THE INFLUENCE OF ENTREPRENEURIAL-RELATED PROGRAMMES ON STUDENT INTENTIONS TO VENTURE INTO NEW BUSINESS CREATION

by

ONICA THANDI MATSHEKE

Student number: 9544100

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SUPERVISOR: PROF. M. DHURUP

CO-SUPERVISOR: DR. P. A. JOUBERT

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DECLARATION

This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

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Whilst entrepreneurial education has received a fair amount of attention both locally and internationally, there is, surprisingly, still no universally accepted curriculum dedicated to aspiring entrepreneurs at universities which adequately exposes students to an environment that encourages new venture creation. Furthermore, disparities continue to exist in the quality of entrepreneurship education programmes on offer within higher education institutions in South Africa, particularly in curriculum design, delivery methods and forms of assessment. Moreover, an entrepreneurial culture in South Africa has not yet reached the desired national level in comparison to entrepreneurship in other developed nations.

This study examines the influence of entrepreneurial-related programmes on students’ intentions to venture into new business creation. This study is located within a quantitative descriptive research paradigm, which permits the testing of relationships among the various constructs through a structured questionnaire. The sample was drawn from final year students of the Faculty of Management Sciences at a university who were studying various business-related programmes in which modules on entrepreneurship were compulsory. Variables included in the study focused on the entrepreneurial content of the curriculum, attitude towards entrepreneurship, intentions towards entrepreneurship and general self-efficacy. Data provided by 263 respondents was analysed using correlation and regression analyses.

The results revealed a weak predictive relationship between the entrepreneurial content of the curriculum and the attitude of students to venture into new business creation. In addition, students’ attitudes towards entrepreneurship showed low levels of prediction of students’ intentions towards entrepreneurship. Finally, the results showed that students’ entrepreneurial self-efficacy did not appear to influence their attitude towards entrepreneurship. A possible reason for these results may be the notion that not enough enthusiasm is generated in students because the modules in entrepreneurship, whilst compulsory, are not offered as majors in the curriculum, unlike in dedicated entrepreneurship programmes.

The major challenge in entrepreneurship programmes is the appropriateness of the content of the curriculum in developing student’s attitude towards entrepreneurship.
Students who are not exposed to the content of the curriculum that allows the commercial use of entrepreneurial knowledge demonstrate a weak attitude towards entrepreneurship. The entrepreneurial content of the curriculum should be enhanced with improved teaching delivery modes that enable students to gain hands-on experience by seeing, touching and ‘feeling’ the business world. Contents of the curriculum should be designed to include learning outcomes which are for entrepreneurship rather than about entrepreneurship. An entrepreneurial content of the curriculum which is developed for entrepreneurship deals with real entrepreneurial activity and produces students who have a positive attitude towards entrepreneurship. In order to enhance the status of entrepreneurship, curriculum developers should include various aspects of entrepreneurship in all years of the students’ study programme. In order for entrepreneurship to be given ‘life’, provision should be made to support incubation start-ups at the university level with practical training. The feasibility of offering a practical, hands-on entrepreneurship programme should be explored.
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CHAPTER 1
INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 INTRODUCTION

Entrepreneurial education in general has received a fair amount of attention in recent years, which is evident by the number and growth of various programmes at universities, both locally and internationally (McGrath 2000:73; Maharasoa & Hay 2001:144; De Faoite, Henry, Johnston & van der Sijde 2003:431; Brijlal 2008:26). Interestingly, there is still no universally accepted curriculum dedicated to aspiring entrepreneurs (Rasmussena & Sørheim 2006:185). Kirby (2004:515) is of the view that the enterprising elements of entrepreneurship, such as evaluating opportunity, developing new products and handling start-ups, are an essential part of most business management curricula, but that there is not enough emphasis on these elements to make students the kind of entrepreneurs that are needed.

According to Gürol (2006:26) “an entrepreneurship culture has not yet reached the desired national level in comparison to the entrepreneurship movement in developed and developing nations”. A vast amount of literature exists on entrepreneurship research which analyses the relationship between gender and family background in new venture creation (Veciana, Aponte & Urbano 2005:169). Nieman (2001:446), Ayobami and Ofoegbu (2011:189) and Nicolaides (2011:1043) are of the view that entrepreneurship is an essential component in job creation and economic growth. Roberts and Collins (2003:303) also note that actions to encourage entrepreneurship are being recognised by political and economic entities as one of the keys to unlock employment growth and competition.

Urban and Barreira (2007:568) posit that students are not equipped with sufficient knowledge regarding the “optimal” way to promote entrepreneurship. Rasmussena and Sørheim (2006:185) are of the view that entrepreneurship is something that drives regional and local growth, and that ‘the flow of candidates’, or ‘future innovators’, constitute both a potential and a responsibility for universities to create an entrepreneurial workforce.
The development of an entrepreneurial spirit among students who start up their own businesses may assist in the reduction of unemployment rates and may help alleviate poverty that stems from the high levels of unemployment in South Africa (Mahadea, Ramroop & Zewotir 2011:67).

Louw, Van Eeden, Bosch, and Venter (2003:6) reveal that the demand for an entrepreneurial-driven economy in South Africa is increasing, particularly because of the employment creation benefits it offers, and they maintain that is essential to develop and equip students with the skills required to become employers. Shane (2000:464-466) criticises the fact that often, business opportunity identification is based on special traits that are required by the entrepreneur, or on prior knowledge of potential entrepreneurs that makes them better than others. There is also still widespread confusion regarding exactly what is meant by the term entrepreneurship education.

De Faoite et al. (2003:432) define entrepreneurship education as a means through which entrepreneurship skills are imparted, developing the knowledge and attitudes required for graduates to go out and create their own futures and provide possible solutions to problems. Entrepreneurship education is defined by Tan and Frank as “the process of providing individuals with the concepts and skills to recognise opportunities that others have overlooked and to have the insight, self-esteem and knowledge to act where others have hesitated” (Tan & Frank 2006:417), while Isaacs, Visor, Friedrich and Brijlal (2007:614) define entrepreneurship education as the deliberate intervention by the lecturer in the life of the learner to impart entrepreneurial qualities and skills to enable the learner to survive in the world of business.

Nga and Shamuganathan (2010:259) define entrepreneurship as the opportunistic pursuit of economic wealth via the creative initiatives of an individual operating within an uncertain environment which is constrained by limited tangible resources. De Faoite et al. (2003:432) point out that teaching entrepreneurship is a mystery, since the actual entrepreneurial process involves both an “art” and a “science”. The “science” of entrepreneurship concerns the functional skills of business and management, and these would appear to be teachable via conventional methods. The “art”, however, relates to the creative and innovative aspects of entrepreneurship, and these do not appear to be teachable in the same way. Ibrahim and Soufani (2002:425)
and Carayannis, Evans and Hanson (2003:760) state that entrepreneurs who succeed in business possess not only a creative and innovative flair together with positive attitudes and behaviours, but also solid general management skills, business know-how and sufficient contacts in forming long-term relationships.

It therefore seems that entrepreneurship cannot exist in a vacuum; it requires a multi-disciplinary approach in order to nurture a philosophy of congruence, whereby each discipline plays a significant part in developing a successful entrepreneur. Galloway and Brown (2002:398) and O’Neill (2004:1) state that entrepreneurship education should contribute to and improve the quality of new venture creation among students. Although the benefits of entrepreneurship education have been researched, the role of entrepreneurship-related subjects in new venture creation remains untested among the undergraduate students at the Vaal University of Technology.

1.2 PROBLEM STATEMENT

A study by Isaacs et al. (2007:613) revealed that the majority of students in higher education are not adequately exposed to an environment that encourages new venture creation. Muofhe (2010:2) is of the opinion that a great deal of disparity continues to exist in the quality of entrepreneurship education programmes on offer, particularly in curriculum design, delivery methods and forms of assessment within higher education institutions. The duration of the subject is also another factor to consider, as these subjects are often given secondary importance in the curriculum. Henry, Hill and Leitch (2005:105) reveal that some entrepreneurship programmes are inclined to be more task-oriented rather than behaviour-oriented, focusing on business management as opposed to creativity, innovation and problem-solving abilities.

Nabi and Bagley (1999:185) are of the view that students lack personal and transferable skills such as the ability to work in teams and to make informed decisions, and are not sufficiently skilled to have the commercial awareness to recognise when a project may have potential for business success.

These skills should be covered in entrepreneurship-related programmes as they combine all the business functions.
1.3 OBJECTIVES OF THE STUDY

1.3.1 Primary objective

The purpose of the study is to determine the influence of entrepreneurial-related programmes on students’ intentions to venture into new business creation.

1.3.2 Theoretical objectives

In order to achieve the primary objective, the following theoretical objectives are formulated for the study:

- To conduct a review of literature on entrepreneurship and entrepreneurship education.
- To conduct a review of literature on entrepreneurship education at universities.
- To review literature on learning theory on entrepreneurship education.
- To review literature on entrepreneurial intentions models.
- To conduct a literature review on new venture creation.

1.3.3 Empirical objectives

The following empirical objectives for the study were set in order to address the primary objective of the study:

- To evaluate students’ perceptions of their entrepreneurial content of the curriculum.
- To evaluate students’ perceptions of the entrepreneurial intentions.
- To evaluate students’ perceptions of becoming an entrepreneur after graduation.
- To evaluate students perceptions’ of their general self-efficacy towards becoming entrepreneurs.
- To examine the nature of the relationships (positive or negative) between entrepreneurial content of the curriculum, entrepreneurial intentions, perceptions of becoming entrepreneurs and general self-efficacy of becoming entrepreneurs.
Chapter 1: Introduction and background of the study

1.4 RESEARCH METHODOLOGY

The design of the study encompasses a review of literature and an empirical section.

1.4.1 Literature review

A literature review is conducted on entrepreneurship and entrepreneurship education. Books, journals, reports, dissertations and the Internet are used in order to develop the theoretical background for the study.

1.4.2 The empirical design

Quantitative descriptive research design is used for the empirical segment of the study. Kruger (2005:9) and Maree and Pietersen (2007:145) explain that quantitative research design is a process that is systematic; it evaluates the objective data, in contrast with the subjective qualitative research design that is shaped by the minds of the respondents. A quantitative study determines the relationship between one construct (an independent variable) and another (a dependent or outcome variable) in a population of interest (Creswell 2003:95). Mertens and McLaughlin (2004:53) explain that such a study involves the analysis of numerical data in order to give effect to the primary purpose of the study - to quantify data and to generalise results from a sample to the population of interest.

Maree and Pietersen (2007:149) indicate that experimental design involves “the cause-and-effect question: does a specific treatment have any effect on some dependent variable?” As regards to this study, the research question is “Does the entrepreneurial-related programme influence students’ intention to venture into new business?” The procedure in the empirical design is outlined below.
1.4.2.1 Target population

The target population for the study is drawn from final year students from the faculty of Management Sciences at the Vaal University of Technology, situated in the Southern Gauteng region of South Africa. The Faculty of Management Sciences offers various courses in the field of Human Resource Management, Marketing, Retail Business Management, Logistics, Internal Auditing, Financial Information System, and Cost and Management Accounting. All these programmes have compulsory modules on entrepreneurship.

1.4.2.2 Sample frame and sampling method

The sample frame comprised the ITS-generated class list of third-year students in the Faculty of Management Sciences registered in 2014. A probability sampling procedure was employed in the study. Probability sampling was a favoured approach for this study as inferential statistics could be utilised to establish meaningful conclusions and each person had a known probability of being selected (Strydom 2005:198; Maree & Petersen 2007:172).

A systematic random sampling method was used. Students were randomly selected from the class groups. Systematic sampling is still thought of as being random (Maree & Petersen 2007:175).

Every second student in the ITS-generated class list was randomly selected. Details of the selected respondents are reported in Chapter 3.

1.5 DATA COLLECTION AND MEASURING INSTRUMENT

The survey method was used. The study gathered data using a structured questionnaire. According to Mertens and McLaughlin (2004:169) a structured questionnaire can be administered to a large number of respondents, can be completed anonymously and can reach a large number of respondents, depending on the geographical dispersion of the selected sample. In the current study the sample was restricted to one university campus.

The instrument was adapted from instruments developed by previous researchers.
1.6 STATISTICAL ANALYSIS

The Statistical Package for Social Sciences, version 22.0 for Windows (SPSS: 2005) was used to analyse the data. Descriptive analysis was used to analyse the composition of the sample. In order to evaluate entrepreneurial intentions, summated means were used to assess students’ perceptions. Correlations and linear regressions were used to establish the nature of the relationship (positive or negative) between students’ perceptions of entrepreneurial education and entrepreneurial intentions to initiate new businesses. Details of the statistical analysis are imported in Chapter 3 and Chapter 4.

1.7 RELIABILITY AND VALIDITY

Reliability was assessed through the computation of Cronbach alpha values for each of the sub-scales used in the study. The following validity procedures were used: content and construct validity was assessed through pre-test, pilot test and internal consistency. Convergent validity was ascertained through correlation analysis. Predictive validity was assessed through regression analysis in order to predict students’ intentions in new venture creation. Details of the reliability and validity are described in detail in chapter 3.

1.8 ETHICAL CONSIDERATIONS

Ethics concerns the system of moral principles by which individuals can judge their own actions and the actions of others as right or wrong, good or bad. Ethical concerns occur at all stages of research (De Vos 1998:24; Polit & Hungler 1999:131)

Strydom (2005:63) states that “anyone involved in research is required to be mindful of the general agreements about what is proper and improper in scientific research”. The following ethical issues were adhered to in the study:

- Students’ participation in the study was voluntary. The students’ personal data were processed fairly and lawfully and used only for the purpose of the study.
- Personal responses from students were not ascribed to any individual. All data was computed in aggregate and not linked to any student.
The questionnaire did not contain the names of students - anonymity of students was maintained throughout the study.

Independent objectivity in the interpretation of the survey findings was upheld.

Permission was obtained from the university ethics committee to conduct the study.

1.9 CHAPTER CLASSIFICATION

Chapter 2: Entrepreneurship education and new venture creation.

This chapter provides a discussion on entrepreneurship and entrepreneurship education. Entrepreneurship within a South African context is discussed. Entrepreneurship education prevalent within international and local universities is reviewed. Entrepreneurship education and new venture creation is examined in order to establish possible relationships.

Chapter 3: Research methodology.

The design and method of research utilised in the study is explained. Sampling techniques and methods of data collection are elaborated on. The statistical analysis, as well as reliability and validity issues are also described.

Chapter 4: Results and findings.

This chapter provides an analysis and interpretation of the research findings. The results obtained are evaluated against findings from previous studies within the realms of the study.

Chapter 5: Recommendations, implications for further research and conclusion.

This chapter consolidates the findings of the study in terms of its objectives. Recommendations arising from the study are made. Limitations and implications for further research are highlighted. Finally, an overview placed the study in perspective and conclusions are drawn.
CHAPTER 2
ENTREPRENEURSHIP EDUCATION AND NEW VENTURE CREATION

2.1 INTRODUCTION

Chapter 2 provides discussion of the literature review. The chapter begins with the definition of concepts. This is followed by a discussion on entrepreneurship education at universities, learning theories, models of entrepreneurial education focusing on the content of the curriculum, delivery and assessment modes and new venture creation.

The various approaches to studying entrepreneurship and the influence of entrepreneurial-related programmes to venture into new business are discussed. An analysis is conducted of entrepreneurship education prevalent within international and local universities. Entrepreneurship education and new venture creation is examined in order to establish relationships. The chapter concludes with a discussion of learning theories, entrepreneurship intentions models and new venture creation.

2.2 ENTREPRENEURSHIP AND ENTREPRENEURSHIP EDUCATION

2.2.1 Entrepreneurship definitions

The term “entrepreneur” in English originates from the French verb “entreprendre” which means to undertake (Lorz 2011:9). It explicitly means to establish and manage a business activity. According to Baron (2002:226) and Kabongo and Okpara (2010:296), Nga and Shamuganathan (2010:259), Primo and Green (2011:1) entrepreneurship refers to the opportunistic pursuit of economic wealth via creative initiatives of the individual operating within an uncertain environment constrained by limited tangible resources.

Read and Sarasvathy (2005:9) and Ferrier (2012:5) define entrepreneurship as “the creation of new ventures, new products and new markets”.

The literature therefore shows different ways of defining both entrepreneurship and entrepreneurs. Pihie and Sani (2009:341) state that entrepreneurship can be
measured in two ways: actual entrepreneurship (i.e. people that have actually started business) or entrepreneurial intention or covert entrepreneurship (i.e. people that intend to start a business). This study focused on covert entrepreneurship.

2.2.2 Entrepreneurship education definitions

Before a review of literature on entrepreneurship education is presented, it is essential to define entrepreneurship education. According to Cheng, Chan and Mahmood (2009:558) entrepreneurship education is more than business management or starting a new business, it is about “learning”, i.e. learning to incorporate experience, skills and knowledge to start a new venture. In this study, entrepreneurship education refers to a formalised programme that equips students with the needed skills, knowledge and attitudes to identify business opportunities, search customers’ insights, network and understand the needs of the market, create ideas, develop a business plan, and establish and run a business.

Entrepreneurship education in this study is described as a programme that develops entrepreneurial drive among students (raising awareness and motivation), developing the entrepreneurial abilities needed to identify and exploit business opportunities (De Faoiteet al. 2003:432). It also refers to training students in what is needed to set up a business and to manage its growth.

According to Steenekamp, Van der Merwe and Athayde (2011:51), entrepreneurship education can promote business start-up on at least three levels: firstly, at the attitudinal level directing students towards certain career choices; secondly, at the intentional level where planned behaviour can be predicted; and thirdly, at the practical level where it increases the propensity of students to start a business. A brief discussion of these levels is pursued in the next section.

2.2.2.1 Attitudinal level

Steenekamp et al. (2011:50) are of the view that early formal entrepreneurship education moves the attitudes of students, which in turn directs them towards certain future careers. Taatila (2010:48) affirms that “without an entrepreneurial attitude societies can stagnate, which can hinder the long-term growth and prosperity of a
region”. This noticeably specifies the importance of entrepreneurship to society, but also the nation’s global competitiveness and economic development.

Sowmya, Majumdar and Gallant (2010:628) revealed that without an entrepreneurial attitude societies can decay, which can delay the long-term growth and success of a region. The society and the business world necessitate and demand entrepreneurial competencies, which place more pressure on the individual’s attitudes and skills than before (Taatila, 2010:56). It is therefore of interest to study how entrepreneurial education affects the attitudes and motivation of those undertaking these types of programmes at universities.

