

**ADDRESSING EMPLOYABILITY AND FOSTERING
ENTREPRENEURSHIP AMONG UNIVERSITY
STUDENTS IN SOUTH AFRICA: AN ANALYSIS OF THE
'JUNIOR ENTERPRISE CONCEPT'**

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Declaration

Submitted in fulfilment / partial fulfilment of the requirements for the degree of Masters in Development Studies, in the Graduate Programme in the School of Development Studies, University of KwaZulu-Natal, Durban, South Africa.

I declare that this dissertation is my own unaided work. All citations, references and borrowed ideas have been duly acknowledged. It is being submitted for the degree of Masters in Development Studies in the Faculty of Humanities, Development and Social Science, University of KwaZulu-Natal, Durban, South Africa. None of the present work has been submitted previously for any degree or examination in any other University.

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Abstract

Higher education is instrumental in the economic development of any country, as a resource of skilled personnel and knowledge production. In South Africa there is a need for higher education institutions (HEIs) to develop innovative responses to address graduate employability and entrepreneurship education. Moreover, there is a need to catalyse entrepreneurship activity among students in order to cultivate skilled opportunity-orientated entrepreneurs. This study explores the application the ‘Junior Enterprise (JE) concept’ (an international best practice) as a mechanism of improving employability and fostering entrepreneurship. To discern if this practice is appropriate for South African students, the research investigates students’ perceptions. Overall the findings suggest that there is relevant student demand for this type of experiential and co-operative learning practice. However, conflicting studies infer that the widespread implementation of this type of learning practice will face implicit challenges in the indigenous context. To further examine the feasibility of applying the JE-concept in South African HEIs, it is essential to design, implement and evaluate a pilot project.

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Not to imitate but to discover – that is education, is it not?

– J. Khrisnamurti (1969)

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Germany and Poland

Abbreviated Terms

AsgiSA	–	Accelerated Shared Growth Initiative for South Africa
BB-BEE	–	Broad-Based Black Economic Empowerment
BEE	–	Black Economic Empowerment
CDE	–	Centre for Development and Enterprise
CfE	–	Centre for Entrepreneurship
CHE	–	South African Council on Higher Education
CHET	–	Council for Higher Education Transformation
DKIT	–	Dundalk Institute of Technology
DPRU	–	Development Policy Research Unit, University of Cape Town
ELT	–	Experiential Learning Theory
FGD	–	Focus Group Discussion
GDP	–	Gross Domestic Product
GEM	–	Global Entrepreneurship Monitor
HEI	–	Higher Education Institution
HSRC	–	Human Sciences Research Council
IDC	–	Industrial Development Corporation
IOLS	–	Industrial Organizational and Labour Studies
JADE	–	European Confederation of Junior Enterprises
JE	–	Junior Enterprise
JIPSA	–	Joint Initiative on Priority Skills Acquisition
NFP	–	Not-for-profit
NUS	–	National University of Singapore
PDEM	–	Postgraduate Diploma in Enterprise Management
R&D	–	Research and Development
SMME	–	Small Medium and Micro Enterprise
SAIE	–	South African Institute for Entrepreneurship
SEDA	–	Small Enterprise Development Agency
SIFE	–	Students in Free Enterprise

TEA	–	Total Early-stage Activity
UCT	–	University of Cape Town
UKZN	–	University of KwaZulu-Natal
USO	–	University Spin-off
UWC	–	University of Western Cape
UKSEC	–	United Kingdom Science and Enterprise Challenge
WITS	–	University of Witwatersrand

Chapter One: Introduction

“If knowledge is the electricity of the new informational international economy, then institutions of higher education are the power sources on which a new development process must rely.”

– Manuel Castells (1993)

There is a fundamental interdependence between education (human capital development) and sustainable socio-economic development. Higher education is central to the development of emerging market economies, as a resource of skilled personnel and knowledge production. In a challenging entrepreneurial age, it is imperative that graduates from higher education are firstly employable and secondly have the capabilities to start their own businesses. For the purpose of this study, the higher education institution (HEI)¹ under investigation is ‘the university’. In the context of South African higher education, this dissertation addresses two interlinked issues: a) graduate employability and b) the exploration of new approaches in entrepreneurship education.

