education is a process of continued learning, of cognitive unfolding through engagement with the learning concepts in a practical way. According to Abe in Business Sciences:

We can't be too sure what is the best methodology to use in teaching this, but we can at least rely on the methods we know and that is being used in class, such as audio-visual materials and case studies.

The challenges cited by the respondents were categorised into were three aspects:

- (a) bridging theory and practice
- (b) accessing a knowledge community
- (c) student engagement

(a) Bridging theory and practice

A common trait of the entrepreneurship courses in this study was the greater emphasis on the *how* rather than on the *what*, particularly in the teaching the functional areas of business management. As Raj, from Applied Sciences explained, “If you transfer the concept too theoretically, then you're not going to get the traction, focus and attention needed for the student to take the discipline seriously”. Sarah, in Business Sciences, described their curriculum as one that was “designed bearing in mind that we are developing and inspiring entrepreneurs. We [are] not churning out graduates who are wonderful in theory and knows nothing about the world outside”.

This emphasis on the *how* in teaching entrepreneurship was reiterated by educators during the interview process, some of the educator comments included:

“How to set up your business?” (Nadine, Design)

“How to do your financial analysis” (Rose, Business Sciences)

“How to do a market analysis if you want to start-up your business” (Eric, Health Sciences)

(b) Accessing a knowledge community

The educators of entrepreneurship courses in this study found it beneficial to bring in guest speakers from the industry to complement their teaching practice and to expose students to entrepreneurial role models. These guest speakers formed part of a knowledge community, along with members of the business community who provided resources and facilitated the transfer of entrepreneurial knowledge and skills. Educators found that students related better to their peers in their social and university circle than to older business people from their communities. The educators therefore used alumni as guest speakers as both a source of inspiration and to create an opportunity for students to develop and grow their entrepreneurial network, as pointed out by Robert from Business Sciences. “We use guest speakers to present their stories, to motivate them [the students] and to upscale their spirit”. The educators also used industry role players to complement and bring to life what they taught in the classroom, exposing the student to entrepreneurs within their own industry and which allowed them to map out possible career paths.

Raj, from Applied Sciences, often reminded his students that, “it's not just about fishing, but, about a broad area [of knowledge]. It's about aquaculture and various kinds of technologies for marine navigation and open ocean navigation”. Miranda, in Health Sciences, used guest speakers who had established businesses in the health industry and exposed the students to other South African examples. “I exposed them to South Africans that they didn't know, like Mzolis⁶”.

(c) Student engagement

Educators in this study found that the key to student engagement was the way in which the course content was presented to the students across disciplines. To gain the students' attention and maintain their interest in the entrepreneurship course, educators included class activities, group work and projects where students led a collaborative learning process, as recounted by Eric, in Health Sciences, “Student participation is important, not to talk and chalk the whole

⁶ Mzoli's is a popular tourist stop and open-air shack restaurant in Gugulethu, a township in Cape Town, owned by local entrepreneur.

time”. Jamal, from Engineering, agreed. “Class interaction is important, and I like to engage the students”.

These educators also innovated pedagogically with the introduction of idea generation workshops within the Department of Entrepreneurship to stimulate entrepreneurial thinking at first-year level. Their aim was to show students how integrating the entrepreneurship course with other courses in their programme could unlock potential opportunities for entrepreneurship and the start of new ventures. Jamal, a builder prior to his academic career in Engineering, showed his students how their courses could be combined in order to practise as a group of quantity surveyors. Nadine, in Design, also encouraged her students to venture out even before they graduated when she told them, “You've now learnt enough skills to start sewing for your friends and family, so, you start charging them and making a little bit of money”.

(3) Assessment Challenges

Educators found that traditional assessments were not ideal when evaluating students enrolled for the entrepreneurship courses. These courses required an evaluation of the students’ understanding of the theoretical concepts and the students’ ability to demonstrate the practical application thereof. The educators found it challenging to assess the latter, while balancing departmental assessment requirements and the students' needs to achieve their desired grades.

Abe, in Business Sciences, summed it up. “If you take entrepreneurship as a subject area, someone may be able to pass that quite easily, but is that person able to start a business after that?” Raj, from Applied Sciences, also shared Abe’s doubt as he felt that “this is one such subject where, I don't believe, a sit-down test is really that meaningful”. In contrast, Adel, in Design, found it easier to assess the theoretical aspects of the course and “quite difficult to measure the entrepreneurial concepts without relying too much on theory to measure it”. She gave the example of “We're doing financial statements now, so that's something that is easier for me to actually do an exam around”.

For educators in this study, entrepreneurship course assessments were more than meeting summative and formative assessment type requirements, as prescribed by the university. Assessments were viewed as an opportunity for further learning to engage with entrepreneurial concepts, and in entrepreneurial behaviour.

On B-Tech level, it's not about written tests anymore. It's not about regurgitating facts. They get projects that are tied into products that they work with. If it's not in the range that they produced, then it may be another product that they developed. (Nadine, Design)

Assignments are based on going out to real entrepreneurs, to measure some form of activity, whether it is looking at financial or administrative structures, access to finance or determinants of success, but they get to engage with real entrepreneurs. (Raj, Applied Sciences)

The educators also applied an entrepreneurial approach to the course assessments in that they included opportunities for exposure to entrepreneurship through class projects. According to Nadine in Design, "Class projects become opportunities for the student to sell and market their products and earn money". Students were thus encouraged to engage with entrepreneurs through their projects. Robert's students from the Entrepreneurship Department learned to practise as consultants where "they first have to identify an entrepreneur, sit with that person and see how he runs his business". This was positively received by the small business community who requested that the engagement was on-going. It allowed the students to learn from the entrepreneur and for the entrepreneur to gain a fresh perspective on their business from the students. For Robert, these projects added value to the course, the student and the business. "It is quite exciting and brings that positivity". The students often disclosed to him that "I didn't know that to run a business is this difficult, no matter how small it is".

Summation of sub-question 1

These findings discussed the role of the entrepreneurship course curriculum with regard to course focus, content, pedagogy, assessment and positioning of the course. Educators shared their experiences in teaching entrepreneurship courses across various programmes and levels of study. The qualitative data presented the details of the entrepreneurship courses taught in a HEI, the challenges faced by the educators, and ways that they innovated in the courses' delivery. In the next section, sub-question 2, the role of the institution in the delivery of entrepreneurship courses, will be addressed.

5.1.3.2 The Role of the Institution

Sub-question 2: How does the context of the entrepreneurship courses within the HEI contribute to their design and delivery?

This section includes an examination of how the context of the institution contributed to the entrepreneurship courses' delivery through presenting three impediments to the entrepreneurship teaching process that surfaced during the interviews as follows:

- (a) departmental support
- (b) perceived status and value of the entrepreneurship course
- (c) socio-economic factors

(a) Departmental support

The Department of Entrepreneurship offers stand-alone programmes on entrepreneurship on two levels, the National Diploma of Entrepreneurship and the Bachelor of Entrepreneurship. According to Robert, one of the lecturers from that department, there was little interaction with students from other programmes in their own faculty, or in other faculties. He felt that as a department, they could do more to change that:

We, as a department, need to take responsibility to create awareness out there that we do exist. Even here in this community [department of entrepreneurship], we still have students who are not aware of this department.

According to Sarah, a colleague of Robert's, many educators in their department are passionate about entrepreneurship, however, not everyone in the Faculty of Business Sciences shared this sentiment. She believed that support for their relatively new department (less than 6 years old), within the faculty, could be improved.

In other departments, an awareness of the value of entrepreneurship courses had grown over time. "It has become more and more important as a subject because of the way in which the world is changing", yet, there is still "too little focus by this university on entrepreneurship as a subject", pointed out Adel in Design. Rose, from the Department of Internal Auditing and Financial Information Systems in the Faculty of Business Sciences agreed, that even at an institutional level, little had been done to encourage entrepreneurship. She could not recall many initiatives by their department or the institution to create awareness of entrepreneurship at the university. This sentiment was echoed by two other educators from the Entrepreneurship Department. Abe, a faculty colleague, felt that the university could be more "enterprising with all the products and services produced there" and encourage greater "technology transfer between the academic community and industry". Robert, also a faculty colleague was hesitant to opine on how entrepreneurial he felt the institution was, saying that it "was a tough question, but [he] wouldn't say that it was".

According to Raj, in Applied Sciences, the problem was attributed to the culture of the institution in that entrepreneurship was not fully understood by the institution, which then affected the perceived value of entrepreneurship courses being offered. He believed that successful implementation of entrepreneurship courses depended on departmental leadership to champion it, while being supported by the leadership of the institution. He categorised this leadership into two types:

One [type of] leader realises the value of entrepreneurship and how it can be integrated successfully to produce higher value for the students, giving them more employment options. This leader says, "I see the value in it, I want to support it, but I want to support it as practically as possible".

Another [type of leader] also realises the value of it but does absolutely nothing to support it. This is someone that says, “Other departments are doing it and I also want to do it.” But they don't really support it fully. It's just offered and that's it, as an elective.

(b) Perceived status and value of the entrepreneurship course

The scope of the entrepreneurship courses' outlines, presented in the relevant faculty handbooks, promised an entrepreneurial flavour and purported to equip and expose the student to entrepreneurship. Yet, educators felt that there was a misalignment with what was outlined in the course scope and the current status of the entrepreneurship course within the broader curriculum. The entrepreneurship course objectives and scope are discussed in Chapter Four of this thesis. These course outlines were used to identify the sample of this study and provide the context for how the entrepreneurship courses were presented in the faculty handbooks. These faculty handbooks were consulted by prospective students and their parents/guardians as a source of information on which to base their choice of discipline and future career options.

According to the educators, entrepreneurship was not regarded as a priority course, both by their students and in their departments, specifically on the non-business programmes. According to Adel, in Design, “students and some of the other lecturers see business as an add-on, not as a core subject”. She expressed her frustration during the interview:

I can't tell you how many times I've had to move things around because history is more important, and it is more work. Students don't come to class because they've a history assignment due, yet, learning about business can make or break [their economic situation], whether they're going to put food on the table.

Adel further described the departmental approach to the entrepreneurship courses as “relaxed” and felt that there was not a big enough focus by their department on entrepreneurship education. She said, “There's a huge emphasis for students to focus on their trade but very little about how they will actually apply that to business”. Eric, in Health Sciences, agreed, as in his experience, “The emphasis in my department is on the technical skill of being a technician and

not being a business man”. Miranda, also in Health Sciences, was frustrated at the limited teaching time allocated to her entrepreneurship course, despite the volume of work she was expected to cover. She ascribed this to the status of the course. “It is a Health Sciences department that is why I only have one period for entrepreneurship, because the other periods must be for the Health Sciences courses”.

According to the educators, some students did not see the value of the entrepreneurship course in relation to their programme and future employment prospects and were unaware of its potential influence on their personal development. Jamal, from Engineering, said, “Many students look at this subject as one that can’t impact their career”. “The students’ value their technical training more or think that it is more important”, observed Eric, in Health Sciences. Sarah, in Business Sciences, also pointed out, “We’ve had to try and change that mind-set of only if you are serious about entrepreneurship [then] you should be here”.

However, the educators acknowledged that there were students who had a positive view of the entrepreneurship courses and believed that it could have a beneficial effect on their career options. Nadine, from Design, reflected on the increasing awareness amongst her design students. “Students are now experiencing the entrepreneurship course and becoming young business people and entrepreneurs”. The alumni, she says, speak to the current students, thus increasing the awareness of business as a valuable course.

Students used to believe that as designer they didn't need to know anything about business [but now they are] more aware of the fact that they need to have skills, specifically within business, to become successful. [Students also] engage with the entrepreneurship course in a much better way than they did five years ago.

Raj, in Applied Sciences, found that non-business students took the entrepreneurship course far more seriously than some of the business students. “I don't know why this is the case. But there are quite a number of students that immediately are able to see value in the transfer of knowledge. I don't find this in students with a commerce background”. Miranda, in Health Sciences, was surprised that since the entrepreneurship elective was introduced, her student

numbers had increased. “60 students out of the class chose my subject, and the other 10 opted for the other elective”.

(c) Socio-economic factors

The educators faced further impediments to the entrepreneurship course delivery because they taught in a higher education institution where the majority of the students came from disadvantaged socio-economic backgrounds. Most of the contributory factors were reported by the department of entrepreneurship educators, including:

- Large class sizes (>100 and <500 students) affected the educators’ being accessible to the students and restricted their pedagogic practice. “Since my class is too large, I just put the videos on black-board [the campus intranet]”, admitted Rose, from Business Sciences.
- Absenteeism affected the class progress as more time was spent reviewing the work that had been missed. “We have a big issue with absenteeism. If I get 50 students out of 150 at a time I'm lucky”, said Sarah, who was from Business Sciences. The absenteeism was often due to the distances that students had to travel to reach the institution, in addition to some of them working part-time to support their families. “We have full-time students who work evenings or work over the weekend”, commiserated Sarah, and Adel in Design.
- Lack of computer literacy skills - students often did not have access to computers or the internet in their home environment, which affected their learning progress and class deliverables. “[They have] no computer literacy skills. They don't know how to switch a computer on”, remarked Sarah, from Business Sciences.
- Language barrier - English is not the first language for many of the students. This is challenging for the educators because students come from across the nine provinces in South Africa, a country with 11 official languages. Adel, from Design, explained that students “come from very diverse cultures and diverse exposure to entrepreneurship. Some of them come from [former] Model C⁷ schools, where they adapt very quickly, while others come from very poor households” and “and more rural backgrounds”.

⁷ Model C schools are schools that were reserved for white pupils only in the pre-apartheid era.

Summation of sub-question 2

Educators in this study felt that the programme environment within their departments, and at the institution, was less supportive of entrepreneurship education. They felt that a greater awareness about the value of entrepreneurship courses could be created at the institution through initiatives from other programmes across faculties to attract a greater student interest in entrepreneurship. The educators also shared their experiences of teaching in a context where socio-economic factors negatively affected their course delivery, and their views on the perceived status and value of the entrepreneurship courses. According to the educators, the entrepreneurship course did not hold the same academic status as the other courses in the programmes and its value was not socially validated within the student and academic community. The third factor and discussion that follows focusses on the role of the educator with regard to entrepreneurship courses.

5.1.3.3 The Role of the Educator

Sub-question 3: How do entrepreneurship courses educators shape their design and delivery?

This section is about the educator's role in the entrepreneurship course delivery and how it is shaped by the aspects of:

- a) educators' beliefs about entrepreneurship, entrepreneurial characteristics and whether entrepreneurship can be taught
- b) educators' entrepreneurial background
- c) challenges identified by educators in teaching entrepreneurship

(a) Educators' beliefs of entrepreneurship and entrepreneurship education

Educators felt personally enriched by teaching the entrepreneurship courses, especially through the continuous self-learning when keeping abreast with relevant industry trends and course content. Eric, in health sciences, found teaching entrepreneurship “very rewarding”, while for Raj, from applied sciences, it exposed both the educator and student to current developments in the local and global economy. He cited an example that he shared with his students. “It [entrepreneurship] makes you understand what is going on in life, for example, that Grand

Parade Investments have taken over a hundred-million-rand worth of shares from Mr. Allan Amber, the owner of Spur”.

Entrepreneurial characteristics

Educators in this study opined that typical characteristics of entrepreneurs included the need for autonomy, innovation, risk-taking, being solution-focused, creativity, resilience and the ability to recognise opportunities. These characteristics are illustrated in Table 34.

Table 34: Educators' Views of Entrepreneurial Characteristics

Characteristic	Supporting Interview Text	Respondent and Discipline
AUTONOMY	“making your own decisions” “not depending on another person to feed” “you want to stand on your own”	Eric, Health Sciences Jamal, Engineering Rose, Business Sciences
INNOVATION	“someone that is innovative and creative” “thinking of ways to do that things better” “keep on reinventing your business”	Rose, Business Sciences Abe, Business Sciences Nadine, Design
RISK-TAKING	“willing to take that risk” “able to calculate the shortcomings and then the benefits”	Sarah, Business Sciences Robert, Business Sciences
SOLUTION-FOCUSED	“that problem he's got to find a solution for” “opportunities to look for solutions	Abe, Business Sciences, Rose, Business Sciences
CREATIVITY	“who can think in a different dimension” “someone that is innovative and creative”	Jamal, Engineering Rose, Business Sciences
OPPORTUNITY RECOGNITION	“see opportunity or a market need” “identify a need and create value” “pursue that opportunity”	Adel, Design Raj, Applied Sciences Sarah, Business Sciences
RESILIENCE	“to have the ability of you can beat, you cannot be beaten” “able to work under stress”	Jamal, Engineering Rose, Business Sciences

Educators believed these qualities were integral to the personal and entrepreneurial development of their students, regardless of the employment path they intended to pursue.

(a) Beliefs about teaching entrepreneurship

While nine of the respondents in this study stated clearly that they believed entrepreneurship could be taught, they expressed reservations regarding its influence on the students. Robert, in Business Sciences, was enthusiastic about teaching the subject:

Of course, it can be taught. Majority of students that we have, come here not knowing anything about entrepreneurship. But then, you would be surprised in the long run, to find that those individuals who never knew about entrepreneurship, are the real entrepreneurs out there.

Eric, in Health Sciences, however did not believe that entrepreneurship could be taught, although, he believed in the courses' value to potential job-seekers and particularly, job-creators. For Raj, in Applied Sciences, teaching entrepreneurship courses was more about inspiring, encouraging and cultivating a sense of confidence, and a 'can do' attitude in the students, and less about imparting theoretical knowledge and practical application of the course.

(b) Educator entrepreneurial background

Two types of respondents emerged from the interview data: (a) those who had an entrepreneurial background and felt more convinced about teaching the entrepreneurship course, although they agreed that it was not always easy, and (b) those who had no entrepreneurial background and were less convinced about teaching entrepreneurship. The different views of the educators are illustrated in Table 35.

Table 35: Educator Views on Teaching Entrepreneurship

Educators with entrepreneurial background	Educators with no entrepreneurial background
“You could be born, but you need to be watered, you know, be nurtured”. (Abe, Business Sciences)	“I have yet to be convinced that you can teach somebody to be an entrepreneur”. (Eric, Health Sciences)
“There are people that because of their background, they are business conscious. Then there are other people who learn how to do business”. (Jamal, Engineering)	“I know nothing about entrepreneurship” and “I don't know if I'm the best person to teach this”. (Miranda, Health Sciences)
“Unless you've actually made it and tried to sell it, that you see light bulbs going on [understand business]”. (Adel, Design)	“I think (entrepreneurs) are born, they are not made”. (Eric, Health Sciences)
“I didn't know I could even start up a business. Some say it's innate, some say it can be taught. But for me I believe it can be taught. It can definitely be taught”. (Rose, Business Sciences)	“If you put the wrong person in front of a class, you might land up with some, some ill-advised students”. (Eric, Health Sciences)

Respondents with an entrepreneurial background, recalled practical examples from their own experiences to bring the theoretical concepts to life with ease. Rose, from Business Sciences, explained:

Since I've been in the business world before, it's easier for me to share my experience[s] and tell them [students] why my business was successful, or why the business failed. I am able to bring them my own experiences.

Raj, in Applied Sciences, had spent a few years in his own business before transitioning into academia believed that educators have a key role to play, but that the role could also be limited. “If they haven't been exposed to entrepreneurship in a very practical way, it can be very challenging”. Robert, in Business Sciences, also believed that the entrepreneurial ability and vision of the educator contributed toward student motivation. He argued that “you need to practice what you preach, because if your students see you sitting here, teaching them about entrepreneurship, but not showing anything that you are doing outside [your practical experience], then they are less motivated”. Nonetheless, Robert advised that if the educator did

not have an entrepreneurial background, as in his case, they could still motivate students by providing them with examples of “people who are relevant in different industries who have made it. Because that’s the information that they lack”.

In addition to sharing their views on teaching entrepreneurship, educators who had been exposed to entrepreneurship spoke about their experiences in this field. These experiences of the educators in entrepreneurship are captured in Table 36.

Table 36: Educator Experiences in Entrepreneurship

Respondent and discipline	Experience of entrepreneurship
Nadine, Design	“I had a little business of my own, not fashion, but actually interior [design]”.
Rose, Business Sciences	“I used to sell perfumes, generic designer perfumes, [and it] was very successful”.
Robert, Business Sciences	“I would wake up very early in the morning and deliver eggs to the tuck shops in town”.
Adel, Design	“I’ve always been entrepreneurially spirited”.
Sarah, Business Sciences	“I come from very strong entrepreneurial background”.
Abe, Business Sciences	“I did the most, awesome entrepreneurial things”.
Jamal, Engineering	“I made the best bricks. I beat the market that way, with the quality of my products”.
Raj, Applied Sciences	“I used to run a taxi service”.

Jamal, in Engineering, who had taught at a university in Nigeria recalled how there the emphasis was placed on having the practical experience of the subject area, which was believed would enable the educator to “bring the knowledge to the students”. Respondents also shared the lessons that they had learnt during the entrepreneurial process, whether positive or negative. Rose reflected on why her business had failed and recalled that she did not have the knowledge to help her make important business decisions. “I didn’t know how to charge or how to price my services”. Adel remembered the challenges of starting up her company as a creative

designer and was pleased that she could now share the practical aspects of the process with her design students.

(c) Challenges of teaching entrepreneurship

Educators felt a strong sense of purpose to achieve the entrepreneurship courses’ objectives, regardless of the extent of their entrepreneurial experience. Although the more convinced respondents felt confident in their ability to teach entrepreneurship, they acknowledged that the practice was not without its challenges.

These teaching challenges are illustrated by the educators in Table 37.

Table 37: Challenges of Teaching Entrepreneurship

Challenges	Respondent and Discipline
“It can be very challenging to be able to sufficiently transfer the extent of the concept”.	Raj, Marine Sciences
“I don't think it's as easy to say, I'm going to teach you entrepreneurship”.	Nadine, Design
“It may not be enough inspiration you know”, although he believed that inspiration was a key aspect of developing entrepreneurs.	Abe, Business Sciences
“If you're born to be entrepreneurial, you still need to be inspired to carry on. If you're not born to be entrepreneurial, but you are trained to become entrepreneurial, you still need to be inspired”.	Abe, Business Sciences

There was no guarantee that teaching this subject would influence the students’ intent to pursue entrepreneurship, explained Abe, as there are many external factors, which cannot be controlled, that would affect the students during their tertiary education and after graduation. “They may not be inspired by us, for instance. They may not be inspired by the university, for instance. They may not be inspired by their families, for instance”. Still, he stressed that the students not being motivated should not be a reason to detract from the value of entrepreneurship education because it was not an uncommon for this lack of motivation to

occur with other areas of learning. “Many people have come to school to become doctors, engineers, psychologists, but they're not inspired to carry it out”.

Summation of sub-question 3

Educators played a crucial role in the successful delivery of any course that they facilitated, and in this study the focus was on the entrepreneurship courses in different disciplines. While success in entrepreneurship education can be interpreted and measured in various forms, here it meant imprinting a positive view of entrepreneurship as an employment option and as a knowledge area. Although the respondents believed that they had a key role in influencing the students’ perceptions of entrepreneurship, they were mindful of other factors that influenced students’ views, such as the entrepreneurial background of the student, employment aspirations other than self-employment, socio-economic factors and the institution’s support.

The fourth and final factor to be presented is that of the student and the contribution of this factor to the efficacy of the entrepreneurship course.

5.1.3.4 The Role of the Student

Sub-question 4: How do students contribute to the efficacy of the entrepreneurship courses?

In order to gain a broad perspective of the factors affecting the entrepreneurship course delivery, it is important to include the student aspects of entrepreneurial background, prior exposure to entrepreneurship education and employment aspirations.

(a) Entrepreneurial background of the student

According to Nadine, in Design, the home background of the students influenced their attitudes toward entrepreneurship and how they perceived entrepreneurship education. She found that students who came from entrepreneurial homes appeared to have a better understanding of basic business concepts as opposed to those who had not been exposed to entrepreneurial role models:

[To come from] a home where there is a business person in the house, the student has much better skills and knowledge about how a business works and what is really going in to a business. It depends who their role models are at home.

Eric, in Health Sciences, agreed that having a family member who owned a business definitely had an effect on the students' learning. Adel, also in Design, found that, in her class, there was a difference between students with an entrepreneurial background and those without; some of the students who already had businesses had a different understanding and knowledge than the rest of the class. She gave the example of "If the parents have a Spaza⁸ shop, then that student understands the basics of making money, in comparison to another student whose parents are not business owners".

(b) Prior exposure to entrepreneurship education

The educators explained that most students who entered tertiary programmes at their institution had limited exposure to entrepreneurship education and had preconceived ideas of what it was:

- "Often students have a fright for this word entrepreneurship and they hear that in the first year". Nadine (Design)
- "They come here not knowing anything about entrepreneurship". Robert (Business Sciences)
- "They haven't been exposed before to the orientation of what entrepreneurship is about". Raj (Applied Sciences)
- "We do not assume that all the students come from a business background". Sarah (Business Sciences)

(c) Employment aspirations

According to the educators, not all students enrolled in programmes at the Entrepreneurship Department intended to pursue entrepreneurship as a career, and often worked as management consultants or in the field of business administration. Although creating awareness of an

⁸ Spaza is an informal convenience shop in South Africa.

entrepreneurial career path was the dominant focus of the entrepreneurship courses, irrespective of the department, educators were conscious of the reality that not all students may have the inclination or aspiration to pursue entrepreneurship. This is illustrated by Nadine in Design's comment. "All they want to do is to work for Woolworths. They want to be a buyer". Adel, also in Design agreed "There will definitely be pockets of students who want to work in retail or a [formal] job environment, in a cushy job, earning a salary".

On the other hand, Rose, in Business Sciences, was pleased to share that, "we've had about four students that have actually graduated and opened up their businesses". Thus, the skills and knowledge acquired from the entrepreneurship course, lend themselves to a myriad of career offerings, as is characteristic of entrepreneurial learning. Eric, in Health Sciences, reminded his students that "they are either going to work in a dental lab or own a dental lab". Either choice meant that students had to understand the dynamics of business. Raj, from Applied Sciences, like the other entrepreneurship course educators supported the view that "Either you're going to be working for yourself or you're going to be working for someone else". Rose believed that the purpose of her entrepreneurship course was to equip students with the skills that they would need "if at all they want to work in the business sector". But, she also showed her students that there were different career paths to follow. "You can still be an intrapreneur or be self-employed. So, we do show them both sides".

Robert and Sarah however, found it challenging, as educators in the Business Sciences Faculty, when students in their classes who should be able to start their own businesses, were not interested. Sarah believed that "the student mind-set has to change from being an employee to being an employer. That's a big one to change and we hope to change that mind-set on the course".

Summation of sub-question 4

The students played a key role as the target audience of the entrepreneurship course, as with the other factors affecting the entrepreneurship course delivery. Their perceptions of entrepreneurship and entrepreneurship education were shaped both inside and outside the entrepreneurship course. Furthermore, the students' entrepreneurial background, prior

exposure to entrepreneurship and their employment aspirations contributed to the learning environment. The following section will present the findings of interview data from educators around their experiences of the teaching process.