The study will assist higher education institutions (HEIs) to cultivate appropriate educational programmes to promote entrepreneurship. Pretorius, Nieman and Van Vuuren (2005:423) revealed that the facilitator of an entrepreneurship programme would impact on the students positively if their attitudes and behaviours are able to be modified, and there is the likelihood that the programme may lead to further venture start-ups. Although a learning programme contains the best knowledge and skills (content) about venture start-ups, there is no assurance that students will act entrepreneurially unless their mind-set, readiness to take risks, confidence, attitude, and behaviours have been influenced.

2.2.2.2 Intentional level

Entrepreneurship can be viewed as the type of planned behaviour, for which intention models are appropriate. In previous research, personal and environment-based determinants of entrepreneurial intention have been extensively discussed (Ajzen & Fishbein 2000:13; Krueger, Reilly & Carsrud 2000:426; Mobaraki & Zare 2012:430, Rasli, Khan, Malekifar & Jabeen 2013:183). However, there have been a limited number of studies addressing the influence of entrepreneurship-related programmes on students’ entrepreneurial intention to venture into new business creation.

The objectives of entrepreneurship education are to transform the students’ state of behaviours and even intentions that makes them understand entrepreneurship, to become entrepreneurial and to be an entrepreneur (Dhliwayo 2008:330). Entrepreneurship programmes and initiatives are aimed at developing students’ skills and knowledge at identifying business opportunities. According to Peterman and
Kennedy (2003:131) entrepreneurship education programmes can significantly change the entrepreneurial intentions of students. Hence, in addition to the direct effects of entrepreneurship education programmes through new start-ups, students may repeat the entrepreneurial process many times during their entire working career, by starting new companies or starting new business areas in existing companies, by running their businesses more competently, or by assisting other entrepreneurs.

2.2.2.3 Practical level

Udoukpong, Emah and Umoren (2012:532) posit that business studies as a vocational subject with entrepreneurship positioning promotes learning through practice, and it is recommended that schools offering the subject should have well-resourced centres with the essential amenities for hands-on learning. Fiet (2000:106-107) states that a good course necessitates the practical application of theory to “immediate events” and that responsibility for its application must be taken. The most effective method is to create a student-approved system for class meetings that require students to practice skills until they accomplish their capabilities.

2.2.3 Entrepreneurship education

Buys and Havenga (2006:36) affirm that the core mechanism of an entrepreneurial culture is education. Kim (2007:399) also confirms that better educated individuals are more prone to be self-employed. The number of entrepreneurship courses at universities has grown rapidly in recent years, but how such courses can successfully motivate and qualify students to venture into new businesses creation still needs to be evidenced.

Mahadea et al. (2011:77) explain that “entrepreneurial education is one of the keys to solving the economic problem in South Africa”. Kabongo and Okpara (2010:297) state that “the essence of entrepreneurship is the ability to envision and chart a course for a new business venture by combining information from the functional disciplines and from the external environment in the context of the extraordinary uncertainty and ambiguity”. It manifests itself in creative strategies, innovative tactics, uncanny perception of trends and market mood changes, and courageous leadership when the way forward is not obvious. What is taught in entrepreneurship classes should serve to instil and enhance these abilities.
Entrepreneurship education is therefore a purposeful programme that is aimed at imparting not only entrepreneurial knowledge but also inspiration, competencies and readiness to become entrepreneurs in the future (Dhliwayo 2008:338). Hence, for the purpose of the study, entrepreneurship education refers to a formalised modules to equip students with the needed skills and knowledge to recognise business opportunities.

Ali, Topping and Tariq (2011:13) state that there is an expectation that entrepreneurship education would result in a proportionate increase in both the number and the quality of entrepreneurs entering an economy. It should be noted, however, that the growing body of empirically rigorous research in this area has so far provided only limited evidence to support the assumption that entrepreneurship education can produce better outcomes at several stages of entrepreneurial activity, from start-up through to exit strategies (Turker et al. 2008:153). This shows the importance of the study, as the students who have entrepreneurship-related programmes in their course will reveal the influence of the entrepreneurship programmes after the research is completed. However, few empirical studies have scrutinised the entrepreneurial inclination of university students as a source of future entrepreneurs.

2.2.3.1 Issues in entrepreneurship education curriculum

Ali et al. (2011:14) points out that the identification of the entrepreneurs' characteristics and the knowledge of the entrepreneurial profile of potential entrepreneurs have been fast escalating in the development of entrepreneurial oriented educational programmes and start-up processes. According to Kirby (2004:514) entrepreneurship education should not be ‘about’, but rather ‘for’ entrepreneurship. Further evidence of these changes can be concluded from a statement by North (2002: 27) that the implementation of a new curriculum focused, inter alia, on entrepreneurship will be a problem for some years to come, and that care should be exercised to prevent entrepreneurship education from becoming yet another activity where predominantly theoretical knowledge is acquired.

The studies of Mwasalwiba (2010:29) and Pretorius et al. (2005:414) reveal that every training institution has its own approach in constructing an entrepreneurship
curriculum. This is evident from the comparative study conducted by Brijlal (2008:26-29) on the state of entrepreneurship education at HEIs in the Western Cape.

The Western Cape universities such as the University of the Western Cape (UWC), University of Cape Town (UCT), University of Stellenbosch (US) and the Cape Peninsula University of Technology (CPUT) have different entrepreneurship content in their curriculum. Brijlal (2008:31) points out that “the subjects and skills taught at some of the institutions do not appear to encourage learners to become active agents of their own destiny through developing qualities such as independence, risk taking, self-motivation and innovation”.

Keat, Selvarajah and Meyer (2011:209) reveal that “to produce students who are capable of dealing with actual entrepreneurial activity or transforming students’ entrepreneurial competencies to a practical way is closely centred on courses for entrepreneurship”. Many students and graduates perceive several obstacles that oppose business start-ups, such as lack of experience, or lack of finance, which block the path toward their preferred choice (Keats & Ahmad 2012:182). The problem of this inconsistency may lie in the present curriculums, which have focused almost entirely on the needs of aspiring middle and functional managers rather than the needs of aspiring entrepreneurs.

Traditionally HEIs have not prepared students for self-employment as a career option, which is resulting in the loss of many potential entrepreneurs. As a result of this educational bias to large businesses and lack of information on self-employment as a career option, many HEIs are now offering courses related to entrepreneurship and small business. Maharasoa and Hay (2001:140-141) suggest that emphasis should be placed on the ability of the curriculum to prepare students with comprehensive knowledge and skills that are relevant to the needs and aspirations of the country and to students’ individual growth. Baron (2003:254) argues that the previous researchers have failed to recognise that entrepreneurship is a process and that the motivation to start a new business may vary with the stage of the process. It depends at what stage the potential entrepreneur is. The entrepreneur may be starting from being innovative and creative or may be at the idea-generating or screening and development stage. According to Orford, Herrington and Wood (2004:4) groundwork research suggests
that entrepreneurship education can have a crucial positive influence on four areas crucial to entrepreneurship:

- Learners' self-confidence about their ability to start a business;
- Learners' understanding of financial and business issues;
- Learners' desire to start their own businesses; and
- Learners' desire to undertake higher education.

On the other hand, Kim and Fish (2010:241-243) introduced freshman programmes for undergraduate students named “From Nothing to something”, the mission being to teach students a creative innovative process from recognition of unique business opportunities through to generating viable entrepreneurial products and services. Their programme on assessment objectives and measurement of entrepreneurship course is outlined below:

Table 2.1: Course (programmes) assessment objectives and measurement

<table>
<thead>
<tr>
<th>Course (Programme) Objective</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analytical thinking; reflective knowledge.</td>
<td>Reading and critique, idea journal, personal mission, and value statement.</td>
</tr>
<tr>
<td>Appreciate how entrepreneurship can serve as a philosophy of life.</td>
<td>Team projects, opportunity recognition, feasibility analysis.</td>
</tr>
<tr>
<td>Course (Programme) Objective Measurement</td>
<td></td>
</tr>
<tr>
<td>Critical thinking; ethical/social responsibility, class commitment,</td>
<td>Class and discussion participation, service learning projects.</td>
</tr>
<tr>
<td>leadership, positive impact on class environment, active dialogue</td>
<td></td>
</tr>
<tr>
<td>during class sessions.</td>
<td></td>
</tr>
<tr>
<td>Creativity, innovation, entrepreneurial attitude, analytical thinking,</td>
<td>Problem analysis, innovative solutions, innovation from bug reports.</td>
</tr>
<tr>
<td>synthesis and integration, effectiveness and efficiency, inventive</td>
<td></td>
</tr>
<tr>
<td>thinking, oral and written communication.</td>
<td></td>
</tr>
<tr>
<td>Creativity, oral communication skill.</td>
<td>Individual business idea elevator pitch presentation.</td>
</tr>
<tr>
<td>Course (Programme) Objective</td>
<td>Measurement</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Distinguish the differences and relationship among creativity, innovation, opportunity recognition, idea generation, entrepreneurship, and way in which to further develop their potential.</td>
<td>Team projects, reading assignment and critique, business idea generation, idea journal, brainstorming.</td>
</tr>
<tr>
<td>Entrepreneurial attitude, entrepreneurial mindset, problem solving; leadership, imagination, creativity, innovation, conflict management, team work.</td>
<td>Creative and innovation team project, idea generation, from nothing to something project.</td>
</tr>
<tr>
<td>Express and defend your opinions creatively and concisely in oral presentation and written proposals.</td>
<td>Team projects, business plan, oral presentation.</td>
</tr>
<tr>
<td>Formulate, articulate, and adopt a personal mission statement and identify its role in guiding one’s path.</td>
<td>Personal value statement, personal mission statement, idea journal.</td>
</tr>
<tr>
<td>Leadership, class commitment, systematic and analytical thinking, communication skill, problem solving, creative solutions, innovation, creative decision-making process, team work.</td>
<td>Team project, creative business idea presentation.</td>
</tr>
<tr>
<td>Passion, self-motivation, entrepreneurial leadership, class commitment, systematic and analytical thinking, communication skill, problem solving, creative solutions, and innovation.</td>
<td>Best fundraising idea project, idea generation</td>
</tr>
<tr>
<td>Recognize one’s own creative problem solving style and its implications.</td>
<td>Team projects, reading assignment and critique.</td>
</tr>
<tr>
<td>See themselves as agents of creative and innovative change.</td>
<td>Team projects, reading assignment, and critique.</td>
</tr>
<tr>
<td>Understand the main principles of creative process, innovation, opportunity recognition, and new idea generation.</td>
<td>Team projects.</td>
</tr>
<tr>
<td>Written communication, creative and innovative communication skills, entrepreneurial attitude, integration, feasibility.</td>
<td>Business idea elevator pitch, business plan, feasibility analysis.</td>
</tr>
</tbody>
</table>

Source: Kim and Fish (2010:241-243)
According to Rae, Martin, Antcliff and Hannon (2010:388), extra curriculum such as idea generation, business planning, venture creation, enterprise skills development and networking events are necessary means of raising students’ awareness of enterprise development and providing opportunities to develop skills and confidence in practical ways. Figure 2.1 illustrates the key stages of the path in developing entrepreneurial effectiveness as outlined by the Quality Assurance Agency for Higher Education (Bellingham 2012:9-12).

The key stages consist of the following:

- Enterprise awareness: understanding ‘what enterprise means to me’
- Developing an entrepreneurial mind set: participating in enterprising learning and activities.
- Developing entrepreneurial capability: developing capability and confidence through guided experience and practice.
- Illustrating the key stages of the path in developing entrepreneurial effectiveness.
Figure 2.1: Developing entrepreneurial effectiveness

Source: Bellingham (2012:12)

The activities in the boxes in Figure 2.1 of each stage of the typical student journey are examples only; in reality, curricular and extra-curricular activities will vary widely between providers. The figure illustrates how both curricular and extra-curricular learning contribute to the development of enterprise awareness, an entrepreneurial mind set, capability, and overall effectiveness. Bellingham (2012:9) states that “students may not approach their learning in a linear fashion; rather their journey may pass through different stages in an iterative fashion and may engage with different stages simultaneously. Individual students’ journeys are likely to have diverse starting points and transition points into the future.”

2.2.3.2 Contents of entrepreneurship programmes

Solomon (2007:169) states that “if entrepreneurship education is to produce entrepreneurial founders capable of generating real enterprise growth and wealth, the challenge to educators is to craft courses, programmes and major fields of study that meet the rigors of academia while keeping a reality-based focus and entrepreneurial
climate in the learning experience environment”. Walter and Dohse (2009:21) suggested that the effect of entrepreneurship education depended on the concrete form and content of such courses.

Umsobomvu Youth Fund Research Report (2001:6) outlines that the quality of the training programme depends on adequate input factors such as infrastructure, appropriate selection of target group members, content and design of programme, capacity and delivery method, and assessment and tracking methods, as illustrated in Figure 2.2. The training programme should be developed to attain the output factors.

![Figure 2.2: Operational model of scope of work](image)

**Source:** Umsobomvu Youth Fund Research Report (2001:6)

According to this model, the quality of the training programme is dependent on suitable input factors such as infrastructure, appropriate selection of target group members, content and design of programme, capacity and delivery method, and assessment and tracking methods.

Nicolaides (2011:1045) highlighted that the government should provide the necessary resources such as finance and infrastructure. Entrepreneurship education is targeted at different categories of people who usually have different learning needs, and the benefits of entrepreneurship education will certainly be different to different individuals
Chapter 2: Entrepreneurship education and new venture creation

(Herrington & Wood 2003:10; Botha 2006:47). Umsobomvu Youth Fund annual report (2005:15) revealed that their entrepreneurship programme targeted out-of-school youth and young people in general education and training. The entrepreneurship 2010 Campaign emphasized three pillars: the strengthening of entrepreneurship education and skills training which improve access to finance and business support; and the creation of an enabling environment through appropriate legislative and regulatory changes.

According to Zegeye (2013:318) course content in any education setting should be in line with the economic realities of that country to be useful. It should stress the skills and knowledge that an entrepreneur would need to be successful. Shambare (2013:451) posits that teaching methods go beyond rehearsing formulae in textbooks; it should empower students to develop free and creative thinking in the application of knowledge and theory in the real world. According to Henderson and Robertson (2000:281) experiential learning can transform experience into entrepreneurial knowledge which is possible to produce entrepreneurs in the same way nurses are produced through appropriately designed work integrated learning.

2.2.3.3 Teaching methods for entrepreneurship education

Co and Mitchell (2006:350) state that education about entrepreneurship is primarily based on the concept of transference of knowledge about the field, while education for entrepreneurship focuses on the learning experience and the development of competencies, skills, aptitudes and values. Thus, the teaching methods used in each of these areas differ.

Jones and English (2004:416) state that the growing literature on entrepreneurship education tends to argue that a different approach is required, a departure from the traditional lecture-centred passive learning used in traditional business disciplines such as management and marketing.

The new style ought to be action-oriented to encourage experiential learning, problem solving, and creativity, and best provide the mix of enterprising skills and behaviours needed to create and manage a small business.
Whiteley (1995:6) affirms that “changes in the curriculum have been accompanied by changes in teaching styles and learning methods. Many of these changes aim to promote a deep rather than surface approach to learning by enabling students to apply knowledge in novel contexts and to solve related problems. Assessment processes are being adapted to reflect this approach and the value placed on core skills”.

Solomon (2007:179) concluded that “the traditional teaching method of requiring students to create business plans still exists as a foundation for teaching the nuts and bolts of entrepreneurship. However what we teach in our entrepreneurship classes should assist to inspire and enhance entrepreneurial abilities” (Solomon 2007:169).

Brijlal (2008:31) posits that little emphasis is placed on motivation of the entrepreneur as a person and on entrepreneurial skills. Robertson and Collins (2003:331) suggest that the learning process to develop students to be entrepreneurial should give students ownership of their own learning objectives, involve students in the real-world problem-solving, provide students with role models of successful entrepreneurs, and enable students to reflect on what they have learned. Robertson and Collins (2003:332) maintain that the entrepreneurial orientation can also be enhanced by viewing movies of entrepreneurs, discuss issues of entrepreneurs through video conferences and go out to the business community and search for idea possibilities. Yet, some research studies reveal that educational institutions are moving towards a more knowledge sharing environment where class discussions and guest speakers are becoming more popular (Solomon 2007:171, Brijlal 2008:32 and Prodromou 2009:32).

The role of the teacher is crucial in education as they ‘prepare, encourage and cultivate students’ (Boyle 2007:12). This is because educators are given the responsibility to mould the personality and characters of students, apart from imparting knowledge in the class (Keat et al. 2011:209). Pihie and Sani (2009:341) acknowledge that in terms of delivering knowledge, the more traditional methods such as lectures, using reading materials, discussions and tutorials are conducted. However, new teaching techniques which focused on student-centred teaching such as case analysis, business plan presentation, discussion, visits to business locations, and interviews with entrepreneurs and running real businesses should also be introduced to match the entrepreneurial-directed approach.
Implementing traditional education methods to develop entrepreneurial skills and competencies does not have the desired results. In fact, teaching entrepreneurship requires a different pedagogical approach. Table 2.2 shows the differences between a “traditional” teaching pedagogy and an entrepreneurial pedagogy.

**Table 2.2: Traditional teaching pedagogy and an entrepreneurial pedagogy**

<table>
<thead>
<tr>
<th>Traditional Teaching Methodologies</th>
<th>Entrepreneurial Teaching Methodologies</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Emphasis on the content as a purpose</td>
<td>• Emphasis on the process (learning to learn)</td>
</tr>
<tr>
<td>• Led and dominated by the teacher</td>
<td>• Appropriation of the learned subject by the participant</td>
</tr>
<tr>
<td>• The knowledge is conveyed by the teacher</td>
<td>• The teacher facilitates the discovery and learning</td>
</tr>
<tr>
<td>• The knowledge is acquired and unaffected</td>
<td>• The knowledge can change</td>
</tr>
<tr>
<td>• Curriculum and highly planned sessions</td>
<td>• Flexible sessions and targeted to needs</td>
</tr>
<tr>
<td>• Imposed education objectives</td>
<td>• Learning objectives negotiated and evolving</td>
</tr>
<tr>
<td>• Priority for the performance</td>
<td>• Priority to self-development which generates divergent thinking and assumptions as part of the creative process</td>
</tr>
<tr>
<td>• Convergent thinking, rejects conjectures</td>
<td>• Holistic thinking strategies</td>
</tr>
<tr>
<td>• Emphasis on analytical and linear thinking</td>
<td>• Theoretical knowledge together with practical applications</td>
</tr>
<tr>
<td>• Theoretical and abstract knowledge</td>
<td></td>
</tr>
<tr>
<td>• Resistance to the influence of the community</td>
<td>• Encouraging the community’s influence</td>
</tr>
<tr>
<td>• Emphasis in the outside world</td>
<td>• The inner experience is a source of learning, feelings are embedded in the action</td>
</tr>
<tr>
<td>• Education as a social necessity for performance of a particular role</td>
<td>• Education as a lifelong process, and only barely related to school</td>
</tr>
<tr>
<td>Traditional Teaching Methodologies</td>
<td>Entrepreneurial Teaching Methodologies</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>• Errors are not accepted</td>
<td>• Errors as a source of knowledge (“good mistake”)</td>
</tr>
<tr>
<td>• Knowledge is the bond between teacher and student</td>
<td>• Relationship is the key link between teacher and student</td>
</tr>
</tbody>
</table>

Source: Marques and Albuquerque (2012:60)

Entrepreneurial pedagogy intends to prepare students for learning in and for the outside world, teaching models that encourage students to persist to learn throughout their experience and to discover and build life opportunities are indispensable. In this context, the possibility of “learning by doing” becomes important. Fiet (2000:8) also emphasises that “teachers should teach students how to apply theory deductively to their special circumstances”.