1.1. Problem Statement

a) Graduate Employability

Skills shortages remain a serious constraint in South Africa. Incidentally, graduate unemployment in South Africa appears to be a labour market paradox, and is attributed towards a prevailing skills deficit and skills mismatch. The skills deficit among graduates (from higher education) is considered to be a constraint to long-run economic growth and a contributing factor to the high incidence of graduate unemployment, representing approximately 200 000 individuals (DPRU, 2006)². Graduates lack generic competencies and are not workplace ready. It appears that there is an “ongoing, almost intractable, mismatch between the types of workers demanded by firms and those supplied in the labour market” (DPRU, 2006). Evidently, there is an urgent need for

¹ This study restricts itself to HEIs that are defined as ‘Universities’ in the context of the South African higher education system, which includes Comprehensive Universities and Universities of Technology (Grundling and Steynberg, 2008).

² According to Koen (2006), the South African Graduate Development Association (SAGDA) “has for several years suggested that unemployment figures are higher than those suggested by national graduate studies.”

broader and more intensive dialogue between employers and learning institutions (Pauw, Borat, Goga, Ncube and van der Westhuizen, 2006).

Universally, students require stronger and more creative linkages between student life and the world of work. In regard to the nature of the higher education curriculum in South Africa, there is a calling for greater application and practice in conjunction with a clear emphasis on economic and social relevance. Furthermore, in an increasingly integrated global economy the demand on the modern workplace is that a nation's competitiveness depends on the capacity of its industry to innovate and adapt. In an attempt to meet this demand, new labour market entrants (recent graduates) must possess a diverse skills set and a learning culture characterised by an entrepreneurial disposition.

b) Entrepreneurship Education

Entrepreneurship development is argued to be a functional element in addressing job creation, catalyzing innovation driven economic growth and strengthening international competitiveness. In South Africa there is a need to catalyze opportunity oriented entrepreneurship activity among the youth. Although the education system is a natural starting point, entrepreneurship education in South Africa is currently not a focal point. Entrepreneurship training is becoming increasingly more important in a changing and globalizing career world where people are experiencing negative career expectations (Kroon and Meyer, 2001). The Global Entrepreneurship Monitor (GEM) South African Report (2006) suggests that the low level of Total Early-stage Activity (TEA)³ can also be attributed, in part, to the low proportion of South Africans that have completed tertiary studies. Among the list of factors limiting entrepreneurial activity in South Africa the following relate to the higher education system and the disposition of young people pursuing higher education studies (Herrington and Maas, 2006):

³ The Total Early-stage Activity (TEA) index measures the percentage of individuals between the ages of 18 and 64 that are involved in starting a new business which they wholly or partly own and which is less than three-and-a-half years old (Herrington and Maas, 2006).

- The education system does not encourage entrepreneurship as a career – it is seen as something you do when you cannot find a job or do not have a profession.
- A paradigm of entrepreneurship does not exist. The expectation is that big business, government and others should create jobs, rather than that one can create one's own employment.
- Competencies such as management and entrepreneurial skills are lacking.

The GEM report highlights the importance of education to secure an entrepreneurial culture in a country and the instrumental role of social, economic and political institutions. Evidence suggests that the South African government needs to rethink its strategy on promoting entrepreneurship, especially within higher education. The critical development challenges facing South African society warrants the urgent need for young people in higher education to be trained in the field of entrepreneurship – “this will hopefully encourage them to become job-creators instead of job-seekers once they leave the educational system” (Jesselyn Co and Mitchell, 2006).

1.2. Aims and Objectives of the Study

This study addresses the need to create stronger linkages between South African universities and industry by reviewing and exploring best practice in co-operative and experiential learning models, with a focus on developing generic competencies and fostering entrepreneurship activity among learners. It is assumed that international best practices can be explored in South Africa if indigenous pilot models are appropriately contextualised and reconfigured. On this note this study attempts to investigate the feasibility (an assessment of potential constraints and opportunities) of applying the ‘Junior Enterprise (JE) concept’ as a potential vehicle of enhancing employability and fostering entrepreneurship among South African students. The JE-concept is lauded as a best practice in European entrepreneurship education. It is a non-traditional learning practice designed to supplement students’ higher education curricula by participation in entrepreneurial activities. The JE-concept is defined as a co-operative and experiential learning practice, wherein university students run small scale professional consulting studies and manage small to medium sized enterprises – consequently students add practical experience to their theoretical skills, develop entrepreneurship at an early stage and broaden their skills base (www.jadenet.org).