5.1.4 Framing the Process of Teaching Entrepreneurship

Common themes on the teaching process emerged from the interview data, regardless of the educators' backgrounds or discipline-specific programmes they taught. Respondents spoke passionately about "impacting the thinking" of the student and "nurturing" the students' interest and awareness of entrepreneurship. They also viewed their role with a sense of duty and referred to it as "our job", "our responsibility" and "we have to" make sure that students considered entrepreneurship as a possible, viable and valuable career option. The educators also felt it was their responsibility to ensure that the students felt confident and equipped to pursue it as a career path. The themes that emerged and supporting data are illustrated in Table 38.

Table 38: Teaching Entrepreneurship Framework

Teaching entrepreneurship framework themes	Educators' responses
<p>Creating awareness and exposure to entrepreneurship as a possible career path</p>	<p>“My role was merely to conscientise the thinking of entrepreneurship”. Raj (Applied Sciences)</p> <p>“It doesn’t mean that as an accounting person you can only work for an accounting firm”. Rose (Business Sciences)</p> <p>“to think about where that job is going to come from”. Raj (Applied Sciences)</p> <p>“You build up your own name and your own label”. Nadine (Design)</p>
<p>Inspiring and cultivating positive perception of entrepreneurship</p>	<p>“If you're born to be entrepreneurial, you still need to be inspired”. Abe (Business Science)</p> <p>“Do they have the perception that enable to help in starting a business?” Jamal (Engineering)</p> <p>“I think it's our jobs, to tap in there and inspire them”. Sarah (Business Sciences)</p> <p>“nurturing a hunger to go out there” Nadine (Design)</p> <p>“inspire them and say, ‘Look, it can be done!’” Robert (Business Sciences)</p>
<p>Developing entrepreneurial and business management skills</p>	<p>“to think outside the box, outside technical stuff” Eric (Health Sciences)</p> <p>“to equip them with the skills that they will need” Rose (Business Sciences)</p> <p>“to create confidence in the students, they can say as an entrepreneur”. Jamal (Engineering)</p> <p>“We are developing and inspiring entrepreneurs”. Sarah (Business Sciences)</p>
<p>Encouraging entrepreneurial activity and behaviour</p>	<p>“They can be a group of property developers”. Jamal (Engineering)</p> <p>“You have to express [yourselves] as entrepreneurs”. Robert (Business Sciences)</p> <p>“Think of a smart idea, which you could really turn into a venture for yourself”. Abe (Business Sciences)</p>

These themes will be discussed in the context of the interview data as follows:

- 1) Creating awareness and exposure to entrepreneurship as a possible career path
- 2) Inspiring and cultivating a positive perception of entrepreneurship and entrepreneurship education
- 3) Developing entrepreneurial and business management skills
- 4) Encouraging entrepreneurial activity and behaviour

(1) Creating awareness and exposure to entrepreneurship as a possible career path

Although there were a few students who had been exposed to entrepreneurship previously, either through their own experiences, a family business, or someone in their social circles, the number of students exposed to entrepreneurship education still remained low. Raj stated that “the majority of students, particularly in that age category of 18 to 25, even 30, they don’t have prior exposure to entrepreneurship”.

According to the interviewees, students often came to tertiary institutions unsure of what career path to follow. Sarah, from Business Sciences, explained, “We are able to plant seeds, which if we water correctly, we can get them to move in that direction. They often come here not knowing what they want. They are a bit confused”. Educators thus expose students to entrepreneurship as another option for employment where they could translate their skills into market value.

The educators presented the entrepreneurship course as a lens for students through which to view the rest of their programme in order to identify viable career options and possible new venture links. Thus, they aimed to assist students to think of how they could combine what they had learnt from the entrepreneurship course with their technical skills so they could become gainfully employed, and at the same time, think of how they could eventually employ others. Eric, in Health Sciences felt that:

The students need to understand that there are other things beyond making dentures and we need to make them aware of how a business is run. It is important for them to know that there are things other than the technical. Especially if they are wishing to go into business.

Rose, from Business Sciences, agreed and shared the advice she gave to her previous class of photography students. “It's good if you know how to snap your pictures and everything, but how will you market yourself? Or how will you run your studio?”

Nadine, from Design, taught her students that they could find business opportunities through technology:

Even fashion businesses become virtual. So, the outcome for me is to prepare them and you can never prepare them 100 percent, but to prepare BTech students so that when they leave here they are better equipped to actually survive on their own, to become successful, young business people or entrepreneurs.

According to Raj who taught entrepreneurship as an elective in the Applied Sciences programme:

The idea behind offering entrepreneurship as an elective is to expose the student[s] to becoming a little bit more independent and thinking a little bit more creatively in terms of where that job is going to come from. Maybe a job that they're going to have to create themselves.

The educators all shared this perspective on the link between entrepreneurship and future employment options for the students, regardless of their own prior experience in entrepreneurship.

(2) Inspiring and cultivating a positive perception of entrepreneurship and entrepreneurship education

Jamal, in Engineering, stressed the importance of the students' attitude towards entrepreneurship and entrepreneurship education in "Have they got a positive attitude? What are the perceptions that they have?". According to him, educators are best positioned to influence the students. "We need to cultivate their attitude[s] towards practicing the knowledge we impose on them".

Rose was pleased that she had inspired her students and related how a student in her Financial Accounting Programme had started a mobile kitchen selling township food. "The student said because of the way I'm teaching, although she had always considered starting up a business, but just the way I teach, it seemed possible". This is an example of a student with the aspiration to start her own business and through the teaching process, felt confident and inspired to pursue it. Rose continued to influence her students by showing them possible career paths in entrepreneurship. She told her financial accounting students that "if you don't find work in the industry, and you are good at tax, then you could start helping people to do their filing or taxes". Educators motivated students to consider entrepreneurship as a possible career path by making it visible as a career option and choice.

(3) Developing entrepreneurial and business management skills

Entrepreneurship courses are not only about teaching entrepreneurial skills and concepts, but also about developing the student, as a person, by providing opportunities for personal growth and confidence building in the student. As Jamal, from Engineering, aptly stated, "The most important thing is how the student[s] establish themselves. This education can build student confidence". Adel, from Design, agreed in that the aim of her course was "for them to become equipped in starting and running their own successful businesses". Likewise, Nadine, Adel's colleague, explained that she placed much emphasis on entrepreneurship and preparing the students to start their own businesses.

(4) Encouraging entrepreneurial activity and behaviour

Educators in this study, continually used class lectures and course assessments as opportunities to encourage entrepreneurial activity and behaviour. The Design department at the university also encouraged students to engage in entrepreneurial ventures and had converted an old building close to their campus where products from the Design school could be marketed and sold to the public. Nadine, one of the champions for entrepreneurship in her department believed “it’s our duty as educators to give them that taste of entrepreneurship, but I think it starts with us, to make them aware and to inspire them”. She reported that “all four programs in the Design department encourage students to start making things. I always tell my second year students, this is the year that you now learn enough skills to start sewing for your friends, for your family, then you start charging them and you start making a little bit of money”.

Eric, in Health Sciences, who had graduated from a business school, was not convinced that his education had prepared him to follow an entrepreneurial career path. “Entrepreneurs are born that way. I have yet to be convinced that you can teach somebody to be an entrepreneur. I take myself as a good example. It’s not my personality”. However, despite his experience of an education in business, his opinion on choosing career paths was that “it comes down to the individual choice, but if you take away that choice and go work at a large firm, then you may be a lab rat for the rest of your life”. Regardless of the beliefs that educators like Eric held about teaching entrepreneurship, it did not detract from the aims that they had set out to achieve in teaching the entrepreneurship course.

5.1.5 Concluding the Qualitative Findings

Thus far, the qualitative data has illustrated various elements of the entrepreneurship courses taught as a programme component across faculties including Applied Science, Health Sciences, Engineering, Design, and Business and Management Sciences. All the educators who were interviewed held similar views about the entrepreneurship courses that they taught and the challenges in the areas of course focus, course content, pedagogy and assessment. Additional factors contributing to the entrepreneurship course delivery included the institution’s contextual factors and the contribution of both the educators and students.

In addition to the factors affecting the delivery of the entrepreneurship course, it appeared that educators faced several challenges when teaching an entrepreneurially oriented course, especially as a component of a non-business programme. However, the educators who were interviewed expressed great passion and enthusiasm for their role in developing and inspiring young adults to become empowered and equipped so that they could access broader career opportunities. This was true even of those educators who were less convinced that entrepreneurship could be taught. From the interview data, four themes emerged from the interview data, which underpinned the way entrepreneurship education was taught in this sample: i.e. creating awareness and exposure to entrepreneurship as a possible career path; inspiring and cultivating a positive perception of entrepreneurship and entrepreneurship education; developing entrepreneurial and business management skills; and encouraging entrepreneurial activity and behaviour. This entrepreneurial teaching framework was used by all the educators in this sample, regardless of the discipline within which they taught.

The next section of this chapter will illustrate the quantitative data of the mixed methods study, as collected through student surveys and analysed through statistical techniques.

5.2 Quantitative Results

One of the key factors that influenced the entrepreneurship course design and delivery was the student. The views of students regarding their experiences of entrepreneurship courses were gathered through a survey instrument. An overview of the sample is presented before the results pertaining to the various propositions are discussed.

5.2.1 Sample Overview

The quantitative sample consisted of 640 students who were registered across 11 different programmes⁹ across multiple disciplines within the five faculties surveyed at the university. The sample included first, second, third and fourth year students enrolled in undergraduate

⁹ A programme in the context of this study is a structured combination of courses/modules that needs to be completed between first year and third year in order to graduate with a National Diploma

diplomas and degrees of study. The programme names as well as the faculty within which they are offered are presented in Table 39.

Table 39: Programmes in the Sample

Programmes	Faculty
Fashion Design	Design
Surface Design	
Industrial Design	
Graphic Design	
Dental Sciences	Health Sciences
Medical Imaging and Therapeutic Sciences	
Construction Management and Quantity Surveying	Engineering
Marine Sciences	Applied Sciences
Management in Entrepreneurship	Business Sciences
Entrepreneurship	
Internal Auditing and Financial Information Systems	

Student Responses per Faculty

The aim of collecting survey data here was to understand the student experiences of the entrepreneurship course in their discipline and how they perceived its importance and value. Figure 9 shows the spread of student responses per faculty.

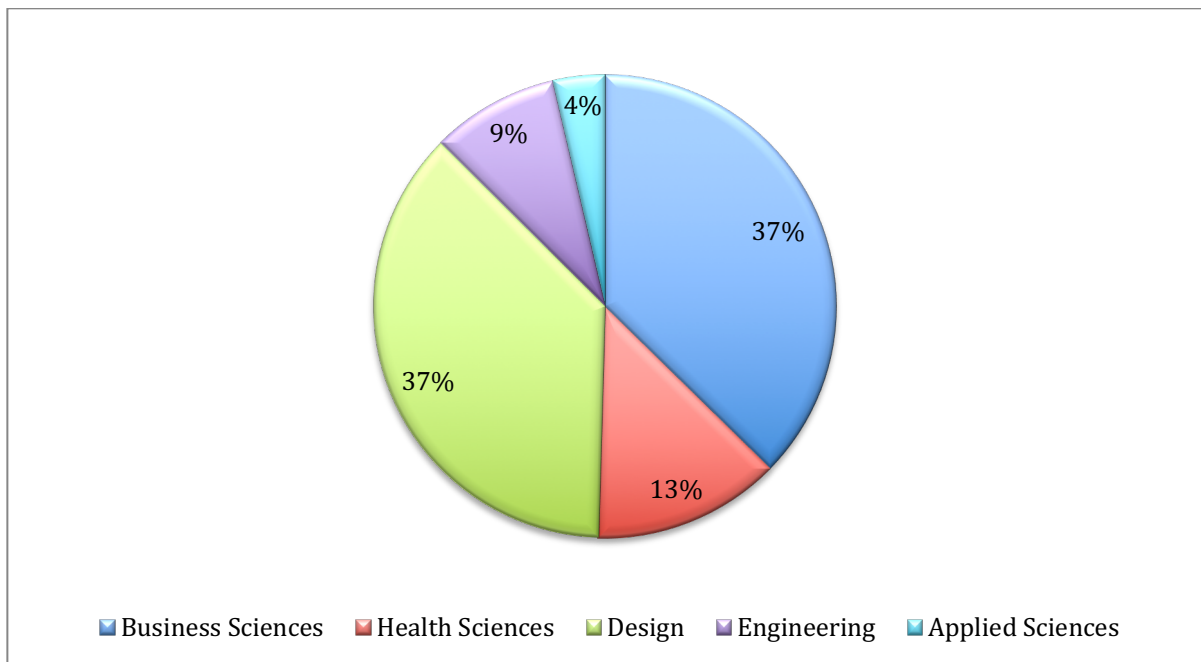


Figure 9: Student Responses per Faculty

The academic level of the respondents in this study ranged from 70% enrolled for National Diplomas, 26.6% enrolled for Bachelor of Technology and 3.4% enrolled for National Higher Certificates. The results of the student responses to the survey questionnaire will be presented graphically, according to the research propositions that follow.

5.2.2 Research propositions

Proposition 1

There are various internal and external factors that influence student perceptions of the importance and value of entrepreneurship education.

Proposition 1(a)

Student perceptions of the value of entrepreneurship education are influenced by their aspirations for future employment options.

Proposition 1(b)

Student perceptions of the value of entrepreneurship education are influenced by their prior exposure to entrepreneurship education.

Proposition 1(c)

Student perceptions of the value of entrepreneurship education are influenced by how entrepreneurial they rank themselves.

Proposition 1(d)

Student perceptions of the value of entrepreneurship education are influenced by how confident they feel in their future employment prospects.

Proposition 1(e)

Student perceptions of the value of entrepreneurship education are influenced by their level of exposure to entrepreneurship within the educational institution.

Proposition 1(f)

Student perceptions of the value of entrepreneurship education are influenced by their year of study.

Proposition 1(g)

There is a positive relationship between students' experiences of the entrepreneurship course and their perceptions of entrepreneurship and entrepreneurship education.

Proposition 1(h)

Variables such as family influence, entrepreneurial beliefs, business start-up knowledge, business management knowledge and entrepreneurial skills have an influence on student perceptions of the value of entrepreneurship education.

Proposition 2

There are differences in how students are stimulated and inspired by entrepreneurship education across disciplines and years of study.

Proposition 2(a)

Entrepreneurship course content and pedagogy stimulate students differently across multiple disciplines.

Proposition 2(b)

Entrepreneurship course content and inspiration from the pedagogy stimulate students differently across the years of study.

5.2.3 Survey Results

The results are presented sequentially according to the research propositions, starting with the respondent views on the dependent factor of student perceptions.

5.2.3.1 Student Perceptions of the Value of Entrepreneurship Education

Before presenting the results of the data with respect to the research propositions, an overview of the dependent construct - student perceptions of the importance and value of entrepreneurship education - will first be presented in Figure 10. The responses ranged as follows:

- 1 = Unimportant*
- 2 = Somewhat Unimportant*
- 3 = Somewhat Important*
- 4 = Very Important.*

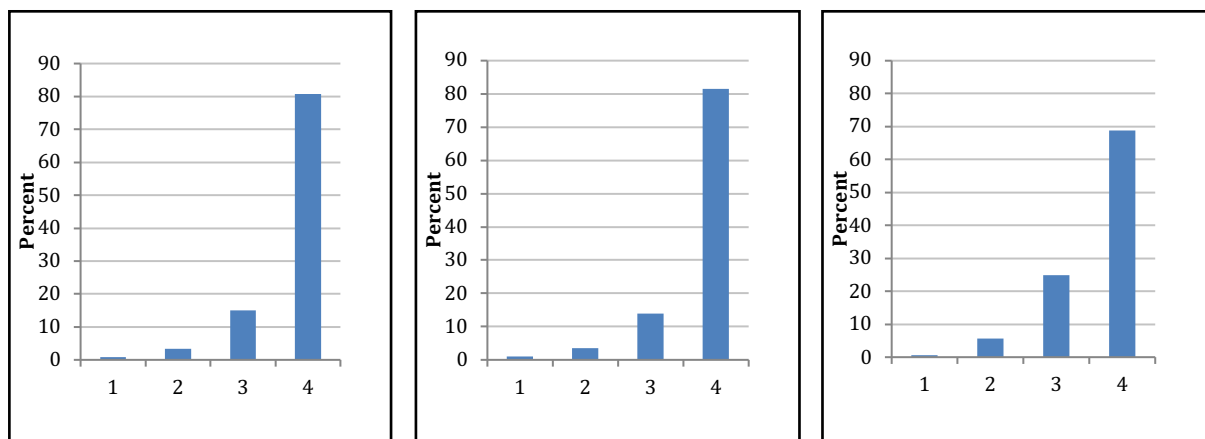


Figure 10: Student Perceptions of Entrepreneurship Education

This construct consisted of three items, the results of which are shown in Graphs A, B and C:

Graph A: Importance of learning about how to start a business in a specific discipline

Graph C: Importance of learning about entrepreneurship

Graph C: Value of business education to entrepreneurial success

Students in the sample viewed entrepreneurship education positively, where 81.4% believed it was very important to learn about how to start a business in their industry. More students in the survey (68.8%) believed that business education could improve their chances of being a successful entrepreneur, with a lesser percentage (24.8%) who thought that it had “some” chance of improving their chances of being a successful entrepreneur. These results differed across departments where entrepreneurship students, ($M = 3.82$, $SD = 0.32$), had a slightly more positive view of entrepreneurship education and its potential to improve their chances at entrepreneurial success, $t(588.45) = 10.96$, $p < 0.001$, than students from other departments ($M = 3.65$, $SD = 0.47$). The year of study also showed a difference in responses, where first-year students held a more positive view of entrepreneurship education ($M = 381.38$), $X^2 = 25.65$, $p < 0.001$, than third-year students ($M = 297.14$).

Quantitative Research Proposition 1

There are various internal and external factors that influence student perceptions of importance and value of entrepreneurship education.

In order to test this research proposition, a regression analysis was conducted on all the variables in the study to determine the relationships between the independent variables and dependent variable. The model was found to be significant ($X^2 = 3317.530$, $p < 0.001$). The relationships of a number of the predictor variables with the dependent variable - student perception - showed significant but fairly weak relationships. Predictor variables, including interactions that had significant effects on student perception, were included in the model. Thus, variables that did not show significant relationships with the dependent variable in the model showed significant effects when combined with those variables that were significant. I categorised these variables into (a) primary factors – these had significant effects on the

dependent variables - and (b) secondary factors – these were significant when combined with a primary factor. The results of the Test of Model Effects are presented individually along with the research proposition it relates to, while the total parameter estimates that were used in this model can be found in Appendix G. The relationship between the independent variables and the dependent variable is depicted in the model in Figure 11.

Graphical Presentation of the Generalised Linear Model Results

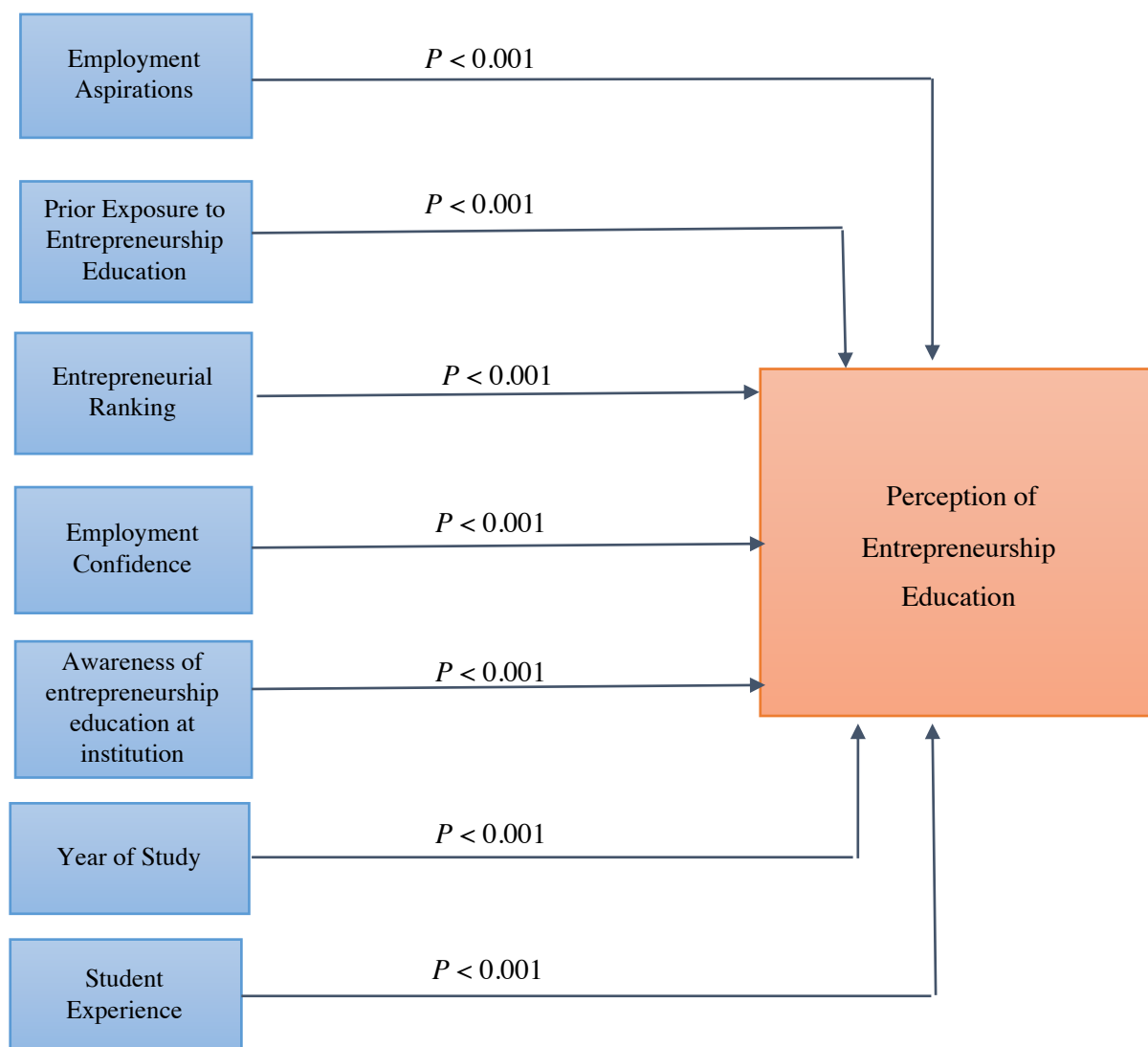


Figure 11: Factors influencing student perception of entrepreneurship education

Source: Price (2018)

The interpretation of this model (Figure 11) will be discussed in the following section.

5.2.3.2 Factors Influencing Student Perceptions

As demonstrated in Figure 11, there were seven key factors that affected student perceptions of the importance and value of entrepreneurship education. The following were determined as primary factors:

- Employment aspirations
- Prior exposure to entrepreneurship education
- Entrepreneurial ranking
- Employment confidence
- Awareness of entrepreneurship education at institution
- Year of study
- Student experiences of the course

Furthermore, secondary factors were determined when variables that were not significant on their own interacted with the key variables and showed significant effects on the dependent variable of student perceptions of entrepreneurship education. The variables that showed secondary effects on student perceptions included:

- Family influence
- Entrepreneurial beliefs
- Importance of business start-up knowledge
- Importance of business management knowledge
- Importance of entrepreneurial skills

These factors will be illustrated sequentially as follows: student responses to the primary factors will be illustrated graphically, while the results of this regression analysis will be included in accompanying tables showing the test of model effects.

Primary factors that affected student perceptions of the value of entrepreneurship education

The results of the primary factors as outlined above will be expanded in the following section including Figure 12 until Figure 18. The results of the Generalised Linear Model, Test of Model

Effects were allocated to the relevant variables and presented in a table accompanying the survey results of student responses on that variable.

Employment Aspirations

Students were asked about their primary aspiration for future employment.

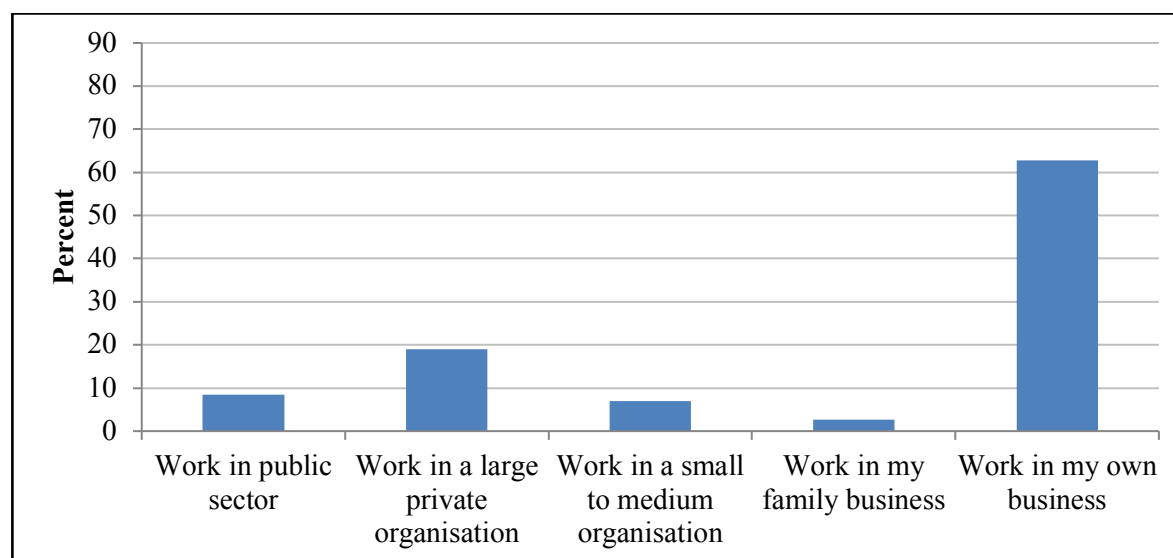


Figure 12: Employment Aspirations

More than 50% of the students in this sample had employment aspirations to work in their own businesses (61.1%), as opposed to working in the SMME sector (8%), a large private organisation (18.6%) or the public sector (7%).

Table 40: Test of Model Effects: Employment Aspirations + Interactions

Source	Type III Wald Chi-Square	df	<i>p</i> -value
Employment aspirations	37.445	4	.001
+ Prior exposure to entrepreneurship education	18.739	4	.001
+ Entrepreneurial beliefs	26.251	7	.001
+ Family influence	24.219	7	.001
+ Employment confidence	22.643	11	.020
+ Business start-up knowledge	19.931	4	.001
+ Business management knowledge	22.414	4	.001

This factor of employment aspirations had the most interactions with secondary variables compared to the other primary factors that influenced student perceptions of entrepreneurship education, thus it exerted several cumulative effects on the dependent variable.

Prior Exposure to Entrepreneurship Education

Students were asked whether they had been exposed to entrepreneurship education prior to their enrolment in the entrepreneurship course.