A study on media entrepreneurship by Ferrier (2012:7) emphasised that teaching strategies should improve and support students to turn their ideas into viable, independent enterprises which might be challenging, rather than serve the needs of media organizations – the traditional freelance role. This approach would perfectly afford graduates with skills to make their living independently of major media. Ferrier (2012:9) proposes that educators should enhance students’ ability to study an independent career path with the necessary skills, ability and confidence. It is also imperative to empower students with the knowledge and skill arrays to create their own jobs. O’Neill (2004:8) and Co and Mitchell (2006:350) made the following suggestions on how entrepreneurship should be taught:

- A hands-on interactive approach is needed
- Practical assignments where students start own ventures
- Computer simulations and role plays
- Small group projects
- Teach basic functions and personality traits and let students adapt and grow through practical application
- Develop creative thinking skills
• Focus on basic issues, such as a business plan
• Teach basic business skills and change mindset

Other researchers have found a positive influence of entrepreneurship education on students’ entrepreneurial intentions, and have found that students completing entrepreneurship education programmes are more likely to become entrepreneurs (Solomon 2007:179; Isaacs et al. 2007:626; Turker et al. 2008:155; Sowmya et al. 2010:637).

On the other hand, many scholars have found negative effects in evaluating the effectiveness of entrepreneurial programmes (Subotzky1999:411; Cheng et al. 2009:563). Galloway and Brown (2002:405) explain that the immediate start up may not be the best for entrepreneurial growth in higher education but entrepreneurship education has the potential value of the long term benefit.

Hegarty (2006:326) outlines the outcomes of entrepreneurial teaching and states that entrepreneurship has to be more different than management, but must embrace exceptional characteristics of people to:
• seek-out original and viable business and market opportunities;
• source and responsibly use built, natural, socio-economic and human resources;
• make the opportunity-resource connection in an extraordinary way;
• commit to implementing a business idea without assurances of the rewards;
• build a team and support network that share in the passion for their enterprise;
• rejoice in operating their own business ventures and delivering the products/services.

2.2.3.4 Entrepreneurship delivery and assessment modes

The fast growth of demand and supply of entrepreneurship education programmes calls for more examination of its design, delivery and assessment modes. Co and Mitchell (2006:357) are of the view that entrepreneurship education in South Africa is at its initial stages even though some of the HEIs have been involved since the early 1990s. The courses offered, teaching methodologies as well as assessment
techniques still follow the teacher-centred approach to teaching, although some institutions are trying to develop new courses and use more non-traditional modes of delivery that require more interaction and participation from students. Müller (2008:21) notes that the educator’s role is vital in the successful delivery of entrepreneurial programmes, and stresses that entrepreneurship education is also about personal enablement and providing an environment allowing learners to ascertain their own entrepreneurial potential. Rust (2002:149) concluded that deep learning is fostered by the engendering of intrinsic motivation in students willing and showing a need to know or learn.

Müller (2008:5-7) concluded that “successful youth entrepreneurship education requires an educational approach directed at changing the behaviours and attitudes of learners, while being student-oriented with thoughtful levels of experiential learning”.

Experiential learning refers to the process whereby knowledge is created through the renovation of experience (Cope & Watts 2000:116). The fundamental assumption is that for learning to take place, experiences have to occur. Thus entrepreneurship can flourish if potential entrepreneurs discover opportunities and if environmental conditions enrich entrepreneurs’ abilities to take lead of these opportunities by opposing the situation of unemployed university graduates.

A good example is the case of what experiential learning has done for Ruth Bhengu (The Saturday Star 2000:14), a self-taught woman who made it to the top – Chairperson of the Parliamentary Sports and Recreation Committee – without tertiary or secondary education exit qualifications. What she had in abundance was the clarity of mind, purpose and a tough determination to succeed. She explains: “everything I know today, I owe it to experience. Every encounter has been a learning curve I have gained from people. Many of them have paid handsomely to acquire this knowledge which I got for free.”

Hynes (1996:16) analyzed assessment methods and revealed that understanding has a strong influence on conceptual learning. Assessment primarily comprises the following techniques:

- **Examination of set reading/lecture material.** This involves the completion of a structured written exam on pre-assigned texts, readings and case studies designed
to sample the students’ diligence and appreciation of the fundamentals and concepts which underpin enterprise. This often occurs at the end of semester.

- **Project proposal submission, involving the formation of teams.** For example, evaluation is undertaken on the means and processes the teams use in working together to generate and screen products, services ideas, and the final choice of an idea for further development. Marks are awarded at this stage not on the validity of the idea, but on the process of generating and evaluating ideas.

- **Team project.** Team project is evaluated on the following criteria which is often used: how successful teams worked together; logic applied to project; analysis of marketing/marketing research; financial analysis; production feasibility; ability to sell their ideas; ability to justify information provided; written presentation and layout of project.

- **Project presentation and discussion.** This may involve, for example, a 15-minute oral presentation of the project and professionalism of presentation; use of visual aids; clarity of presentation; ability to answer queries and defend points developed.

According to Biggs and Tang (2007:169), students understand that assessments always define the actual curriculum, and teachers should design the assessments that cover the whole actual curriculum. Biggs and Tang (2007:232-233) state that peer and self-assessment can be utilised in class to minimise the load of the teacher in assessing students; the benefit being that students are participating in judging and getting own assessment evidence from peer and self-assessment.

Assessment is a structured process for gathering evidence and making judgments about an individual’s performance (SAQA 2001:16). Biggs and Tang (2007:25) assert that assessments should be designed to encourage deep learning, teaching and assessing in the way that encourage students to be responsible for their own learning and allow them to make mistakes and learn from them. The undergraduates will develop creative abilities in an enterprising teaching atmosphere where they can learn how to co-operate with others by learning together, by distinguishing the capabilities of peers and through reflection (Hegarty & Jones 2008:632).
According to Geyser (2004:90-91) assessment has a “backwash effect that determines learning. Positive backwash entails the connection of the assessment task to a learning standard in the curriculum”. Therefore, the learner will concentrate on knowledge and skills that will assist them to accomplish the outcomes. Assessments are labelled as traditional or alternative. Traditional assessments are entirely summative and the teacher is a sole and unconditional judge. Alternative assessment should encourage deep learning and understanding, whereby students participate in assessing themselves against the specific learning outcomes. Assessments should adhere to principles of good assessment stipulated by SAQA (2001:17) such as:

- **Validity**: by assessing what is supposed to be assessed. Ensuring that assessment procedures, methods, instruments and materials match what is being assessed.

- **Reliability**: maintaining consistency by ensuring that each time an assessment is administered, the same or similar conditions prevail and all the procedures, methods, instruments and practices are the same or similar. (SAQA 2001:18).

- **Practicability**: by providing necessary facilities, equipment and sufficient time for assessment. Adhering to quality of evidence is important and can be achieved by ensuring that evidence of learning derives from validity, ensuring that it relates to specific outcomes and criteria (SAQA 2001:19). **Authenticity**: by observing the learner directly and group work to be supplemented by individual presentation of some parts of the entire work to ensure authenticity.

It is also important to note that relevant forms of assessments should be implemented such as:

- **Diagnostic assessment** to find out the learners’ strengths and weaknesses and to determine the knowledge that learners come with to class and for the teacher to know the level of knowledge of the students to adjust where possible (Geyser 2004:92)

- **Formative and summative assessments** to ensure that the learners are able to check whether what they have learnt meets the learning outcomes. According to SAQA (2001:26), formative assessment helps to make decisions on the readiness of learners to do summative assessments.
• Authentic performance based assessment should be undertaken by asking students to do more real life work or projects than telling what they have learnt and know (Biggs & Tang 2007:181). This is a form of assessment in which students are expected to perform real-life tasks that demonstrate meaningful application of essential knowledge and skills learnt (Geyser 2004:102).

• Norm-referenced assessment and measurement model of assessment.

• This form of assessment has a long traditional widely held meaningless belief about assessment and reporting (Killen 2007:341). A student’s performance is compared with other student’s performance. A group of learners are assessed and judgment is made by measuring them against each other.

• Criterion-referenced assessment is conducted by comparing student’s performance with set criteria. The criteria are objective and attempt to be as clear as possible in terms of the nature of the assessment (SAQA 2001:24-25). In this assessment, learners work as a team. They are then assessed on their individual contribution to the team and again as a team. The assessment can be for formative or summative purposes (Geyser 2004:107). Assessment tasks are developed to give learners opportunities to demonstrate whether or not they met the performance criteria (Killen 2007:342).

2.2.3.5 The perceptions of quality, relevance and effectiveness of entrepreneurial-related programmes

Prodromou (2009:8) is of the view that providing numerous entrepreneurship courses and programmes is essential, but they will not be of benefit if students are not satisfied with them. Current evidence suggests that there is a gap between the perceived desirability of entrepreneurship amongst students and authentic self-employment and start-up rates amongst graduates. Such data have focused primarily on the influence of education and pedagogy on entrepreneurship education (Lourenço & Jones 2006:112). Pittaway and Cope (2007:7) explain that an entrepreneurship programme should espouse an action-learning approach whereby the real world is viewed as a proper scene for learning as it is acknowledged that students often learn best by comparing the theory and their experiences in a learning environment.
A study by Co and Mitchell (2006: 354) shows that South African universities use 80 percent theory (class time) and only 20 per cent outside classroom methods in teaching entrepreneurship. The theory (class time) is broken down into business plans discussion (32%), lecture, (26%), and case studies (22%). The expectation is based on the premise that more and better entrepreneurship education in the classroom would result in more and better entrepreneurs.

Lazenby and Machaba (2011:78) affirm that the education system does not stimulate a culture of entrepreneurship, but that of a relaxed zone in employment, as there is a small percentage of university graduates who intent to venture into entrepreneurial endeavours. Education planners should introduce entrepreneurship courses from primary school right up to university level in order to discover the entrepreneurial class early.

Tan and Frank (2006:417) emphasise that entrepreneurship education should be supported by three pillars: industry, academia, and public policy which includes government and government agencies, and that funds should be obtained to support these linkages. They further state that private and public partnerships are essential to facilitate entrepreneur-practitioner skills and in doing so they also impart social skills.

2.3 ENTREPRENEURSHIP EDUCATION AT UNIVERSITIES

2.3.1 An analysis of entrepreneurship education at international and local universities

Policy makers in Europe and the United States consider that additional entrepreneurship is essential to reach higher levels of economic growth and innovation (Oosterbeek, van Praag & Ijsselstein 2010:443). This means that the superior entrepreneurial action leads to superior economic growth, and as an end result, lesser unemployment rates. It is well known that a career in entrepreneurship offers significant opportunities for individuals to achieve financial independence and benefit the economy by contributing to job creation, innovation, and economic growth (Gorman, Hanlon & King 1997:56; Berglund & Wennberg 2006:367; Kim 2007:397; Faria, Cuestas & Mourelle 2010:1282; Sánchez-escobedo, Díaz-casero, Hernández-mogollón & Postigo-jiménez 2011:443; Marques & Albuquerque 2012:55). This
propels an increased interest in the development of education programme that stimulate entrepreneurship and recognition that research needs to be carried out on what makes entrepreneurs. Mueller (2006:1500) again indicates that regions with elevated stages of entrepreneurship and university–industry relationships experience leads to greater productivity, and thus economic growth.

Today’s students are tomorrow’s potential entrepreneurs, which may explain why a growing number of United States universities offer courses and programmes in entrepreneurship. However, there is little understanding of the factors that influence students’ intentions of becoming entrepreneurs, and the relationship between entrepreneurship education and students’ entrepreneurial attitudes and intentions to venture into new business (Souitaris et al. 2007:568). Solomon (2007:168) points out that scholars and researchers in entrepreneurship education in the US have reported that small business management and entrepreneurship courses at both the two- and four-year college and university levels have grown in both number and diversity of course offerings from 1990-2005.

Concerning support mechanisms, European universities provide a variety of entrepreneurship-related activities and services such as coaching for start-ups, business plan writing competitions, student internships and incubation facilities (Entrenews 2004:3).

Ibrahim and Soufani (2002:422) revealed that an entrepreneurship programme is a driving force behind training Canadian entrepreneurs. However, there is a need to provide technological training to Canadian entrepreneurs in an effort to stress the importance of innovative skills in a progressively aggressive competitive environment. Efforts have been taken to nurture entrepreneurship at all levels in the development of the knowledge-based economy in Malaysia. Conferences, seminars, short courses and training on entrepreneurship are common activities offered by various organisations, along with the formal entrepreneurship education offered at HEIs. According to Cheng et al. (2009:562) many universities and HEIs in Malaysia have started to introduce courses related to entrepreneurship or majors in entrepreneurship since the mid-1990s.
Studies have found a positive impact of entrepreneurship education courses or programmes at universities on perceived attractiveness and feasibility of new venture creation (Berglund & Wennberg 2006:367; Sánchez-escobedo et al. 2011:443). Berglund and Wennberg (2006:368) support these studies by confirming that graduates from entrepreneurship programmes habitually become self-employed by starting new businesses compared to business graduates with general business degrees.

In contrast the research results of Niyonkuru (2005:48) found that entrepreneurship education at HEIs in Rwanda does not provide the opportunity to experience entrepreneurship and to enhance necessary capabilities for start-ups that might affect the student inclination towards entrepreneurship as a career option. The study also revealed that HEIs in Rwanda are hampered by the lack of support mechanisms, the theoretical orientation of entrepreneurship curriculum and the choice of traditional methods of teaching and assessing entrepreneurship classes. Niyonkuru (2005:5-6) further explains that though the development of entrepreneurship and the private sector is clearly identified as one of the six pillars of the 2020 Vision of Rwanda, no emphasis has been placed on the provision of entrepreneurship education and training in the Rwandan educational system.

Therefore, it is likely that the education provided, as well as social expectations of young people will continue to be focused on professional careers as employees, and to a lesser extent, they will consider the opportunity to start their own businesses. Gorman et al. (1997:59) reveals that the formal education system is not supportive of entrepreneurship; it even suppresses the entrepreneurial characteristics of students. Marques and Albuquerque (2012:56) uphold that an entrepreneurship education is supposed to reveal usefulness and dynamic potential in each person; and it should stimulate someone’s potential to venture into new business.

A study undertaken by Peterman and Kennedy (2003:141) demonstrated that positive entrepreneurship education impacts are stronger among students with a positive prior exposure to an entrepreneur’s concrete experiences. The study conducted by Turker et al. (2008:155) indicated that entrepreneurship can be nurtured as a result of a learning process. Costa, da Soares, and Bonfim (2009:231) state that there is a new function called ‘entrepreneurial university’, which encompasses the combination of
teaching and research with economic and social development, which would be feasible from the spreading of the entrepreneurship culture in universities. According to Souitaris et al. (2007:567), if the objective is to escalate the number of entrepreneurs in the student population, then the stimulating part of the programmes has to be designed deliberately, and instructors should be trained not only to teach the entrepreneurship curriculum, but also to transform ‘hearts and minds’ of the students.

2.3.2 Entrepreneurship education within the South African context

According to Louw et al. (2003:5) the encouragement and improvement of entrepreneurship in South Africa is presently the focus of much consideration in a wide variety of fields because it is regarded as a major key to economic development and wealth creation. Isaacs et al. (2007: 613) confirm that education is fundamental to the success of establishing a culture of entrepreneurship in South Africa.

Brijlal (2008:25-26) posits the view that the economic structure in South Africa is well assisted by HEIs in that they provide a resource pool for big businesses. However, a student mindset favours employment in the big businesses. O’Neill (2004:2) is of the view that there is no culture of entrepreneurship education in South Africa and that entrepreneurship education should be highly emphasised. Most universities do not formally offer it as a separate programme; it is part of a minor subject which most institutions offered for six months only. According to North (2002:24) the recent downward swing of the South African economy is a source for concern for most young adults as they are threatened with problems of crime, corruption, maladministration and unemployment. It is required for the unemployed to start their own businesses.

North (2002:25) is of the view that the objectives of learning outcomes as labelled by the South African Qualifications Authority (SAQA) will hopefully bring assistance to entrepreneurship education. Co and Mitchell (2006:349) reveal that entrepreneurship is a new developing field with growing importance in the global business environment. Consequently there has been a high demand for entrepreneurship courses from students interested in starting their own businesses, there has been a need for an increased number of faculties to deliver these courses, administer programmes and conduct research in this area.
According to Brijlal (2008:31), the HEIs play an imperative role in developing entrepreneurial society, in that they can inspire the wisdom of understanding of the risks and rewards of business creation to their students at graduate and post-graduate levels. The importance of youth development is also recognised by the South African government, as evident from the statement by current President Jacob Zuma that “…we [South Africans] need to invest in our youth to ensure a skilled and capable workforce to support growth and job creation ” (Zuma 2010). In circumstances where graduate employment projections are never guaranteed, the chance of becoming self-employed remains an employment option, which also allows graduates to become masters of their own destiny. Nicolaides (2011:1045) affirms that the government of South Africa has acknowledged the crucial contribution that entrepreneurs can play in the economic development and the social rise of the nation, and as a result, is a vital element of the government’s ten year vision. The aim of the Accelerated and Shared Growth Initiative of South Africa (ASGISA) is for the nation to turn towards an entrepreneurial direction.

Driver, Wood, Segal and Herrington (2001:29) in their annual publication Global Entrepreneurship Monitor (GEM), evaluate an overall lack of entrepreneurial elements from the education system in South Africa. Factors such as attitude towards entrepreneurship, entrepreneurial role models, negative mindsets towards confidence, initiative and creativity, negative perception towards entrepreneurship as a career choice, and negative attitude towards failure are all cited to contribute towards the South African entrepreneurial culture.