As a point of departure, the research design was conceived from the perspective of the ‘service provider-client relationship’ between the university (provider) and the student (client). To design appropriate skills development offerings for students, it is necessary to understand and address students’ motivations and needs. Based on this premise, the following study can be considered as a variety of client/consumer motivation research. Stemming from this point of departure, it is argued that motivated students are the primary input for the successful organization of a JE (co-operative and experiential learning model) within a university faculty. Therefore, in evaluating the feasibility of the JE-concept it is important to conduct an assessment of the student demand for this specific type of learning practice. It is acknowledged that in order to comprehensively determine the feasibility of applying the JE-concept in South Africa it is necessary to assess the demand of public and private sector organisations for this type of student consulting service. However due to various research constraints this study exclusively assesses students’ perceptions to discern if the JE-concept is an appropriate learning practice for South African students.

The primary objectives of this study are:

- To gain an indicatory understanding if students are actively interested in learning about entrepreneurship.
- To determine if students feel there is a need for a greater response from their university in creating opportunities for them to practically enhance their skills set.
- To determine if there is sufficient student demand to consider developing and implementing a JE-model relevant to the indigenous context.

The secondary objectives are:

- To add to the body of knowledge on entrepreneurship education in South Africa and suggest a way forward.
- To analyze best practice in the field of entrepreneurship education and formulate recommendations for designing practices which address indigenous needs.
- To gain an indicatory understanding if the success of the application of the JE-concept in Brazilian universities, can be reciprocated in universities in other developing countries.

This study sets the tone for future design research in the context of entrepreneurship education in South Africa. The outcomes of this research are intended to provide use value for higher education practitioners (lecturers), higher education policy advisors (public sector), industry players and students.

1.3. Research Questions

In an attempt to address the objectives, the following questions were put forward:

- Do students feel that there is a need for more innovative responses from their higher education institution – responses which are designed to add further practical application to their curriculum in order to improve their overall employability/skills portfolio?
- Project management and entrepreneurship are defining educational constructs of the JE-model therefore it is necessary to investigate if students are interested in learning about these concepts?
- Are students willing and motivated to participate in professional (extra-curricular) projects in order to gain practical work experience and develop new skills?
- Can the JE-model be adapted and applied in universities in other developing countries?

1.4. Overview of Research Methodology

The secondary data collection process consisted of an in-depth and detailed literature review, inherently providing a cursory overview of relevant concepts and theories. The primary data was collated by exercising qualitative and quantitative research methodologies. The primary research instruments included a survey questionnaire and focus group discussions (FGDs).

1.5. Rationale for the Study

It is widely acknowledged that there is a positive relationship between education and business creation (Luthjie and Frank, 2002; Charney and Libecap, 2000; Robinson and Sexton, 1994 cited in Brijlal, 2008). This study is formulated on the assumption that entrepreneurship can be taught and that education is instrumental in developing entrepreneurial skills, competencies and attitudes (Niyonkuru, 2005 cited in Brijlal, 2008). Within an evolving paradigm of entrepreneurship learning, the scope of entrepreneurship education is much wider than training on how to start a business. It also includes the development of horizontal skills (like creativity, initiative and self-confidence) and generic competencies (like communication, problem solving and soft skills). It is argued that entrepreneurship training activities stimulate the development of diverse skills – thus implicit in improving the employability of graduates.

This study argues that higher education is a prime breeding ground for skilled opportunity-orientated entrepreneur. As the spearhead of sustainable socio-economic development, these dynamic individuals clearly require different levels of education (Herrington and Maas, 2007). International studies prove that the level of education has a significant impact on the potential successes of entrepreneurial businesses, “especially within a technologically advanced global environment where innovation is key for business success” (Herrington and Maas, 2007). Education influences the formation of sustainable entrepreneurial ventures. It is important to foster entrepreneurship and promote innovative learning practices in higher education. The need for further research in the field of entrepreneurship education and training underpins the motivation for this study.

South Africa is a country in transition. The recent merger of HEIs is reshaping South Africa’s higher education landscape. In this light, “as tertiary institutions culture changes it will become more important to understand students entrepreneurial needs in order that there is institutional ‘fit’ between higher education offerings and the need for students” (Brijlal, 2008). It is vital to gauge the entrepreneurial disposition of students and their willingness to engage in a typology of extra curricula experiential learning activities to improve their employability and entrepreneurial

skills. Hence, this study's main research activity was in conducting a survey which captured the perceptions of students (i.e. a client perspective) pertaining to the issues discussed above.

To increase the real "Total Entrepreneurship Activity (TEA)" of students and graduates, a greater responsiveness is required from universities in designing and implementing innovative experiential training models based on international best case practice. Therefore, this study presents a detailed analysis of the JE-concept. The JE-concept is an intriguing case study, based on the successful application of this practice within the contrasting contexts of universities in developed European countries (i.e. Germany and France) and universities in Brazil (a middle-income developing country).