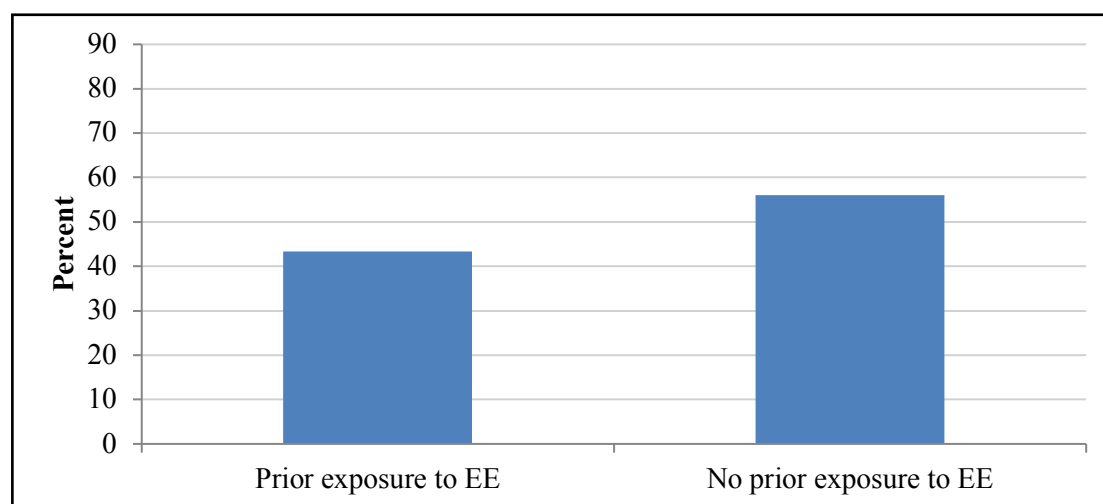


Figure 13: Prior Exposure to Entrepreneurship Education

More than half the students in the sample (56.1%) were not exposed to entrepreneurship education before attending the entrepreneurship course on their discipline specific programme.

Table 41: Test of Model Effects: Prior Exposure to Entrepreneurship Education

Source	Type III Wald Chi-Square	df	<i>p</i> -value
Prior exposure to entrepreneurship education	10.167	1	.001

There were no other significant interactions of other variables with this factor.

Entrepreneurial Ranking

Students ranked themselves to be entrepreneurial, full of initiative and likely to start their own business, using a 6-point Likert-type scale ranging from 1 (*not at all entrepreneurial*) to 6 (*very entrepreneurial*).

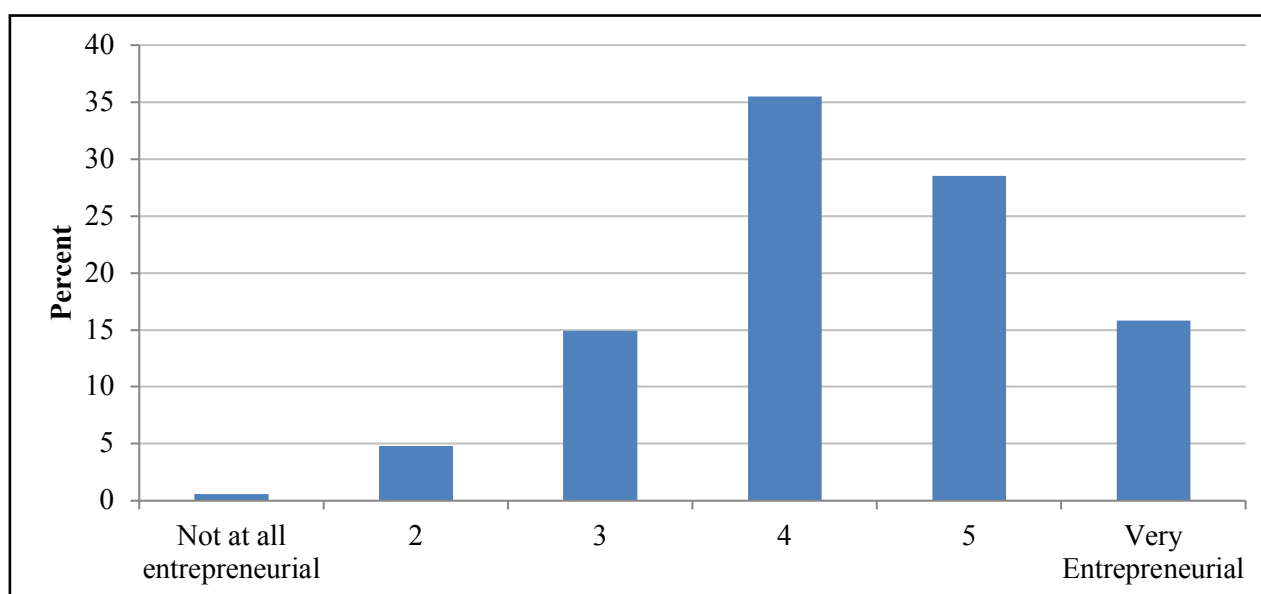


Figure 14: Entrepreneurial Ranking

When the secondary factor, importance of business management knowledge, was combined with entrepreneurial ranking, it had a significant influence on student perceptions of entrepreneurship education, $p < 0.001$.

Table 42: Test of Model Effects: Entrepreneurial Ranking + Significant Interactions

Source	Type III Wald Chi-Square	df	<i>p</i> -value
Entrepreneurial ranking	33.453	5	.001
+ Business management knowledge	31.212	5	.001

Employment Confidence

Students in this study expressed low levels of confidence in post-graduation employment options, with only 35.6% who felt highly confident that they would find employment. Nevertheless, more students (61.1%) in the sample aspired to pursue an entrepreneurial career. The responses ranged from:

1 = Not confident at all

2 = Very Confident

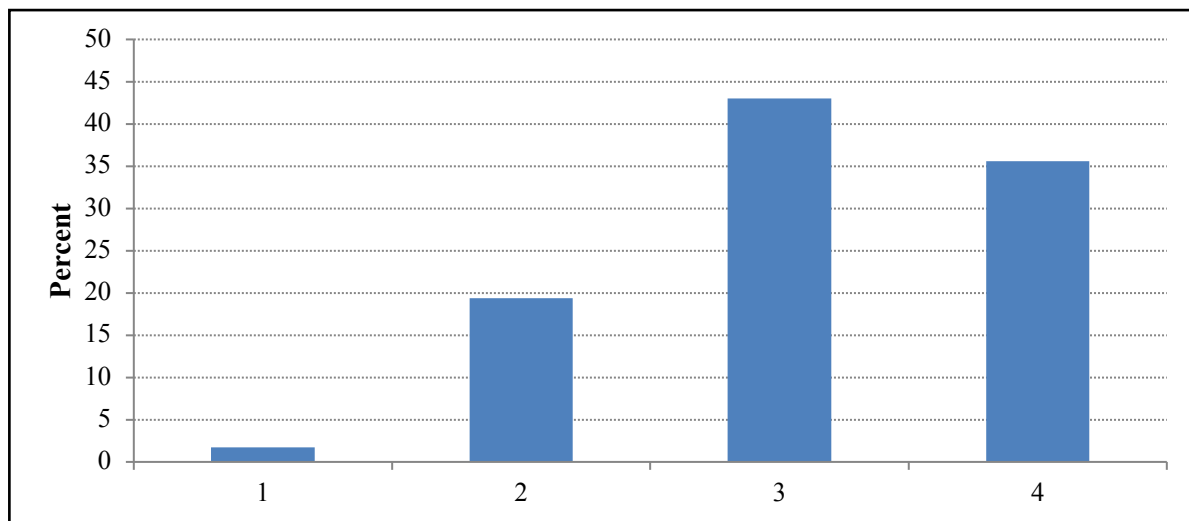


Figure 15: Employment Confidence

Regression analysis, for employment confidence, showed its significance as a predictor of student perceptions and a significant interactor with business management knowledge, to exert a cumulative influence on student perceptions.

Table 43: Test of Model Effects: Employment Confidence + Significant Interactions

Source	Type III Wald Chi-Square	df	<i>p</i> -value
Employment confidence	21.385	3	.001
+ Business management knowledge	21.792	3	.001

Awareness of Entrepreneurship Education at Institution

Students were asked to respond to whether they were aware of the Department of Entrepreneurship at their institution.

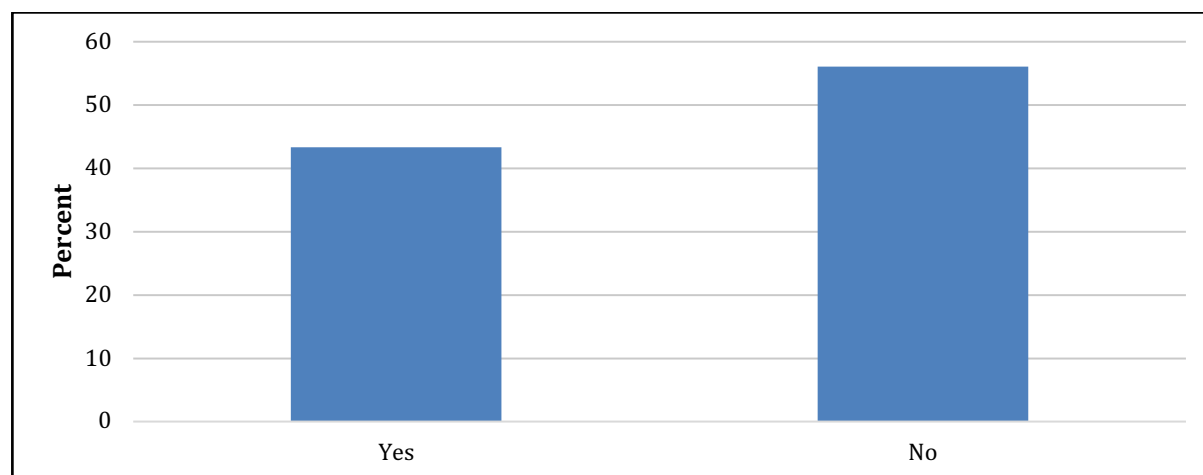


Figure 16: Awareness of Entrepreneurship Education at Institution

Fewer than half of the students in the sample (43.3%) were aware that there was such a department at their university. Although the majority of students who were unaware of the Department of Entrepreneurship came from other programmes, a small percentage (9.9%) of students within the Business Sciences faculty – where this Department is located – were also unaware of its existence. This factor had interactions with the secondary variables as outlined in Table 44, resulting in an aggregated influence on student perceptions of entrepreneurship education.

Table 44: Test of Model Effects: Awareness of Entrepreneurship Education at Institution + Significant Interactions

Source	Type III Wald Chi-Square	df	<i>p</i> -value
Awareness of entrepreneurship education at institution	10.741	1	.001
+ Business management knowledge	9.020	1	.003
+ Entrepreneurship skills	18.268	1	.001
+ Student experiences of the course	5.654	1	.017

Evidenced as one of the primary factors in the Generalised Linear Model, the student responses of ‘awareness of entrepreneurship education at the institution’, were further analysed to determine which faculties had limited awareness of the Department of Entrepreneurship. Refer to Figure 17.

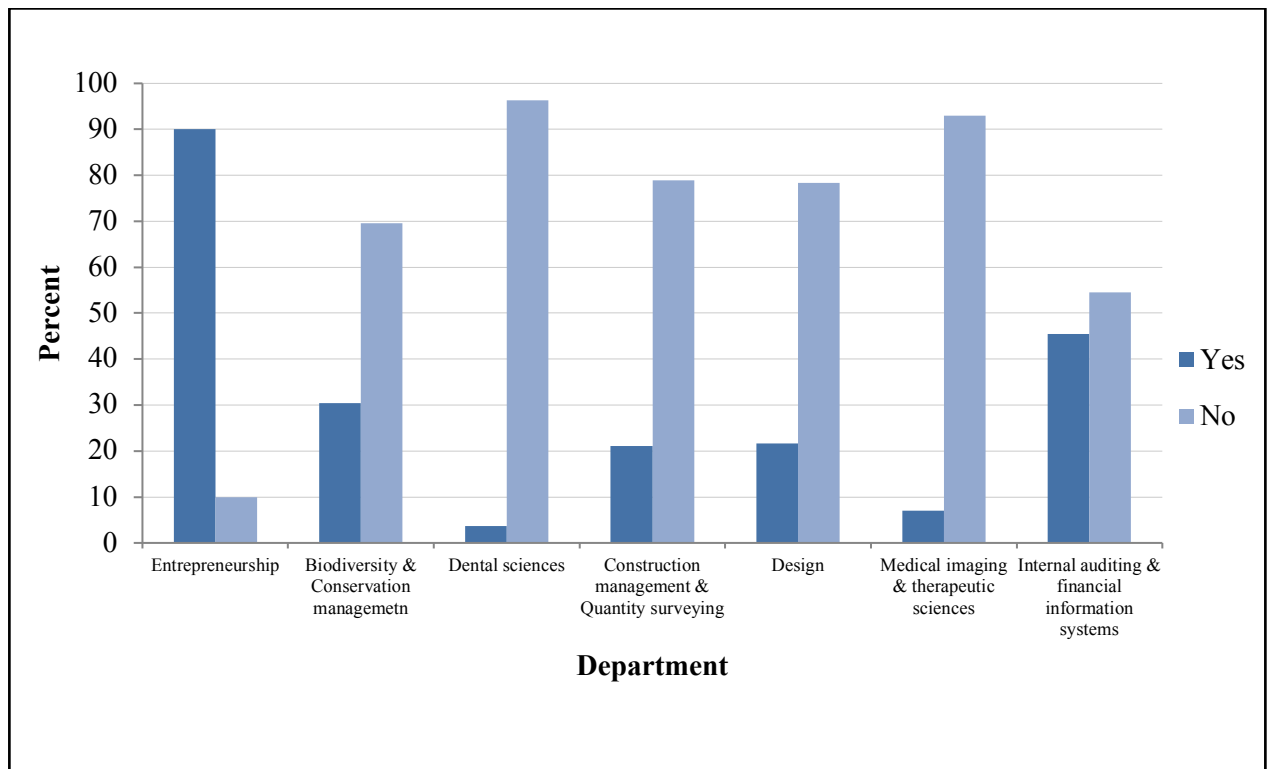


Figure 17: Awareness of Entrepreneurship Education at Institution across Departments

Year of Study

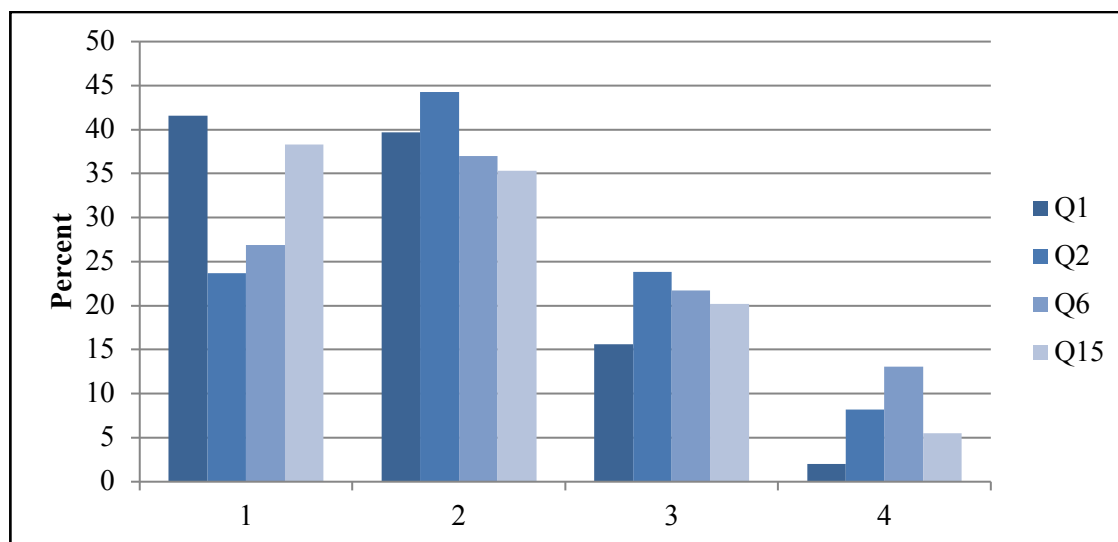
Year of study was a significant contributor to student perceptions of entrepreneurship education and it showed additional interactions with other variables to produce a combined effect on student perceptions (Table 45).

Table 45: Test of Model Effects: Year of study + Significant Interactions

Source	Type III Wald Chi-Square	df	p-value
Year of study	17.621	3	.001
+ Family influence	25.630	6	.001
+ Awareness of entrepreneurship education at institution	22.138	3	.001
+ Entrepreneurship skills	21.506	3	.001
+ Business start-up knowledge	14.983	3	.002

Student Experience of the Course

This construct - student experience - included the variables of content stimulation and pedagogic inspiration to pursue entrepreneurship. However, these variables were not included in this graph (Figure 18) but presented in a separate graph. The overall student responses to the variables in questions 1, 2, 6 and 15 are illustrated in Figure 18 with responses that ranged from, 1 = *Strongly Disagree* to 4 = *Strongly Agree*.



Q1: Equipped to start a business

Q2: Inspired to start a business

Q6: Met or learnt about entrepreneurs

Q15: Improved understanding of business world

Figure 18: Student Experience of the Course

Fewer than 50% of the students agreed that they had some exposure to entrepreneurs as part of the entrepreneurship course, with only 23.4% noting that they had met or learnt about of entrepreneurs (guest speakers, assignments or class projects) in class. Fewer than half the students in the sample, felt strongly about being equipped to start their own business (41.6%), even fewer being highly inspired by the subject to start their own business and 38.3 % who believed that the course had improved their understanding of the business world.

In the Generalised Linear Model, it was identified that student experience of the entrepreneurship course was a significant predictor of how students perceive entrepreneurship education ($\beta = 0.596$; $p = .001$). When combined with the factor of student experiences, factors such as the importance of entrepreneurship skills and business management knowledge also proved to have a significant influence on student perceptions of entrepreneurship education.

Table 46: Test of Model Effects: Student Experience + Significant Interactions

Source	Type III Wald Chi-Square	df	<i>p</i> -value
Student experiences of the course	44.937	1	.001
+ Entrepreneurship skills	6.198	1	.013
+ Business management knowledge	25.362	1	.001

It is important to note that in addition to the two interactions with the primary factor, the only other primary factor to interact with student experiences was awareness of entrepreneurship education at institution. Therefore, the combination of the way students experienced the course and their level of awareness of entrepreneurship education within the institution was a strong predictor of how they perceived the value and importance of entrepreneurship education.

The relationship between student experiences and student perceptions of the entrepreneurship course was confirmed through the Spearman's correlation test. These results showed a significantly positive relationship, $r_s = .359$, $p < 0.001$, where an increase in one factor resulted in an increase in the other (Swift & Piff, 2014).

Secondary factors

As indicated earlier, secondary factors showed significant effects on student perceptions through interaction with the primary factors.

Family influence

There was overwhelming support from the students' families to pursue entrepreneurship, 90.9% said that their families would encourage their decision to start their own business.

Entrepreneurial Beliefs

Students were asked whether they believed it was possible to become an entrepreneur. The result was a positive response of 69.2% of them who believed that it was definitely possible to pursue an entrepreneurial career path.

Importance of business start-up knowledge, business management knowledge and entrepreneurial skills

Students across faculties were asked to rank the skills and learning areas of entrepreneurship education that they considered of value and importance to their learning. The following areas were scored by respondents, in the order, as shown in Table 47 and Table 28.

Table 47: Student Ranking of Importance of Business Management Knowledge

Business management knowledge	Managing your finances	87.7
	Marketing your products and services	79.1
	Risk management	78.6
	Compiling a business plan	75.0
	How to register a business	74.8
	Industry knowledge	74.5
	Customer satisfaction	74.5
	Business processes	73.1
	Types of start-up capital	67.3
	Business ideas	63.0
	Employing staff	59.7
	Working in teams	51.6

Table 48: Student Ranking of Importance of Entrepreneurial Skills

Entrepreneurial skills	Planning and time-management	82.2
	Opportunity recognition	81.7
	Communication	79.7
	Problem-solving	78.8
	Leadership	77.7
	Creativity	75.2
	Decision-making	74.7
	Critical-thinking	73.8
	Innovation	71.7
	Ability to take risks	62.2
	Negotiation	60.0

Summary of Proposition 1

Regression analysis found seven significant predictors of student perceptions of entrepreneurship education as follows: employment aspirations; prior exposure to entrepreneurship education; entrepreneurial ranking; employment confidence; awareness of entrepreneurship education at institution; year of study and student experiences of the entrepreneurship course. This generalised linear model illustrated the interaction effects of secondary factors that although not significant on their own, became significant when interacting with the primary factors. Thus, the primary and secondary factors exerted a combined influence on the dependent variable: student perceptions of entrepreneurship. These secondary factors included family influence, importance of business start-up knowledge, importance of business management knowledge, importance of entrepreneurial skills and entrepreneurial beliefs. The next section presents the results of data in relation to the Proposition 2.

Quantitative Research Proposition 2

There are differences in how students are stimulated and inspired by entrepreneurship education across disciplines and years of study.

The data results of proposition two are presented in order of proposition 2(a) and proposition 2(b).

Proposition 2(a)

Entrepreneurship course content and pedagogy stimulate students differently across disciplines.

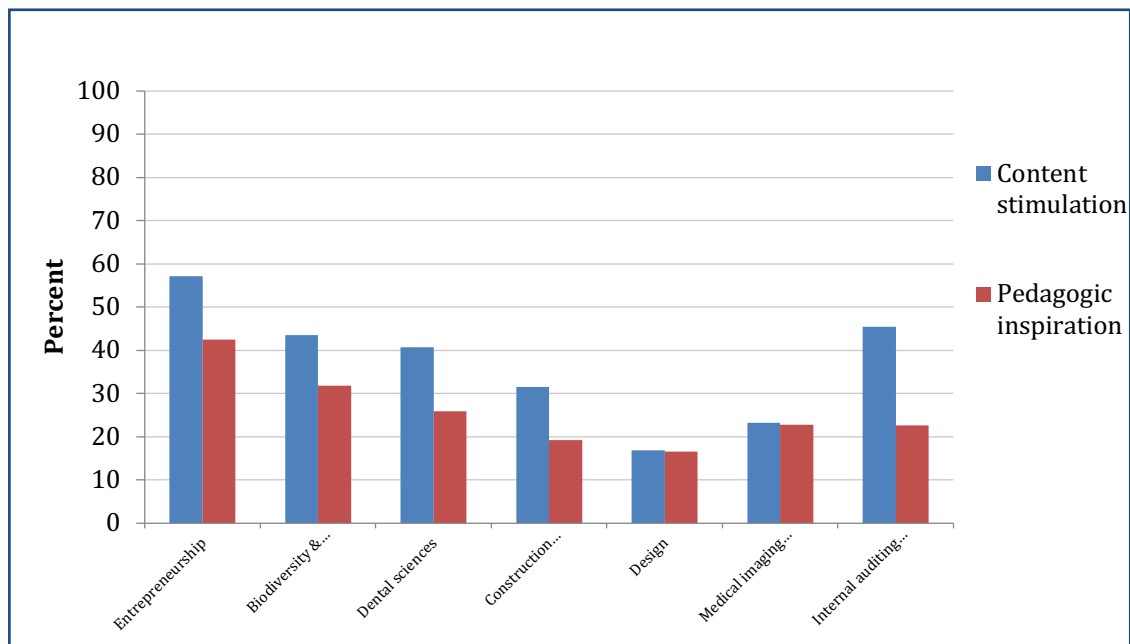


Figure 19: Student Experience of Entrepreneurship Education across Disciplines

A Kruskal-Wallis test revealed a significant difference between the discipline groups, $H(6) = 126.144, p = 0.001$. Overall, more than 50% of the students did not find the entrepreneurship course content stimulating ($H = 117,06, p < 0.001$), with only the business science students slightly over the 50% mark. Pedagogic inspiration was even lower where 30-40% of students were inspired in only two disciplines, ($H = 84.02, p < 0.001$), while in the remainder of the disciplines, fewer than 30% of students felt inspired by the way in which the entrepreneurship course was taught.

The Student's¹⁰ t-test revealed that there was a significant difference in the responses of student experiences across the disciplines in which the entrepreneurship courses were offered. This was particularly between the business science group and the other disciplines, as shown by Student's t-test results, $t(586.75) = 10.96, p = 0.001$.

¹⁰ Student's t-test and t distribution was developed by William Sealy Gosset (1908) publishing under the pseudonym, Student.

As could be expected, students from the Entrepreneurship Department in the Faculty of the Business Sciences had a more positive experience of the entrepreneurship course than students from other departments. They also felt slightly stronger about the importance of business management skills to their programme.

Proposition 2(b)

Entrepreneurship course content and inspiration from the pedagogy stimulate students differently across the years of study.

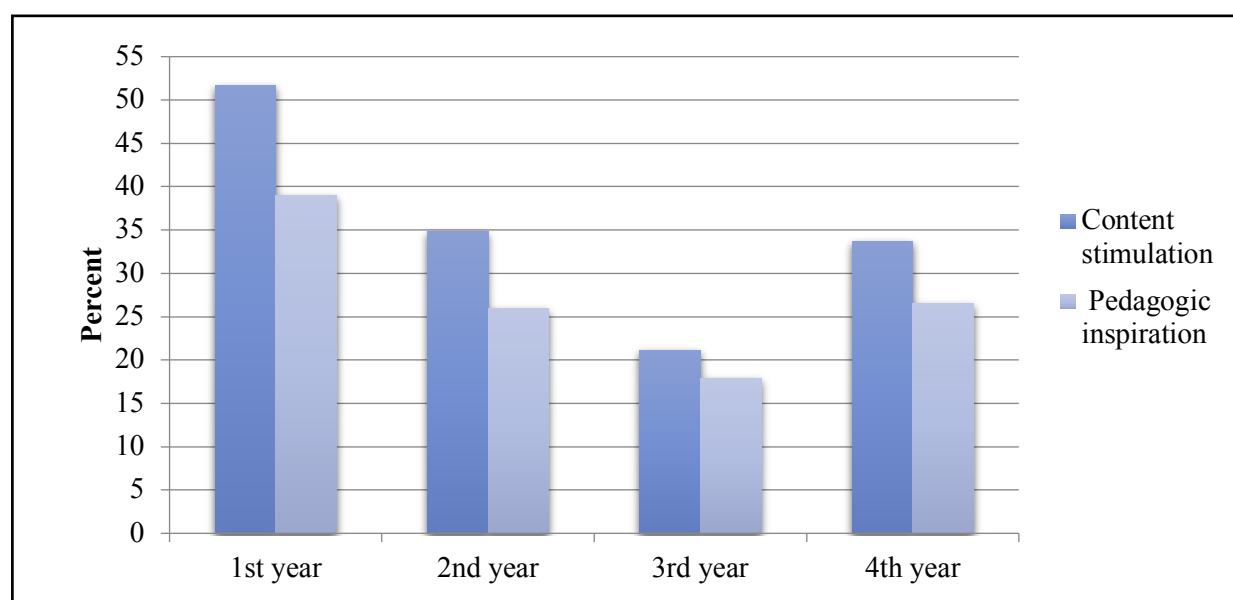


Figure 20: Content stimulation and Pedagogic inspiration: Year of across Study

A Kruskal-Wallis test revealed a significant difference in the student responses between the years of study: $H(3) = 35.95, p < 0.001$. When student responses were tested across year of study, the results showed a significant difference in how first-year ($M = 389.57$) students experienced the entrepreneurship course, compared to $X^2 = 35.95, p < 0.001$ third-year students ($M = 359.98$). Although all students felt poorly stimulated and inspired by the course, first-year students were more motivated to pursue entrepreneurship because of their course experience, than students in their third and fourth year of study.