Pretorius and van Vuuren (2003:523) accept that the culture within a society can either support entrepreneurial orientation or be unfavourable to its visible outcomes in the society. Louw et al. (2003:6) state that the South African government have supported and promoted the concept of entrepreneurship by introducing the National Qualifications Framework (NQF).

The most exciting new development towards the promotion and development of entrepreneurially-oriented competencies in South Africa is the publication of a new Act. The National Qualifications Framework Act 67 of 2008 deals with providing access, mobility and progression within education, training and career paths; learners are clear of learning pathways and they will often be more persuaded to improve their
skills and knowledge. A key issue in the NQF is the emphasis on the proper development of skills as required by the market place, with specific reference to entrepreneurial skills and business skills. Kennedy and Drennan (2001:165) compared the results of multiple studies relating to the influence of education and prior experience on the performance of entrepreneurs. The authors concluded that the level of education, previous entrepreneurial experience and business experience definitely impact on the success of new ventures.

### 2.4 LEARNING THEORIES

Pham (2011:406) explains that the critical factor that influences the teaching and learning process is the design of effective instruction that can address diverse learning styles, and there is a variety of different learning theories that can be utilised to guide a teaching and learning process. Behaviourism, cognitivism, and constructivism are the three leading learning theories addressed in educational psychology. Many educators use the three most popular theories on a daily basis at any given time in a class.

Various learning theories have been postulated by researchers in order to enhance a comprehensive knowledge of the role of learning within an entrepreneurship context (Rae & Carswell 2000:221; Yilmaz 2011:204). Pham (2011:406-411) states that learning theories are necessary for effective teaching in that they shed light on different facets of the learning process. These theories are enunciated in order to stimulate a discussion on entrepreneurial learning.

#### 2.4.1 Behavioural theory

According to Pham (2011:406), behaviourism is the theory that creates learning through a noticeable change in behaviour. In this theory, the learners observe the information, practice the information and then get reinforcement through praise. Behaviourism focuses on a new behavioural pattern being repeated until it becomes automatic, based on observable changes in behaviour (Tennyson 2010:3). Mergel (1998:2-5) points out that the mind is empty and it needs to be stimulated and learners learn through associations. Enforcement also plays a major role where learners are rewarded or punished.
According to Hegarty and Jones (2008:632), undergraduate students will develop creative abilities in an enterprising teaching atmosphere where they can learn how to co-operate with others by learning together, by distinguishing the capabilities of peers and through reflection. The more the programme stresses entrepreneurial competences, the more students will become innovative (Bjornali & Storen 2012:416).

2.4.2 Cognitivism

The cognitivist theory describes how information is processed to produce learning. Pham (2011:409) explain that the goal of cognitive learning is “to develop student academic and thinking skills from a novice level to a more expert level”. It is the change in a learner’s mental behaviour. Cognitive theory looks at how information travels from the sensory memory to the working memory to the long-term memory (Tennyson 2010:4).

This theory focuses on gaining and maintaining the learner’s attention. After the learner’s attention is gained, rehearsal and visuals are used to transfer the information in the memories. Reinforcement is used primarily as feedback. According to Yilmaz (2011:206), the primary contributors to cognitivism are: Jean Piaget, who is known for the theory that children progress through stages (Ojose 2008:26-28; Simatwa 2010:367-369), and James Anderson, who is known for the two types of memory, namely procedural and declarative. Declarative memory refers to memories that can be consciously recalled such as facts, knowledge, dates, places, and times., There are two types of declarative memory, namely episodic and semantic memory (Anderson1993:54).

Menon, Anderson, Schatzberg and Reiss (2002:262), and Ordas and Call (2013:2) explain that episodic memory refers to memories for particular events that have been experienced by somebody (autobiographical information). Typically, those memories are connected to specific times and places. Semantic memory, on the other hand, refers to knowledge about the world that is not connected to personal events. Vocabularies, concepts, numbers or facts would be stored in the semantic memory. Procedural memory, on other hand, is responsible for highly skilled activities that can be performed without much conscious effort. Examples would be the tying of
shoelaces or the driving of a car; if those activities have been practiced sufficiently. It is some kind of movement plan.

Mergel (1998:6) states that cognitivists permit learners to learn through repetition and association. The mind plays a major role in recalling what has been learnt. Learning activities must be structured in such a way that they allow learners to learn from previous experience. Changes in behaviours are observed and used as pointers as to what is happening inside the learner's mind.

In a cognitive classroom, learning takes place by means of strategies to acquire facts, skills and concepts. In this type of classroom one may observe the teacher using various methods to gain the learner's attention (Yilmaz 2011:207). Also, one may observe the use of visuals such as outline and graphic organisers to connect the information in the learner's memory. In this classroom, there may be evidence of grouping smaller pieces of information into larger groups of information. Some repetition is witnessed and reviewed in the classroom. Also, mnemonics to remember formulas and facts are also prevalent. The teacher serves as a modeller of strategies in the cognitive classroom. Finally, the application of various learning strategies such as review, examine, ask, do, and summarise are witnessed.

According to Merriam and Caffarella (1999:254), a cognitivist views the learning process as an internal and active mental process, which nurtures within a learner increased mental capacity and skills in order to learn better. Blanton (1998:173) further expands that the implications of cognitive learning theory on instructional design should bear in mind that “the instructional goals should include learner needs and interest, reflect the concerns of society, and make every determination to insure that goals are focused at least toward the present and, hopefully, toward the future needs of the learner.” Entrepreneurial cognitions are defined as “the knowledge structures that people use to make assessments, judgments, or decisions involving opportunity evaluation, venture creation, and growth”. These cognitions are formed through an individual’s perception and interpretation of information within the context of entrepreneurship (Mitchell, Busenitz, Lant, McDougall, Morse & Smith 2002:97).
2.4.3 Constructivism

Karagiorgi and Symeou (2005:17-27) explain that in constructivist learning, learners are able to construct their own learning environment by their perceptions and experiences. It enhances active learning whereby students are able to construct ways to solve problematic situations. It is related to cognitive psychology because as a theory of learning it focuses on a learner's ability to mentally construct meaning of their own environment and to create their own learning. A teaching practice is associated with different degrees of non-directed learning. Learning is considered as an active process of constructing rather than receiving knowledge; teaching is deliberated as a process of supporting learners to construct ideas rather than conveying knowledge (Pham 2011:411). Constructivists believe that all humans have the ability to construct knowledge in their own minds through a process of discovery and problem-solving.

Beothel and Dimock (2000:17) state that constructivist learning is based on students' active participation in problem-solving and critical thinking regarding a learning activity which they find relevant and engaging. They are "constructing" their own knowledge by testing ideas and approaches based on their prior knowledge and experience, applying these to a new situation, and integrating the new knowledge gained with pre-existing intellectual constructs. According to Mergel (1998:24) learning theories work together and it should not be seen in isolation; behaviourism, cognitivism and constructivism join everything together to at least give some focus in the approach to instructional design. Learning theories should be adapted to accommodate constructivist values in order to stimulate entrepreneurship.

Each theoretical viewpoint offers benefits to designers but the viewpoints must be taken into context in relation to the situation, performance goal(s), and learners; since the context in which the learning takes place can be dynamic and multi-dimensional. Some combination of the three learning theories should be considered in the instructional design process to deliver best learning. Pham (2011:414) expresses the view that there are no theories that are found to be greater than the others; hence the quality of instruction depends largely on how well teachers can identify students' readiness levels and learning styles and match them with relevant choices of theories in instructional design. Teachers can develop instruction that reflect combined characteristics of these three learning theories.
2.5 ENTREPRENEURIAL INTENTIONS MODELS

Khodabakhshi and Talebi (2012:83) reveal that numerous scholars have presented entrepreneurial intention models to attempt to predict entrepreneurial behaviours better, such as Shapero and Sokol's Entrepreneurial Event (SEE) model. Guerrero, Rialp and Urbano (2008:41) state that some scholars consider Shapero and Sokol's model very relevant in assessing entrepreneurial intentions (Wang, Lu & Millington 2011:36; Farrington, Venter & Neethling 2012:18; Koçoğlu & Hassan 2013:250).

Due to the high influence of entrepreneurial intention on entrepreneurial behaviours of individuals, many researchers have tried to offer entrepreneurial-intention-based models to predict entrepreneurial activities (Bandura 1982:122; Ajzen 1991:182-183; Van Gelderen, Brand, Van Praag, Bodewes, Poutsma & Van Gils 2008:554; Karali 2013:8). The entrepreneurial intention is guided by two models: Ajzen's TPB model (Ajzen1991:182-183) and Shapero and Sokol's SEE model (1982:79-80) of the entrepreneurial event.

The TPB was developed to explain how individual attitudes towards an act, the subjective norm, and perceived behavioural control are antecedents of intentions. Ajzen (1991:183) argues that intentions in general depend on perceptions of personal attractiveness, social norms, and feasibility. The general picture that emerges from these studies is that the intention to create a firm is influenced by different beliefs that could be grouped in the following three categories (Ajzen 1991:187; Herrington & Kelley 2012:23):

- Personal attitudes toward the enterprise-creation behaviour. It refers to whether people have a positive or negative perception about this behaviour (most importantly attractiveness of entrepreneurship). Thus, a high positive attitude towards creating an enterprise will lead to a higher intention to do it.

- Subjective norms. It consists of the perceived social pressure to carry out or not entrepreneurial behaviours. This concept includes parental role-modelling, parental support and opinions of important others. A more positive subjective norm about becoming an entrepreneur will lead to a higher intention to do it.

- Perceived control (self-efficacy) is the perception about the capability to successfully execute specific firm-creation behaviours. A high sense of self-
efficacy will determine a higher probability to take the decision to start an entrepreneurial process.

These perceived personal beliefs would be the most important predictors of entrepreneurial intentions. Veciana et al. (2005:168) explain that according to the TBP the attitude toward the act refers to the degree to which a person has a favourable or unfavourable appraisal of the behaviour in question. Social norms, on the other hand, refer to the perceived social burden to perform or not to perform the behaviour. These are tied to perceptions of what important people in our lives would think about initiating a venture. Perceived behavioural control plays an important part in the TPB (Ajzen 1991:183).

According to this theory, the resources and opportunities available to a person must to some extent dictate the likelihood of behavioural achievement. However, of greater psychological interest than the actual control is the perception of behavioural control and its impact on intentions and actions. Perceived behavioural control is defined in the TPB as the people’s perception of the ease or difficulty of performing the behaviour of interest. The antecedents of perceived behavioural control are the control beliefs.

Furthermore, according to the TPB, intention and perceived behavioural control are the sole predictors of real behaviour, given that this behaviour is under actual control of the individual who is trying to perform. The fundamental difference between TPB and the model of Shapero and Sokol’s SEE (1982:183) is that of the subjective norm, i.e. the individual’s personal estimate of the social pressure to act according to or against the attentions of entrepreneurial behaviour (Ajzen 1991:182). This pressure can become a trigger or a barrier to the development of an entrepreneurial career, depending on the social environment and its influence on people’s beliefs. Shapero and Sokol (1982:79;80) suggest that a person’s attitude towards entrepreneurship would be indirectly influenced by his or her prior exposure to entrepreneurship through prior work experience and the existence of role models.

Lee, Wong, Der Foo and Leung (2011:126) explain that the SEE model was established to comprehend entrepreneurial behaviour. Entrepreneurial intentions are derived from perceptions of desirability, feasibility, and a propensity to act upon opportunities. In the model, perceived desirability is defined as the attractiveness of
starting a business, perceived feasibility as the step to which an individual feels capable to do so, and propensity to act on one’s decisions.

Both the TPB and SEE models provide comparable interpretations of entrepreneurial intentions (Krueger et al. 2000:419).

The attitudes and subjective norms in the TPB model are conceptually related to perceived desirability in SEE; while perceived behavioural control in TPB matches to perceived feasibility in the SEE model. Primarily, perceived desirability and perceived feasibility are fundamental elements of intentional behaviour (Krueger et al. 2000:419-420).

2.5.1 Theory-Driven Models of Intentions

Krueger et al. (2000:416-418) and Lee et al. (2011:125) state that research on entrepreneurial intentions scrutinises the main factors such as desirability (perceptions of the personal appeal of starting a business) and feasibility (degree to which one feels capable of doing so). Hamidi, Wennberg and Berglund (2008:304) state that creativity is an essential predecessor of entrepreneurial intentions. Building on more general models, entrepreneurial intentions are typically considered to be formed by a person’s attitude toward entrepreneurship, prevailing social norms attached to entrepreneurship, and the person’s level of self-efficacy (Krueger et al. 2000:416). An element that previously has not been considered in intention-based models is the influence of entrepreneurship-related programmes in venturing into new business. Figure 2.3 provides an exposition of the theory-driven models of intentions.
According to McStay (2008:34), the TPB was derived from the theory of reasoned action (TRA) which states that behavioural intentions are formed by one’s attitude toward that behaviour and one’s subjective norms (for example influence by parents, peers, and role models). In turn, both attitudes and subjective norms are influenced by evaluations, beliefs, and motivation formed through one’s unique individual environments.

Douglas and Shepherd (1999:233) argue that “attitudes are learned, and while they do depend to some degree on one’s upbringing, family values, work and social environment, they can and do change over time as the individual interacts with the living and working environments”. They further state that having entrepreneurial attitudes does not certainly motivate a person to start a new venture. Ali et al. (2011:13) show that entrepreneurship is an intentional process that emphasizes opportunities over threats. In the psychological literature, intentions have proven the best predictor of planned behavior, particularly when that behavior is rare, hard to observe, or involves unpredictable time lags.

2.5.2 Entrepreneurial performance education model (E/P)

Pretorius et al. (2005:415-416) describe the entrepreneurship model of education (E/P) as follows:
The E/P model is concerned with the fundamentals that drive entrepreneurial performance. Based on the E/P model, educational programmes are intended to cover the three key concepts of the model.

Within the context of any planned programmes, different quantities and qualities of skills and knowledge are included, such as:

- Motivation. The development of performance motivation of the entrepreneur is recommended for incorporation in all programmes. It is suggested by the authors that it contributes towards qualities such as inner control, persistence, leadership, decisiveness, willpower and sheer braveries. The associated skills include specifically the development of achievement imagery.

- Entrepreneurial skills. Involve various groupings such as creativity, risk taking, and opportunity identification.

- Business skills. Covers skills such as financial, marketing, operational, human resource, legal, communication, management and business plan compiling skills and was developed to guide syllabi and curriculum development.

2.5.3 Process model of entrepreneurship education

Entrepreneurship is a way of thinking, a way of emphasising opportunity over threats (Krueger et al. 2000). Hynes (1996:12) posit that to accomplish the objectives of any entrepreneurship programmes, thoughtful goals should be set for knowledge, skills and attribute learning. Differentiations need to be made between learning “what” (insightfully), learning “how to”, and learning “who with”. The model provides multiple option structures and learning mechanisms to ensure the correct learning takes place. It provides for the transfer of conceptual and theoretical knowledge into practical application and the development of skills. The role of the educator is vital as he or she needs to endeavor for a balance between the academic and practitioner perspective. The Hynes’ model in Table 2.3 explains that the education must start with inputs from students before the educator focuses on the content and teaching mode. Outputs would then be measured on a tangible and intangible basis. It is vital for people who care about starting new businesses to understand why entrepreneurial intentions clearly merit attention.
### Table 2.3: The process model of entrepreneurship education

<table>
<thead>
<tr>
<th>Inputs students</th>
<th>Content Focus</th>
<th>Teaching Focus</th>
<th>Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior knowledge base</td>
<td>Entrepreneurship defined</td>
<td>Didactic (read/lecture)</td>
<td>Personal (confidence communication)</td>
</tr>
<tr>
<td>Motivation</td>
<td>Intra-entrepreneurship</td>
<td>Skill building (case studies group discussions, presentations, problem solving, simulations, teamwork, projects)</td>
<td>Knowledge (enterprise, initiative, self-employment, business, management and market skills, analytical, problem solving, decision making, communication, presentation, risk taking)</td>
</tr>
<tr>
<td>Personality</td>
<td>Innovation</td>
<td>Discovery (brainstorming, personal goal setting career planning, consultancy)</td>
<td>Career (improved knowledge, broader career options, less structured career perspectives)</td>
</tr>
<tr>
<td>Needs/Interests</td>
<td>New product development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Independence</td>
<td>Idea generation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitudes</td>
<td>Market research</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parental influence</td>
<td>Feasibility of idea</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self esteem</td>
<td>Finance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Values</td>
<td>Production</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work experience</td>
<td>Regulations</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>People Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teamwork</td>
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<tr>
<td></td>
<td>Business</td>
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<tr>
<td></td>
<td>Marketing</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Management</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Hynes (1996:12)

Dana (1993:86) and O’Neill (2004:5) stressed that the end product of entrepreneurship education should be a creative individual who understands how to bring an idea from conception to starting and managing a business. A realistic demand for relevancy and the application of knowledge is therefore required.

### 2.5.4 The Integrated model of entrepreneurship education

The Integrative Approach model is built around the notion of input to the entrepreneurial process and outcomes from the entrepreneurial process, which can determine the entrepreneurial intensity (Kuratko 2009:15). Figure 2.4 provides an overview of an integrated model.
The Entrepreneurial Process

**Inputs**
- Environmental opportunities
- Entrepreneurial individuals
- An organisational context
- Unique business concepts
- Resources

**Outcomes**
- Identifying opportunity
- Assess and acquire necessary resources
- Implementation

**Entrepreneurial Intensity (EI)**
- A going venture
- Value creation
- New products, services
- Processes
- Technologies
- Profits and/or personal benefits

**Figure 2.4: An Integrative Model of Entrepreneurial Input And Outcomes**

**Source: Kuratko (2009:15)**

The process indicates the common behaviours of entrepreneurship, including the locating of business opportunities and accumulating resources. Environment refers to the externalities of the conditions that organisations need to be adapted to.

The organisation element relates to the characteristics of the organisation and the competitive strategies such as entry wedges and joint ventures (Nian, Bakar & Islam 2014:42). Ardichvilia, Cardozob and Ray (2003:110) assert that the evaluation of the opportunity is the most important component of the entrepreneurial process, as it allows the entrepreneur to assess whether the specific product or service has the returns needed compared to the resources required. This evaluation process involves viewing the length of the opportunity, its real and perceived value, its risks and returns, its fit with the personal skills and goals of the entrepreneur. Timmons and Spinelli (2003:249-256) viewed the entrepreneurial process as empowering an individual with an entrepreneurial mind to assess risks, differentiate an idea from a viable opportunity, and gather resources to follow this niche in the market.
2.6 NEW VENTURE CREATION

According to Ahmad, Baharun, Haslinah and Rahman (2004:19), “entrepreneurship education is more than business management; it is about learning that integrates experience, skills and knowledge, to prepare to start with a new venture”.