The services sector in South Africa resembles more closely the infrastructure of a developed economy more than a developing economy. The economic importance of services in the South African economy has grown as a major generator of employment. It is assumed that there is sufficient latent demand within the public and private for an affordable and multi-disciplinary student-driven academic consulting service (as embodied by the JE-model).

The Broad-Based Black Economic Empowerment (BB-BEE) legislative framework creates the potential to broaden the interface between students and the world of work. Hypothetically, the JE-model presents the opportunity to explore the BB-BEE benefits for large companies in the procurement of student academic consulting services.⁴ In theory it is a "win-win" relationship, firstly student project teams gain practical professional experience. Secondly, they are availed the opportunity to enhance their project management and soft skills, and thirdly secure some form of compensation for their research activities. In turn, companies benefit by earning BEE points for procurement (positively influencing training and skills development) and access to an affordable student academic consulting service.

This study is partly formulated on the hypothesis that the application of a creatively contextualized JE-model in South African HEIs has the potential to: 1) bridge the gap between theory and practice, 2) create stronger linkages between universities and the world of work, 3)

⁴ This position is elucidated in Chapter Three, Section 3.3.

generate professional part-time employment opportunities (i.e. by working on commercial consulting projects) for students, 4) as an application-based model, this practice facilitates experiential entrepreneurship learning alongside the development of students' project management and soft skills.

1.6. Dissertation Structure

Chapter One: Introduction – rationalizes the purpose of the research and maps an outline of the study.

Chapter Two: Higher Education in South Africa – presents an overview of the contextual background motivating the research, discussing underlying themes such as graduate unemployment and employability in the context of South African higher education.

Chapter Three: Entrepreneurship Development in South Africa – provides a synthesis of the relevant literature and an analysis of the theoretical themes pertaining to entrepreneurship training in the context of higher education, in turn constructing the conceptual bridge informing the research.

Chapter Four: Sharing Best Practice in Entrepreneurship Education – presents an in-depth explanatory analysis of the JE-concept.

Chapter Five: Research Methodology – succinctly illustrates the elected qualitative and quantitative research methodologies.

Chapter Six: Data Presentation, Analysis and Interpretation – provides an in-depth account and a comparative analysis of the corresponding primary and secondary research findings, subsequently concluding with a critical analysis.

Chapter Seven: Conclusion - presents an interpretation of the key findings and recommendations for future research.

Chapter Two: Higher Education in South Africa

“The university must become a primary tool for Africa’s development in the new century.”

– Former UN Secretary General Kofi Annan

Investing in human capital is a requisite for sustainable socioeconomic development. Building human capital *inter alia* means good quality education. A successful national economy is dependent on a high-powered higher education sector. In the case of South Africa, there are increasing pressures on universities to become more responsive to society and the economy’s needs. This involves universities establishing stronger mutually beneficial partnerships with players in the public and private sector. This chapter reviews the relevant literature which contextualises key elements of this study. In turn unpacking the first part of problem statement – ‘graduate employability’. The key themes discussed in this chapter are:

- Repositioning Higher Education in the Context of a Developing Economy
- The Higher Education Debate in South Africa
- Graduate Unemployment and Employability in South Africa
- The Nature of Graduate Employability

2.1. Repositioning Higher Education in the Context of a Developing Economy

In the context of a developing economy the main factors that affect economic production are physical and human capital. Neoclassical economic theory postulates that “increases in the quantities of human capital and physical capital will lead to increased economic growth” (Wawire and Nafukho, 2006). In order for an emerging market economy to pursue a sustainable development path, it is imperative for labour to possess the critical skills and knowledge required for development, as “without these skills and knowledge, physical capital, remains underutilized” (Wawire and Nafukho, 2006).

Wawire and Nafukho (2006) formulate an argument based on a theoretical and empirical analysis of the relationships between economic growth, human capital, physical capital formation and

higher education and training. They contend that: “the changes in physical capital have less, although significant effect on economic growth than changes in labour inputs.” Consequently, implying that, quality labour inputs are a key determining factor for long-run economic growth. To improve the quality of the labour force, higher education must provide relevant quality education and training. Higher education should form a critical component of a developing country’s knowledge accumulation strategy.