Summary of Proposition 2

The results showed that there were significant differences between student experiences of the entrepreneurship courses across disciplines, particularly between the business science students and other disciplines. Similarly, students across the different years of study also had varying experiences of the course.

5.2.3.3 Concluding the Quantitative Results

The majority of the students in this sample across the university had a high regard for the importance of learning about entrepreneurship and believed in its potential value to a successful future entrepreneurial career path. Many believed in and aspired to pursue entrepreneurship in the future, ranking themselves as very entrepreneurial. Although students felt positive about the potential contribution of entrepreneurship education to their future employment, this was not due to their experiences of the entrepreneurship courses. Contrarily, they were dissatisfied by their course experience and expressed low levels of stimulation and inspiration. There appeared to be a mismatch between student levels of interest in entrepreneurship and their satisfaction with the course experience. Yet, student experience was established, through regression analysis, as a significant predictor of student perceptions of the importance and value of entrepreneurship education. Increasing the value of this factor, as with the other factors discussed earlier, could therefore increase the worth that students associate with entrepreneurship education.

Analysis of the mixed results will be discussed in the following section of this chapter presenting an amalgamation of the qualitative findings and quantitative results, displayed side by side in tabular form. In this section, a final analysis between the two data sets provides a holistic view of the research phenomenon and answers the mixed methods question.

5.4 Mixed Methods Results

The mixed methods question articulates the overarching rationale for conducting the research study, encapsulating both the quantitative and qualitative research questions to provide a complete understanding of the research phenomenon.

5.4.1 Mixed Methods Question

How can the outcomes of this mixed method study provide an alternate perspective on studies in entrepreneurship education through its incorporation of the various elements involved in the design, delivery and positioning of the course in a higher education institution and its subsequent effects on students of multidisciplinary programmes?

5.4.2 Mixed Methods Display Tables

The results of the quantitative and qualitative findings are displayed concurrently in order to present the seven common themes that either supported, complemented or contradicted the collective findings, in the following order: student perceptions of entrepreneurship education; prior exposure to entrepreneurship education; entrepreneurial background; employment aspirations; awareness of entrepreneurship education at institution; exposure to entrepreneurs during the course; and student experiences of the course.

Student Perceptions of Entrepreneurship Education

The statements that represented student perceptions included: (a) whether they believed that it was important to learn about how to start a business in their industry of choice, (b) whether it was important to learn about entrepreneurship, and (c) whether business education could improve their chances of being a successful entrepreneur.

Table 49: Student Perceptions of Entrepreneurship Education

Educator Views	Student Views
“They value their technical training more or think that it is more important”. (Eric, Health Sciences)	81.4% had a positive view of entrepreneurship education
“A lot of students look at this subject as one that cannot impact their career”. (Jamal, Engineering)	68.8% believed that business education could improve their chances at being a successful entrepreneur.

Although the student survey results showed that the majority of the students viewed entrepreneurship education positively, with the potential to enhance their career success as an

entrepreneur, educators held a contrasting view. According to them, many students did not value the entrepreneurship course and viewed it as less important to their career than their other courses. Educators also believed that students were not fully aware of the entrepreneurship course value to their future employment prospects.

Mixed Data convergence point

There is a contradiction between the QUAL and QUAN results in that the majority of the students had a positive view of entrepreneurship education, believing in its value and importance as a learning area. However, the educators believed that many students were neither interested in the entrepreneurship course nor did they understand its value to their future employment prospects.

Prior Exposure to Entrepreneurship Education

The statement represented in Table 50, is on the student’s exposure to entrepreneurship education prior to enrolment for the entrepreneurship course in this study.

Table 50: Prior Exposure to Entrepreneurship Education

Educator Views	Student Views
<p>“They come here not knowing anything about entrepreneurship”. (Robert, Business Science)</p> <p>“They haven’t prior, been exposed to the orientation about what entrepreneurship is”. (Raj, Applied Sciences)</p>	<p>51.6% were not exposed to entrepreneurship education prior to attending the course.</p>

The majority of students enrolled for the entrepreneurship courses stated that they had not been exposed to this learning area prior to attending the entrepreneurship course.

Mixed Data convergence point

The QUAN results confirmed and supported the QUAL findings of students entering the institution with limited prior exposure to entrepreneurship education.

Socio-cultural Influence

The statements represented for this theme are family influence and support of the student and exposure to entrepreneurs in their social circle.

Table 51: Socio-cultural Influence

Educator Views	Student Views
<p>“A home where there is a business person in the house, the student has much better skills and knowledge about how a business works”. (Nadine, Design)</p>	<p>62.0% knew entrepreneurs in their social circle</p>
<p>“It depends who their role models are at home”. (Nadine, Design)</p>	<p>Students who knew an entrepreneur ($M = 4.07, SD = 1.39$), were more inclined to pursue entrepreneurship, $t_{450.37} = 2.849, p < 0.005$, than students who did not ($M = 3.72, SD = 1.54$).</p>
<p>“If the parents have a Spaza shop, then that person understands the basics of making money”. (Adel, Design)</p>	<p>Students who knew an entrepreneur ($M = 4.44, SD = 1.05$), ranked themselves as more entrepreneurial, $t_{629} = 4.288, p < 0.001$, than students who did not ($M = 4.07, SD = 1.09$).</p>

Although more than half of the students in this study were not exposed to entrepreneurship education before, most of them (62%) knew entrepreneurs in their social circle. Students who knew an entrepreneur were more inclined to have entrepreneurial aspirations and ranked themselves to be more entrepreneurial, as concluded by the *t*-tests. Educators agreed with this result and believed that students who were exposed to entrepreneurial role models, in the past and present, showed greater interest in the subject. While an entrepreneurial background for the student was found to enlist greater interest in the course, for educators with prior entrepreneurial experience it meant being able to bring these practical experiences into the classroom.

Mixed Data convergence point

The QUAN data showed that students who knew an entrepreneur in their social circle were more inclined to elect entrepreneurship as an employment option and also ranked themselves

as more entrepreneurial. The QUAL data supported this result because educators found that students from an entrepreneurial family or community background, showed greater interest in the subject. The QUAL data thus also expands the understanding of the QUAN results.

Employment Aspirations

The statement here is about the students’ aspirations for their future employment.

Table 52: Employment Aspirations

Educator Views	Student Views
“They often come [to the institution] not knowing what they want to do” (Sarah, Business Sciences)	61.1% aspired to work in their own business
“You could start helping people to do their filing, tax filing or something” (Rose, Business Sciences)	8.0% aspired to work in the SMME sector 18,6% aspired to work in the corporate environment
“You have to express [yourselves] as entrepreneurs” (Robert, Business Sciences)	7.0% aspired to work in the public sector 69.2% believed it was definitely possible to become an entrepreneur

The majority of the students, across faculties, aspired toward an entrepreneurial career, with few opting for corporate or public-sector employment. Educators found that many students were unsure of what career path to follow post-graduation and then often made them aware of the entrepreneurial career option.

Mixed Data convergence point

Here the QUAN data supports the QUAL findings because all the educators in the sample, whether they believed entrepreneurship could be taught or not, encouraged their students to consider an entrepreneurial career path. The majority of their students believed in entrepreneurship as a credible career option.

Awareness of Entrepreneurship Education at Institution

This statement represents student views across the university on whether they were aware of the Department of Entrepreneurship at their institution.

Table 53: Awareness of Entrepreneurship Education at Institution

Educator Views	Student Views
“We, as a department, have to take a responsibility to create awareness out there. That we do exist. Even here, in this community, we still have students who are not aware of this”. (Robert, Business Sciences) “There is too little focus by this university on entrepreneurship as a subject”. (Adel, Design)	43.9% were aware of the department of entrepreneurship courses at their institution

Awareness of entrepreneurship education at the institution was identified by the Generalised Linear Model as a factor that positively and significantly affected student perceptions. Yet, fewer than 50% of students across faculties were aware of entrepreneurship programmes offered by the institution. According to Raj (Applied Sciences), the problem lay in the institution’s culture where entrepreneurship was not fully understood; this then affected the perceived value of entrepreneurship education.

Mixed Data convergence point

The QUAL findings here are supported by the QUAN results in that the majority of students were not exposed to the Department of Entrepreneurship at their institution. The lack of department visibility was cited by educators within its faculty, as well as in other faculties. According to the students, there was also little interaction with entrepreneurs as part of their entrepreneurship courses.

Student Experiences of the Entrepreneurship Course

The statements that represented student experiences of the entrepreneurship course are: whether the students felt equipped to start a business; felt inspired to start a business; met or learnt about entrepreneurs; and had an improved understanding of the business world as a result of the entrepreneurship course.

Table 54: Student Experience of the Entrepreneurship Course

Educator Views	Student Views
“I exposed them to South Africans that they didn't know, like Mzolis”. (Miranda, Health Sciences).	23.4% of the students felt that they had a high degree of exposure to entrepreneurs (whether in person or through class learnings)
“We use guest speakers to present their stories, to motivate them” (Robert, Business Sciences)	43.9% felt that they had some exposure to entrepreneurial role models
“Assignments are based on going out to real entrepreneurs”. (Raj, Applied Sciences)	8.1% experienced no exposure at all
“To equip them with the skills, if at all they want to work in the business sector” (Rose, Business Sciences)	41.6% felt strongly enabled to start their own business
“The aim of this elective is to provide students with opportunities to acquire knowledge and develop skills necessary to plan and begin a business” (Miranda, Health Sciences)	37.5% were highly inspired by the subject to start their own business
“The course was designed to develop and inspire entrepreneurs” (Sarah, Business Sciences)	38.3% believed the subject improved their understanding of the business world

Although most of the educators tried to include guest speakers in their programmes in order to expose students to entrepreneurial careers, students disagreed and cited limited exposure to entrepreneurs during the entrepreneurship course. According to the educators, the entrepreneurship courses were designed to develop, equip and inspire the students to pursue an entrepreneurial career path. All the educators who were interviewed emphasised this as a key focus of the entrepreneurship course in their disciplines. Yet, the student responses showed that less than 50% of the students in the sample felt equipped to start their own business, with even

less who felt inspired to start their own businesses. While fewer than 40% of the students believed that they had developed a deeper understanding of the business world as a result of the subject. The student responses showed limited exposure to role models as part of their course either through guest speakers or learning assignments, which involved them meeting and studying entrepreneurs. However, according to data collected from the lecturer interviews, exposing students to entrepreneurs in this was a key component of their pedagogy for this subject as it served to inspire students, create awareness and bring reality into the classroom. It was also an important mode of knowledge transfer.

Mixed Data convergence point

QUAN results of student surveys on their limited in-class exposure to entrepreneurship contrasts with the QUAL findings, where educators aimed to incorporate exposure to entrepreneurs in their course designs. A comparison of the data from the QUAL and QUAN findings showed limited complementarity as students in this study did not feel strongly equipped to start their own business, they were less inspired by the course to pursue entrepreneurship, were not confident about the business knowledge they had gained and cited limited exposure to entrepreneurial role models as a result of the entrepreneurship course. This results on the student experiences of the entrepreneurship course does not align with the expectations and intentions of the course educators of preparing, equipping and inspiring students to pursue an entrepreneurial career path.

The results on student experiences of the course are crucial to consider as they speak directly to the unit of analysis of this study being the entrepreneurship course. Another result that reflects on the entrepreneurship course is that of the student stimulation of the course content and student inspiration of the course pedagogy. These results are illustrated in the section below.

Table 55: Content Stimulation and Pedagogic inspiration of the Entrepreneurship Course

Educator Views	Student Views
<p>“The textbook might not be small business or practical design orientated enough”.</p> <p>“Pitched a little too high given our demographic profile” (Sarah, Business Sciences)</p> <p>“We can't be too sure what is the best methodology to use in teaching this, but we can at least rely on the methods we know” (Abe, Business Sciences)</p> <p>“Quite difficult to measure the entrepreneurial concepts without relying too much on theory to measure it” (Adel, Design)</p>	<p>35.2% were highly stimulated and inspired by the course content</p> <p>26.9% were highly inspired by course pedagogy</p>

As identified in the results of the Kruskal-Wallis tests for proposition 2a and 2b, student responses on the stimulation and inspiration from the entrepreneurship course content and delivery, differed across disciplines and year of study. Regardless of the differences in student responses on these variables, overall responses showed weak levels of stimulation from the course content and students cited little stimulation from the way in which the course was taught to pursue entrepreneurship. In contrast to this according to the course educators, the entrepreneurship courses were designed to stimulate and inspire students to pursue an entrepreneurial career path. However, this area of course content and pedagogic practice in teaching entrepreneurship is where educators expressed limitations in terms of suitable teaching material, uncertainty in pedagogic practice and assessment methods not being suited to the evaluation of entrepreneurship education.

Mixed Data convergence point

Although the QUAN data here, diverges from the QUAL findings as students were neither stimulated nor inspired by their entrepreneurship courses the QUAL data provides an explanation for the QUANT results. This is a worrying finding since the entrepreneurship courses were intended to create interest and enthusiasm for the topic, a key course objective that was identified by the educators.

5.5 Conclusion

This mixed methods study aimed to uncover the dynamics of entrepreneurship courses as offered in multidisciplinary programmes in a higher education institution. It incorporated both qualitative and quantitative methods of inquiry to provide a deeper understanding of the impact of entrepreneurship education on student perceptions of entrepreneurship and entrepreneurship education. Thus, the results included qualitative data on factors affecting the programme delivery of entrepreneurial courses and quantitative data on factors influencing student perceptions of the importance and value of entrepreneurship education.

From the qualitative findings, it emerged that entrepreneurship courses within this multidisciplinary higher education environment, regardless of the departments within which they were taught, had similar characteristics, facets and associated challenges. The data from this component of the study reflected the educators' perspectives on the course focus, content, pedagogy and methods of assessment. In addition to providing an overview of the entrepreneurship course design and context, a thematic analysis of the interview data uncovered various factors that affected the entrepreneurship course delivery, such as the institutional context, the role of the educator and role of the student. These factors also contributed to the course experiences of the students and their perceptions of entrepreneurship and entrepreneurship education.

The quantitative results showed a discipline with a diverse student population sharing a common interest in entrepreneurship and belief in its value as a learning area. The students at this South African higher education institution were also more confident about entrepreneurship as a viable employment option as opposed to finding a job post-graduation. Stepwise regression modelling to analyse the survey data, yielded significant effects on the dependent variable of student perceptions of entrepreneurship education. These effects were illustrated as factors with the potential to influence student perceptions and included both primary factors exerting a direct effect, and secondary factors which exerted an indirect effect. The primary factors identified by the Generalised Linear Model were employment aspirations, awareness of entrepreneurship education at institution, prior exposure to entrepreneurship education, entrepreneurial ranking, employment confidence, year of study and student

experience of the course. The secondary factors that were statistically significant when interacting with the primary factors included: importance of business start-up knowledge; importance of business management knowledge; importance of entrepreneurial skills; entrepreneurial beliefs; and family influence. Furthermore, this research also identified that student experiences of the entrepreneurship course differed across departments and year of study.

Thus, the student perceptions of entrepreneurship education within this higher education institution were subject to multiple factors (direct and indirect), as outlined by both qualitative data on educator views and quantitative data on student perspectives of the entrepreneurship courses.

Finally, a combination of the mixed results, in dual displays of qualitative and quantitative data, provided a comparative perspective of the student and educator responses on the issue under study. Further analysis of the mixed results showed seven common themes surfacing from both the qualitative and quantitative components. The themes included: student perceptions of entrepreneurship courses; prior exposure to entrepreneurship education; entrepreneurial background; employment aspirations; awareness of entrepreneurship education at institution; exposure to entrepreneurs during the course; and students' experiences of the course. Data triangulation in this mixed methods study highlighted points of convergence that indicated where the qualitative findings and quantitative results provided confirmatory outcomes, supporting information, expansive details or divergent results. The researcher was therefore able to gain a deeper insight into the research phenomenon of entrepreneurship education, from both the student and educator perspectives in its context of delivery through the use of a mixed methodology.

The following chapter presents a discourse on the qualitative findings and quantitative results of this mixed-methods study in relation to previous studies conducted in the field of entrepreneurship education. The aim of the following chapter is to illustrate how the outcomes of this study can make a small contribution to the extensive body of literature in this field.

CHAPTER 6

DISCUSSION

The aim of this study was to explore the contextual factors affecting entrepreneurship courses (design and delivery) and their subsequent effects on student perceptions of the value and importance of entrepreneurship and entrepreneurship education across multidisciplinary programmes within a higher education institution. This meant learning about factors that shaped and influenced the entrepreneurship course delivery and about factors that influenced student perceptions of entrepreneurship education. In order to gain an overview of the teaching entrepreneurship pipeline it was important to capture the perspective from both educators and students. As Kamovich and Foss (2017) explained, “teaching entrepreneurship represents a system that incorporates many interacting elements: teachers, students, teaching context, learning activities, and outcomes” (p. 2). The study built on previous research in this field and agrees with the view that educating students on the aspects of entrepreneurship often depends on what those aspects are, as conceptualised by the social, economic and cultural environment in which it is being delivered, and by the educators and institutions facilitating these entrepreneurial courses (Fayolle, 2007; Pittaway & Cope, 2007).

The findings of this study highlight the effects of contextual factors on the design and delivery of entrepreneurship courses offered on multidisciplinary programmes and its subsequent effect on student perceptions of the importance and value of entrepreneurship and entrepreneurship education. Understanding these factors is necessary in order to provide an inclusive framework within which to examine the teaching of entrepreneurship and its influence on the student. The student is viewed not only as the target audience of the entrepreneurship course but also as a contributor towards its design and delivery. This study does not focus on the student’s psychological traits and personal characteristics and the link to these influences on entrepreneurship education as many studies have focused on before (Fayolle, 2007; Gibb, 1996; Isaacs et al., 2007; Pittaway & Cope, 2007). Rather, the focus of this research is on the confluence of personal and environmental factors in the provision of entrepreneurship courses in a multidisciplinary higher education environment. Ladzani and van Vuuren (2002) argued that for an institution to claim that it provides entrepreneurship training is not enough. The

content and process of what is provided, the analysis of potential entrepreneurs and the expertise of trainers should also play an important role.

The first section of the chapter is a review of the entrepreneurship courses with regard to their objectives and scope across discipline and year of study; thereafter the factors affecting the delivery and design of the entrepreneurship courses are considered. These factors included the course design; institutional role; educator aspect and the student aspects. The second part of the discussion chapter presents the student views, i.e. an examination of the factors that influence student perceptions of the value and importance of entrepreneurship and entrepreneurship education.

Factors affecting the Design and Delivery of Entrepreneurship Courses

6.1 Entrepreneurship Course Design

This study focused on entrepreneurship education courses offered in multidisciplinary programmes training students as designers, marine scientists, building contractors, quantity surveyors, dental and other technicians in the medical field. In order to understand what was meant by entrepreneurship education in the university context of this study and how it was delivered, data were collected on the entrepreneurship course content, structure and design as well as factors impacting thereon. Data gathered on the course objectives and scope were attained from the course outlines, as presented in the faculty handbooks, and through the interviews with the course educators. Specific attention was placed on the details of the course objectives, scope, pedagogy and assessment.

6.1.1 Entrepreneurship Course Objectives and Scope

6.1.1.1 Course Objectives across Year of Study

First year of study

First year students were exposed to entrepreneurship education where they were introduced to the world of business and start-ups. They also experienced personal development where the key course outcomes focused on the development of entrepreneurial skills and mind-set. This entrepreneurial development was in line with the objectives associated with entrepreneurship

courses including the encouragement of creative thinking and the promotion of a strong sense of self-worth and accountability (Chimucheka, 2014). Many South African students entered university with limited exposure to entrepreneurship education, as was found in an earlier study on entrepreneurship education at secondary school level (Isaacs et al., 2007). It is at first year level that students begin to consider what careers they could pursue post-graduation and are introduced to the entrepreneurial career option. According to the faculty handbooks, the entrepreneurship courses offered in the Faculty of Business Science, from the first year of study until the BTech year, showed a structured approach in their curriculum design, particularly around the objectives and scope of the course. This was to be expected of entrepreneurship education that was offered within the Business Faculty where the objectives of the courses were aligned to the overall objectives of the entrepreneurship programme. The objectives of the entrepreneurship courses in this faculty were clearly defined from the outset of the first year and of every year thereafter, in order to meet the key programme objective. This was defined in the mission of the Business Faculty as “[to] educate more students in these areas of entrepreneurship education (including creativity and innovation), foster research in entrepreneurship and enable the practice of entrepreneurship in our campus and provincial community” (Subject Guide, Small Business Management 2, 2017).

According to the educators, the objectives of the entrepreneurship courses were as follows:

- creating awareness and exposure to entrepreneurship as a possible career path,
- inspiring and cultivating a positive perception of entrepreneurship and entrepreneurship education,
- developing entrepreneurial and business management skills and
- encouraging entrepreneurial activity and behaviour.

Consecutive years of study

The objectives across the second year entrepreneurship courses were designed to expose students to the functional areas of business management and to introduce the process of idea generation and opportunity recognition. At this level they could draw on the skills and knowledge gained, in the first year of study, to start thinking of opportunities where they could link their discipline with an entrepreneurial career path. The third and fourth year course

objectives were aimed at preparing the students with fundamental background skills not directly related to their core subjects, such as entrepreneurial and business management skills, that would enable them to successfully participate in a professional practice in their industry. This type of skills development equipped the student to implement their learnings in a practical way through the exposure to entrepreneurial activities while the outcomes of the entrepreneurship courses were structured to support the enterprise start-up activities. The course objectives were similar to entrepreneurship courses offered at other institutions where faculty staff believed that at graduate level, students needed to be prepared to market their skills (Mangan, 2004).

6.1.1.2 Entrepreneurship Course Scope across Year of Study

Course outlines in the faculty handbooks showed that although the scope of the entrepreneurship courses varied across the disciplines, commonalities were identified regardless of the discipline. There was also a visible trend in the level of intensity of entrepreneurial focus in the course content across the first, second, third and fourth year of study.

At first year level, the emphasis was on developing entrepreneurial skills and creativity, exposing the student to entrepreneurship, introducing options for an entrepreneurial career path and familiarising the student with the business world and the South African economy. In the Isaacs et al. (2007) study, the key focus of entrepreneurship education and training programmes was on the individual entrepreneur and the entrepreneurial process. Ladzani and Van Vuuren (2002), on the other hand, believed that the aspects of motivation, entrepreneurial skills and business skills needed to be incorporated as components of entrepreneurial performance training. In this study, the course design was tailored to its target audience - typically aged 18 to 25-year olds who lived in the digital age, spent a great amount of time on social media, and focused for only short periods of time in class.

Second year courses brought more focus to developing business management skills, introducing the student to concepts of business management with a start-up enterprise and small business management orientation. It was at this level where the student was exposed to

human resource management, financial management, marketing and how to develop a business plan. This exposure to business management concepts and their implantation in practice are key aspects influencing the success and sustainability of enterprises. Brijlal (2011) agreed arguing that higher education institutions can provide students with an understanding of the risks and rewards related to their business start-up, as well as with creating a new business, while educating them about the causes of business failures.

The objectives and course scope of the second year specified that its aims were to equip the learners with not only the theoretical knowledge but also the practical experience to start and run their business. Many of the aspects covered in the course scope thus referred to:

- understanding the role of finance,
- compiling a practical business plan,
- conducting feasibility analysis, and
- understanding the product realisation process.

For some students, depending on the discipline of study, this practical experience provided an opportunity to conceive their product from inception to market, while for others it provided the opportunity to envision a service offering needed in the South African or global market. This opportunity realisation was also in the scope of entrepreneurship courses offered at another institution where an alumna shared her experience of benefiting from the entrepreneurship course. She opened up her own music school after graduating, offering voice lessons to adults and teaching music to toddlers and children. The student explained that the courses she took in music law, grant-proposal writing, and digital resume preparation enabled her to start her own business (Mangan, 2004). Several other studies have also linked the value of education to entrepreneurship with an emphasis on the acquisition of a variety of skills (L.-W. Chen & Thompson, 2016; Costin et al., 2018; Isaacs et al., 2007; Lazear, 2011; Urban, 2013).

At third year level, the scope of entrepreneurship courses in this study included more aspects to prepare the student for post-graduation and to establish themselves in the world of work.

Course aspects were more directed at:

- the practical aspects of business start-up,
- enterprise planning and practice,
- business and tax registration,
- access to funding and markets,
- product development and market analysis,
- negotiation, and
- people skills

Depending on the nature of the discipline, students would, have by their third year, developed a product or service that they could introduce to the market as goods and services, locally and globally. During this year, students also embarked on a work-integrated learning programme for a few weeks where they were able to experience the working environment and develop an appreciation for the skills and competencies that they had gained thus far. According to Mudau and Kruger (2014), work-integrated learning allows the student opportunities to be exposed to the working environment and to learn more about it. This practical experience in the working environment and opportunity to implement the skills learnt is important because an educated and appropriately skilled workforce is vital to economic productivity and growth. It also builds self-efficacy and confidence in individuals and in so doing increases the chances of their starting and sustaining successful businesses (Cheng, Lourenco, & Resnick, 2013; Herrington & Kew, 2016; Hynes et al., 2010; Urban, 2013).

In the fourth and final year, also known as the BTech year, students were exposed to implementation activities of their business ideas and business plans, developed in the undergraduate programme. Knowledge imparted at this level was customised to the students' discipline of study and therefore relevant to their interest and industry background. Aspects covered in the fourth year placed emphasis on:

- opportunity recognition,
- logistics of establishing an enterprise,
- financial well-being of the business,
- understanding the business regulatory environment,

- risk management, and
- ethical considerations

The concentration on entrepreneurship was intensified in this year with a greater focus on the practical orientation to start-up enterprises and an application of their learnings. In some of the faculties like Design, Engineering and Health Sciences, where students had been simultaneously equipped with a technical skill, the focus was on product development and preparation for start-up, or the student being able to sell and establish the product in the market. In other faculties where students were trained with the technical knowledge to enhance entrepreneurial ventures, the focus was not only on applying that knowledge to existing ventures but also on generating ideas for new ventures where they could apply their technical knowledge and developed skills. According to Lazear (2011), not all individuals are endowed with a complete set of skills to start a business, but they can acquire those skills. The structure of the course content in the third and fourth year was therefore more concentrated on business start-up, entrepreneurial skills and business management with a small business orientation. According to Cheng et al. (2013), when the course is focused on integrating knowledge with a focus on SMMEs, it could enhance the career perspectives of graduates and their employability. This focus was also a highlight in the scope of entrepreneurship courses in this study where the courses were designed to equip the student with the knowledge and skills to enter employment as a professional job-seeker, or with the basic tools needed to establish an enterprise in their specific discipline.