Entrepreneurship and new venture creation is seen by many as the foundation to a strong economy. Nieman (2001:446), Roberts and Collins (2003:303) and Ayobami and Ofoegbu (2011:189) argue that entrepreneurship represents the crux of new venture creation and exploitation of the environment. The creation and exploitation of the environment depend on observing market inconsistencies and/or the potential for creating such inconsistencies and pursuing them in order to attain more resources and opportunities. Presently it is extensively admitted that venture creation is an outcome of intentions; the core of the entrepreneurial process are the creation and/or recognition of opportunities (Markova & Petkovska-Mirevska 2009:598). Timmons and Spinelli (2003:56-62) point out that in general, ventures with a noticeably higher success pattern are:

- Opportunity driven
- The process starts with an opportunity not money, strategy, networks, team, or the business plan. In other words, no other factors are relevant until one finds an appropriate opportunity to pursue and determine a valid starting point. A good idea is not necessarily a good opportunity.
- Creative and resource parsimonious

Entrepreneurship necessitates a sense of creativity and commitment to a particular idea and has calculated risks for each reward. It is an extremely broad and complex term that is used to analyse a particular mindset for those who venture into new realms of business. Successful entrepreneurs devise skillfully creative strategies to organise and gain control of resources.

- Guided by a lead entrepreneur and an entrepreneurial team,
- The entrepreneurial team is a key ingredient in the higher potential venture; the prime challenge will be building a great team, and
- An appropriate balance between these elements.
Opportunity, team, and resources hardly match. When predicting a company’s future, the entrepreneur can ask what pitfalls one will encounter to get to the next boundary of success. Will the current team be large enough, or will it be over our heads if the company grows 30 percent over the next two years? Are resources sufficient? Intense examples of the failure to maintain a balance are everywhere, such as when large companies throw too many resources at a weak, poorly defined opportunity.

Ahmad et al. (2004:15) state that entrepreneurial intentions are aimed at either creating a new venture or creating new values in existing ventures. Figure 2.5 shows the multidimensional approaches, variables of individual entrepreneurial characteristics, the environment of entrepreneurship and the organisation of the new venture.

Figure 2.5: Multidimensional Approaches Variables in New-Venture Creation
Source: (Ahmad et al 2004:16)
Darroch and Clover (2005:327) explain that the need for achievement is associated with Maslow’s need for self-actualisation and “goal accomplishment”, which is seen as a vital inspiring trait in the personality of successful entrepreneurs.

According to Wickham (2001:16), this characteristic is not only innate but can be taught and practiced. According to Boysen (2014:29) the locus of control is the extent to which individuals believe that their actions or personal characteristics affect their outcomes. Individuals who have an internal locus of control behaviour are believed to have a positive influence over their own intentions. Kuratko (2009:34) states that entrepreneurs take calculated risk when they decide to participate in a business venture.

Neneh (2011:78) postulates that "understanding the environments within which businesses operate is very essential for running a successfully business at any place. This is because the success of every business depends on adapting itself to the environment within which it functions". Urban (2007:314) concurs that initiating a new venture is often described as a purposive and deliberate career choice of which entrepreneurship self-worth is a key predecessor. Delmar and Shane (2003:1180) support this argument by highlighting that business planning is crucial in new venture creation as it provides adequate information on organising activity and product development.

Wright and Marlow (2011:1) explain that “the entrepreneurial process is essential to this circulation: this includes the personal, sociological and organizational factors that influence the birth of enterprises and their subsequent development”. According to Sowmya et al. (2010:627) a stimulus is required for individuals making career choices to consider self-employment which will increase new venture creation and economic growth.

2.6.1 Entrepreneurial intentions to venture into new business creation

Heuer (2012:16) elucidates that intentions are a significant concept used in psychological sciences to model and study what is driving human behaviour. Meeks (2004:3) explains that the entrepreneur’s role is versatile, occurring within a competitive market environment and involving opportunity recognition and evaluation, decision, motivation, initiative, action, resource marshaling and allocation, risk-
bearing, problem-solving, management, networking, negotiation, compromise, commitment, determination, perseverance and resolution. Ahn (2010:435) indicates that individual risk acceptance has long been regarded as a solution feature of entrepreneurs; undergraduate students who fear risk tend not to venture into new business.

Van der Zwan, Verheul and Thurik (2011:1) note that while an economic climate presents forthcoming entrepreneurs with an objective barrier or stimulus, it is the individual’s subjective perception of the entrepreneurial atmosphere that drives the decision to follow an entrepreneurial career.

Veciana et al. (2005:166) indicate that recognising university students’ perceptions on new venture desirability and feasibility is a major step forward in developing and inspiring students’ interest in an entrepreneurial career. According to Sánchez-Escobedo et al. (2011:448), perceived self-efficiency is the degree to which an individual believes that he or she is skilled to start up a business. It entails the greater or lesser degree to which such a possibility is considered to be feasible. Studies show that participation in programmes that motivate business creation significantly increases the perception of the viability of a business start-up (Awasthi & Sebastian 1996:153; Farrington et al. 2012:27). According to Shane (2000:448), “entrepreneurs discover entrepreneurship opportunities depending on the information they already have”. By providing entrepreneurial knowledge and skills, entrepreneurship education may therefore have a positive impact on entrepreneurial intentions (Peterman & Kennedy 2003; Rae 2004:197).

Exposure to entrepreneurship education is likely to have a positive bearing on an individual’s decision to venture into business (Ekpoh & Edet 2011:176; Malebana & Swanepoel 2014:21). O’Neill (2004:5) questions “what does an entrepreneurship student become if he or she does not become an entrepreneur”? This resonates with Krueger and Brazeal’s (1994:102) view that “entrepreneurs are made, not born”.

According to Dhliwayo (2008:332) an entrepreneur is someone who owns a package of certain qualities and deliberates and performs in an innovative and creative way. Figure 2.6 shows that there are number of aspects such as entrepreneurship syllabus
and monitoring, financial support, technical, operational and social skills that need to be considered in order to venture into new business.

Figure 2.6: Model for an entrepreneurship apprenticeship programme

Source: Dhliwayo (2008:332)

According to Hisrich and Peters (2002:73), “an entrepreneur requires a strong support and advisory system in every stage of the new venture creation”. The Government Gazette No.16317(1995:6) points out that South Africa is in the process of transforming its economy from one dominated by the corporate sector or larger businesses, to one in which many sectors play an important role. The gazette published the support available for individuals who want to create new ventures. Krueger et al. (2000:411) explain that “legislators could benefit from understanding that government initiatives will affect business formations only if there could be national policies directly in support of entrepreneurship”.

David (2014:1) reveals that huge efforts are made to promote entrepreneurship in various economies through, inter-alia, government policy and financial planning. According to Wright and Marlow (2011:2), the entrepreneurial ventures may be nurtured differently. Chea (2008:38) lists the factors that influence the way
opportunities are identified by entrepreneurs, such as entrepreneurial awareness and alertness, information divergence and prior knowledge, discovery versus purposeful search, and networking versus solo entrepreneurship creativity.

These concepts are further elaborated.

- Entrepreneurial awareness and alertness have become significant in numerous HEIs in order to strengthen students’ entrepreneurial motivations. Shane (2000:452) postulated that entrepreneurs will discover opportunities because each person’s distinctive prior knowledge creates a “knowledge corridor” which permits them to recognise certain opportunities, but not others. This supports the argument that entrepreneurship is a learned process that may encourage entrepreneurial behaviours of school teachers, teachers in other institutions and individuals.

- Information divergence and prior knowledge. Entrepreneurs discover opportunities because their prior knowledge activates recognition of the value of the new information; the process is affected by the degree of specificity of knowledge about market needs and resources (Ardichvilia et al. 2003:107).

- Discovery versus purposeful search. Chea (2008:39) states that a large part of the past literature on entrepreneurship tacitly presumed that identification of opportunity is led by a systematic search for available opportunities. Some researchers have challenged this approach, arguing that people do not search for opportunities but rather happen to recognise the new value of information which they received before.

- Networking versus solo entrepreneurship: Entrepreneurs’ networks are essential to opportunity identification; entrepreneurs who have extended networks identify more opportunities than entrepreneurs who lack such networks.

2.6.2 The relationship between entrepreneurship education and new venture creation

Fayolle, Gailly and Assas-Clerc (2006:703) point out that venture creation is the primary incentive for students who select entrepreneurship as a career. Galloway and Brown (2002:398) and O’Neill (2004:1) also support that entrepreneurship education
contributes and improves the quality of new venture creation among graduate students.

Kirby (2004:515) posits that enterprising elements of entrepreneurship such as evaluating opportunity, developing new products, and handling start-ups are part and parcel of most business management curriculums, but these are not enough to create the desired number of entrepreneurs.

The fundamental components of an entrepreneurial culture are education, and how various educational programmes can incorporate entrepreneurship is a subject area which will foster new venture creation (Hynes 1996:10-17). Teixeira (2010:2) maintains that students’ attitudes towards entrepreneurship and knowledge of entrepreneurship can influence students’ tendency to consider starting their own businesses. Teixeira (2010:4) further explains that formal education and type of courses and areas of study are key for assessing the entrepreneurial potential of students. The entrepreneurship education has been acknowledged as one of the crucial factors that help young people understand and develop an entrepreneurial attitude to pursue business creation.

Previous studies show that there is a relationship between entrepreneurship education and new venture creation (Gibb 2005:22; Lackéus & Middleton 2011:4). Keong (2008:15) asserts that “entrepreneurship is about the successful development and commercialization of new innovative ideas. This process is impossible without highly creative and highly educated individuals who will be the tomorrow high-impact entrepreneurs”.

2.7 CONCLUSION

The chapter began with the definition of concepts followed by a discussion on entrepreneurial education, with a focus on entrepreneurship education at universities, learning theories, models of entrepreneurial education focusing on delivery and assessment modes and new venture creation.

The literature survey shows that there is an increasing interest in the development of educational programmes to encourage and nurture entrepreneurship. The great challenge for researchers has been to identify what makes an entrepreneur and how
these characteristics can best be conveyed through education. The content of entrepreneurship programmes and the delivery process of these programmes were discussed. As far as the content is concerned, various researchers point out that there is little uniformity in this regard.

However, for the learners' entrepreneurial success, there is recognition that the contents of entrepreneurship programmes should stress opportunity recognition knowledge, arrange resources to pursue the opportunity and the creation and management of a viable business. With regards to the teaching/learning process, a review of the literature shows that traditional methods of teaching entrepreneurship should be supplemented with new methods that balance lecture-based classes with active experimentation (active and hands-on teachings).

The next chapter covers the research methodology and design of the study aimed at assessing the extent to which the entrepreneurship-related programmes influence student intentions to venture into new business creation.
3.1 INTRODUCTION

Chapter 2 provided an explanation of entrepreneurship and new venture creation. Approaches to studying entrepreneurship education have been reviewed together with entrepreneurship education prevalent within some international and local universities. The chapter concluded with an integrative model that has been used in assessing the influence of entrepreneurial programmes and students’ entrepreneurial intentions to venture into new business.

The purpose of the study is to determine the extent to which entrepreneurial-related programmes have an influence on student intentions to venture into new business creation. The design and method of research utilised in the study is reported in this chapter.

The sampling design procedure, instrumentation, method of data collection and analysis is presented. The statistical analysis methods, reliability and validity of the collected data are also explained.

3.2 RESEARCH PARADIGM AND RESEARCH APPROACH

Presently there are two commonly used approaches to empirical research, namely the quantitative and qualitative paradigms (Johnson & Onwuegbuzie 2004:15-16; Krauss 2005:758). According to Masadeh (2012:130), the quantitative paradigm is based on positivism, which takes scientific explanation to be nomothetic (i.e. based on universal laws). Its main aims are to objectively measure the social world and to test hypotheses. Quantitative description restricts what can be erudite about the meanings participants give to occasions (Sandelowski 2000:336).

According to Hossain (2011:144) the qualitative paradigm is derived from an anti-positivistic, interpretative approach, aimed at understanding social life and the meaning that people attach to everyday life. Thus it helps in the effective understandings that might have been ignored by any other method. It is said that
qualitative researchers examine the ‘why’ and ‘how’ questions and not just the ‘what’, ‘where’, and ‘when’ questions (Hossain 2011:145).

Alternatively, quantitative researchers use deductive reasoning. In contrast, qualitative researchers use inductive reasoning (Krauss 2005:760). Quantitative research takes universal propositions and generalisations as a point of departure, whereas qualitative research aims to understand phenomena within a particular environment.

A quantitative descriptive research design is used for the empirical segment of the study because its applications uses structured procedures and a formal instrument to collect the data which is best fit in with the purpose of the study and is compatible with the resources and time available (Brink 1996:13). The advantage of the design is that it has the potential to generalise to large populations if an appropriate sampling design is implemented (Mouton 2001:153). The weakness of this design is the lack of depth and insider standpoint that sometimes leads to criticisms of “shallow level” analysis (Mouton 2001:153). The emphasis is more on objective than subjective interpretations (Landis 2001:471).

According to Kruger (2005:9), Maree and Pietersen (2007:145) a quantitative research design is a process that is systematic; it evaluates the objective data, in contrast with the subjective qualitative research design that is shaped by the minds of the respondents. Taylor, Richardson, Yes, Marsh, Trobe and Pilkington (1995:632) affirm that human behaviours cannot be measured accurately unless are express in numerical terms.

### 3.2.1 Ontology

Ontology is the philosophical study of the nature of being, becoming, existence, or reality, as well as the basic categories of being and their relations. With respect to ontology, the quantitative researcher believes in an objective reality, which could be explained, controlled and predicted by means of natural (cause-effect) laws, (Lawson 2004:11).

Human behaviour can be explained in causal deterministic ways and people can be manipulated and controlled. Qualitative researchers discard the notion of an external, objective reality. They aim to understand reality by discovering the meanings that
people in a specific setting attach to it. To these researchers behaviour is intentional and creative and it can be explained but not predicted (Henning, Van Rensburg & Smit 2004:3).

3.2.2 Epistemology

According to Kura (2012:4) the concern of epistemology is to understand social reality, to take a position, and to identify ways of studying it. In terms of the epistemology, the quantitative researcher sees himself or herself as detached from, not as part of, the object that he/she studies. The researcher can therefore be objective as he/she does not influence the study object. In contrast, the qualitative researcher is subjective because he/she interacts with the subject (object of investigation); qualitative research encompasses an interpretive, naturalistic approach to the world (Babbie & Mouton 2001:270-271). According to Kura (2012:4-5) there are three different approaches to social science research namely positivism, interpretive and critical social science. Collis and Hussey (2003:55) explain that positivists see the social science as an organised method for combining deductive logic with defined empirical observations of individual behaviour in order to discover and confirm findings.

Andrade (2009:43) confers that an interpretive approach carries a deep insight into “the complex world of lived experience from the point of view of those who live it”. Interpretive research accepts that reality is socially constructed and the researcher becomes the vehicle by which this reality is revealed. According to Eakin, Robertson, Poland, Coburn and Edwards (1996:159), critical social science on the other hand focuses on lived experiences, and the social relations that structure these experiences and incidents are understood within social and economical contexts.

3.3 RESEARCH DESIGNS

Yin (1994:19) states that a research design can be defined as “the logical sequence that connects empirical data of a study to the study’s initial research question and ultimately to its conclusions.” Mouton (2011:55) explains that a research is equal to the building of a house: “The building of a new house starts with an idea, shape, size; number of bathrooms, these ideas is given to the architect. The architect transforms these ideas into a blueprint of the prospective house”. In essence the research design
is the blueprint of the prospective research study at hand (Strauss and Corbin 1990:17). There are three types of research designs, namely: exploratory, descriptive and causal research designs.

Exploratory research discovers ideas and insights; it is conducted to provide a better understanding of a situation. It is not designed to come up with final answers or decisions. Through exploratory research, researchers produce hypotheses based on theory and literature review regarding the situation at hand (Brink 1996:208). According to Burns and Grove (1999:192), descriptive research is usually concerned with describing a population with respect to important variables, describing the characteristics and behaviour of some objects, events, individuals or groups, identifying the association between variables and making some specific predictions. Burns and Bush (2003:1330:1332) state that causal research is used to establish cause-and-effect relationships between variables.

Experiments are commonly used in causal research designs because they are best suited to determine cause and effect. The design for the study is descriptive and quantitative because it is aimed at describing students’ intention to venture into new business creation.

3.4 PRELIMINARY PRE-TEST ANALYSIS

The pre-testing of a measuring instrument refers to the application of the measuring instrument to a small number of persons with characteristics similar to those of the target group of respondents (De Vos 1998:179).

According to Czaja (1998:15) pre-testing addresses questionnaire problems, for example, do the sections of the questionnaire and the questions within sections have a logical flow? Churchill (2002:250) explains that it is crucial to ensure that the correct respondents are answering intended follow up questions and that incorrect questions are not asked. Pretesting comprises a series of activities designed to evaluate a survey instrument’s capacity to collect the desired data, the capabilities of the selected method of data collection, and the overall adequacy of the field procedures before data collection starts (Collins 2003:237).
3.5 PILOT STUDY

The term pilot study refers to the small version of the full scale research project using subjects who meet the inclusion criteria in the main study. The pilot questionnaire has many functions; namely, to ensure that various operating systems were compatible for completing the questionnaire, to test the questions for content and understanding, to assess how long it would take to complete the questionnaire and to ensure that the instructions were clear and easy to follow, and to establish the reliability of the scale variables.

The pilot questionnaire assists in identifying any problems in the questionnaire. In addition, it assists the researcher to perfect the questions prior to distribution of the main questionnaire (Turner 2010:757). Pilot samples in academic studies are widely used and recommended. A total of 80 pilot questionnaires were distributed and the pilot participants were students from the Faculty of Management Sciences who enrolled for the entrepreneurship-related modules in their study programmes. These respondents were not included in the main sample survey. No rectifications were made to the questionnaire during the pilot study for the main study as the constructs used in the study showed satisfactory reliabilities (Cronbach alpha). Section 4.2 in Chapter 4 provides an overview of the reliabilities of the various constructs.