Today’s rapidly globalizing economy is often described as one in transition to a ‘knowledge-based economy’, in which higher education plays a critical role in progressing developing economies to catch up with more technologically advanced societies. On this point, Manuel Castells (1993) postulates:

If we take seriously the analyses pointing toward the formation of a new economy, in which the ability to generate and process information is key to productivity, it will not be possible to integrate developing countries in a dynamic world economy without creating the necessary infrastructure in higher education. Because research and education policies take time to bear fruit, such policies must be placed at the forefront of international aid.

Bloom, Canning and Chan (2005) argue that if Africa is to someday maximize its economic growth potential under current constraints, then intensive investment in higher education is necessary to accelerate technological diffusion. This would decrease knowledge gaps and help reduce poverty in the region. In this regard Wong, Ho and Singh (2007) posit: “The shift toward a knowledge-based economy, rather than one based on low-wage and natural resource advantages, requires a significant increase in the indigenous capabilities of local enterprises to create and commercialize new knowledge, not just using knowledge imported from advanced countries.” Wong et al. argue that to support knowledge-based economic development, the inherent entrepreneurial capacity (i.e. indigenous knowledge commercialization) of universities must be explored.

Bloom et al. (2005) argue that there are mutually allied public and private benefits produced from an increased investment in higher education. They contend that “the private benefits for individuals are well established, and include better employment prospects, higher salaries, and a greater ability to save and invest.” These benefits may result in better health and lead to an

overall improved quality of life. Although, the benefits via public channels are less well studied, they also exist, such as the vital role of higher education in strengthening economic development through technological catch-up and innovation (Bloom et al., 2005).

Higher education graduates are likely to be more aware of and better able to use new technologies, and by means of public and private channels more likely to cultivate an entrepreneurial and innovative disposition amid society, promoting research and development (R&D). The multiplier effect of higher education can potentially influence the quest of sustainable job-creating growth. On this point Bloom et al. (2005) assert: “graduates’ knowledge can also improve the skills and understanding of non-graduate co-workers, while the greater confidence and know-how inculcated by advanced schooling may generate entrepreneurship, with positive effects on job creation.”

2.1.1. Higher Education as a Catalyst for Socioeconomic Development: The Case of South Korea, a Tiger Economy⁵

Higher education played a key role within South Korea’s development strategy. The South Korean government regarded higher education as a key actor in the promotion of national industrialization (Lee, 2005). Within the span of fifty years South Korea progressed from an input-driven (predominantly agricultural-based economy) to a knowledge-based economy. “In 1960, agriculture and fishing accounted for 36 per cent of GDP in the country, with services accounting for 47 per cent and manufacturing for 16 per cent” (Bloom et al., 2005). Today services account for more than 60% of employment and agriculture and fishing for just 4%. Alongside these structural shifts South Korea experienced dramatic income growth during this period – “per capita gross national income increased from low levels in the 1960s to around \$3,000 in 1975 to \$15,000 in PPP term in 2002” (Bloom et al., 2005).

⁵ The expeditious and sustained high rates of growth in the economies of East Asia since the early 1960’s, led to the coining of the term, “Asian Tigers”. The old (Taiwan, Hong Kong, Singapore and South Korea) and new “Asian Tigers” (Malaysia, Thailand and Indonesia) were all fundamentally inspired by the development path of the post-war industrialised Japanese regime. The common feature in the eight High Performing Asian Economies (HPAEs) was that, “in one form or another, the government intervened – systematically and through multiple channels – to foster development,” including intensive investments in human capital (Page, 1994).

South Korea invested heavily in education at all levels achieving “full primary education enrolment by 1970, and secondary enrolment, which stood at 40 per cent in 1970, had become universal by 1997” (Bloom et al., 2005). In addition higher education was instrumental in Korea’s knowledge accumulation strategy. During the 1970s and 1980s there was a key focus on the promotion of science and engineering tertiary programs, whereas in the 1990s attention shifted to quality assurance, research and development (R&D), accountability and performance-based funding.

2.2. The Higher Education Debate in South Africa

South Africa can be described as an upper middle-income developing economy, which generates 0.5% of global Gross Domestic Product (GDP), comprises 0.7% of the world’s population and occupies 0.6% of the world’s Top 500 universities (Macgregor, 2008). There are 23 public universities in the 2008 list of the world’s Top 500 universities⁶, of which three are South African universities – namely the University of Cape Town (UCT), the University of Witwatersrand (WITS) and the University of KwaZulu-Natal (UKZN). Nonetheless, the South African higher education system is plagued by high student drop-out rates⁷, a high incidence of graduate unemployment and the absence of an entrepreneurial complexion.