All the modules offered as part of the Entrepreneurship Programme were designed in such a way that they complemented the content and outcomes of the other modules. This shows that when the outcomes of an entrepreneurship course are aligned to the mission of the faculty within which it is taught, it establishes a framework which guides the course objectives and its implementation. However, when the outcomes of the entrepreneurship courses are misaligned to the outcomes of the programme in which it is taught, it may be more challenging for the educator to create a teaching and learning climate suited to the efficacy of designing and delivering the entrepreneurship course. This dynamic was experienced by some of the educators in the non-business faculties where the entrepreneurship course was offered as either

a component of the core discipline-specific programme or as an elective in the BTech year. This lack of alignment may be due to the lack of support for entrepreneurship education within the institution, as reported by 90% of the educators in this study. An example of where entrepreneurship education was influenced at the institutional level and at government level is that of a UK government initiative. The government initiated the development of guidelines to capture best practice in entrepreneurship education at undergraduate and postgraduate levels for international as well as United Kingdom and European Union students (Rae & Woodier-Harris, 2012). These guidelines were aimed at the outcomes of students developing “entrepreneurial effectiveness, through experiencing enterprise awareness, the development of an entrepreneurial mind-set (way of thinking) and a range of capabilities (skills and knowledge, developed through experiential learning)” (Rae & Woodier-Harris, 2012, p. 643). This initiative from the UK government shows the positive effect that governmental interventions can exert on educational institutions in the implementation of entrepreneurship education. The South African government has also placed increasing emphasis on entrepreneurship education and its implementation at all higher education institutions where part of this implementation plan is to ensure that student entrepreneurs and graduate entrepreneurs are suitably prepared for an entrepreneurial career path (EDHE Report, 2016).

According to Fayolle (2007), student levels of interest in entrepreneurship should be considered when delivering entrepreneurship courses within an institution, so that it can be linked to the learning objectives and focus of the course. Hynes (1996) agreed, stating that entrepreneurship programmes should not be generic but customised to incorporate the needs of the student. In my study students enrolling in these courses for the first time had limited prior exposure to entrepreneurship education (51.6%) were exposed to a higher intensity of entrepreneurial focus in the scope of the first year entrepreneurship courses. The course objectives and scope in the first year, therefore, needed to provide for greater levels of exposure, stimulation and inspiration of entrepreneurial opportunities. Curricula for entrepreneurship education should be designed to stimulate interest in entrepreneurship and encourage students toward self-learning and entrepreneurial behaviour culminating in successful business start-ups (Brijlal, 2011).

The next section highlights the limitations in the nature of the teaching material for these entrepreneurship courses as experienced by the educators.

Limitations of entrepreneurship courses' teaching material

The educators in this study felt that the effective delivery of the entrepreneurship courses in their discipline was impeded by the teaching material that was insufficiently pragmatic to illustrate entrepreneurial concepts. The teaching material did not adequately address the scope of an entrepreneurship course and was not particularly relevant to the South African business operating environment. They also described the material as not adequately specific for start-up requirements or relatable to small business development challenges. A study conducted at the University of Zimbabwe, also found that the curriculum was not adequate for the purposes of entrepreneurship training, according to the faculty staff (Munyanyiwa & Mutsau, 2015). As found in my study, the educators at the Zimbabwean university also incorporated industry requirements into their curriculum, while each lecturer had a large influence on what was taught in the entrepreneurship course. These authors concluded their study on the role of the curriculum in the development of entrepreneurs with the view that it played a crucial part in shaping student development. The challenge of finding teaching material suited to entrepreneurship education may be linked to the interrelated and overlapping learning areas of entrepreneurship and business management, where the distinction between the two is an ongoing area of discourse (Bird, 1988; Ireland, Hitt, & Sirmon, 2003; Kuratko, 2005). This may suggest the need for teaching material that supports the transfer of entrepreneurial concepts, presented in a practical format, and includes exercises for practical implementation. The material also needs to be relevant and specific to the skills and knowledge required for start-up enterprises, while incorporating current industry and market trends.

6.1.2 Course Pedagogy

Respondents in this study felt uncertain about what the ideal teaching methodology for entrepreneurship courses should be and relied on what they deemed to be effective to achieve the objectives identified by the entrepreneurship course curriculum. Uncertainty about effective pedagogy in entrepreneurship courses has been part of the discourse on entrepreneurship education for more than a decade. This is partially due to entrepreneurial

knowledge, experience and skills not being easily attainable through conventional teaching practices (Jack & Anderson, 1999) and that little was known about effective teaching methods for entrepreneurial education (Pittaway & Cope, 2007). Educators also have an additional challenge of designing effective learning opportunities for entrepreneurship students (Kuratko, 2005). The dilemma in teaching entrepreneurship is that “enterprise is idiosyncratic, and therefore closer to an art than a science” which makes knowledge on business management alone, insufficient (Jack & Anderson, 1999, p. 113). Kamovich and Foss (2015) found in their empirical research on entrepreneurship education that effective instruction in entrepreneurship education required an alignment between the intended outcomes, instructional process and assessment criteria of the entrepreneurship course. In considering course pedagogy, it means that educators may be required to focus less on the ideal teaching methods for entrepreneurship education and more on creating opportunities for learning in and out of the classroom. Teaching in this way would require a degree of resourcefulness, innovation, and creativity from the educator to identify and determine these opportunities for learning within the curriculum, and it would also include a level of impromptu teaching.

The uncertainty about effective methods for teaching entrepreneurship was compounded by pedagogic practice that was often governed by the two aspects of (a) the institutional approach to entrepreneurship and (b) its positioning in that institution (Gibb, 1996). This means that what constitutes effective methods of teaching entrepreneurship in one department may differ from that of another department within the university. The respondents in this study agreed that the institution’s approach and the entrepreneurship course’s positioning affected the effectiveness of its delivery. Four key characteristics of the teaching approach that were common to all 14 entrepreneurship courses across the multi-disciplinary programmes, emerged from the educator interviews. These were bridging theory and practice, accessing a knowledge community, student engagement and creative assessment and are discussed in more detail in the sections that follow.

6.1.2.1 Bridging Theory and Practice

A common trait of the entrepreneurship courses in this study was the greater emphasis on the *how* rather than on the *what*, particularly when it came to entrepreneurial concepts and the

functional areas of business management. The focus on the *how* was asserted by the educators as essential to the efficacy of the entrepreneurship course delivery who stressed the importance of a learner-centred, practical application focus. This practical focus is necessary in teaching entrepreneurship as the “entrepreneurial process is recognisably different from managerialism, creating something which did not exist before” (Jack & Anderson, 1999). They believed that it was important to balance the depth of the theoretical concepts with sufficient knowledge required by the student to enable practical application of that concept. For example, the business proposal was used as a vehicle to learn the skill of thinking through and articulating the various requirements of setting up a business which based on actual research of the student’s enterprising ideas. Placing more emphasis on practical application is a pedagogical progression in entrepreneurship education from past learning cultures in South African institutions and in the global entrepreneurship education space, where the historical focus leaned towards a teacher/reproduction rather than a learner/experimental culture (Kroon & Meyer, 2001). The European Commission Report (2002) also noted that the past educational systems placed greater emphasis on traditional school education in the form of academic knowledge, i.e. theoretical dominance with less practical application, as opposed to encouraging the spirit of entrepreneurship which stimulates more creative and entrepreneurial talents (Vinten, 2000). Earlier theorist, Dewey (1859) believed that formal schooling was lacking in potential, referring to the traditional teacher-focused method. He argued that the pragmatist theory could benefit the education system, in that it placed the learner as the focus rather than the teacher (Reis, 2015). Entrepreneurship education could benefit from the implementation of Dewey’s learning theory as this perspective on education lends itself to using different delivery approaches, combined with practical activities to cater for multidisciplinary individuals who have varied learning preferences.

6.1.2.2 Accessing a Knowledge Community

Educators of entrepreneurship courses in this study found it beneficial to bring in guest speakers from the industry to complement their teaching practice and to expose students to entrepreneurial role models. These guest speakers formed part of a knowledge community who provided access to resources and facilitated the transfer of entrepreneurial knowledge and skills. This finding aligns with prior studies on the contribution of role models to student entrepreneurial development. Observation of entrepreneurs contributes toward the

development of an entrepreneurial perspective for the student, and provides an opportunity where the student can learn from the experiences of the entrepreneur, while gaining insight into the personality traits and characteristics as applied to entrepreneurial activities and behaviour (Kuratko, 2005; Pandit et al., 2018; Singh et al., 2015). Guest speakers, according to the educators in this study, served to complement and effectuate what the educators taught in the classroom. It was therefore enabling for students to meet and learn from entrepreneurs within their field of study, and to map out possible career paths. The students consequently related better to their peers who were now part of the business community and who provided both a source of inspiration and an opportunity for students to develop and grow their entrepreneurial network within the business community.

According to Vygotsky's (1978) early contributions to constructivism, social learning plays a key role in the process of cognitive development so the engagement with entrepreneurs in a learning environment allows the student to develop on a social and individual level. Vygotsky also referred to a *more knowledgeable other* as any individual who had a better understanding about a particular knowledge area than the student (Reis, 2015). The more knowledgeable other could be an educator, a peer or even information sourced from the internet. Learning in this way could benefit entrepreneurship education and relates to the student population at tertiary level, as supported by the findings of the study where the students preferred to learn from peer role models, spent large amounts of time on social media and identified entrepreneurs in their families and social circles. This theory of social learning has beneficial implications for the field of entrepreneurship education with its uncertainty around the efficacy of its pedagogic practices. Social learning, when appropriately implemented, could provide an opportunity for educators and students to engage with members of the business community in the co-creation of learning prospects.

6.1.2.3 Student Engagement

This study found that the way in which the course content was presented to the students across departments was the key to student engagement. In order to grasp the students' attention and maintain their interest in the entrepreneurship courses, educators included class activities, group work and projects where students led a collaborative learning process. This approach

links to the learning approach of andragogy, also known as informal teaching, as opposed to formal teaching or pedagogy. According to Knowles (2015), andragogy is the art and science of helping adults learn, an approach that places emphasis on what the learner is doing while they learn from their peers' knowledge and experiences. The students are also able to build on existing knowledge and in areas of knowledge that interest them. The approach also allows the learners to partake in the knowledge construction process by viewing their current situation through their individual lenses of past experiences and cultural factors and to express their own interpretations. This type of learning approach is appropriate for entrepreneurship education as learning in this area is largely contextual, due to varying institutional cultures around entrepreneurship. Similarly, this constructivist approach suits entrepreneurship education because it appreciates the contributions of learners and educators from diverse entrepreneurial backgrounds and who have prior levels of exposure to entrepreneurship.

Costin et al. (2018) applied contextual learning in their recent study, where they used a simulation game that replicated real-world scenarios to determine the students' learning outcomes. The students in their study commented, in their reflective essays, that they had developed valuable skills in decision-making, problem-solving, communication and teamwork, with an enhanced awareness of risk and uncertainty in their operating environment. Educators at the University of Limerick, Ireland where this study was based, implemented contextual learning in the Master programme in International Entrepreneurship Management. The educators thus facilitated the development of entrepreneurial skills such as decision making, risk management, communication, team work and problem solving. At the same time, they assessed the learning outcomes resulting from the student engagement with the game using the evidence found in the extracts of the students' reflective essays (Costin et al., 2018).

6.1.2.4 Creative Assessment

Educators in this study found it challenging to assess the outcomes of the entrepreneurship course in particular entrepreneurial skills and concepts. The assessments included practical tasks and conceptual applications and were subject to the same assessment criteria as other theoretical courses in the programme. These traditional forms of assessment that included formal examinations and class tests to evaluate the students' understanding of theoretical

knowledge were unsuitable for evaluating the practical outcomes of entrepreneurship course (discussed in detail in Chapter 6, Section 6.1.1 and in Chapter 4 on the course objectives and scope). This led them to apply an element of creativity, albeit limited, to their assessment approach while still meeting the university assessment criteria. In the assessments of their entrepreneurship courses, educators designed projects where students were encouraged to engage with entrepreneurs; for example, the student in a consulting role to a start-up or small business. This initiative was positively received by the business community who requested that the process became an on-going one. The practice benefited the students through the practical learning from the entrepreneur while for the entrepreneurs it meant a fresh perspective on their business. These projects therefore added value to the entrepreneurship course, the student, and the business community.

Similarly, Co and Mitchell (2006) found that small business consulting and community development projects encouraged exposure to the actual problems and experiences of entrepreneurs. This form of teaching entrepreneurship was described as “education for enterprise, about enterprise and through enterprise” (Isaacs et al., 2007, p. 625-626). The phrases were translated by these authors as developing business-related skills, knowledge and understanding, and learning to be enterprising. Educators of entrepreneurship courses could therefore consider alternative methods of assessment that adequately address institutional assessment criteria yet are suitable for the evaluation of entrepreneurial skills and concepts. Like the implementation of suitable pedagogic practice, the assessment of entrepreneurship courses requires innovation where the evaluation rubrics are not based on the traditional assessment structures, but are customised to showcase the outcomes of these specific courses.

6.1.2.5 Summary

The course outlines showed that there were varying levels of intensity of focus on entrepreneurship across the years of study. A review of the course objectives across the first year of study showed the heightened emphasis placed on entrepreneurial exposure to stimulate interest in entrepreneurship as a career and employment option, while in the second year a decline in the level of intensity of entrepreneurial focus coincided with an increased focus on business management concepts and skills in the course outlines. In the third and fourth year of

study, there was a marked increase in the focus on entrepreneurial outcomes as identified by the frequency count as well as in the course outlines. There was also a greater emphasis on preparing the graduate student for job market entry by equipping them with knowledge and skills to serve in an organisation or start their own business.

Educators cited challenges around the availability of teaching material with more entrepreneurial orientation and less management focus. They also found that the material was lacking in relevance to:

- the skills and knowledge required for the start-up phase of enterprises,
- the South African economic context and
- discipline-specific requirements and industry trends.

Further challenges identified by educators included unclear pedagogic practices to transfer entrepreneurial skills and concepts as well as inappropriate assessment methods to evaluate it. It is suggested that creativity and innovation be applied by educators and institutions in the teaching and assessment of entrepreneurship courses. It is necessary to establish and practice teaching, learning and evaluation methods that enable the students to benefit from and leverage the outcomes of entrepreneurship education, to enhance their future employability.

6.2 The Role of the Institution

6.2.1 Positioning of Entrepreneurship Courses

According to educators in this study, the entrepreneurship courses did not hold the same academic status as other courses in the programmes, neither was their value to the programmes, socially and academically validated within the student and academic community. This lack of academic validation for entrepreneurship was also identified in earlier research on the trends and challenges of entrepreneurship education. According to Kuratko (2005), the “expansion of entrepreneurship courses was accompanied by the challenge of entrepreneurship's complete academic legitimacy” (p. 579). Schramm, president of the Kauffman Foundation, referred to entrepreneurship education as an inmate of the traditional business school and urged universities to emancipate entrepreneurship courses and to allow students across disciplines to experience it (Mangan, 2004). This belief in entrepreneurship education was endorsed by a

combined grant of \$25 million to eight public and private universities from the Ewing Marion Kauffman Foundation.

Discourse around the positioning of entrepreneurship courses is part of a global phenomenon especially since its expansion from the business school to other faculties, including humanities, medical sciences, social sciences and numerous technical fields (Barzdin, 2018; Mangan, 2004; Turner & Gianiodis, 2018). Integration of the entrepreneurship curriculum with other disciplines was referred to as ‘blended entrepreneurial programmes’ by Turner and Gianiodis (2018) who conducted a study on American universities where entrepreneurship education was institutionalised. At Western European universities, technical courses still dominated the education system at the start of the 2000s, although government-supported facilities for educating and training entrepreneurs were slowly adapting to market needs (Mugler, 2000). This was not uncommon for entrepreneurship education, as was found by Mangan (2004), where an American university received significant funding to implement entrepreneurship education. At this university, some of the faculty members were resistant to implementing entrepreneurship education, believing that the commercial implications of entrepreneurship would detract from the focus and value of the other courses offered on the programme. The faculty there believed that entrepreneurship belonged in the business school, while champions of entrepreneurship education at other American universities, who had also received the grants, believed that it was time that students on non-business programmes were also exposed to entrepreneurial skills. These insights compare favourably with the experiences of South African educators and point to the role that faculties have in implementing and integrating entrepreneurship education into the university system. It also implies that the beliefs held by faculties about the value and importance of entrepreneurship, as an area of learning, also affect the positioning and stature of the entrepreneurship course within the university environment.

Research conducted at three universities in the Baltic region showed that even with government policies promoting entrepreneurship education in higher education institutions, this entrepreneurial education was still poorly integrated within the curricula of non-business studies, while the majority of the entrepreneurship courses were still located in the Faculties of Business and Economic Science (Barzdins, 2012). In the case of my study, the entrepreneurship courses were not restricted to the Faculty of Business Science only but were offered across the

Faculties of Health Sciences, Applied Sciences, Design and Engineering. However, like the Barzdins' study (2012), the courses were poorly integrated into the curriculum. Offering entrepreneurship education in the university curriculum is necessary; however, it should be integrated into the existing curricula structures in a strategic and complimentary manner, with due cognisance of its alignment to the overall programme outcomes. The positioning of entrepreneurship education within the institutional environment therefore needs to be established in order to strengthen its legitimacy as a key tenet of the higher education arena.

6.2.2 Institutional Support for Entrepreneurship Education

The educators in this study felt unsupported by their institution in their teaching of the entrepreneurship courses. They cited less teaching time being allocated to entrepreneurship courses and little departmental support for initiatives and structures to develop and encourage student and graduate entrepreneurship. Bergmann et al. (2018) reported a similar result at the universities in their sample, where only 0.39% of the total university budgets were spent on supporting entrepreneurship. According to these authors, the importance of entrepreneurship courses and suitable conditions for new venture start-ups was not a key area of discourse within their research settings.

Awareness of entrepreneurship initiatives and offerings emerged as a positive influencing factor on student perceptions of entrepreneurship and entrepreneurship education in this study, and in the Bergman et al. (2018) study on German university students. The German students felt more inspired to engage in entrepreneurial pursuits when they perceived the university climate as supportive and felt that the faculty was engaged. However, educators in my study found that although students had become more aware of the value of entrepreneurship education, their increased awareness was not recognised by the institution, particularly in the non-business faculties where entrepreneurship was an individual course component of a discipline specific programme. Yet, according to Bergmann et al. (2018), when the institution provided a supportive and encouraging environment for entrepreneurship, it had subsequent positive effects on the student population. When the university promoted entrepreneurial activity through initiatives like business competitions, the students were more inspired to develop new ideas and engage in entrepreneurial behaviour.

Educators in this study felt that more could be done departmentally to raise the status of entrepreneurship education within the institution to create awareness of its value in enhancing future employment prospects for the students and its benefits to their personal development. They aimed to show students how integrating the entrepreneurship course with other courses in their programme could unlock potential opportunities for entrepreneurship and the start of new ventures. This meant showing the students examples of entrepreneurial opportunities where they could combine their entrepreneurship course with other courses in their field of study. Course outlines referred to in this study showed how educators customised the entrepreneurship courses to maintain relevancy and student interest according to their field of study. (Munyanyiwa & Mutsau, 2015) also found that when multidisciplinary students were exposed to entrepreneurship courses, the practice had the potential to generate more career options and ignite an interest in entrepreneurship as a career path. Mangan (2004) cited an example of political science students who found new ways to increase voter turnouts and education majors who could develop remedial programmes for failing students. The American university referred to is also an example of how higher educational institutions can encourage students to develop entrepreneurial skills that they can apply in pursuit of their passion.

In South Africa an example of institutional support is the University of Kwazulu-Natal Research Division which developed and implemented a Student Entrepreneurship Policy. The policy was aimed at creating a structured framework to develop and support viable and sustainable student businesses, while improving the entrepreneurial culture at the university. The university believed that this approach would foster and boost job creation for their graduates and by also providing an enabling and guided framework within the university, they would be able to maintain academic excellence amongst their students (Singh, 2017). The initiative showed that institutional leadership is needed to spearhead and support the establishment and implementation of initiatives around entrepreneurship within the university, while departmental leadership is needed to champion it.

Further impediments faced by educators within the institutional context of this study included a student population where the majority of students came from disadvantaged socio-economic backgrounds. Luiz and Mariotti (2011) found that socio-economic elements played a significant role in the perceptions of the value of entrepreneurship and needed to be included

into entrepreneurial models. Socio-economic disadvantages were found to have the following implications for the efficacy of the teaching process: absenteeism due to the geographical location of student residences from the institution; a lack of computer literacy skills and no access to computers or internet at home; and lastly, language barriers, probably due to geographical diversity as South Africa has 11 official languages.

6.2.3 Summary

Key findings around the entrepreneurship course context highlighted its positioning within the university curricula. This issue of placement and belonging of the courses was experienced across faculties, irrespective of whether the entrepreneurship was offered as a course component of a multidisciplinary programme or as a stand-alone programme within the business faculty. It is evident from the findings of this study and other empirical work in this field that more needs to be done to align entrepreneurship education to disciplines outside the business and economic science spectrum. In order for this alignment to be successful, it needs to be supported by the institutional leadership and faculty, not only the educators of entrepreneurship courses.

6.3 The Role of the Entrepreneurship Course Educator

Educators play a crucial role in the successful delivery of any course that they facilitate. In the delivery of entrepreneurship courses, in the study, there appeared to be an unwritten expectation, to not only deliver the curricula in line with higher education standards but also to ignite entrepreneurial intent. While success in entrepreneurship education can be interpreted and measured in various forms, for this study it meant imprinting a positive view of entrepreneurship as a feasible, satisfying and desired employment option, as well as a valuable body of knowledge.

6.3.1 The Educators' Beliefs about Teaching Entrepreneurship

The majority of the educators in this study, regardless of the discipline within which they taught, believed that entrepreneurship could be taught and should be taught. They felt driven by the subject to broaden their teaching practice and to find ways that illustrated the concepts

of entrepreneurship to mostly under-exposed students in this field. Educators in this study were aware of academic research efforts on the effects of entrepreneurship education (Fayolle & Gailly, 2015; Fretschner & Weber, 2013; Kamovich & Foss, 2017), the debates about its place in the education system, and societal perceptions of its value as an area of institutionalised learning (Bergmann et al., 2018; Munyanyiwa & Mutsau, 2015). Although these debates that previously centred on whether entrepreneurship education could be taught were superseded by discussions on what should be taught and how should it be taught (Fayolle, 2013a; Kuratko, 2005; Pittaway & Cope, 2007), they still had an influence on the educators in this study. This was evident in the way that they pre-empted interview questions about whether they believed entrepreneurship could be taught by highlighting the debate as a current paradigm. Teaching entrepreneurship, for the educators in this study, was about creating the awareness of entrepreneurship as a rewarding, feasible career option and preparing the student for an entrepreneurial career through the cultivation of a can-do attitude in their students. In addition to the influences of prior empirical work in entrepreneurship education and media discourse on the topic, the educators' perceptions of teaching entrepreneurship were also influenced by their own practical background in entrepreneurship.

6.3.2 The Educators' Entrepreneurial Background

It was found that the educators in this study who expressed reservations about whether entrepreneurship could be taught, also had no prior experience in entrepreneurship; however, they still believed in its value to potential job-seekers and particularly job-creators. Educators with an entrepreneurial background taught the entrepreneurship course enthusiastically. They recalled practical examples from their own experiences with ease and translated theoretical concepts to their student audience with confidence. These entrepreneurially experienced educators strongly believed that the entrepreneurial ability and vision of the educator had a positive influence on how students perceived entrepreneurship and engaged in its teachings. Educators with no entrepreneurial background found it more difficult to interpret entrepreneurial concepts and to illustrate the theoretical concepts of business management in a practical way that was both appealing and stimulating to the students. In a different context, but related dynamic, Mugler (2000) wrote about the climate for entrepreneurship in European countries in transition. In his study, the professors, teachers, and trainers emerging from the communist era found it difficult to adopt the ideas of market economies and then teach them

to students. This, he reiterated, was an obstacle which they needed to be overcome in order to make education and training of entrepreneurs more efficient. These findings confirm how an educator's background knowledge and experience, or even ontological stance, can have an effect on the course delivery. This is identified in my study which contributes to the on-going conversation about how teaching entrepreneurship is not only about what is being taught but also about who is teaching it. Jackson and Anderson (1999) challenged universities to develop educators with both the ability to grasp entrepreneurship concepts and acquire management skills. Kuratko (2005) expressed the need for educators of entrepreneurship to have the same innovative drive that is expected of their students. Other studies also identified the need to increase and develop lecturers in entrepreneurship education in order to enhance its quality (Isaacs et al., 2007; Munyanyiwa & Mutsau, 2015). This makes practical and professional sense when reviewing the scope of the entrepreneurship courses and the intensity of focus on actual entrepreneurial activity and behaviour, as discussed earlier in this section. Educators too need to be equipped to deliver this subject in a practical and engaged manner to excite and maintain the student levels of interest in the subject. They themselves need to envision entrepreneurial links from the entrepreneurship course that they teach to the other courses in the programme in order to promote this possibility to the student in a convincing and appealing way. Fayolle (2013) concludes that there is a need for more experienced and qualified educators in the field of entrepreneurship education with a "strong need to develop the competencies, knowledge and reflexivity" of educators in this field (p. 695).

6.3.3 Summary

The key findings in this section showed that an entrepreneurial background and positive beliefs around entrepreneurship contribute to the educator's fluidity in disseminating information - both tacit and tangible - to their students. Educators in this study also experienced a lack of validation of their subject, a lack of suitable teaching material, pedagogic and assessment challenges, and ambivalent institutional patronage. Finally, it was found that regardless of whether educators of entrepreneurship courses believe that entrepreneurship can be taught or not, or whether they have an entrepreneurial background or not, they certainly do play a role in the students' experience of the course and influence their level of interest in entrepreneurship (Mudau & Kruger, 2014).

6.4 The Role of the Student

In entrepreneurship education research, students are usually viewed as stakeholders on the receiving end of entrepreneurship courses and programmes. These students who are studied as an entity of effect, in particular, their propensity to pursue entrepreneurship, and the ones whose intentionality has been shifted as a result. In this study, the student was considered as a factor who affected the entrepreneurship course design and delivery, and who was a fundamental objective thereof. Student perceptions of entrepreneurship and entrepreneurship education were therefore examined in more detail through survey data collection of a pre-tested instrument (Shinnar et al., 2009) adapted to the research aims of this study.

6.4.1 Student Perceptions of Entrepreneurship Courses and Entrepreneurship Education

The results showed that 81.4% of students held a positive view of entrepreneurship and believed in the value of learning about how to start a business in the field of their study, while 68.8% thought that their entrepreneurship course could improve their chances of being a successful entrepreneur. Programmes of entrepreneurship can shift intentionality and perceptions on the desirability and feasibility of starting a new venture (Fayolle & Gailly, 2015; Peterman & Kennedy, 2003; Pittaway & Cope, 2007). According to Fayolle and Gailly (2015), when students were exposed to entrepreneurship education for the first time, it might raise their levels of interest more easily than those who were already aware of barriers in the field due to prior exposure. This prior exposure to entrepreneurship education is normally measured in longitudinal studies, determining the student levels of interest before and after exposure to the entrepreneurship course. This study was not a longitudinal one, but it did determine prior exposure to entrepreneurship education from the student sample where more than half the students had not been exposed to any form of entrepreneurship education prior to their entering the higher education institution.