3.6 MAIN STUDY RESEARCH DESIGN

3.6.1 Study population

A population is a collective whole of people, animals, plants, or other items that researchers collect data from. Before collecting any data, it is crucial that the researchers clearly define the population, including a description of the participants (Zikmund 2003:417). The target population for the study is drawn from final year students from the Faculty of Management Science (FMS) at the Vaal University of Technology, situated in the Southern Gauteng region of South Africa.

The study population comprised students in these programmes. Only full-time students were included in the study. The motivation for the exclusion of part-time students is based on the assumption that they are already employed (either self-employed or working for an organisation). Part-time students in terms of university
policy are enrolled based on their unavailability to study full-time because of full time work commitments.

Table 3.1 provides an overview of the total population under study and is based on enrolment figures in the (FMS) 2014.

### Table 3.1: Headcount of Faculty of Management Science Students – 2014

<table>
<thead>
<tr>
<th>Department</th>
<th>Programmes</th>
<th>Head count</th>
<th>Proportional selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accountancy</td>
<td>Financial information system</td>
<td>48</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Cost and Management accounting</td>
<td>245</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Internal auditing</td>
<td>127</td>
<td>50</td>
</tr>
<tr>
<td>Human Resource management</td>
<td>Human Resources</td>
<td>167</td>
<td>50</td>
</tr>
<tr>
<td>Logistics</td>
<td>Logistics</td>
<td>252</td>
<td>38</td>
</tr>
<tr>
<td>Marketing and sport</td>
<td>Marketing</td>
<td>240</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>Retail Business Management</td>
<td>79</td>
<td>20</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>1158</strong></td>
<td><strong>263</strong></td>
</tr>
<tr>
<td><strong>TOTAL SAMPLE SIZE = 263(23% of total)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Integrated Tertiary Software System (ITS)

### 3.6.2 The sampling procedure

Probability and non-probability sampling are two approaches at the disposal of researchers in conducting an empirical study. Probability sampling includes simple random sampling, systematic sampling, stratified random sampling, and cluster sampling and non-probability sampling includes in the main, quota, judgement, convenience and snowball sampling (Bradley 2007:173). Given the nature of the research problem outlined in Chapter 1, it is clear that the probability data sampling method is appropriate for the research study. Due to the quantitative nature of the study the systematic sampling method is used. Every second student in the Integrated
Tertiary Software system (ITS)-generated class list was randomly selected. Where a chosen student on the ITS-generated class list was not present, the next student on the class list was selected.

### 3.6.3 Sample size

In establishing an appropriate sample size, an analysis was undertaken of the sample size used by previous researchers in similar studies (Galloway & Brown 2002: 401; Souitaris et al. 2007:575). These studies used sample sizes that ranged between 200 and 230 students. Hence, a final sample size in the region of 250 was deemed appropriate. A total of 263 respondents was finally included in the study. Furthermore, consideration of sample sizes was also based on the type of multivariate analysis, namely factor analysis, that was used in the study, which requires a sample size in excess of 200 cases.

### 3.7 The questionnaire data collection procedure

A simple questionnaire with closed questions was designed to source as much information as possible and in accordance with the research objectives. A fully structured, self-administered questionnaire was distributed to targeted students and completed during class sessions. According to Mertens and McLaughlin (2004:169) a structured questionnaire can be administered to a large number of respondents, can be completed anonymously and can reach a large number of respondents. Permission was obtained from various lecturers prior to visiting the classes. Babbie (2001:240) affirms that closed questions provide a better consistency of responses and are simply administered.

The literature was reviewed to identify scales that have been used in previous studies with similar focus. The entrepreneurship intentions questionnaire was adapted from previous instruments developed by Carter & Collinson (1999:234-236); Burger et al. (2004:197); Linan & Chen (2006:20); Souitaris et al. (2007:576); Muller (2008:259-261); Muofhe (2010:173); Turker et al. (2008:148); Pihie (2009:342-343); Shinnar et al. (2009:154-157); Aneizi (2009:104-105); Garg, Matschediso & Garg (2011:125-127); Linan, Carlos Rodríguez-cohard, & Rueda-cantuche (2011:214) and Lorz (2011:147-155).
The scale items of questionnaires were tailored to assess respondents’ intentions to venture into new business creation. The questionnaire was divided into the following sections:

Section A: This section entails the demographic and general profile of the respondents.

Section B: This section explores the perceived quality of entrepreneurial content of curriculum. (Carter & Collinson 1999:234-236; Muller 2008:259-261; Shinnar et al.2009:154-157; Lorz 2011:147-155)

Section C: This section examines the entrepreneurial intentions of students after completion of their studies. (Linan & Chen 2006:20;Turker et al. 2008:148; Aneizi 2009:105; Linan, Carlos Rodríguez-cohard, & Rueda-cantuche 2011:214;Lorz 2011:147-155)

Section D: This section explores students’ attitudes towards entrepreneurship in general. (Souitaris et al. 2007:576; Aneizi 2009104; Muofhe 2010:173).

Section E: This section explores the general self-efficacy of students to engage as entrepreneurs. (Burger et al. 2004:197; Pihie 2009:342-343;Souitaris et al. 2007:576;Garg, Matschediso & Garg, 2011:125-127)

The data was collected from April to May 2014.

3.8 STATISTICAL ANALYSIS

Polit and Hungler (1999:699) describe data analysis as “the systematic organization and synthesis of research data, and the testing of research hypothesis using those data”. The Statistical Package for Social Sciences (SPSS) version 22.0 was used to analyse the data. Descriptive analysis was used to analyse the composition of the sample. Numbers utilised to tell one something about the extent to which two or more respondents differ, are called inferential statistics (Bunker, Pearlson & Schulz 1975:50). Frequencies, means, correlations and regression analyses were used in the study.
3.8.1 Frequencies

A frequency distribution shows how popular the different values of the variable are among the units of analysis. According to Malhotra (2004:427) a frequency distribution for a variable produces a table of frequency counts, percentages and cumulative percentages for all the values associated with that variable. The study made use of frequency distributions which were then transformed into pie and bar charts for discussion purposes in the general demographic section of the study.

The discussion in Section A: 4.3.1 is on the general demographic information of students and their background, information in relation to gender, age, marital status, citizenship, personal experience in business and course of study, is based on a frequency analysis.

3.8.2 Means

According to Keller and Warrack (2003:93) and Zikmund (2006:404) a mean refers to a measure of central tendency and can be calculated by totalling all the observations under study and dividing it by the total number of observations.

The means of the four factors resulting from section B to E of the questionnaire, entrepreneurial content of the curriculum are discussed in section 4.3.2.1. The means of section C, entrepreneurial intentions are discussed in section 4.3.2.2. The means of section D, attitude towards entrepreneurship are a discussed in section 4.3.2.3. The means of section E, general self-efficacy are discussed in section 4.3.2.4.

3.8.3 Correlations and regressions analysis

Correlations and linear regressions are used to establish the nature of the relationship between students’ entrepreneurial intentions to venture into new business creation as the result of entrepreneurial related programmes. The Pearson correlation coefficient was used to measure the degree of linear association between the constructs used in the study. The four dimensions: entrepreneurial content of the curriculum, entrepreneurial intentions, attitude towards entrepreneurship, and general self-efficacy were correlated with overall intentions to venture into new business in section 4.3.3 and section 4.3.5.
Zikmund (2006:551) and Costa, da Soares and Bonfim (2009:239) point out that regressions analysis is a statistics technique used to investigate the relationships between variables. The purpose of the regression analysis is to find out the significant impact or influence of independent variables on the dependent variable. Details of the exploratory factor analysis procedure is reported in Chapter 4, section 4.3.4.

3.8.4 Exploratory factor analysis

Factor analysis is a method for investigating whether a number of variables of interest are linearly related to a smaller number of unobservable factors. Factor analysis is considered an appropriate method for examining construct validity (Nunnally & Bernstein 1994:264-265).

Malan (2011:49) explains that a factor analysis is identified when an item has loaded high on the one factor and has either loaded very low on another factor or has not loaded at all on any of the factors. Factor loadings of 0.4 are low and that of loadings above 0.5 are considered to be satisfactory (Tustin, Lighelm, Martins & Van Wyk 2005:586). Testing for uni-dimensionality of the latent constructs, before the regression analysis procedure was considered by conducting an exploratory factor analysis.

3.9 RELIABILITY

Reliability refers to “the degree to which the instrument can be depended upon to yield consistent results if used repeatedly over a period of time on the same person by different researchers” (Brink 1996:171; Bouma 2000:86). The questions in the questionnaire were structured on a Likert scale, which implies that the students may respond in the same way if retested by another researcher using the same scale. Various types of reliabilities are reported in literature.

According to Collis and Hussey (2009:64), reliability is concerned with the actual findings of the research; whether the findings are reliable or not reliable, is primarily assessed by internal consistency in each item in the data collection. The study made use of the Cronbach alpha reliability coefficient. The reliability of the research instruments are discussed in detail in section 4.3.6 in Chapter 4.
3.10 VALIDITY

The validity of a research instrument indicates how accurately it measures what it is supposed to measure (Litwin 1995:33; Brink 1996:167; Polit & Hungler 1999:418; Burns & Grove 1999:260). The following types of validity were used for the analysis:

- Content validity ensures that the data collected provides adequate coverage of the investigative questions guiding the research study. Details of content validity are reported in Chapter 4 in section 4.3.7.1.

- Convergent validity entails the measures of constructs that theoretically should be related to each other. Section 4.3.3 show evidence of convergence by the significant correlation among the constructs. It is determined by calculating the correlation coefficient between the results of the assessment and the subsequent targeted behaviour. The stronger the correlation between the assessment data and the target behaviour, the higher the degree of convergence among scale constructs.

- Construct validity: measures the extent to which the items in a scale all measure the same construct. Once data was collected and processed, principal components factor analysis was done with the SPSS software version 22.0 for Windows in order to test for uni-dimensionality of the variables used in the study, namely entrepreneurial content of the curriculum, entrepreneurial intentions, attitude towards entrepreneurship and general self-efficacy. All the scales used in the study demonstrated uni-dimensionality (i.e. loading on variable with no cross-loading.

- Predictive validity addresses how well a specific tool predicts future behaviour. Predictive validity was assessed through regression analysis in order to predict students’ intentions in new business venture creation. These aspects are discussed in detail in Section 4.3.7 in chapter 4.

3.11 CHAPTER SUMMARY

This chapter provided a review of the research methodology applied, namely the sampling procedure and the empirical research design. The target population was identified, the sampling frame, method and size of the sample was explained. It also provided a brief explanation of the pre-testing, pilot test and data preparation.
The statistical methods used to analyse the data of the study were also discussed. The various methods applied to determine the reliability and validity were explained. The analysis of the research results of the data are discussed in detail in the next chapter.
CHAPTER 4
DATA ANALYSIS AND DISCUSSION

4.1 INTRODUCTION

In the previous chapter the research methodology and strategies were discussed. Data, in this respect, was collected using a questionnaire. This chapter focuses on the findings of the empirical study through an analysis and interpretation of the results.

The results of the pilot study are briefly discussed, followed by an explanation of the main survey findings. A brief discussion of the reliability of the measuring instrument is included.

4.2 PILOT STUDY

A total of 80 students from the FMS who enrolled in the entrepreneurship-related modules as part of their study programme participated in the study.

The reliability ascertained from the pilot study is reported in Table 4.1.

Table 4.1: Pilot Study Reliability Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number of Items</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial content of curriculum</td>
<td>7</td>
<td>0.779</td>
</tr>
<tr>
<td>Entrepreneurial intentions</td>
<td>9</td>
<td>0.926</td>
</tr>
<tr>
<td>Attitude towards entrepreneurship</td>
<td>9</td>
<td>0.882</td>
</tr>
<tr>
<td>General self-efficacy</td>
<td>8</td>
<td>0.850</td>
</tr>
</tbody>
</table>

Section B of the questionnaire (entrepreneurial content of curriculum) consisted of seven items and the overall Cronbach alpha was 0.779. Section C of the questionnaire (entrepreneurial intentions) consisted of nine items and the overall Cronbach alpha was 0.926. Section D of the questionnaire (attitude towards entrepreneurship) consisted of nine items and the overall Cronbach alpha was 0.882. Section E of the
questionnaire (general self-efficacy) consisted of eight items and the overall Cronbach alpha was 0.850.

A universally-accepted rule of thumb is that an alpha coefficient between 0.6 - 0.7, indicates an acceptable reliability, and a value of 0.8 or higher indicates good reliability for explanatory studies. The goal in designing a reliable instrument is for scores on similar items to be related (internally consistent), but for each to contribute some unique information to a construct (Muofhe 2010:88). No items were deleted as the Crobanch alpha values for all the four constructs in the pilot study were greater than 0.70, which is satisfactory in terms of internal consistency.

4.3 ANALYSIS OF THE MAIN SURVEY

Data was analysed from the 263 questionnaires collected from the respondents. A discussion of the analysis of the data is offered in the following sequence:

- Demographic and general profile of respondents
- The means of constructs
- The correlations between factors and overall influence of entrepreneurial intention to venture into new business
- The regression analysis of the relationship between factors and overall influence of entrepreneurial intention to venture into new business is provided
- The reliability of the survey instrument
- The validity of the instrument

4.3.1 Demographic and general profile of respondents

Section A reports on the general demographic information of students and their background, information in relation to gender, age, marital status, citizenship, personal experience in business and course of study were gathered.

4.3.1.1 Gender

From Figure 4.1 it is evident that the proportion of males is lower than females (n=99; 38%; n=164; 62%).
4.3.1.2 Age category

The age categories of respondents are reported in Figure 4.2. The results are as follows: respondent age below 21 years (n=37; 14%), followed by those who were between 21 to 25 years (n=210; 79.8%), those between 26 and 29 years (n=12; 4%) and respondents older than 29 years (n=4; 2%).

Figure 4.2: Age category
4.3.1.3 Marital status

Figure 4.3 provides the breakdown of the marital status of the respondents. There were more married respondents in the survey, (n=260; 99%) compared to married respondents (n=3; 1%). This result is not surprising as the respondents are full time students and the majority are younger than 25.

![Marital status chart]

Figure 4.3: Marital status

4.3.1.4 Citizenship

Figure 4.4 reports on the citizenship of the respondents. South Africans comprised the overall majority of the sample (n=245; 93%), compared to those who were non-South Africans (n=18; 7%).
Figure 4.4: Citizenship

4.3.1.5 Personal experience in business

Figure 4.5 depicts the respondents’ personal experience in business. The majority of the respondents (n=144; 55%) had some formal experience in business while many of them (n=119; 45%) had no experience in business.

Figure 4.5: Personal experience in business
4.3.1.6 Course of study

Figure 4.6 reports on the course of study of the respondents in the survey. The breakdown of the course of the study is as follows: Human Resource Management (n=50; 19%), Marketing (n=42; 16%), Retail Business Management (n=20; 7.6%), Logistics (n=38; 14.4%), Internal Auditing (n=50; 19%), Financial Information System (n=13; 4.9%), and Cost and Management Accounting (n=50; 19%).

4.3.2 Means of constructs

“Descriptive statistics involve the collection, presentation, summarisation, and description of data so that a simple representation of a large amount of data can be comprehended” (Burns & Burns, 2008:8). The means of section B, (entrepreneurial content of the curriculum) are discussed in section 4.3.2.1. The means of section C, (entrepreneurial intentions) are discussed in section 4.3.2.2. The means of section D, (attitude towards entrepreneurship) are discussed in section 4.3.2.3. The means of section E, (general self-efficacy) are discussed in section 4.3.8.4.

4.3.2.1 Means: Entrepreneurial content of curriculum (Section B)

Table 4.2 reports on students perceptions on the entrepreneurial content of the curriculum of the programme. The students were asked to indicate agreements with
statements such as: “as a result of taking this course, I have a better understanding about business in general”. The scale ranged from strongly disagree (1) to strongly agree (5).

**Table 4.2: Entrepreneurial content of curriculum**

<table>
<thead>
<tr>
<th>Descriptive</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B5</strong> The course has taught me to deal with uncertainties in the business world</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>4.16</td>
</tr>
<tr>
<td><strong>B1</strong> As a result of taking this course, I have a better understanding about business in general</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>4.15</td>
</tr>
<tr>
<td><strong>B7</strong> The course has given me greater knowledge about the entrepreneurial environment</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>4.14</td>
</tr>
<tr>
<td><strong>B4</strong> My interest towards entrepreneurship has been raised after taking this course</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>4.11</td>
</tr>
<tr>
<td><strong>B2</strong> This course developed my entrepreneurial knowledge/skills</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>4.09</td>
</tr>
<tr>
<td><strong>B3</strong> My interest towards entrepreneurship has been raised after taking this course</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>3.90</td>
</tr>
<tr>
<td><strong>B6</strong> The course has provided me with an opportunity to learn by doing</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>3.83</td>
</tr>
</tbody>
</table>

Scale: 1= strongly disagree, 3= neutral, 5= strongly agree

Table 4.2 shows that the majority of the students were neutral in their responses regarding their interest towards entrepreneurship (M=3.90) and the opportunity to learn by doing (M=3.83). However the majority of the students were of the opinion that the course taught them to deal with the uncertainty of the business world (M=4.16), provided them with a better understanding of the business world (M=4.15), increased their knowledge about the entrepreneurship environment (M=4.14), raised their interest after taking the entrepreneurship course (M=4.11) and helped them to develop entrepreneurial knowledge and skills (M=4.09).
Henry et al. (2003:12) conclude that entrepreneurship programmes can be effective and produce significant benefits for ambitious entrepreneurs. However, the impact of university education on entrepreneurship has been questioned, especially with regard to the impact on the transition from intentionality to entrepreneurial behaviour or impact on entrepreneurial success. Pretorius et al. (2005:424) commented that the transfer of the necessary knowledge and skills is the easiest part of training and is integrated in most training programmes on entrepreneurship. However, the behaviour to engage in the start-up process is what really matters, and is lacking in most entrepreneurship programmes.

Oosterbeek et al. (2010:450) postulate that the negative impact may be related to the programme design. First, the programme may have been ineffective, and second, it may have been negative because participation in the entrepreneurship education programme may have been compulsory as part of the programme. While the first should be controlled for when reviewing an entrepreneurship education programme, the second adds a new dimension to the discussion as it implies a different setup of entrepreneurship education.

Compulsory modules are offered for every student enrolled in programmes; therefore, there may be a mix of entrepreneurial-minded students and non-entrepreneurial-minded students in the group of respondents. Perhaps voluntary electives may attract only those students who have an interest in entrepreneurship education because they may wish to start a business in the future.
Table 4.3 reports on respondents entrepreneurial intentions.