The students in this study noted that it was important to learn about managing finances, marketing their products and services, risk-management, compiling a business plan, and the requirements for business start-up compliance. They also expressed their belief in the value of learning entrepreneurial skills such as time management, opportunity recognition,

communication, problem-solving, leadership, creativity, and decision-making. These skills were amongst those identified as critical skills for entrepreneurs and were included as developmental outcomes for students in a simulation game aimed at the development of their entrepreneurial skills and mind-set (Costin et al., 2018).

The student perceptions of entrepreneurship and entrepreneurship education in the study were influenced by a number of factors.

6.4.2 Factors Influencing Student Perceptions

The survey results showed that factors such as: the student's employment aspirations; socio-cultural influence; employment confidence; awareness of entrepreneurship education at the institution; and student experiences of the course had an influence on student perception of entrepreneurship and entrepreneurship education.

6.4.2.1 Employment Aspirations

The majority of the students in this study (61.1%), expressed interest in pursuing entrepreneurship in the future and ranked themselves as highly entrepreneurial. They opted to work in their own business or a family business as opposed to working in a large private organisation or in the public sector. The level of interest in entrepreneurship as a career option was referred to by Fayolle (2007) as the entrepreneurial culture in the learning institution. Thus, when viewing the study through the lens of Fayolle (2007), the results of the study point to a fairly strong entrepreneurial culture amongst the student population in this study.

Although entrepreneurship education has been evidenced as a strong antecedent to student intentionality of pursuing entrepreneurship, it may not be as effective as entrepreneurial passion, according to Turner and Gianiodis (2018). These authors argued that enhancing the entrepreneurship curriculum may not achieve the desired entrepreneurial outcomes. In their study conducted at American universities, Turner and Gianiodis (2018) found that the attribute of entrepreneurial passion increased the likelihood of the student's entrepreneurial intention and they suggested that more emphasis should be placed on the student's characteristics in

order to boost entrepreneurial outcomes. Although entrepreneurial passion and the presence of empirically determined entrepreneurial characteristics have been identified as enhancers of entrepreneurial outcomes (Turner & Gianiodis, 2018), these aspects are often not quantified or considered in institutional admission processes. Therefore, this study's findings suggest that more emphasis should be placed on the design and delivery of entrepreneurship courses with regard to the objectives, scope and methods of teaching and assessment. The findings also suggest that more emphasis should also be placed on the development of an encouraging and supportive institutional environment. Nonetheless, it is important to consider that there are a multitude of factors that shape the student's entrepreneurial intent (Burton, Sørensen, & Dobrev, 2016). An individual's personal attributes can change over time in the same way that their propensity for self-employment can vary over a career trajectory (Blumberg & Pfann, 2016). Thus, there is a need for further studies that approach entrepreneurship education by focusing on the "characteristics of the pathways that lead to entrepreneurship" rather than focusing on the "characteristics of people who become entrepreneurs" (Burton et al., 2016, p. 237). This type of research that enhances the entrepreneurship education pipeline is particularly important because students in South African universities will graduate into a socio-economic context where the unemployment rate of 26.7 % (StatsSA, 2018) instils little confidence in finding employment. Many entrepreneurs in this context emerge out of necessity and the need to survive rather than by their personality traits and entrepreneurial passion, referred to by Isaacs et al. (2007) as survivalist entrepreneurs. Although Cardon, Wincent, Singh and Drnovsek (2009) believed that successful entrepreneurs harnessed their entrepreneurial passion to navigate the uncertain and challenging terrain of entrepreneurship, this entrepreneurial passion allowed the entrepreneurs to "promote cognitive mechanisms that were not easily hindered by temporary setbacks, impediments, or failures" (p. 528).

It was found that not all the students who enrolled for entrepreneurship courses in this study intended to pursue entrepreneurship as a career, and often planned to work as management consultants or apply for a job in their discipline. It was also found that many students were uncertain of what career path to follow. Although encouraging and preparing students for an entrepreneurial career path was a key objective of the entrepreneurship courses in this study, entrepreneurial skills development was also aimed at enhancing student employability. These results coincide with the view of Burton et al. (2016) in their study on entrepreneurial career

paths. Their findings suggested that entrepreneurial career paths should be viewed as “[a] step along a career trajectory”, one that could be adopted at different stages of an individual’s employment life (p. 237). This form of career pathway may also be a dynamic state involving transitions from employment to entrepreneurial entry at a later stage, either driven by push or pull factors in the economic environment or from the individual’s life-stages (Blumberg & Pfann, 2016; Burton et al., 2016; Sørensen & Sharkey, 2014). Thinking about entrepreneurship in this way broadens the perspective and emphasis on what the outcomes of entrepreneurship education might be.

6.4.2.2 Socio-cultural Influence

Findings in this study showed that the home background of the students affected their attitude toward entrepreneurship and how they perceived the value of entrepreneurship education. Students who came from entrepreneurial homes appeared to have a better understanding of basic business concepts as opposed to those who had not been exposed to entrepreneurial role models. Fretschner and Weber (2013) also found that student attitudes toward entrepreneurship were significantly affected by their social environment which included the expectations of family and friends. The influence of family experience on entrepreneurial intent was affirmed by prior studies in entrepreneurship education (Blumberg & Pfann, 2016; Fayolle & Gailly, 2015; Gürol & Atsan, 2006; Herrington & Kew, 2016).

Entrepreneurship course educators in this study agreed that the 62% of students who came from an entrepreneurial family or had an entrepreneurial community background showed greater interest in the subject than those who were not exposed to entrepreneurship in their families or social circles. A similar finding came from a recent study by Viinikainen et al. (2016) where students with self-employed parents showed an increased likelihood of pursuing an entrepreneurial path. It is for this reason that it was interesting to note that 90.9% of students surveyed were confident that their families would encourage and support their choice of an entrepreneurial career path. This high percentage of confidence in their families’ support, in the findings, could be due to the reality of many graduates and their families being faced with unemployment in South Africa. Even although business survival rates are not ideal, the accessibility of self-employment provides a real option for many job-seekers. This links to the

findings of Mahadea and Kaseeram (2018) on the effects of unemployment on income growth and entrepreneurship in South Africa, where they identified a push from unemployment to entrepreneurship. In their study, it was not uncommon for individuals who were unemployed to turn towards self-employment out of financial necessity and in order to survive. Thus, for the students in my study, there was almost a degree of confidence that if they did not find employment post-graduation, the option of starting up their own enterprise was present and they would be supported within their socio-cultural context.

When students have close ties with entrepreneurs, they witness the independence associated with self-employment, and gain insight into the nuances of risk-taking, problem-solving and other traits which influence their aspirations to pursue entrepreneurship (Feldman, Koberg, & Dean, 1991; Herrington & Kew, 2016). This is another way in which students can develop confidence when considering entrepreneurship as a career option, because they have seen others in their social and family circles do the same. Chen et al.'s (1998) study on entrepreneurial self-efficacy (ESE) found that other than the positive correlation of ESE to entrepreneurial intentions, the number of entrepreneurial friends and relatives were also positively related to the entrepreneurial decision. Several other studies also linked the influence of role models to student intent, whether they were close relatives or social connections (Gürol & Atsan, 2006; Singh et al., 2015).

6.4.2.3 Employment Confidence

It was found that more than half of the students in this study (56.1%) were not exposed to entrepreneurship education prior to their enrolment at the university, which is supported by an earlier finding by Isaacs et al. (2007) that showed almost 60% of South African secondary schools did not offer entrepreneurship training programmes. The Global Entrepreneurship Monitor 2015 Report, indicators also showed a low level of entrepreneurship education at primary school level in South African schools (Singer et al., 2015). These are unfortunate statistics because prior exposure to entrepreneurship education was identified by this study, as a significant influencer of student perceptions of entrepreneurship and entrepreneurship education. This is in line with Isaacs et al. (2007) who argued that it was at school level and tertiary level where the interest in enterprise was cultivated. Thus, the introduction to and

implementation of entrepreneurship education at school level, where students begin to make career related choices, is integral to cultivating the student levels of interest in entrepreneurship at higher education institutions. My study found that it was not only about cultivating interest in entrepreneurship as a career option, but also about developing confidence in the student, where they would feel enabled to recognise and realise opportunities unfolding in their career trajectory. Similarly, Chen et al. (1998) found that the individuals' belief in their ability to engage in entrepreneurship or entrepreneurial self-efficacy was found to be positively related to the intention to start their own business.

The students in this study expressed low levels of confidence in post-graduation employment options with only 35.6% who felt highly confident that they would find employment. In South Africa, youth unemployment statistics reveal that 51.1% of youth remain jobless (StatsSA, 2018). The main reason for this situation is that jobs are not being created fast enough, in the South African labour market, for the number of graduates flooding the job market every year (Luiz & Mariotti, 2011). Prior emphasis in the South African higher education system was on school-leavers to find employment in the corporate world, while less focus was placed on business creation. However, more students in my study on South African youth aspired to work in their own business (61.8%) as opposed to seeking employment, so it is possible that this mindset is changing. According to GEM (2015) South African Report, individuals who are confident in their skills and abilities are four to six times more likely to engage in entrepreneurial activity (Herrington & Kew, 2016). Research on student intent to pursue entrepreneurship should therefore be cognisant of the contextual factors such as prior exposure to entrepreneurship education, student confidence levels and their socio-economic environment, when linking the success of the entrepreneurship course or programme to their aspirations for entrepreneurship.

6.4.2.4 Awareness of Entrepreneurship Education at the Institution

Less than half the students in the sample (43.3%) were aware that a Department of Entrepreneurship was available at their university, including 9.9% of students from the Faculty of Business Sciences, where this department was located. They were also not aware of any initiatives offered in support and encouragement of entrepreneurial development within their

academic context. This is unfortunate as the regression analysis identified – awareness of entrepreneurship education at the institution – to be a positive and significant influence on student perceptions of the value of entrepreneurship education. This meant that greater visibility of entrepreneurial initiatives and support at the university could have a positive effect on student perceptions of entrepreneurship. This is an important finding because higher education institutions are positioned to stimulate and facilitate opportunities for technology transfer between the academic and business community. Prior studies have confirmed this as an important function of universities (Harvey, 2013; Laukkanen, 2003) in addition to their having a key role to play in creating a climate that stimulates entrepreneurial thinking and behaviour (Bergmann et al., 2018).

6.4.2.5 Student Experiences of the Course

The students who were surveyed in this study had experienced an entrepreneurship course and ranged between the first year and fourth year of study, across the faculties of Business Sciences, Health Sciences, Design, Applied Sciences and Engineering. As mentioned previously, students cited low levels of exposure to entrepreneurship education prior to their enrolment at the university, yet the findings showed high levels of interest amongst students across faculties to pursue an entrepreneurial career path, and they held positive perceptions of the value and importance of entrepreneurship education. However, student responses to their experiences of the course content and delivery showed low levels of stimulation and inspiration from their entrepreneurship course, with fewer than 50% of students who felt stimulated and inspired by the course content and pedagogy to pursue entrepreneurship. At the same time, fewer than half the students (41.6%) felt strongly enabled by the entrepreneurship course to start their own business. A similar study was conducted at the University of South Africa, in the Department of Agriculture, where the curriculum was described as innovative but the results showed that students did not feel enabled and supported in their development to pursue entrepreneurship (Mudau & Kruger, 2014). As reported earlier, educators experienced challenges around the teaching material not being suitable for their entrepreneurship course. The material, according to them, was too theoretical in its presentation with a large focus on management theory, as opposed to entrepreneurship. The material also lacked relevance to the small business and South African context and was not discipline-specific. This dissatisfaction and negativity, from the educator's perspective, towards the teaching resources might have influenced the

perceptions of the students. Furthermore, the lack of inspiration from the course pedagogy for the students may be twofold. Firstly, the abstract structure of the course content may have translated into an uninspired transfer of information and secondly, educators who had no prior entrepreneurial experience were limited in their insights into the entrepreneurial concepts, and thus might have been unable to galvanise or rouse their students' interest. This is challenging in that educators – even those with an entrepreneurial background – still needed to apply creativity and innovation to create learning opportunities in their entrepreneurship courses.

Contrary to the student responses, educators described the entrepreneurship course as one that aimed to stimulate and inspire students to pursue an entrepreneurial career path. The educators emphasised this as a key focus of the course. A similar outcome was experienced at the North Carolina University in America where significant differences surfaced between student and faculty perceptions on student interests in entrepreneurship (Shinnar et al., 2009). In their study, business majors were more stimulated by the entrepreneurship course than non-business majors, although aspirations to pursue entrepreneurship came from students on all programmes. Likewise, students in this study who came from the Entrepreneurship Department (located in the Business Faculty), felt slightly more stimulated by the course content and delivery than students from other departments. Students in their first year also posited higher levels of stimulation from the course content than students in subsequent years of study. The question of misalignment between student and faculty expectations, perceptions of entrepreneurship education and curriculum structures and assumptions is thus raised (Shinnar et al., 2009). Educators' intentions to stimulate and inspire may not be translated effectively due to the aggregated effect of unsuitable teaching resources, uncertainty around pedagogic practices, no prior educator experience in entrepreneurship, and poor visibility of institutional support for entrepreneurship. The reason that students from the Department of Entrepreneurship responded more positively about their class experience could be due to entrepreneurship being more established in that department, particularly with regard to its syllabus structure, the entrepreneurial background of all its educators and departmental support. The first year students came into the university with low levels of exposure to entrepreneurship education (51.6%), according to the survey results. The students found the concepts and awareness of entrepreneurship interesting in the beginning, but this interest

waned as they proceeded into later years due to the lack of inspiration and stimulation from the course content and pedagogic practice as identified in the results of this study.

It is unfortunate that students in this study were not stimulated by the course content or inspired by the way in which it was taught as experiences of the student was identified as a factor with significant influence on student perceptions of the importance and value of entrepreneurship education. The value and importance of a positive learning experience was affirmed by Positgo and Tamborini (2002) in their study, where they recommended that entrepreneurship programmes should place more emphasis on the learning experience itself, as well as on the development of competencies, skills, aptitudes, and values (cited in Co & Mitchell, 2006). As shown in this study's findings, often students across disciplines are exposed to entrepreneurship for the first time through the course being a component of their programme. Thus, their classroom experience is crucial to the perception of entrepreneurship and entrepreneurship education that they develop. These insights contribute to the national discourse on the value of entrepreneurship education with its focus on the development of entrepreneurial skills such as creativity, critical thinking, problem-solving, communication, leadership, negotiation and innovation (Costin et al., 2018; Erasmus et al., 2013; Ladzani & Van Vuuren, 2002). According to Nabi et al. (2017) success in entrepreneurship programmes is not only about whether students were satisfied or about how much learning they have gained but also about whether they felt inspired. To conclude, by placing emphasis on the learning experience, the evaluation of the learning outcomes should align with the development of skills and competencies in the student. In other words, one outcome of entrepreneurship education would be the students' ability to demonstrate their entrepreneurial skills.

6.4.2.6 Summary of Quantitative Results

The quantitative results highlighted the factors affecting student perceptions of entrepreneurship and entrepreneurship education. These factors included employment aspirations, socio-cultural influence, employment confidence, awareness of entrepreneurship education at the institution, and student experiences of the course. More than 80% of students across departments felt positive about entrepreneurship and believed that it was important to learn about it. Many students (61.1%) aspired to pursue an entrepreneurial career path and

68.8% believed that learning about entrepreneurship could prepare them for success along this path. However, the aforementioned positivity towards entrepreneurship and its role in their success were not reflected in their experiences of their entrepreneurship course as only 41.6% felt equipped and prepared by the course to start their own business, with even less (a mere 37.5%) who felt inspired by the course to start their own business. Students cited low stimulation and inspiration from the course content and delivery with only 35.2% of students who felt really stimulated by the course content and 26.9% who were inspired by the way in which the course was presented. Students also cited limited exposure to entrepreneurship education on campus, with only 43.9% being aware of the Department of Entrepreneurship at their institution. Students were not hopeful of finding employment post-graduation, either because of the high rate of unemployment, or their low levels of confidence or their uncertainty about future career aspirations. Although more than half of the students (51.6%) were not exposed to any form of entrepreneurship education, prior to enrolment at the university, 62% were exposed to entrepreneurial role models in their socio-cultural context. The qualitative results concluded with the outcomes that student perceptions of entrepreneurship and entrepreneurship education were influenced by various internal and external factors, including their experiences of the entrepreneurship course in their discipline.

6.5 Conclusion

This mixed methods study, conducted at a South African university of technology offering entrepreneurship courses on multidisciplinary programmes, incorporated both qualitative and quantitative methods of inquiry to provide a deeper understanding of the contextual factors and their role in the course design and delivery with its subsequent effects on student perceptions of entrepreneurship and entrepreneurship education. This study contributes to the discourse on entrepreneurship education and highlights the facets of entrepreneurship courses' objectives, scope, pedagogy, and assessment. The findings showed that each of these aspects of the entrepreneurship course brought unique challenges whether due to the educator, institutional context, or through its association with the global characteristics of entrepreneurship education. Further to this, the dynamic of academic legitimacy and institutional validation, faced by entrepreneurship courses, raised questions of where entrepreneurship education belonged within the university curriculum structures, particularly because of its propagation to multidisciplinary fields of study. This expansion of entrepreneurship education to other

disciplines beyond the business faculty was accompanied by the need for more educators in the field who could play an influential role in the course design and delivery, notwithstanding their individual and contextual factors which included uncertainty around methods of knowledge transfer and its alignment within the university. This study also included the student as a potential factor that affected the delivery of entrepreneurship courses. Factors emerging as affectual to student perceptions included their employment aspirations, their prior exposure to entrepreneurship education, employment confidence, their awareness of entrepreneurship education at the institution, and their experiences of the entrepreneurship course. The research findings have illustrated what is being taught as entrepreneurship education in a detailed representation of the course content evidenced in the university documents and from the course educators. Findings from both the qualitative and quantitative data collection provided insights to recursive questions in the literature review on not only 'what' is being taught as entrepreneurship education but also 'how' it is being taught and 'why'. The findings not only provided answers to these questions but also showed how their interrelatedness effected a collective contribution to the development of the entrepreneurship course. Lastly, the findings illustrated the internal and external factors connected to the student and affecting their perception and aspirations of entrepreneurship and entrepreneurship education with its ultimate reciprocal effect on the entrepreneurship course.

The following chapter will highlight the main aspects of this research study through a brief review of Chapters One to Six by restating the methodological aspects, key findings and results before presenting the culmination of this work in a conceptual model. The limitations of this study and recommendations for future research are also discussed in the final chapter.

CHAPTER 7

CONCLUSION

The purpose of this mixed methods study was to gather educator views and student perspectives on the effect of entrepreneurship education and entrepreneurship courses within the context of a higher education institution. The main aims of this study were articulated in the following research questions:

Main qualitative question

What are the contextual factors affecting the course design and delivery of entrepreneurship courses taught on multidisciplinary programmes at a university of technology?

Main quantitative proposition

There are various internal and external factors that influence student perceptions of the importance and value of entrepreneurship education.

Mixed method question

How can the outcomes of this mixed method study provide an alternate perspective on studies in entrepreneurship education through its incorporation of the various elements involved in the design, delivery and positioning of the course in a higher education institution and its subsequent effect on students of multidisciplinary programmes?

The study was conducted at a South African university of technology and comprised of interviews with 10 educators of entrepreneurship courses and surveys of a sample of 640 students, between the first year and fourth year of study, across multidisciplinary programmes. The conclusions of this study are therefore based on the subsequent findings of, firstly, the design and delivery of the entrepreneurship education course and how the institution, the educator, and the student play contributory roles in its structure and execution. Secondly,

conclusions on the nature of contextual factors affecting the student perceptions of entrepreneurship and entrepreneurship education are presented. Finally, the combination of factors affecting entrepreneurship education as concluded from the results of this study are illustrated in a conceptual model.

The study aimed to contribute to the growing field of research in entrepreneurship education as it is offered in South Africa, particularly within the higher education system, where keen efforts are being directed at improving and developing this field through current and ongoing initiatives and implementation plans (DHET, 2018). The research offered insights into the challenges faced by educators teaching entrepreneurship, the placement of entrepreneurship education courses within the higher education institution and the dynamic of the student input factor. This study also highlighted the connectivity of these factors and their individual contributions to the entrepreneurship course within a multidisciplinary setting outside mainstream business schools. These insights when considered could provide opportunities for improving entrepreneurship education curricula within the higher education institution, not only from the course design perspective but also the delivery. Further outcomes from this study may be to promote the status of institutionalised entrepreneurship courses within the higher education community, and to acknowledge the written and unwritten roles and expectations of educators in this field. It could also create an awareness of the need to provide opportunities for faculty training and development in entrepreneurial learning and teaching.

This chapter also introduces a conceptual model that maps the entrepreneurship course within the university context and shows the contextual factors that shape its delivery. Included in the model is an expanded diagrammatic presentation of the student dynamic. The chapter concludes with a cogitation on the implications of this study for stakeholders in the fields of entrepreneurship and education and training and includes a comprehensive discussion on the limitations of the study and recommendations for future research.

7.1 Proposing a Conceptual Model

7.1.1 Introduction to the Model

Models often serve the purpose of emphasising key aspects of a phenomenon through a visual display of the relationships between the components of the model and their effects (Jonker & Pennink, 2010). According to these authors, models are not shown *a priori* in the constructivist tradition but are often as the result of a study. In this sense the model provides a “local theory” (p. 44), with regard to how the respondents in this sample perceived the effect of entrepreneurship courses on student perceptions of entrepreneurship and entrepreneurship education. The specific properties of conceptual models such as those below were considered in the development of the model:

- How verbal or visual constructions can help to identify what aspects are important to highlight, according to the researcher.
- The model offers a “framework for illustrating logical relationships between factors that matter”, thus promoting a sense of meaning about a topic (Jonker & Pennink, 2010, p. 45).
- Models, in their construction, can serve to direct the focus of the reader through visual mapping of the key components that the study is highlighting, their positioning in the framework and the links between them.

The above properties of the proposed conceptual model also assisted the researcher in gaining a meta-view of the collective qualitative and quantitative research findings and provided a conclusive view of the research results. These results are reviewed in the following section in the context of the proposed model and in relation to its implications and the empirical findings. The conceptual model is a convergence of (a) the model used to map the qualitative findings (see Figure 8) and (b) the model developed as an outcome of the Generalised Linear Modelling, with student perceptions as the outcomes variable in the quantitative component of this research (see Figure 11).

Thus, the Entrepreneurship Education Contextual Framework (EECF) Model (see Figure 21) is a consolidation of the contributions of the QUAL and QUAN findings to answer the mixed method question of this research, being:

How can the outcomes of this mixed method study provide an alternate perspective on studies in entrepreneurship education through its incorporation of the various elements involved in the design, delivery and positioning of the course in a higher education institution and its subsequent effects on students of multidisciplinary programmes?

The Entrepreneurship Education Contextual Framework (EECF) Model is illustrated in Figure 21.

7.1.2 The Entrepreneurship Education Contextual Framework (EECF) Conceptual Model

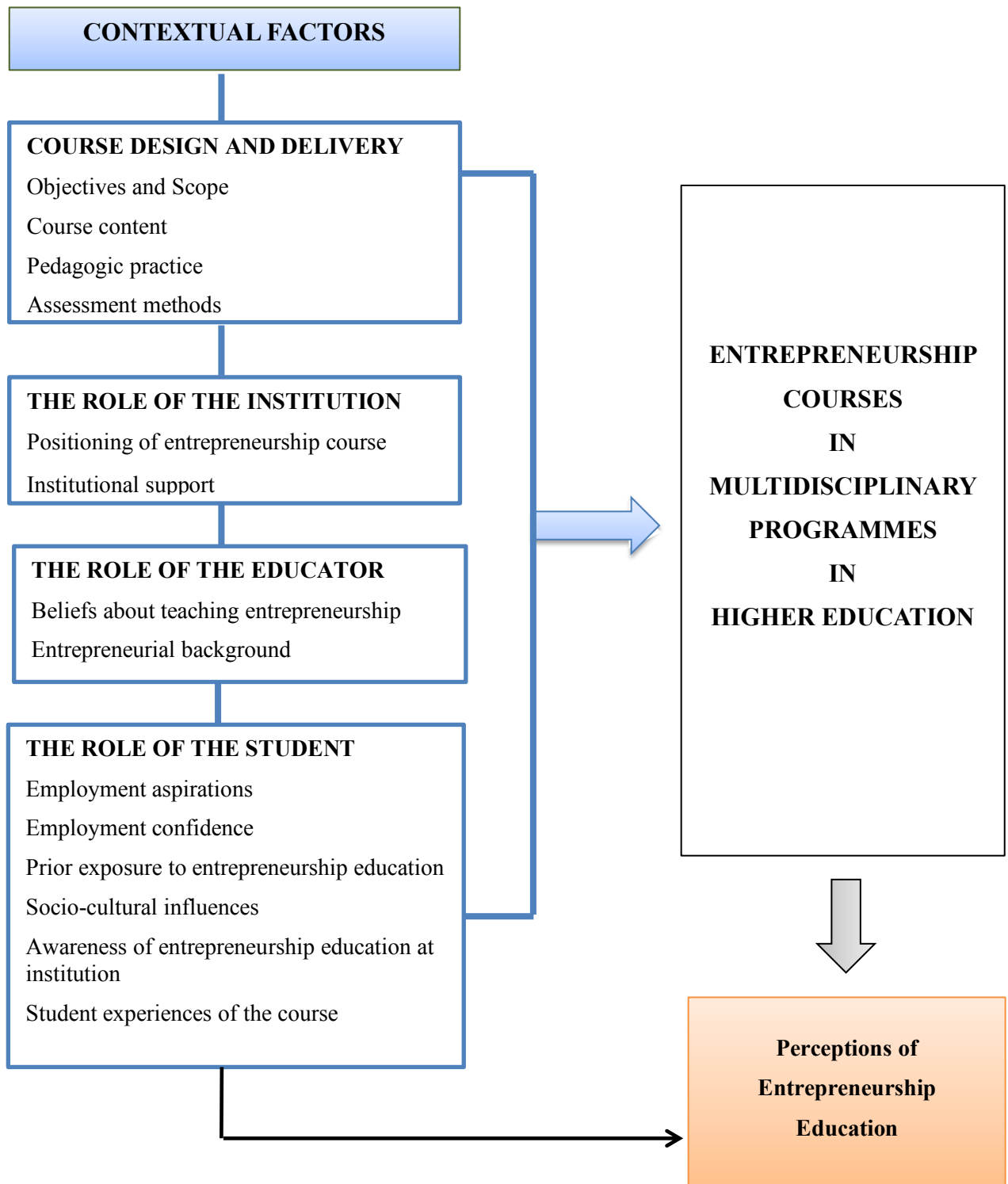


Figure 21: Entrepreneurship Education Contextual Framework (EECF) Conceptual Model

Source: Price (2018)

The model is explored more fully in the discussion that follows.

7.2 Factors affecting the Entrepreneurship Course within the Higher Education Institution: Educator and Student Perspectives

The educators across the various departments and disciplines faced similar challenges with regard to teaching the entrepreneurship course and its positioning within the institution. The qualitative findings showed that regardless of the discipline-specific programmes in which these courses were taught, they were characteristically similar in the course objectives, scope, pedagogic practice, and assessment. These similarities were more evident across the year of study. The quantitative results evidenced that the student perceptions of entrepreneurship and entrepreneurship education were influenced by factors both inherent to the student as well as those from the socio-cultural environment. The entrepreneurship student experiences were thus affected by both their personality traits and the influence exerted by the contextual factors. The subsequent effect was the contribution that the student brought into the classroom and to the programme, both as an input factor and as an outcome of the entrepreneurship course.

7.2.1 Course Design and Delivery

The entrepreneurship course objectives, as outlined in the faculty handbooks and defined by the educators in this study, were considered as the precepts of teaching entrepreneurship. These precepts were creating awareness and exposure to entrepreneurship as a possible career path, inspiring and cultivating a positive perception of entrepreneurship and entrepreneurship education, developing entrepreneurial and business management skills, and encouraging entrepreneurial activity and behaviour. According to Costin et.al (2018), entrepreneurial skill is the “development or creation of a new product/service that will add value to society and generate monetary benefits for the entrepreneur” (p. 136).

A review of the entrepreneurship course outlines showed that the intensity of the entrepreneurial focus in the course content was more visible across the first year courses, regardless of the discipline. The focus in the first year was directed at exposing the new students to entrepreneurship and the business operating environment with added stimulation and

motivation to consider an entrepreneurial career path. This intensity waned in the second year entrepreneurship courses with greater visibility of business management content in the course outlines. In the third and fourth year courses, the focus on entrepreneurship was intensified again, however, at this stage it was more about preparing the students to establish a start-up enterprise and enhancing their employability. In these final years of study, the entrepreneurial focus was also directed at realising the product or service that the student had developed throughout the year into a tangible, feasible and marketable business idea.

An impediment to the educators was the teaching resources for the entrepreneurship courses. They found the material to lack entrepreneurial focus and scope, with more sections in the content dedicated to business management. There was a limited availability of entrepreneurially focused material with South African specific context and relevance and the lack of discipline-specific content and relevance further constrained the effective delivery of the course content. As the findings of Munyanyiwa and Mutsau (2015) showed, the curricula of entrepreneurship programmes may not necessarily be adequate for the purposes of entrepreneurship training. At the same time, the challenge of finding suitable teaching material may be linked to the interrelated and overlapping learning areas of entrepreneurship and business management (Bird, 1988; Ireland et al., 2003; Kuratko, 2005). Educators, although uncertain about what constituted effective pedagogic practice in entrepreneurship education, identified four characteristics relative to the teaching approach that they used, with regard to the course delivery. The characteristics of the teaching approach for entrepreneurship were bridging theory and practice, accessing a knowledge community, student engagement, and creative methods of assessment. Pedagogic practice in entrepreneurship programmes was influenced by the institutional approach, government policy, and the embeddedness of entrepreneurship education within the institution, according to (Gibb, 1996).

Assessment and evaluation of the entrepreneurship course was another area that was presented as challenging to the educators in this study because they needed to balance meeting higher education quality standards, based on traditional assessment models, with evaluating entrepreneurial concepts and skills. This in itself required some element of creativity to meet institutional, educator, and student expectations. In addition to the alignment of expectations, as identified by this study, the assessment criteria also need to be aligned to the pedagogic

practices and intended outcomes of the entrepreneurship course in order for it to be delivered effectively (Kamovich & Foss, 2017).

The course design and delivery component of the Entrepreneurship Education Contextual Framework (EECF) conceptual model, according to its hierarchical position in the model, illustrates its key role as an input factor to the student perceptions of entrepreneurship and entrepreneurship education. The model proposes that in order to gain a deeper understanding of the effect of entrepreneurship education on student perceptions, it is necessary to (a) review the course objectives, content, pedagogic practices and methods of assessment, i.e., the what, how and why of the entrepreneurship course and (b) observe whether there is an alignment between these factors (objectives, scope, pedagogic practice and assessment) in order to provide a balanced framework for effective evaluation of its impact.

7.2.2 The Role of the Institution

The positioning of entrepreneurship education within the university context was highlighted as an area of discomfort for the educators of these courses. Uncertainty and a lack of clarity around the placement and belonging of entrepreneurship education was experienced across faculties whether the entrepreneurship course was offered as a component of a multidisciplinary programme or as a stand-alone programme within the business faculty. The tension around the place and positioning of entrepreneurship courses is part of a global discourse, especially because the placement of these courses have expanded from the business school to other faculties including, humanities, medical sciences, social sciences and numerous technical fields, (Costin et al., 2018; Kickul, 2006; Mangan, 2004; Turner & Gianiodis, 2018). Even when government policies promote entrepreneurship education in higher education institutions, it is still poorly integrated within the curricula of non-business studies, and as a result, the majority of the entrepreneurship courses are still located in the business and economic science faculties (Barzdins, 2012). According to Mugler (2000), the entrepreneurial spirit can be fostered through an appropriate framework. However, if entrepreneurship is not valued within a societal culture, government subsidies and other forms of economic support to encourage entrepreneurial development may be ineffective. As Mudau and Kruger (2014) concluded,

entrepreneurship requires leadership not only from the university management but also from the society within which it operates.

Educators cited little institutional support for entrepreneurship awareness and limited encouragement of initiatives that ignited entrepreneurial interest and behaviour. Despite these institutional challenges around entrepreneurship education, they should not detract from its value as an area of learning and development for student entrepreneurship, graduate entrepreneurship, or those seeking employment, other than in entrepreneurship. For an institution to claim that it provides entrepreneurship training and development is insufficient. The content and process of what is provided needs to be apparent. The analysis of potential entrepreneurs and the expertise of trainers should also play an important role (Ladzani & Van Vuuren, 2002). Institutions have an undeniable role in providing a supportive and encouraging environment where educators and students can develop their entrepreneurial skills and create strategic links with the business community through enhanced skills and product realisation. Thus, universities play an exigent role in creating the right climate to foster entrepreneurial thinking and behaviour (Costin et al., 2018; Hynes et al., 2010; Maguire & Guyer, 2004). The role of the higher education institution and its leadership is influenced by the socio-economic and socio-political climate within which it operates. Even though these contextual forces are outside the scope of this study, they must be noted as potential enablers of or detractors from the efficacy of entrepreneurship education in South Africa.

The conceptual model highlights the dominance of the institution's role as a driver in the implementation and integration of entrepreneurship education into the higher education curriculum. The model proposes that institutions offering entrepreneurship courses be more cognisant of how they position the courses within their curricula offering. Entrepreneurship is not a course that can be added on to existing programmes or offered as an elective without prior consideration of its purpose and alignment to an overall programme's objectives within which it will be integrated. This is also not a course in which traditional pedagogic practices and assessment methods and criteria, as other courses on that programme, can be assimilated. This is because entrepreneurship courses develop a different set of skills in the student which may be further embedded when they have the opportunity to incorporate these skills into their other courses. An example would be where a student creates a product in their dental science

class and the project outcome is twofold: (a) the technical skill of creating the product, which the dental science educator will assess and (b) the application of the entrepreneurship course where the student who developed the product consider how it could meet customer needs and how the product could be modified to meet the requirements of a new customer. Here the student will apply creativity, innovation and problem-solving skills, while considering the product as a physical prototype and its commercial potential. This type of inter-subject matter collaboration will provide a means of assessing the entrepreneurial skills in the context of the discipline of study with practical and realistic application. It will also assist in the assessment challenge that entrepreneurship educators have when evaluating their course outcomes.

Entrepreneurship education needs the support and development from the university leadership, faculty, and the business community to establish its own curricula and instruction processes that will enhance its value proposition to the student and market and to complement the associated courses in the programmes where it is delivered. Thus, higher education institutions play a crucial role in implementing and championing entrepreneurial development and advancement, amongst a soon to be employment-seeking population.

7.2.3 The Role of the Educator

Educators in this study received little support from their institutional environment in teaching entrepreneurship education courses. This is not unexpected as the findings discussed earlier showed the effect of uncertainty around the positioning of entrepreneurship courses within the university. Maguire and Guyer (2004) noted that many faculty still view entrepreneurship courses as lightweight and superfluous. There is a domino effect between this commonly-held attitude and the student seeking advice on module choices, particularly in programmes where entrepreneurship is offered as an elective. Thus, the tentative climate for entrepreneurship courses within the university has a potential negative contributory effect on the course design and delivery with subsequent effects on course educators and student perceptions of entrepreneurship and entrepreneurship education more generally.

Despite the ambiguous climate, the educators in this study expressed enthusiasm and passion for the promotion and development of entrepreneurship education within their departments.

The findings showed that an entrepreneurial background and positive beliefs around entrepreneurship contributed to the educator's fluidity in transferring knowledge in both tacit and tangible forms to their students. On the other hand, educators with no prior experience of entrepreneurship were less confident in their ability to transfer the concepts around entrepreneurship education. Educators should be capable of conveying intricate academic concepts on entrepreneurship and building and enhancing requisite management skills in their students (Jack & Anderson, 1999). Having a combination of academic and on-the-ground experience aids in this process. This view does not only apply to educators in entrepreneurship education but more generally, as the attitude of an educator should also be a key consideration (Kuratko, 2005).

Regardless of whether educators of entrepreneurship education courses believe that the subject can be taught or not, whether they have an entrepreneurial background or not, they influence the students' experience of the course which contributes to the students' level of interest in entrepreneurship. This crucial role of educators was defined as the "purposeful intervention by an educator in the life of the learner to impart entrepreneurial qualities and skills to enable the learner to survive in the world of business" (Isaacs et al., 2007, p. 614).

The conceptual model shows the direct contributory effect that the educator has as an input into the teaching entrepreneurship framework. The educator also has an indirect effect which is influenced and sometimes subject to the other input factors in the framework. The implication therefore for educators teaching in entrepreneurship, is that their mindset and attitude toward the subject has a filtering effect on the manner in which they introduce and facilitate the course. Educators in entrepreneurship need to facilitate the course, as opposed to merely teaching it, in order to foster creativity, curiosity, analytical ability, and to instil student confidence in their abilities (Costin et al., 2018). A further implication for course efficacy would be the need for more educational programmes that train and develop educators beyond a mere academic exercise, but rather with a strong emphasis on exposure to entrepreneurship in order for educators themselves to foster an entrepreneurial mindset. Thus, educators need to be prepared and enabled in order to adhere to the precepts of entrepreneurship education i.e. create awareness and exposure to entrepreneurship as a possible career path, inspire and cultivating a positive perception of entrepreneurship and entrepreneurship education, develop

entrepreneurial and business management skills, and encourage entrepreneurial activity and behaviour. This process in itself opens opportunities of personal growth and career development for the educator through exposure to entrepreneurial skills and insights into new venture creation.

7.2.4 The Role of the Student

7.2.4.1 Student Perceptions of Entrepreneurship and Entrepreneurship Education

The majority of the students in this study held a positive view of entrepreneurship and entrepreneurship education, regardless of their discipline and year of study. According to Fayolle (2007), the student's level of interest in entrepreneurship should be considered when delivering entrepreneurship courses within an institution, so that these can be linked to the learning objectives and focus of the course. The results of the student surveys identified factors that influenced the perceptions students had of entrepreneurship and entrepreneurship education. These factors included employment aspirations, employment confidence, prior exposure to entrepreneurship education, socio-cultural influences, awareness of entrepreneurship education at the institution and the student experiences of the entrepreneurship course.

7.2.4.2 Employment Aspirations

Many of the students surveyed aspired to pursue an entrepreneurial career path and believed that learning about entrepreneurship could prepare them for success along this career path. Expanding on Barzdin's (2012) view of entrepreneurship, education in this field could thus develop the individual competencies to realise their ideas, become more self-confident and creative in their undertakings. Not all the students in the sample opted for an entrepreneurial career but were focused rather on employment opportunities within their field of study. Some students felt uncertain as to the type of work and employment environment that they would like to engage in. Although entrepreneurship education can shift intentionality and perceptions on the desirability and feasibility of starting a new venture (Davies, 2001; Kirkwood, Dwyer, & Gray, 2014; Peterman & Kennedy, 2003), it is important to consider that there are a multitude of factors that shape the student's entrepreneurial intent (Burton et al., 2016). At the same time

an individual's personal attributes can change over time in the same way that their propensity for self-employment can vary over a career trajectory (Blumberg & Pfann, 2016).

7.2.4.3 Employment Confidence

Students in this study expressed concerns about their future employment prospects and showed little confidence when they responded to questions around employment. They were not hopeful of finding employment within the public or private sector, whether it was due to the high rate of unemployment (26.7%) or their low level of confidence and uncertainty about future career options (StatsSA, 2018). Educational institutions are positioned to increase graduate confidence through offering entrepreneurship programmes that present multi-dimensional skills and develop graduates with the propensity to innovate and create employment opportunities. South African youth are to be encouraged to become job creators, instead of job seekers, once they leave the educational system because of the constraints of the labour market (Co & Mitchell, 2006).

7.2.4.4 Prior Exposure to Entrepreneurship Education

More than half of the students in this study were not exposed to entrepreneurship education prior to their enrolment at this South African university. This was not an unexpected outcome as a previous study on entrepreneurship education, in South African secondary schools, showed that almost 60% of these schools offered no entrepreneurship training programmes (Isaacs et al., 2007). It is for this reason that fewer than 50% of learners who enter tertiary institutions have had no prior exposure to entrepreneurship education and training. Both an opportunity and a challenge for educational institution are thus created, where the opportunity would be in offering entrepreneurship education and training, as a new learning area, to students who may not have formulated set opinions and perceptions of entrepreneurship. The challenge would be that the roles of the educator and the institution become more critical because both these parties would have to ensure that the student is exposed to entrepreneurship education in a way that is stimulating, inspiring, and empowering.

7.2.4.5 Socio-cultural Influence

Those students who had family members or close personal connections with entrepreneurs appeared to engage more easily with entrepreneurial concepts in class, according to their educators. Statistical analysis, in the study, also identified family influence as a significant factor affecting student perceptions. These students cited overwhelming support from their families in terms of encouragement and support of entrepreneurship as a career choice. Fretschner and Weber (Fretschner & Weber, 2013) found that student attitudes toward entrepreneurship were significantly affected by their social environment, including the expectations of family and friends. Several other studies linked the influence of role models to student intent, whether these were close relatives or social connections, (Lorz et al., 2013; Shinnar et al., 2009; Singh et al., 2015; Urban, 2013). The influence of role models, whether relatives, peers or members of the student's social circle, could be leveraged to contribute to the student's development, through the entrenchment of entrepreneurial skills and concepts learnt from the entrepreneurship course. Purposive engagement with these individuals could include guest speakers, class projects where the student connects with an entrepreneur, apprenticeships, work-integrated learning in a small entrepreneurial business, and mentorship initiatives. This peer network was referred to by Weltner (2010) as the social context network where family and friends provide "financial capital, information, potential employees, access to clients" as well as "emotional understanding, encouragement and support" (p. 169).

7.2.4.6 Awareness of Entrepreneurship Education at the Institution

Another contextual factor affecting student perceptions was the awareness of entrepreneurship and entrepreneurship education at the institution, or as in the case of this study, the lack thereof. Both students and educators cited poor visibility of entrepreneurial initiatives and support within the institution. According to Bergmann et al. (2018), the way that entrepreneurship courses are positioned within university programmes – whether as a compulsory course component or an elective module – has important implications for improving the entrepreneurial climate at the university. Strategic positioning of the entrepreneurship course within the university curricula should therefore include a programme structure where the entrepreneurship course objectives and scope have been aligned to the overall programme outcomes of which it is a course component. Findings from Bergmann et al. (2018) showed that students felt more inspired to engage entrepreneurially, through idea generation, when

their university offered entrepreneurship competitions and faculty officers were visibly enrolled in these activities. Thus, visibility and presence of entrepreneurial initiatives at institutions offering entrepreneurship education plays a crucial role in supporting the ecosystem for entrepreneurial development at the university. Additional to the visibility and presence of entrepreneurship education at the institution, university leadership is needed to ensure successful implementation thereof and to create a climate that supports entrepreneurial activity and behaviour within the education system. A further consideration to enhance the efficacy of entrepreneurship education within the institution is to provide opportunities for additional training and development that may be required for the educators who facilitate the entrepreneurship courses.

7.2.4.7 Student Experiences of the Course

Students across disciplines and years of study cited poor stimulation from the entrepreneurship course content and they were not inspired by the way in which the entrepreneurship courses were taught, although students from the Entrepreneurship Department were slightly more stimulated and inspired by their course experience than students from other disciplines. It was unsurprising that the students did not find the course content stimulating, considering that the educators had voiced their concerns round the relevance of teaching material to the South African context and with a start-up and discipline specific focus. Educator concerns regarding the relevance of materials had also been highlighted in a recent study, also in the South African university context, where researchers found that the curriculum that supported entrepreneurship or explored entrepreneurial opportunities to be lacking in suitable and relevant content (Mudau & Kruger, 2014).

Educators in my study also raised the challenges of establishing suitable pedagogic practice in teaching entrepreneurship, particularly in transferring entrepreneurial concepts and finding opportunities to embed entrepreneurial skills in an institutional environment where entrepreneurship education was not highly acclaimed or valued. Other than an unfavourable institutional climate the aspect of the educators' prior exposure to, experience of and tacit knowledge of entrepreneurship played a nuanced but compelling role in the way the entrepreneurship course was designed and delivered to the students. According to Mugler

(2000), an educator's background knowledge and experience, or even ontological stance, can have an effect on the course delivery. Mudau and Kruger (2014) claimed that lecturers had a significant impact on student's level of interest in entrepreneurship and suggested the implementation of a change management strategy aimed at altering the mindset of not only students, but also educators.

7.2.4.8 Student Perceptions in the EECF Model

The conceptual model proposes a perspective of student perception of entrepreneurship and entrepreneurship education as being not only an outcome of entrepreneurship courses, but also an input factor in the teaching framework of entrepreneurship. The intensity by which students are affected by entrepreneurship education is therefore allocated to a number of factors other than the student personality traits and entrepreneurial passion, such as: student employment aspirations, their levels of employment confidence, prior exposure to entrepreneurship education, socio-cultural influences, their awareness of entrepreneurship education at the institution and their experience of the entrepreneurship course. These affecting factors on student perception of entrepreneurship education are dynamic and contextual and should therefore be considered in designing and delivering entrepreneurship programmes within the higher education context. For researchers examining the effects of entrepreneurship education at higher education institutions it may be important to consider the compelling influence exerted by these factors on student perceptions of entrepreneurship and entrepreneurship education. Thus, student experience of the course, affects not only the way the student perceives entrepreneurship and entrepreneurship education but also plays a role in on the efficacy of its implementation and status within the institution. Students share their course experiences with their peers, both in their own university as well as with their peers at other institutions, whether the experience is positive or negative. The student network therefore contributes to how the entrepreneurship course is viewed and positioned in the minds of other students in terms of its perceived value to their programme, their personal development and future career prospects. The absorptive capacity of the student, their socio-economic context, and their level of interest in entrepreneurship should be recognised when establishing programmes in entrepreneurship.

7.2.5 Summary of the Model

The conceptual model provides an overview of the four key aspects involved in teaching entrepreneurship education. Often initiatives to improve the outcomes of entrepreneurship education place a greater influence on pedagogic aspects, outcomes of the course itself, and, student intent to pursue entrepreneurship. My model highlights the need for an alignment between the four factors affecting entrepreneurship education within higher education: course design and delivery; the role of the institution; the role of the educator; and the role of the student. These components are to be aligned in terms of what will be offered in the scope of entrepreneurship education, how will it be offered and by whom, and its outcomes are to be clearly defined. This alignment is to be extended to the various components of the role of the student that are to be included in the design of entrepreneurship courses.

The proposed model presents a conceptual framework to illustrate the role that the four factors mentioned above have in ensuring that entrepreneurship education is delivered effectively. It also links these factors illustrating that they have an amalgamated contribution as input factors to entrepreneurship courses, in the context of a higher education institution, where specific alignment is needed within the course design and delivery component. At the same time, the model recognises that each individual component of the model also has a direct effect on the entrepreneurship courses. The conceptual framework therefore provides a map for:

- a) higher educational institutions which aim to implement entrepreneurship education without assimilating its entrepreneurial flavour,
- b) curriculum designers of multi-disciplinary programmes and course planners of entrepreneurship courses and
- c) educators in entrepreneurship who aim to not only develop their teaching practice in this field but also enhance their teaching practice in the constantly evolving field of entrepreneurship education.

7.3 Limitations and Future Research

There are a number of limitations and suggestions for future studies. The need for further research in the field of entrepreneurship education is evident, particularly in South Africa,

where it has been highlighted by the GEM (2015) South African Report as an area where development is needed (Herrington & Kew, 2016).

7.3.1 Methodological limitations

Although the quantitative sample included a fair number of participants, the scope of this study may have been limited by the size of the qualitative sample, that of only ten educator participants. Representation in this study could have been improved through including a broader spectrum of educators across the university, thereby enriching the perspectives on teaching in entrepreneurship.

The study was also limited to one higher education institution in South Africa and future studies could benefit through the inclusion of a wider range of institutions in the South Africa higher education sector. The study was further limited in that not all students who were enrolled for entrepreneurship courses had the opportunity to participate in the research. This was due to the methodological approach of the researcher, where surveys were administered during the teaching time, and only with the permission of the course educator. Therefore, when the course educator did not agree to be interviewed or was not available, it meant that those students could not be surveyed. This resulted in the exclusion of other fields of study, offered at the university, such as tourism and events planning, agriculture and horticultural studies, and somatology. Future studies could focus on the implementation of entrepreneurship education across a wider range of disciplines in order to consider the effects of their exposure on their students' perception of entrepreneurship or to test whether the proposed model can incorporate the perspectives of educator and students in various fields of study and qualification levels. Further research in entrepreneurship education could include the measurement of student entrepreneurial self-efficacy before and after exposure to an entrepreneurship course. This proposed study could include the measure of entrepreneurial self-efficacy in the educators since their beliefs about entrepreneurship contribute to its delivery in the classroom.

7.3.2 Conceptual Limitations

The proposed model provides a framework to consider the limitations of this study as well as opportunities for future research. These aspects are discussed according to their hierarchical position within the model as follows: course design and delivery, the role of the institution, the role of the educator, and the role of the student.

Future studies could focus on the design of entrepreneurship courses in order to address the challenge of the lack of teaching material suited to deliver entrepreneurial skills and concepts that are relevant to a South African and start-up enterprise context, as identified by this research. Opportunities for increased collaboration between the academic and business community and a cross-collaboration of skills and industry knowledge would be created. The purpose of this collaboration would be not only to define prototype teaching material for entrepreneurship but also to present learning opportunities and partnerships with the business community for blended, exemplar learning outside of the classroom.

A study similar to this one could triangulate data on the course objectives and scope with the educators' entrepreneurial background and the students' experience of the course. This proposed study could benefit from a multiple methods approach that includes the qualitative genres of interviews and content or document analysis, while using the quantitative method of surveys to capture data within the larger student population. The relationships between the content of the entrepreneurship course, the background and experience of the educator and the student experience of the course could be explored in this way. My study also identified pedagogic practices as a challenge to educators and highlighted the link between incorporating theoretical contributions of Vygotsky's reference to the more knowledgeable other (1978), and Bandura's social learning theory (1977) in the establishment of learning approaches that could benefit entrepreneurship education (Reis, 2015). Future research in pedagogic practice of entrepreneurship education could include learning programmes where these learning approaches are formalised and piloted with ante and post data collected to determine the effects thereof on student perceptions and the educator's experience of using it. The development of techniques to enhance the pedagogic practice of teacher training programmes in entrepreneurship education may be contributed to in this way. At the same time future studies

could highlight and examine assessment practices used in entrepreneurship education because there is a paucity of research that emphasises this crucial aspect of the entrepreneurship course. The entrepreneurship course, albeit not designed to be theoretically dominant and expected to deliver on practical outcomes, still needs to be assessed according to the evaluation criteria of the higher education institution. Entrepreneurship education could benefit from future research that addresses the area of assessment that is both appropriate for the outcomes of entrepreneurship courses and also meets the university criteria for assessment.

This study did not include the perspectives of the programme heads and institutional leadership on the design and implementation of the entrepreneurship course. Conclusions of this study, as well as that of other empirical work in this field, identified the importance of the role that the institution holds in creating an effective climate for entrepreneurship courses. Future research could therefore include the perspectives of these key role players in order to determine how their input aligns with the proposed model and how it would shape the design and delivery of the entrepreneurship course. The positioning of entrepreneurship courses within the higher education context also requires further attention as it creates a spiral effect within the university environment that ultimately filters down to the educator and students. Future studies could examine this aspect within the TEF model with greater detail and look at ways in which the status and positioning of entrepreneurship courses can be raised and promoted within the higher education institution.

Future research could focus mainly on the role of the educator in entrepreneurship education, which could include specific interview questions to extract greater detail about the challenges that they face around the design, delivery and positioning of the entrepreneurship course. An alternate methodological approach such as a survey could also be explored to include a larger selection of educator participants.

The scope of this study was limited in that it did not account for student perceptions prior to starting the entrepreneurship course. Future studies could administer the survey prior to the students commencing their entrepreneurship course, and then again after they have completed the academic year to measure the impact of the course more effectively. Further research also

needs to be conducted on the student experiences of the entrepreneurship course, as limited data was collected on this aspect. Future research could therefore focus on how students' experiences of entrepreneurship courses could be enhanced and maximised to realise the expectations of the student and societal expectations of what entrepreneurship education can and should deliver.

While this research focused on the effect of a number of aspects of the entrepreneurship course on student perceptions of entrepreneurship and entrepreneurship education in isolation, future studies could consider the alignment of these factors in contributing to the efficacy of the entrepreneurship course. Finally, further research that looks at the efficacy of entrepreneurship courses could explore more theoretical contributions from the field of education, including the ones mentioned in this study such as Vygotsky and Bandura. Although this study is conducted in the context of entrepreneurship, it is largely about teaching and learning for the empowerment and development of the individual and an educational perspective could yield further promising insights.

7.4 Recommendations and Practical Implications

This study on entrepreneurship courses in a South African university of technology presents the following recommendations as an outcome of this research, with practical implications for educators, institutions and policy makers in the field of entrepreneurship education.