### 4.3.2.2 Means: Entrepreneurial intentions (Section C)

<table>
<thead>
<tr>
<th>Descriptive</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>C8 If I had the opportunity, I would start my own business</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>4.56</td>
</tr>
<tr>
<td>C9 I will make every effort to start my own business</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>4.27</td>
</tr>
<tr>
<td>C4 I am determined to create a firm in the future</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>4.26</td>
</tr>
<tr>
<td>C1 I have a serious intention of becoming self-employed</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>4.21</td>
</tr>
<tr>
<td>C5 I have seriously thought of becoming an entrepreneur</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>3.99</td>
</tr>
<tr>
<td>C7 I have always wanted to start a business for myself</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>3.97</td>
</tr>
<tr>
<td>C2 My professional goal is becoming an entrepreneur</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>3.93</td>
</tr>
<tr>
<td>C3 I am ready to do anything to be an entrepreneur</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>3.72</td>
</tr>
</tbody>
</table>

Scale: 1 = strongly disagree, 3 = neutral, 5 = strongly agree

Students showed a propensity for becoming entrepreneurs in the future. The mean ranged from $M=3.72$ to $M=4.56$. However, students were non-committal of becoming entrepreneurs ($M=3.93$) and ready to do anything to become entrepreneurs ($M=3.72$).

A plausible reason for their non-committal (neutral=$3$) could be attributed to the current status quo in the programme, i.e. compulsory rather than elective (Oosterbeek et al. 2010:453). Lack of role models can be the contributor to some respondents not committing themselves to become entrepreneurs. Rodrigues, Dinis, Do Paco, Ferreira and Raposo (2012:89) portray the view that entrepreneurial intentions are founded on more realistic perceptions of reality; it is not ridiculous to think that the training can act...
as a filter; those who are attracted by an entrepreneurial career are more dedicated to becoming entrepreneurs and to learn what is needed to be a successful.

The unavailability of successful student entrepreneurs and graduate role models who have become successful student entrepreneurs impact adversely on some students’ intentions to become entrepreneurs. According to Hisrich and Peters (2002:73), role models form an essential part of an entrepreneur’s development. Being able to refer to a successful person assists entrepreneurs who will believe that they are able to attain the same success. Role models include parents, family members, businesspeople and other entrepreneurs.

4.3.2.3 Means: Attitude towards entrepreneurship (Section D)

Table 4.4 reports on student’s attitude towards entrepreneurship.

Table 4.4: Attitude towards entrepreneurship

<table>
<thead>
<tr>
<th>Descriptive</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>D6 Becoming an entrepreneur is uninteresting or interesting</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>4.00</td>
</tr>
<tr>
<td>D8 Becoming an entrepreneur is worthless or valuable</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>3.98</td>
</tr>
<tr>
<td>D5 Becoming an entrepreneur is uninspiring or inspiring</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>3.93</td>
</tr>
<tr>
<td>D9 Becoming an entrepreneur is impossible or possible</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>3.92</td>
</tr>
<tr>
<td>D1 Entrepreneurship is unattainable or attainable</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>3.83</td>
</tr>
<tr>
<td>D7 Becoming an entrepreneur is disappointing or delightful</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>3.77</td>
</tr>
<tr>
<td>D4 Becoming an entrepreneur is unpleasant or pleasant</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>3.69</td>
</tr>
<tr>
<td>D3 Becoming an entrepreneur is dull or stimulating</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>3.62</td>
</tr>
</tbody>
</table>

Scale: Semantic differential with bi-opposites polar adjectives.
According to Table 4.4, students generally showed neutral to moderate attitude towards entrepreneurship. The means ranged from $M=3.62$ to $M=4.00$.

According to Nybakk and Hansen (2008:474), there are two vital basics of entrepreneurial attitudes, namely the ability to recognise opportunities and the ability to take calculated risk. It is further argued that people with entrepreneurial attitudes are more likely to start-up new business ventures. This implies that risk-takers are more likely to initiate new business ventures and risk attitudes affect the selection of individuals into entrepreneurial positions (Antonites & Wordsworth 2009:70). A study by Pretorius et al. (2005:423) on entrepreneurial attitude revealed that although a learning programme contains the best knowledge and skills (content) about entrepreneurship and venture start-ups; there is no assurance that participants will act entrepreneurially unless their mindset, readiness to take risks, confidence, attitude, and behaviour have been influenced.

Herrington, Kew and Kew (2009:45) have shown that several obstacles mitigate entrepreneurial activity in South Africa, such as reported successful young entrepreneurs, financial and business support and government support. Further, the South African media is not well known for reporting about entrepreneurs and celebrating the successful entrepreneurs; instead, sporting heroes receive coverage and honour. This implies that there are limited role models for young aspiring entrepreneurs. The low levels of entrepreneurial experience and informal learning experience contribute to the lack of “can-do” attitude. Interventions from government to assist small and medium sized enterprises are not known by many people (Kgagara 2011:32).

4.3.2.4 Means: General self-efficacy (Section E)

Table 4.5 reports on the general self-efficacy of students to perform the work of an entrepreneur.
Table 4.5: General self-efficacy

<table>
<thead>
<tr>
<th>Descriptive</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>E8 I believe that I can succeed at any task to which I set myself</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>4.57</td>
</tr>
<tr>
<td>E3 In general, I think I can obtain outcomes that are important</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>4.37</td>
</tr>
<tr>
<td>E1 I would be able to achieve most of my goals for myself</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>4.32</td>
</tr>
<tr>
<td>E4 I will be able to successfully overcome many challenges</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>4.32</td>
</tr>
<tr>
<td>E2 When facing difficult tasks, I am certain I will accomplish them</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>4.27</td>
</tr>
<tr>
<td>E7 I am confident I can perform effectively on different tasks</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>4.25</td>
</tr>
<tr>
<td>E5 Compared to other people, I can perform most tasks very well</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>4.13</td>
</tr>
<tr>
<td>E6 Even when things are though, I can perform quite well</td>
<td>263</td>
<td>1</td>
<td>5</td>
<td>4.11</td>
</tr>
</tbody>
</table>

Scale: 1= strongly disagree, 3= neutral, 5= strongly agree

Generally, students showed that they have the general self-efficacy required for starting their own business. The means ranged from M=4.11 to M=4.57. Muofhe (2010:43) explained that self-efficacy is concerned with an individual’s thoughts of whether they are capable of succeeding at a particular endeavour. It relates to a series of self-beliefs about the capabilities one holds for a particular task. The mean is high because it is challenging to measure individual’s thoughts; and students may rate themselves higher or lower, but this is difficult to prove practically, unless they engaged in the business and demonstrated their behaviours practically.

4.3.3 Correlations

The Pearson correlation coefficient was used to measure the degree of linear association. The four dimensions: entrepreneurial content of the curriculum, entrepreneurial intentions, attitude towards entrepreneurship and general self-efficacy were correlated with overall intentions to venture into new business. Table 4.7 reflects that the marked correlations are significant at p<0.01.
Table 4.6: Correlation Analysis

<table>
<thead>
<tr>
<th>Variables</th>
<th>ENTCC</th>
<th>ENTINT</th>
<th>ATT</th>
<th>GSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial content of the curriculum (ENTCC)</td>
<td>1.000</td>
<td>.384**</td>
<td>.179**</td>
<td>.330**</td>
</tr>
<tr>
<td>Entrepreneurial Intentions (ENTINT)</td>
<td>.384**</td>
<td>1.000</td>
<td>.287**</td>
<td>.280**</td>
</tr>
<tr>
<td>Attitude Towards Entrepreneurship (ATT)</td>
<td>.179**</td>
<td>.287**</td>
<td>1.000</td>
<td>.188**</td>
</tr>
<tr>
<td>General Self-Efficacy (GSE)</td>
<td>.330**</td>
<td>.280**</td>
<td>.188**</td>
<td>1.000**</td>
</tr>
</tbody>
</table>

**Significant at p< 0.01 and p< 0.05

Table 4.6 reflects a moderately positive correlation between entrepreneurial content of the curriculum (ENTCC) and entrepreneurial intentions (ENTINT) (r=0.384**; p<0.000). There is a positive association between good entrepreneurial content of the curriculum and intention to venture into a new business.

Entrepreneurial content of the curriculum (ENTCC) reflects a significant, yet weak relationship with attitude towards entrepreneurship (ATT) (r=0.179**; p<0.004). The results of the study conducted by Zegeye (2013:317) also showed no significant correlation between students' entrepreneurial programmes of study and inclination towards entrepreneurship.

The major challenge in entrepreneurship programmes is the appropriateness of the content of the curriculum in developing students' attitude towards entrepreneurship. According to Muller (2008:161) entrepreneurial content of the curriculum should be enhanced with teaching delivery modes that enable students to gain hands-on experience by seeing, touching and feeling about the business world (Dilts & Fowler 1999: 52; Zegeye 2013:308).

Urban and Barreira (2007:568) state that students who have not been exposed to the content of the curriculum that allow the commercial use of entrepreneurial knowledge show weak attitude towards entrepreneurship.

Entrepreneurial content of the curriculum (ENTCC) shows a positive correlation with general self-efficacy (GSE) (r=0.330**; p<0.000). Entrepreneurial self-efficacy encompasses individuals' beliefs concerning their capabilities to attain goals and
control positive and negative cognitions that an entrepreneur has during the process of starting-up a business. Bandura and Locke (2003:88) accept that perceived self-efficacy is a major determinant of intention and affects performance. Entrepreneurial self-efficacy refers to the individuals’ belief that they have the necessary skills to start a new successful business venture.

Bandura (1997:3) and Drost (2010:29) hold the view that sources of self-efficacy can be obtained from mastery experience, mediated experience, social persuasion, and physiological and affective states. Self-efficacy is not the number of skills that a person has, but is whether a person believes that s/he can do things with what s/he has under various circumstances. Setiawan (2013:241) argues that entrepreneurship education which involved entrepreneurial projects can enable students to obtain mastery experience in many entrepreneurial tasks.

Bandura (1993:125), Susetyo and Lestari (2014:192) point out that the self-efficacy of students should lead to more effort and persistence and result in better performance (a new mastery experience), which in turn leads to greater self-efficacy. The reverse is also true- if the self-efficacy of students is low they give up easily, resulting in poor entrepreneurial outcomes, which then produces decreased self-efficacy.

Entrepreneurial intentions (ENTINT) showed significant and moderate correlation with attitude towards entrepreneurship (ATT) ($r=0.287^{**}$; $p<0.000$). According to Kgagara (2011:38), the attitudes relevant to entrepreneurship include willingness to tolerate the level of risk that individuals might be willing to bear and individuals’ perceptions of their own skills, knowledge, and experience in business creation. Nybakker and Hansen (2008: 474) state that there are two key fundamentals of entrepreneurial attitudes: the ability to recognise opportunities and the ability to take calculated risks.

Entrepreneurial intentions (ENTINT) also showed significant moderate correlation with general self-efficacy (GSE ($r=0.280^{**}$; $p<0.000$). The study by Malebana and Swanepoel (2014:18) also showed a statistically significant relationship between entrepreneurial intent factors and entrepreneurial self-efficacy factors. Sarwoko and Nurdiana (2013:94) point out that self-efficacy plays an important role in entrepreneurial intentions of students, as higher self-confidence and mental maturity levels tend to generate higher entrepreneurial intentions among students.
Attitude towards entrepreneurship (ATT) showed a positive correlation with general self-efficacy (GSE ($r=0.188^{**}; p<0.002$). Izquierdo and Buelens (2008:18) found that students who showed higher positive attitudes toward entrepreneurial acts report higher intentions to start a new business. Attitude is very important in the life of successful entrepreneurs, and they are bound to overcome hurdles, solve problems, and complete tasks. People with positive attitudes are disciplined, determined and persistent and are able to commit and recommit quickly, and they are not frightened by challenges (Timmons & Spinelli 2009:49).

The study conducted by Kgagara (2011:69) confirms that students do consider the option of being entrepreneurs and starting their own businesses, whereas they also agree that they would prefer to work for a large company for better career prospects. Susetyo and Lestari (2014:193) and Jinying and Pelagie (2014:116) state that the determinant in entrepreneurship intentions is the attitude toward entrepreneurship. It refers to the degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question (Autio, Keeley, Klofsten, Parker & Hay 2001:147). The more favourable the attitude toward the behaviour, then the stronger will be an individual’s intention to perform the behaviour (Ajzen, 1991:182).

These statements are founded on Ajzen’s theory of planned behaviour (Ajzen 1991:182, 183). The theory involves three major concepts: behavioural intention, subjective norms, and attitudes. The stronger the positive attitudes toward a behaviour and the stronger the social norms toward a behaviour then the stronger the behavioural intention is. If the intention is high, the individual is likely to perform the specified behaviour. Behavioural intention (BI) measures the strength of the intention to execute a specified behaviour. Subjective norms (SN) describe the pressure from peers or friends to comply with specific norms. Lorz (2011:25) demonstrates that if entrepreneurship is seen as too risky by parents and friends, then the individual is less likely to perform entrepreneurial behaviour.

### 4.3.4 Factor Analysis

Testing for uni-dimensionality of the latent constructs was done before the regression analysis procedure. The uni-dimensionality of the four constructs, namely entrepreneurial content of the curriculum, entrepreneurial intentions, attitude towards
entrepreneurship and general self-efficacy was considered by running an exploratory factor analysis. The factor analysis procedure using Varimax rotation with Kaiser Normalisation resulted in each construct loading on one factor only with no cross-loading, thus affirming uni-dimensionality. These results are not reported here as the objective of the factor analysis was to establish whether the scales were uni-dimensional and measure one construct only.

4.3.4.1 Regression results: Attitude towards entrepreneurship and entrepreneurial content of curriculum.

In Table 4.7 the regression analysis between attitude towards entrepreneurship and entrepreneurial content of curriculum is reported.

Table 4.7: Regression analysis-attitude towards entrepreneurship and entrepreneurial content of curriculum

<table>
<thead>
<tr>
<th>Dependent variables: attitude towards entrepreneurship</th>
<th>Beta</th>
<th>t</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial content of curriculum (independent variable)</td>
<td>.179</td>
<td>2.936</td>
<td>.004</td>
</tr>
</tbody>
</table>

R = .179 R² =.032 Adjusted R² = .028 p<0.05.

The results of the regression analysis indicate that approximately 3% of the students' attitude towards entrepreneurship is influenced by the content of the curriculum. This indicates that the current content hardly generates enthusiasm among students. Edwards and Muir (2005:615) sight that entrepreneurial curriculum is designed differently across universities, either as an optional module within business courses or a specific course on entrepreneurship.

Mentoor and Friedrich (2007:223) posit that students have positive entrepreneurial attitudes, but the curricula at the institutions of higher learning emphasise the employee culture rather than the self-employment culture. Kgagara (2011:35) argued that there is a need for a modification in methods of instruction. Transfer of knowledge is important but the key is competencies, development of skills and a change in attitudes.
Rih and Guedira (2014:40) proposed that entrepreneurship educators should emphasise the significance of hands-on, active participation within a real-life entrepreneurial environment in the curriculum, where fruitful feedback from an expert is provided. Entrepreneurship educators should be free to question and challenge traditional methods of teaching.

**4.3.4.2 Regression: Attitudes towards Entrepreneurship with Entrepreneurial Intentions**

In Table 4.8 the regression analysis between attitudes toward entrepreneurship with entrepreneurial intentions is reported.

**Table 4.8: Regression analysis-attitudes towards entrepreneurship with entrepreneurial intentions**

<table>
<thead>
<tr>
<th>Dependent variables: Attitude towards Entrepreneurship</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENTINT (independent variable)</td>
</tr>
<tr>
<td>Beta</td>
</tr>
<tr>
<td>Factor 2 Entrepreneurship Intentions</td>
</tr>
</tbody>
</table>

R^2 = .083 Adjusted R^2 = .079 p < .000

With regard to the relationship between attitudes towards entrepreneurship and entrepreneurial intentions, the regression model indicates that approximately 8% of students’ entrepreneurial intentions are generated by their attitude towards entrepreneurship.

Garba, Kabir and Nalado (2014:442) state that understanding students’ attitude may assist significantly in finding their entrepreneurial intentions. Katono (2013:203) further explains that if the attitude towards entrepreneurship in society is negative, this inevitably influences students’ entrepreneurial intentions negatively.

Müller (2008:84) argues that positive attitudes towards entrepreneurship seems to be immensely influential to entrepreneurial intention, and positive attitudes result mainly from associating entrepreneurship with freedom, self-actualisation and the opportunity to realise one’s own ideas.
4.3.4.3 Regression: attitude towards entrepreneurship and self-efficacy

Table 4.9: Regression analysis - attitude towards entrepreneurship and self-efficacy

<table>
<thead>
<tr>
<th>Dependent variables: Attitude</th>
<th>Beta</th>
<th>t</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SELFEF (independent variable)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entrepreneurial self-efficacy</td>
<td>.188</td>
<td>3.085</td>
<td>.002</td>
</tr>
</tbody>
</table>

The results of the regression analysis show that approximately 4% of students’ entrepreneurial self-efficacy is generated by students’ attitude towards entrepreneurship.

Setiawan (2014:237) defines entrepreneurial self-efficacy as “a construct that measures a person’s belief in their own abilities to perform on the various skill requirements necessary to pursue a new venture opportunity.” Karimi, Biemans, Lans, Chizari, Mulder and Mahdei (2013:211) stress that “individual’s self-efficacy can be enhanced by providing social persuasion and positive encouragement and feedback, increasing positive affective reactions to engage in entrepreneurship”. According to Urban (2010:135) the meaning of entrepreneurial self-efficacy is the strength of a person’s belief that s/he is skilful in performing the various roles and tasks of an entrepreneur successfully.

4.3.5 Reliability

The internal consistency of the various factors (the degree of homogeneity among the items) was computed using Cronbach’s coefficient alpha (De Vos, Strydom, Fouché & Delport 2005:162-163). The reliability of individual factors is shown in Table 4.10.

A generally acknowledged rule of thumb is that an alpha of 0.6 - 0.7 indicates acceptable reliability and 0.8 or higher indicates good reliability.
### Table 4.10: Reliability analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cronbach’s Alpha</th>
<th>Number of items</th>
<th>Number of items deleted</th>
<th>Number remaining items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial content of curriculum</td>
<td>0.794</td>
<td>7</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Entrepreneurial intentions</td>
<td>0.917</td>
<td>9</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Attitude towards entrepreneurship</td>
<td>0.924</td>
<td>9</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>General self-efficacy</td>
<td>0.859</td>
<td>8</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Section B of the questionnaire on entrepreneurial content of curriculum consists of seven items and the overall Cronbach’s alpha was 0.794.