7.4.1 For Curriculum Design

In order to enhance the efficacy of entrepreneurship courses, its objectives and scope should not be considered in isolation particularly when these courses are offered as a component of a programme or as an elective. Instead, the objectives and scope of the courses should be aligned to the overall mission and aim of the programme in which it is taught. This had already been done in the business faculty in this study, where all the course outlines were designed to execute not only their individual outcomes but also the programme outcomes. Non-business faculties could benefit from this type of alignment. A second recommendation would be to maintain a consistent ratio of entrepreneurial focus and business management focus throughout the

programme particularly in a three year programme. Elements such as creating awareness of entrepreneurship, exposing the student to entrepreneurs and entrepreneurial career paths, stimulating student interest, and inspiring the student to entrepreneurial possibility, should be maintained across the years of study and throughout the duration of the programme. Business management, which is often theoretically weighted as a course, could be introduced in progressive levels across the years of study, in order to present it as a key component of entrepreneurial development along with the development of entrepreneurial skills. This type of course structure could benefit the student through the development of parallel skills sets progressively, while continuously developing, sustaining and nurturing their interest in entrepreneurship as a learning area.

7.4.2 For Educators

Entrepreneurship education has travelled a long way to legitimisation and validation in the higher education sector and its positioning as a key learning area, particularly outside the business faculty, is yet to be established in many institutions globally. It is necessary and beneficial to the effective delivery of entrepreneurship courses that educators recognise the socio-economic expectations and implications of teaching this subject. The skills and knowledge that educators of entrepreneurship education impart, have tangible and practical applications for the student who may need to realise them upon or prior to graduation, in order to derive an income whether through aspiration or necessity. Findings in this research and in other empirical work have identified pedagogic practice and educators' prior exposure to entrepreneurship as contributors to the efficacy of the programme delivery. Thus, the recommendation to educators in this field is to consider opportunities for continued learning that includes exposure to entrepreneurship, whether in academic entrepreneurship or through links with industry. This exposure will enhance their teaching practice through the development of entrepreneurial skills that they could incorporate into their pedagogic practice. Their own developing entrepreneurial skills will provide a practical knowledge base that could affect the richness and diversity of experience that they bring to the classroom.

7.4.3 For Institutions

The importance and value of entrepreneurship education is applicable not only to universities of technology but also to traditional universities aiming to offer the future-oriented student enhanced employability skills that prepare them for an entrepreneurial career path and are relevant to market needs. The recommendation to institutions offering entrepreneurship courses as a course component or an elective is to consider standardising the scope of the entrepreneurship curriculum, with the dominant focus on the development of entrepreneurial skills and implementation of entrepreneurial concepts. Teaching material leaning into the scope of business management should be identified as such and should be allocated course time proportionate to the teaching objectives for that course or year of study. Institutional collaboration with members of industry boards and professional bodies across disciplines is key to the development of teaching material and course outcomes that are relevant to market requirements and in addressing the skills shortage. Another recommendation to institutions with an innovation orientation is to recognise the need for more blended learning platforms and to create opportunities for accredited learning outside the classroom. This extraneous learning would include work-integrated learning with a small business sector orientation and in the form of an apprenticeship module in the SMME sector. This would allow students particularly in their final year of study to hone their career and employability skills through practical exposure in their field of study. In this way an alternate form of assessment, suitable to evaluation of entrepreneurial concepts and the enhancement of future employability options through networking opportunities in the business sector, is provided for. Finally, the cross-collaboration with academic institutions and the business community could facilitate the transfer of technology, skills and product and service realisation in the advancement of economic growth and development.

7.4.4 For Policy Makers

As key influents on the institution's operating environment and the education landscape, policy makers could stimulate and support research initiatives in the field of entrepreneurship education with a dominant practical orientation. Outcomes of this type of research could be educational products such as teaching material that is relevant to the South African small business and start-up context and is complementary to multidisciplinary programmes. Further outcomes could include the establishment of programmes for educator training and

development in collaboration with industry to facilitate and ensure the cross-fertilisation of hybrid skills that would enhance the efficacy of entrepreneurship education. A further recommendation would be the development of accreditation standards that enable the establishment of blended learning platforms within the higher education sector. These standards could include a diversification of the course credits to allow for recognition of prior learning credits, work-integrated learning credits, and apprenticeship module credits within the scope of the National Qualifications Framework levels. Considering this type of accreditation structure provides universities with the opportunity to develop an entrepreneurial orientation and encourages the establishment of diversity in learning with a strong experiential and practical focus. The implications of this would be to consider the Skills Development Act 97¹¹ of 1998 as a vehicle for the SMME sector to fund and facilitate knowledge and skills transfer outside the university context. To realise this industry-university, more flexibility would be required in the parameters of the Skills Development Act (Republic of South Africa, 1998) with regard to the recipients and nature of the training and development recognised by the Act. Government is to recognise that initiatives supporting entrepreneurship education are to address not only its implementation and growth across universities but also the impediments impacting on its efficacy, such as suitable teaching material, a supportive teaching and learning university climate, educators with an entrepreneurial orientation and industry-led blended learning platforms. Absorption of entrepreneurial concepts, development of entrepreneurial skills and preparation for an entrepreneurial career do not only occur in the classroom and as the result of an entrepreneurship course or programme. It is the aggregated input of practised educators, adaptive universities and purposive government policies designed to enhance the entrepreneurship education pipeline and the subsequent production of efficiency enhancers to stimulate and grow the South African economy.

7.5 Concluding Comments

South Africa, like most emerging markets, is faced with challenges around the provision of jobs, labour that is sufficiently and relevantly skilled, and its subjectivity to macro-economic

¹¹ The purpose of the Act is to a) develop the skills of the South African workforce, b) improve the quality of life of workers and their prospects of work, c) improve productivity in the workplace and competitiveness of employers, and e) promote self-employment (South African Qualifications Authority, 2010).

pressures. It is within this socio-economic climate that entrepreneurship is heralded as an ignitor of economic growth, employment growth, and an income generator. With so much emphasis and expectation on entrepreneurship as a response to or to be part of a solution to the socio-economic needs and income growth of the country, it makes business sense to invest in and support this potential driver in order for it to deliver the required benefits. In addition to government policy that is directed at enabling the environment for entrepreneurship to flourish, entrepreneurs need the tools and skills to navigate macro-economic forces and externalities as a result of their engagement in entrepreneurship. They also need entrepreneurial and management skills to ground their start-up in a solid business model, steer it through the stages of growth and development, and lead it through the phases of establishment and disruption. Each of these stages requires a different skill set which means entrepreneurs often need to reinvent their companies and themselves through continuous learning. It is for this reason that the benefit and value of education to entrepreneurship is a critical consideration in boosting the entrepreneurial development of the people who will lead enterprises and ultimately be responsible for its growth and sustainability.

Conversations around whether entrepreneurship can be taught have reached their expiry date. We should migrate to more proactive debates on how knowledge transfer in this discipline can be conveyed effectively. Examples of this would include developing the knowledge workers in this field and the institutional environments. Successful institutional implementation of entrepreneurship education depends not only on the support and implementation of government policies but also on the recognition and respect that it is awarded within its societal culture. As Friday (2018) succinctly stated, “the future of work and the future of higher education are inextricably linked because most students seek university knowledge to improve their employment prospects” (p. 1). Universities need to embrace the exigent purpose that they have not only in creating knowledge and sharing knowledge but also in preparing future job-seekers for employment profiles that still need to be envisioned. Thus, innovative thinking and an entrepreneurial mindset should not be considered to be the only outcomes of entrepreneurship education courses, they are also a requirement for educators and leaders of future orientated higher education institutions.

In the South African context, as with other emerging economies where youth unemployment is a looming factor affecting university graduates, students are to be prepared for the reality of self-employment, as a response to necessity, opportunity or choice. If entrepreneurship education is expected to contribute towards entrepreneurial development in the economy, it needs societal permission to expand the way in which it has been, and in which is still to be defined. The definition of entrepreneurship education is to evolve beyond paradigm wars and lend itself to the pragmatic perspective of what works which could allow stakeholders in entrepreneurship education to adopt a new meaning, depending on the context in which entrepreneurship courses are delivered. When entrepreneurship is viewed as a career path with a career trajectory, it is less subject to the confines of statistics on business failure rates and limited societal expectations of what entrepreneurial success should be. Like most career trajectories, there are no certainties around job security, the risk is relative and continuous learning is needed to grow and develop within the aspired employment vehicle. Therefore, learning about and preparing students with entrepreneurial skills, regardless of their discipline of study, is crucial to enhancing graduate employability and strengthening human capital within the South African economy.

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Appendix A: Key Words and Phrases in Entrepreneurship Education

Number	Key Words and Phrases in Entrepreneurship Course Outlines
1	elements of entrepreneurship
2	entrepreneur
3	entrepreneurship
4	logistics of establishing a laboratory
5	become an entrepreneur
6	business environment
7	business knowledge and understanding brings to designers.
8	business ownership
9	business start-up activities
10	buying a franchise
11	corporate entrepreneurship
12	creating a business idea (practical)
13	creating a small business
14	business opportunity
15	creativity and innovation
16	develop a culture of entrepreneurship
17	develop entrepreneurial qualities
18	developing a business plan
19	developing innovative thinking that would be useful in a business
20	developing successful business ideas
21	dynamics of entering into family business
22	economic viability of small enterprises
23	employment or self-employment
24	enterprise planning
25	entrepreneurial characteristics
26	entrepreneurial environment
27	entrepreneurial human capital
28	entrepreneurial intentions
29	entrepreneurial mindset
30	entrepreneurial opportunities
31	entrepreneurial process
32	entrepreneurial social capital
33	entrepreneurial studies

34	entrepreneurial thinking
35	entrepreneurial ventures
36	entrepreneurship and the economy
37	entrepreneurship as practised in design
38	environment of the entrepreneur
39	establishment of a discipline specific enterprise and entrepreneurship
40	setting of objectives and general management of an enterprise
41	financial factors for the entrepreneur
42	goal setting and overcoming barriers in small business
43	home business operations
44	human resources management for small enterprise development
45	identify entrepreneurial companies and the characteristics thereof
46	implementation factors of entrepreneurship
47	international entrepreneurship
48	intrepreneurship
49	legal issues in running a business
50	managing growth in the small business
51	mechanics of running a business
52	nature of entrepreneurship
53	new venture business plans
54	operations management for entrepreneurs
55	personal qualities of a successful entrepreneur
56	professional practice and entrepreneurial skills
57	protecting your business
58	provide potential entrepreneurs with the tools they require
59	provide the student with, necessary skills and knowledge to start or manage a business
60	registering the business and starting a business
61	resources needed to start and operate a business
62	small business operations and problems
63	SMME in the hospitality industry
64	start a business from scratch or buy an existing business
65	starting and managing a successful business venture in tourism
66	starting their own design business
67	stimulate small business development
68	strategic entrepreneurship
69	the photographer as entrepreneur

70	thinking creatively and turning ideas into opportunities
71	to foster a creative and global entrepreneurial mindset
72	to make technically-oriented students more aware of the world of business
73	translate a creative idea into a feasible commercial product

Appendix B: Interview Schedule

Interview Schedule –Educators at the Institution

Department Name: _____ Faculty Name: _____
Programme Name : _____ Qualification : _____
Subject Name : _____
Subject Level/Yr. : _____

Dear Participant

Thank you for agreeing to participate in this research study and to share your experience and insight as an educator in the field of entrepreneurial learning. Your input is valued and appreciated.

Please feel free to ask any questions or request clarification at any point during the course of the interview. The interview will be recorded for transcription purposes as mentioned in the consent form and you will remain anonymous. Can we proceed?

Part 1: Subject Content and context

- 1) Please provide an overview of the course outline.
- 2) How does this subject fit in and align with the broader curriculum?
- 3) What are the outcomes of this course?
- 4) Are there any requirements from the Higher Education Quality Council governing this subject?
- 5) Are there any critical cross-field outcomes specified for this subject from your Department?
- 6) How much flexibility do you have in producing the content for this subject?
- 7) How would you define an entrepreneur?

Part 2: Subject Pedagogic Practice and Assessment

- 1) What is your experience of teaching business and/or entrepreneurship concepts to non-business students?
- 2) What impact does the class demographics have (if any) on teaching this subject?
- 3) What teaching material/s do you use?(textbooks, etc.)
- 4) What teaching methods do you use when teaching this subject?
- 5) What type of assessments are used for this subject?
- 6) Do you find the conventional assessment forms suitable for entrepreneurial learning?
- 7) To what extent are students exposed to entrepreneurial role-models in their industry?

12. How important would learning about the following be to you when starting a business?

Business knowledge and skills	Very Unimportant	Somewhat Unimportant	Somewhat Important	Very Important
Learning about risk management	1	2	3	4
How to register a business	1	2	3	4
Types of startup capital	1	2	3	4
Working in teams	1	2	3	4
Knowledge on business processes	1	2	3	4
Managing your finances	1	2	3	4
Knowledge about your industry	1	2	3	4
Customer satisfaction	1	2	3	4
Knowledge about employing staff	1	2	3	4
Ideas on what business to start	1	2	3	4
Compiling a practical business plan	1	2	3	4
How to market your products or services	1	2	3	4
Support from people around me (family, friends etc.)	1	2	3	4

13. Does the content of this subject stimulate and inspire you towards entrepreneurship?

A lot Some A little None at all

14. Does the way in which this subject is taught inspire you towards entrepreneurship?

A lot Some A little None at all

15. Has this subject improved your understanding of the business world?

A lot Some A little None at all

16. How confident do you feel that you will find employment after graduation?

A lot Some A little None at all

17. Are you aware that there is a Department of Entrepreneurship at your university?

Yes No

18. Do you think that business education can improve your chances of being a successful entrepreneur?

A lot Some A little None at all

19. How would you rate the importance of the following qualities and skills to your development?

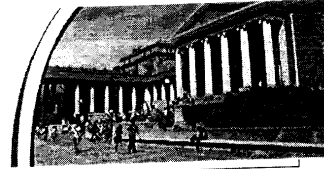
Entrepreneurial qualities and skills	Very Unimportant	Somewhat Unimportant	Somewhat Important	Very Important
Decision-making skills	1	2	3	4
Leadership skills	1	2	3	4
Negotiation skills	1	2	3	4
Creativity	1	2	3	4
Ability to take risks	1	2	3	4
Problem-solving skills	1	2	3	4
Critical thinking skills	1	2	3	4
Being Innovative	1	2	3	4
Communication skills	1	2	3	4
Ability to identify opportunities	1	2	3	4
Planning and time-management	1	2	3	4

Thank you for contributing to this research project. I really value your input.

Appendix D: Ethical Approval



UNIVERSITY OF CAPE TOWN
FACULTY OF COMMERCE
 Igniting knowledge and Opportunity



Ethics Approval Request for the Study entitled:
 Entrepreneurship Education: Form, Nature and Purpose in a University of Technology

Signed by:	Full name and signature	Date
Principal Researcher/Student:	KARIEMA PRICE <i>Kariema Price</i>	11/07/2016

This application is approved by:		
Supervisor	LINDA RONNIE <i>Linda Ronnie</i>	11/07/2016
Co- Supervisor		

Approved

24.07.2016

Prof U Rivett, Chair Ethics in Research Committee,
 Faculty of Commerce

Appendix E: Interview Consent Form



Interview Consent Form

Dear Participant

This study intends to explore the form, nature and purpose of entrepreneurship education as taught and experienced in a university of technology. The research will examine the beliefs held by educators regarding the objectives, content and pedagogic practices employed in the design and facilitation of courses within the scope of this field. The study will also examine the level of student interest in entrepreneurship education.

Please note the following:

- Participation in this research is voluntary and you may choose to withdraw at any time.
- Taking part in the study will include being interviewed and audio recorded.
- All responses will be confidential and used for the purposes of this research only.
- Personal details will not be disclosed to people outside the study and the detailed results of the study are accessible only to the researcher.

If you have any questions regarding the study, you can contact Kariema Price (researcher) by email at: kariema.price@gmail.com or mobile on 083 5337689.

Name of Participant _____ Date _____

Participant Signature _____

Appendix F: Survey Cover Letter



Survey Cover Letter

Dear Students

I am inviting you to complete a survey on entrepreneurial learning at your higher education institution.

Please take the time to read the following information.

About this study

This study aims to learn more about your experience as a student of entrepreneurial learning within a university context. As the scope of this course falls within the area of Entrepreneurship Education, your input would add great value to the study. The study also aims to learn more about your views and interest in an entrepreneurial career. It is one of the first studies conducted of this nature in South Africa.

The identity of all participants will be kept anonymous. All information from the study will be confidential. Your answers from the questionnaire will only be used for the analysis purpose of the study and the results are accessible only to the researcher.

Questionnaire hand-out

The questionnaire should take 15 minutes to complete.

Once completed

Once you have answered all the questions on your survey form, please hand it in to the researcher.

If you have any questions regarding the study, you can contact Kariema Price by email at: kariema.price@gmail.com or telephone (021) 7036466.

Your contribution to this research is greatly appreciated.

Kariema Price

Appendix G: Parameter Estimates of the GLM

(1/3)

Parameter	B	Std. Error	Sig.
[Year of Study=1]	-.299	.3220	.353
[Year of Study=2]	.231	.2820	.412
[Year of Study=3]	.037	.3076	.904
[Year of Study=4]	-.235	.3224	.466
[What is your primary aspiration for future employment?=1]	.094	.2150	.662
[What is your primary aspiration for future employment?=2]	-.212	.1118	.057
[What is your primary aspiration for future employment?=3]	.182	.2013	.366
[What is your primary aspiration for future employment?=4]	1.182	.2509	.000
[On scale of 1-6, indicate the degree to which you consider yourself to be entrepreneurial, full of ideas & initiative to start your own business=1]	-2.979	.7191	.000
[On scale of 1-6, indicate the degree to which you consider yourself to be entrepreneurial, full of ideas & initiative to start your own business=2]	-.351	.2051	.087
[On scale of 1-6, indicate the degree to which you consider yourself to be entrepreneurial, full of ideas & initiative to start your own business=3]	-.459	.1401	.001
[On scale of 1-6, indicate the degree to which you consider yourself to be entrepreneurial, full of ideas & initiative to start your own business=4]	-.102	.1119	.360
[On scale of 1-6, indicate the degree to which you consider yourself to be entrepreneurial, full of ideas & initiative to start your own business=5]	.005	.1107	.962
[Did you do Business or Entrepreneurship as a subject at school prior to starting this course=1]	-.012	.0107	.280
[Do you believe that it is possible to become an entrepreneur in your industry of choice?=1]	-.110	.0543	.043
[Do you believe that it is possible to become an entrepreneur in your industry of choice?=2]	-.027	.0124	.030
[How would your family react if you decided to start your own business?=1]	.068	.0483	.162
[How would your family react if you decided to start your own business?=2]	.007	.0483	.888
[How confident do you feel that you will find employment after graduation?=1]	2.953	.8337	.000
[How confident do you feel that you will find employment after graduation?=2]	.312	.0997	.002
[How confident do you feel that you will find employment after graduation?=3]	.182	.0734	.013
[Are you aware that there is a Department of Entrepreneurship at your university?=1]	.399	.1102	.000
Student Experience of Entrepreneurship Course	.596	.0863	.000
Entrepreneurial Skills	.054	.0876	.541
Knowledge to start a business	.058	.0388	.135
Knowledge to manage a business	-.042	.0733	.564
[Year of Study=1] * [How would your family react if you decided to start your own business?=1]	-.016	.0666	.807
[Year of Study=1] * [How would your family react if you decided to start your own business?=2]	.065	.0646	.312
[Year of Study=2] * [How would your family react if you decided to start your own business?=1]	-.054	.0806	.506
[Year of Study=2] * [How would your family react if you decided to start your own business?=2]	.169	.0869	.052
[Year of Study=3] * [How would your family react if you decided to start your own business?=1]	-.062	.0745	.406
[Year of Study=3] * [How would your family react if you decided to start your own business?=2]	-.121	.0598	.043
[Year of Study=1] * [Are you aware that there is a Department of Entrepreneurship at your university?=1]	.004	.0253	.866
[Year of Study=2] * [Are you aware that there is a Department of Entrepreneurship at your university?=1]	-.058	.0242	.017
[Year of Study=3] * [Are you aware that there is a Department of Entrepreneurship at your university?=1]	-.109	.0280	.000
[Year of Study=1] * Entrepreneurial Skills	.072	.0391	.065
[Year of Study=2] * Entrepreneurial Skills	-.062	.0364	.087
[Year of Study=3] * Entrepreneurial Skills	-.160	.0489	.001
[Year of Study=4] * Entrepreneurial Skills	0 ^a	.	.
[Year of Study=1] * Knowledge to start a business	-.053	.0419	.208
[Year of Study=2] * Knowledge to start a business	-.056	.0410	.174
[Year of Study=3] * Knowledge to start a business	.098	.0475	.038
[What is your primary aspiration for future employment?=1] * [Did you do Business or Entrepreneurship as a subject at school prior to starting this course=1]	.019	.0321	.552
[What is your primary aspiration for future employment?=2] * [Did you do Business or Entrepreneurship as a subject at school prior to starting this course=1]	.074	.0236	.002
[What is your primary aspiration for future employment?=3] * [Did you do Business or Entrepreneurship as a subject at school prior to starting this course=1]	.093	.0363	.010
[What is your primary aspiration for future employment?=4] * [Did you do Business or Entrepreneurship as a subject at school prior to starting this course=1]	.243	.1032	.018
[What is your primary aspiration for future employment?=1] * [Do you believe that it is possible to become an entrepreneur in your industry of choice?=1]	-.050	.0821	.546

Parameter Estimates of the GLM

(2/3)

[What is your primary aspiration for future employment?=1] * [Do you believe that it is possible to become an entrepreneur in your industry of choice?=2]	.062	.0318	.052
[What is your primary aspiration for future employment?=2] * [Do you believe that it is possible to become an entrepreneur in your industry of choice?=1]	-.182	.1084	.093
[What is your primary aspiration for future employment?=2] * [Do you believe that it is possible to become an entrepreneur in your industry of choice?=2]	.013	.0247	.586
[What is your primary aspiration for future employment?=3] * [Do you believe that it is possible to become an entrepreneur in your industry of choice?=1]	.534	.1497	.000
[What is your primary aspiration for future employment?=3] * [Do you believe that it is possible to become an entrepreneur in your industry of choice?=2]	.068	.0453	.134
[What is your primary aspiration for future employment?=4] * [Do you believe that it is possible to become an entrepreneur in your industry of choice?=2]	-.140	.0726	.054
[What is your primary aspiration for future employment?=1] * [How would your family react if you decided to start your own business?=2]	-.153	.0671	.022
[What is your primary aspiration for future employment?=2] * [How would your family react if you decided to start your own business?=1]	-.121	.0766	.114
[What is your primary aspiration for future employment?=2] * [How would your family react if you decided to start your own business?=2]	-.147	.0550	.008
[What is your primary aspiration for future employment?=3] * [How would your family react if you decided to start your own business?=1]	-.330	.1148	.004
[What is your primary aspiration for future employment?=3] * [How would your family react if you decided to start your own business?=2]	-.023	.1016	.819
[What is your primary aspiration for future employment?=4] * [How would your family react if you decided to start your own business?=1]	.018	.1773	.920
[What is your primary aspiration for future employment?=4] * [How would your family react if you decided to start your own business?=2]	.244	.2162	.260
[What is your primary aspiration for future employment?=1] * [How confident do you feel that you will find employment after graduation?=1]	-.062	.1518	.683
[What is your primary aspiration for future employment?=1] * [How confident do you feel that you will find employment after graduation?=2]	-.081	.0426	.056
[What is your primary aspiration for future employment?=1] * [How confident do you feel that you will find employment after graduation?=3]	-.007	.0346	.841
[What is your primary aspiration for future employment?=2] * [How confident do you feel that you will find employment after graduation?=1]	-.053	.0860	.540
[What is your primary aspiration for future employment?=2] * [How confident do you feel that you will find employment after graduation?=2]	-.049	.0297	.097
[What is your primary aspiration for future employment?=2] * [How confident do you feel that you will find employment after graduation?=3]	-.039	.0260	.133
[What is your primary aspiration for future employment?=3] * [How confident do you feel that you will find employment after graduation?=1]	-.596	.1780	.001
[What is your primary aspiration for future employment?=3] * [How confident do you feel that you will find employment after graduation?=2]	.043	.0556	.444
[What is your primary aspiration for future employment?=3] * [How confident do you feel that you will find employment after graduation?=3]	.054	.0412	.191
[What is your primary aspiration for future employment?=4] * [How confident do you feel that you will find employment after graduation?=2]	-.083	.0845	.328
[What is your primary aspiration for future employment?=4] * [How confident do you feel that you will find employment after graduation?=3]	-.060	.0786	.446
[What is your primary aspiration for future employment?=1] * Knowledge to start a business	.012	.0562	.837
[What is your primary aspiration for future employment?=2] * Knowledge to start a business	.117	.0364	.001
[What is your primary aspiration for future employment?=3] * Knowledge to start a business	.130	.0757	.087
[What is your primary aspiration for future employment?=4] * Knowledge to start a business	-.799	.3089	.010
[What is your primary aspiration for future employment?=1] * Knowledge to manage a business	-.042	.0462	.358
[What is your primary aspiration for future employment?=2] * Knowledge to manage a business	-.065	.0331	.048
[What is your primary aspiration for future employment?=3] * Knowledge to manage a business	-.203	.0476	.000
[What is your primary aspiration for future employment?=4] * Knowledge to manage a business	.466	.3044	.126
[On scale of 1-6, indicate the degree to which you consider yourself to be entrepreneurial, full of ideas & initiative to start your own business=1] * Knowledge to manage a business	.759	.1976	.000
[On scale of 1-6, indicate the degree to which you consider yourself to be entrepreneurial, full of ideas & initiative to start your own business=2] * Knowledge to manage a business	.079	.0579	.174
[On scale of 1-6, indicate the degree to which you consider yourself to be entrepreneurial, full of ideas & initiative to start your own business=3] * Knowledge to manage a business	.124	.0392	.002
[On scale of 1-6, indicate the degree to which you consider yourself to be entrepreneurial, full of ideas & initiative to start your own business=4] * Knowledge to manage a business	.019	.0311	.546
[On scale of 1-6, indicate the degree to which you consider yourself to be entrepreneurial, full of ideas & initiative to start your own business=5] * Knowledge to manage a business	-.008	.0306	.794

Parameter Estimates of the GLM

(3/3)

[How confident do you feel that you will find employment after graduation?=1] * Knowledge to manage a business	-.865	.2500	.001
[How confident do you feel that you will find employment after graduation?=2] * Knowledge to manage a business	-.079	.0277	.004
[How confident do you feel that you will find employment after graduation?=3] * Knowledge to manage a business	-.049	.0204	.017
[Are you aware that there is a Department of Entrepreneurship at your university?=1] * Student Experience of Entrepreneurship Course	-.034	.0143	.017
[Are you aware that there is a Department of Entrepreneurship at your university?=1] * Entrepreneurial Skills	-.135	.0315	.000
[Are you aware that there is a Department of Entrepreneurship at your university?=1] * Knowledge to manage a business	.067	.0223	.003
Student Experience of Entrepreneurship Course * Entrepreneurial Skills	-.063	.0254	.013
Student Experience of Entrepreneurship Course * Knowledge to manage a business	-.083	.0165	.000
Entrepreneurial Skills * Knowledge to manage a business	.083	.0113	.000
(Scale)	.008 ^b	.0005	