Section C of the questionnaire on entrepreneurial intentions consists of nine items, only one item was deleted to improve the Cronbach’s alpha. The overall Cronbach’s alpha is 0.917. Section D of the questionnaire on attitude towards entrepreneurship consists of nine items and the overall Cronbach’s alpha is 0.924 and only one item was deleted because of low item to total correlation. Section E of the questionnaire on general self-efficacy consists of eight items and the overall Cronbach’s alpha is 0.859. No items were deleted. As the Cronbach’s alpha coefficients in this study were all much higher than 0.70, the constructs were deemed to have adequate reliability for an exploratory study.

### 4.3.6 Validity

After confirming the reliability of the measurement instrument, the next step was to review the validity of the instrument. Validity refers to "how well it measures what it sets out to measure" (Litwin, 1995: 33, Polit & Hungler 1999:418, Burns & Grove1999:260).

According to Struwig and Stead (2001:136-139) validity is the point to which a scale or testing instrument is scientifically sound or appropriately conducted. The methods used to validate the questionnaire are discussed in the next section.
4.3.6.1 Content validity

To ascertain content validity the instrument was refined during the pre-testing stage. The compiled questionnaire for the study was given to the supervisor, co-supervisor and three other academics teaching entrepreneurial related subjects to pre-test because they had experience with potential problems of questions and/or questionnaires from other surveys. Their suggestions were taken into account in the improvement of the questionnaire in its development stages.

4.3.6.2 Construct validity

Construct validity indicates whether “there is an acceptable fit between the construct it supposedly measures and actual observations made with the instrument” (Bernard 2000:50). Construct validity shows whether a question actually measures what it is supposed to measure. This is often influenced by the wording of a particular question and by the measurement used. In assessing the construct validity of the scale, a pilot test was undertaken among 80 respondents. Construct validity can be determined through the computation of the Cronbach’s alpha coefficient for the scale (Mafini, Dhusup & Mandhlazi 2014:5). The Cronbach’s alpha values for the various constructs showed an adequate reliability.

4.3.6.2 Convergent validity

Convergent validity entails the measure of constructs that theoretically should be related to each other. Convergent validity was established by using correlation coefficient (Dhurup & Mofoka 2011:161). The correlation coefficient reported in section 4.3.3 showed significant correlation among the constructs, providing evidence of convergence.

4.3.6.3 Predictive validity

Predictive validity was measured through regression analysis. Tables 4.7 to 4.9 report on results of multiple regression analysis conducted in order to establish the predictive power of the entrepreneurial dimensions. Significant predictive relationships were found between students’ attitude towards entrepreneurship and the entrepreneurial content of the curriculum, between attitude towards entrepreneurship and entrepreneurial intention, and between attitude towards entrepreneurship and
students’ self-efficacy. The positive relationship does provide evidence of predictive validity.

### 4.4 CONCLUSION

The results of the empirical study were reported and interpreted in this chapter. The study employed a pilot study to test the reliability of the questionnaire. Cronbach alpha coefficient was used to assess the internal consistency and reliability of the instrument. Correlation and regression analyses were also performed. Content, construct, convergent and predictive validity were applied to measure the degree of validity of the instrument.

The next chapter provides a general overview of the study. The theoretical and empirical objectives are reconsidered. The conclusion, limitations, recommendations and implications for future research deriving from the study are provided.
CHAPTER 5
CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

This chapter combines the previous aspects referred to in the study, and discusses recommendations based on the findings of the study. In Chapter 1 the background, the motivation for the study as well as the objectives of the study were discussed.

In Chapter 2, the current knowledge on entrepreneurial education, role models, and career choice as the objectives of the literature review were discussed. Definitions, latest trends, main themes as well as different career intentions and education models and theories were reviewed. The chapter was concluded by the discussion of the significance of the integrative models

In Chapter 3, the empirical research design and procedures were discussed. This chapter documented the research design, the measuring instrument, the research process and the statistical procedures employed in the study. It was pointed out that the research was designed in such a way that it could adequately address the research question in order to reach the objectives of the study.

In Chapter 4 the results of the statistical tests were documented and main observations were made. Descriptive analysis, factor analysis, correlation and regression analyses were conducted and discussed.

In this chapter conclusions will be drawn from both the literature review and the empirical research. Recommendations will be made based on the findings of the study. The value as well as the limitations of the study will be pointed out and recommendations for future research will be made.

5.2 GENERAL REVIEW

The main purpose of the study was to determine the influence of entrepreneurial-related programmes on students’ intentions to venture into new business creation. In order to achieve the above, a broad background of entrepreneurship education,
intentions models and entrepreneurship theories was provided in the literature review section.

The results achieved through this research allowed the researcher to draw a number of conclusions from which recommendations were made. The sections that follow give a synthesis of how the theoretical and empirical objectives were achieved in the study.

5.2.1 Evaluation of theoretical objectives

A number of theoretical objectives were formulated for the study. These were achieved through a detailed review of relevant literature. The literature sources included textbooks, research journals and published reports. The first theoretical objective was to review literature on entrepreneurship and entrepreneurship education. The objective was achieved through a detailed literature review, as presented in Chapter 2 in Section 2.2 where the definitions of entrepreneurship and entrepreneurship were delineated.

The second theoretical objective was to conduct a literature review on entrepreneurship education at universities. The objective was addressed in Chapter 2 in Sections 2.2.3, and an exposition was provided of entrepreneurship education, the content of the curriculum, and teaching methods. In section 2.3 a discussion was undertaken on entrepreneurship at universities both internationally and in South Africa.

The third theoretical objective was to conduct a literature review on learning theories relevant to entrepreneurship education. The objective was covered in Chapter 2 in Section 2.4 where a discussion on the behavioural and cognitive theories was pursued.

The fourth theoretical objective was to review literature on entrepreneurship intentions and models. This objective was realised in Chapter 2 in Sections 2.5 where the theory of planned behaviour, models of entrepreneurship events and the entrepreneur-ship/performance evaluation model were discussed.

The fifth theoretical objective was to conduct a literature review on new venture creation. The objective was addressed in Chapter 2, Section 2.6 whereby the multi-dimensional approaches to new venture creation was discussed.
5.2.2 Evaluation of empirical objectives

To address the research problem, a set of empirical objectives was formulated. To achieve the empirical objectives, a quantitative study (questionnaire survey) was employed.

The findings of the present study in relation to each of the empirical objectives are summarised as follows:

The first empirical objective was to evaluate students’ perceptions of the entrepreneurial content of the curriculum. This objective is achieved in Chapter 4, Section 4.3.2 and Table 4.2. The means of the various aspects of the content of the curriculum were analysed. The means ranged from 3.90 to 4.15 (based on a 5 point Likert scale).

The second empirical objective was to evaluate students’ perceptions of their entrepreneurial intentions (i.e. of becoming entrepreneurs). This objective was achieved in Chapter 4, Section 4.3.2.2 and Table 4.3 when the means of the various entrepreneurial intentions constructs were computed and discussed.

The third empirical objective was to evaluate students’ perceptions of entrepreneurship. This objective was achieved in Chapter 4, Section 4.3.2.3.

The fourth empirical objective was to evaluate students’ perceptions of their general self-efficacy in becoming an entrepreneur. This objective was achieved in Chapter 4, Section 4.3.2.4 and Table 4.5.

The fifth empirical objective was to examine the nature of the relationship (association) between the entrepreneurial content of the curriculum, entrepreneurial intentions, perceptions of becoming an entrepreneur and students’ general self-efficacy. This objective was achieved in Chapter 4, Section 4.3.3 and Table 4.6, using Pearson correlation analysis. The results confirm that positive and moderate correlations exist between the constructs, thus affirming that the entrepreneurial content of the curriculum makes a positive impact on their intentions and perceptions of becoming an entrepreneur.
The sixth empirical objective aimed at examining the predictive relationship of students’ perceptions of entrepreneurial content of the curriculum and their perceptions of becoming entrepreneurs. This objective was achieved in Chapter 4, Section 4.3.5 and Table 4.7. The regression model showed that only 3% of the students’ perceptions towards entrepreneurship was influenced by the content of the curriculum.

The seventh empirical objective aimed at examining the predictive relationship between students’ entrepreneurship intentions and their perceptions towards becoming entrepreneurs. This objective was achieved in Chapter 4, Section 4.3.5.2 and Table 4.8. The regression model indicated that approximately 8% of students’ entrepreneurial intentions were influenced by their perceptions towards entrepreneurship.

The eighth empirical objective aimed at examining the predictive relationship between students’ entrepreneurial self-efficacy and their perceptions of becoming an entrepreneur. This objective was achieved in Chapter 4, Section 4.3.5.3 and Table 4.9. The regression model indicated that approximately 4% of students’ self-efficacy perception is towards entrepreneurship.

5.3 RECOMMENDATIONS

In light of the discussions of the research findings, the following recommendations are made.

- The Faculty of Management Science must revise the content of the curriculum of its entrepreneurship programme by including learning outcomes which are about and for entrepreneurship. Chef (2005:90), Lee, Chang and Lim (2005:41) and Zegeye (2013:306) explain that entrepreneurial content of the curriculum is developed differently across universities and countries; some are developed for entrepreneurship and about entrepreneurship. Entrepreneurial content of the curriculum developed for entrepreneurship deal with real entrepreneurial activity, and produce students who have attitude towards entrepreneurship, whereas entrepreneurial content of the curriculum developed about entrepreneurship is concerned with content of the curriculum as a requirement in the syllabus.
The mode of course delivery for entrepreneurship should be revised from lecture to experiential learning. The learning process of entrepreneurship should not only be restricted just discussions but also the interaction with today’s dynamic business environment (Dilts & Fowler 1999:52). Programmes which aim to develop entrepreneurship are numerous in South Africa, but tangible results are difficult to see, this calls for an improvement of the entrepreneurship programmes.

The management of HEIs should ensure that entrepreneurship is part of students’ curricula from their first year of study to the third year. They should also create an environment conducive to venture into business creation by providing incubation support and start-up funds within the university for students to embark on enterprise development (Shava & Smith 2014:239). Although there are challenges confronting entrepreneurship education, strategies to improve entrepreneurship education should be implemented if the socio economic challenges such as unemployment and poverty are to be reduced in South Africa (North, 2002:24).

The study recommends that students should be taught to adopt non-traditional approaches and pedagogies to be able to train others in the future. To increase the efficiency and motivation of the learners, teachers should also be further trained in these pedagogies. In future, lecturers should act as facilitators, to advance a supportive environment to the learning process. Further, hands-on methodologies should be promoted at school level and at all educational institutions to stimulate young people to venture into new business creation.

5.4 LIMITATIONS AND IMPLICATIONS FOR FUTURE RESEARCH

Results from this study offer several implications for future research in the area of new venture creation. Firstly, given the strong association of entrepreneurial orientation for entrepreneurial intent, students’ entrepreneurial orientation should be a new focus of research. The study used a quantitative research design, although future research may consider adopting a mixed method approach to get more meaningful results. A larger sample can be considered in order to generalise findings. Katono (2013:203) indicates that “there is need or a larger sample to make the findings more generalizable”. However, the present research can be seen as a preliminary investigation of the opportunity to increase value in designing the entrepreneurial-
related programmes that stimulate students' intentions, attitude and self-efficacy to venture into new business creation.

The sample population inevitably limits the conclusion that can be drawn from the present findings, as only students from FMS were included in the sample. Future studies should include students from the other faculties. However, the purpose was not to generalise the findings outside the sample, but to understand the phenomenon in its context, and further research is required to incorporate a wider range of graduates from the different faculties and other higher learning institutions.

5.5 CONCLUDING REMARKS

Entrepreneurship education is a relatively new field of study in most South African universities. Entrepreneurship education at the universities is of utmost importance in South Africa and Africa at large as the unemployment rate is generally high. Education which is specifically intended to stimulate interest in starting businesses is becoming increasingly important.

Although a number of studies in entrepreneurship education have been conducted previously, they have focussed on identifying the psychological characteristics and traits of those who started businesses. As psychological characteristics and traits do not have good predictive power, this study adopted the intentions-based approach as the predictive power of this approach has already been validated by a number of studies.

This study assessed the impact of entrepreneurial-related programmes in students' intentions to venture into new business creation. The empirical findings of the study revealed that there was a positive relation between entrepreneurial education and the intention to start businesses by students at university level.

The study revealed that entrepreneurship students have a more positive attitude towards becoming entrepreneurs and have higher entrepreneurial self-efficacy and intentions of becoming an entrepreneur.

Hopefully with better understanding in entrepreneurship among future graduates, the HEIs would be able to turn students to become entrepreneurs. This definitely will spur
the intention to become a nation of entrepreneurs of a developed country in accordance with the South Africa Vision 2020 dream of success.


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ANNEXURE
QUESTIONNAIRE

This questionnaire explores the entrepreneurial content of your curriculum, your entrepreneurial self-efficacy and your entrepreneurial intentions to venture into your own business. By completing this questionnaire you will assist various stakeholders to better understand the impact of these variables in becoming an entrepreneur. There are no right or wrong answers. Your responses are anonymous and will be treated with strict confidentiality.

SECTION A: General demographic information
In this section we would like to find out a little more about the characteristics of students and their background. Please place a cross (x) in the appropriate block.

<table>
<thead>
<tr>
<th>A1</th>
<th>Your gender</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2</td>
<td>Age category</td>
<td>Below 21 years</td>
<td>Between 21-25 years</td>
</tr>
<tr>
<td>A3</td>
<td>Marital status</td>
<td>Single</td>
<td>Married</td>
</tr>
<tr>
<td>A4</td>
<td>Are you a South African?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>A5</td>
<td>Any personal experience in business</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>A6</td>
<td>Course of study</td>
<td>Human Resource Management</td>
<td>Marketing</td>
</tr>
</tbody>
</table>
SECTION B: Entrepreneurial content of curriculum

In this section we would like to know a little more about the curriculum content of the programme that you are registered for. To what extent you strongly disagree (1) or strongly agree (5) with the following statements.

CIRCLE ONLY ONE NUMBER FOR EACH STATEMENT

| B1 | As a result of taking this course, I have a better understanding about business in general | Strongly disagree | 1 | 2 | 3 | 4 | 5 | Strongly agree |
| B2 | This course developed my entrepreneurial knowledge/skills | Strongly disagree | 1 | 2 | 3 | 4 | 5 | Strongly agree |
| B3 | My interest towards entrepreneurship has been raised after taking this course | Strongly disagree | 1 | 2 | 3 | 4 | 5 | Strongly agree |
| B4 | My interest towards entrepreneurship has been raised after taking this course | Strongly disagree | 1 | 2 | 3 | 4 | 5 | Strongly agree |
| B5 | The course has taught me to deal with uncertainties in the business world | Strongly disagree | 1 | 2 | 3 | 4 | 5 | Strongly agree |
| B6 | The course has provided me with an opportunity to learn by doing | Strongly disagree | 1 | 2 | 3 | 4 | 5 | Strongly agree |
| B7 | The course has given me greater knowledge about the entrepreneurial environment | Strongly disagree | 1 | 2 | 3 | 4 | 5 | Strongly agree |

SECTION C: Entrepreneurial intentions

When you think about your future upon graduation from the university, which of the following alternatives could describe you? Please indicate the extent to which you strongly disagree (1) or strongly agree (5) with the following statements.

CIRCLE ONLY ONE NUMBER FOR EACH STATEMENT

| C1 | I have a serious intention of becoming self-employed | Strongly disagree | 1 | 2 | 3 | 4 | 5 | Strongly agree |
| C2 | My professional goal is becoming an entrepreneur | Strongly disagree | 1 | 2 | 3 | 4 | 5 | Strongly agree |
| C3 | I am ready to do anything to be an entrepreneur | Strongly disagree | 1 | 2 | 3 | 4 | 5 | Strongly agree |
| C4 | I am determined to create a firm in the future | Strongly disagree | 1 | 2 | 3 | 4 | 5 | Strongly agree |
SECTION D: Attitude towards entrepreneurship

When you think about your future upon graduation from the university, which of the following alternatives could describe your attitude towards entrepreneurship? For example if you feel that becoming an entrepreneur would be highly stimulating, cross the 5 next to stimulating.

CIRCLE ONLY ONE NUMBER FOR EACH STATEMENT

<table>
<thead>
<tr>
<th>D1</th>
<th>Entrepreneurship: unattainable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Attainable</th>
</tr>
</thead>
<tbody>
<tr>
<td>D2</td>
<td>Becoming an entrepreneur: difficult</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>Easy</td>
</tr>
<tr>
<td>D3</td>
<td>Becoming an entrepreneur: dull</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>Stimulating</td>
</tr>
<tr>
<td>D4</td>
<td>Becoming an entrepreneur: unpleasant</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>Pleasant</td>
</tr>
<tr>
<td>D5</td>
<td>Becoming an entrepreneur: uninspiring</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>Inspiring</td>
</tr>
<tr>
<td>D6</td>
<td>Becoming an entrepreneur: uninteresting</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>Interesting</td>
</tr>
<tr>
<td>D7</td>
<td>Becoming an entrepreneur: disappointing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>Delightful</td>
</tr>
<tr>
<td>D8</td>
<td>Becoming an entrepreneur: worthless</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>Valuable</td>
</tr>
<tr>
<td>D9</td>
<td>Becoming an entrepreneur: impossible</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>Possible</td>
</tr>
</tbody>
</table>
SECTION E: General self-efficacy

This section deals with your ability to perform the work of an entrepreneur. Think about your current level of proficiency regarding the following functions of entrepreneurial work. Please indicate the extent to which you strongly disagree (1) or strongly agree (5) with the following statements.

CIRCLE ONLY ONE NUMBER FOR EACH STATEMENT

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td>I would be able to achieve most of my goals for myself</td>
<td>Strongly disagree</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>E2</td>
<td>When facing difficult tasks, I am certain I will accomplish them</td>
<td>Strongly disagree</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>E3</td>
<td>In general, I think I can obtain outcomes that are important</td>
<td>Strongly disagree</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>E4</td>
<td>I will be able to successfully overcome many challenges</td>
<td>Strongly disagree</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>E5</td>
<td>Compared to other people, I can perform most tasks very well</td>
<td>Strongly disagree</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>E6</td>
<td>Even when things are though, I can perform quite well</td>
<td>Strongly disagree</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>E7</td>
<td>I am confident I can perform effectively on different tasks</td>
<td>Strongly disagree</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>E8</td>
<td>I believe that I can succeed at any task to which I set myself</td>
<td>Strongly disagree</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Thank you for time and your cooperation.

Your views are much appreciated.