The transformation of the higher education system in South Africa is a product of the systemic inequity and the racial bias constructs which informed the education policies during the Apartheid Regime. Policy rhetoric asserts that higher education in South Africa is considered a key instrument for equitable socio-economic development.

⁶ The 2008 university global ranking list is produced by the Institute of Higher Education at Shanghai Jiao Tong University for the government of China (Macgregor, 2008).

⁷ The Student Pathways study by the Human Sciences Research Council (HSRC) revealed that 40% of South African students drop-out of university in their first year and that only 15% complete their studies in the allotted time (Macgregor, 2007).

Within South Africa's socioeconomic development context, the South African Council on Higher Education (CHE) defines the role of higher education as:

Higher education's social and public value is related to the links between itself and societal needs: developing a citizenry capable of participating effectively in democratic processes; producing intellectuals who can engage the most intractable problems of society and so develop the ability of citizens to participate politically, economically and socially; and producing high-level skilled graduates and new bases of knowledge to drive economic and social development, and to enhance the overall levels of intellectual and cultural development. (CHET, 2004)

To effectively address South Africa's reconstruction and transformation challenges, it is imperative that the outcomes of higher education amount to the production of skilled and highly competent graduates. Emerging knowledge economies (like South Africa) are dependant on the growth of a transdisciplinary knowledge workforce, epitomized by the knowledge worker who is driven by life-long learning. Derry and Fischer (2005) conceptualize a target set of "transdisciplinary competencies and mindsets" which future graduates should embody:

- The ability to participate in reflective, transdisciplinary communities...effective communication and metacognitive skills, as well as mindsets for engaging in transdisciplinary work and study (Arias et al., 1999; Schon, 1979 cited in Derry and Fischer, 2005).
- Mindsets and metacognitive skills enabling lifelong learning, including critical thinking skills, learning on demand, and self-directed learning (Fischer, 1999 cited in Derry and Fischer, 2005)
- The ability to understand, exploit and design innovative sociotechnical environments, requiring fluency in using digital media for personally meaningful tasks (Arias et al., 2000 cited in Derry and Fischer, 2005).
- The ability to develop, fund and guide knowledge-building communities as contexts for teaching and learning (de Paula et al., 2001; Linn, Davis, & Bell, 2005; Scardamalia & Bereiter, 1994 cited in Derry and Fischer, 2005)
- Concern about real-world needs, willingness to become an engaged citizen (Schön, Sanyal, & Mitchell, 1999 cited in Derry and Fischer, 2005).

According to the Council of Higher Education Transformation (CHET, 2004), South Africa has a relatively low participation and expenditure rates in higher education which has serious implications for equity and development. Graduate unemployment and underemployment in the face of skills shortages is a prevailing labour market paradox and a current policy concern. Evidently, there exists a significant economic burden to South African society if graduates

produced from higher education are inadequately skilled. Students are not easily absorbed into the formal labour market, if they do not possess key generic competencies and are not workplace ready. An important issue is whether higher education is responding adequately to an increasingly globally competitive labour market? Are HEIs equipping students with the relevant tools to survive in a present and future uncertain global economic climate? However, the danger herein is the vulnerability of universities conforming to market pressures, as the CHET (2004) reiterates:

The key pressure that higher education will have to resist is allowing the notion of responsiveness to be reduced to one of pure market responsiveness, rather than encompassing the broader range of societal and economic purposes that higher education has traditionally served, and continues to serve. This in itself constitutes an argument for continuous exploration of the knowledge, skills and competencies required by the world of work, the market and the knowledge economy, the way these relate to the diverse social purposes of higher education, and how they can be integrated into common learning networks for government, business and higher education.

To increase and align the nature of responsiveness of HEIs towards a national socio-economic development agenda, CHET (2004) proposed the following potential linkages between higher education, government and the private sector:

- Exchange between higher education and the economic sector in respect of academic planning and curriculum development to ensure that the needs of private business and public corporations are comprehensively met (without undermining the traditional educational purposes of higher education).
- Collaboration between business and HEIs in research, especially in the areas of science and technology, (without weakening the fundamental knowledge base traditionally provided by higher education).
- Collaboration in local or regional economic development.
- Knowledge transfer between the two sectors (e.g. academic consultancy to businesses, and professional upgrading and retraining of employee skills by higher education).
- Work placements for higher education students (experiential or workplace-based learning).
- Critically, employment of higher education graduates.

A seminal work is the study conducted by Maharasoa and Hay (2001), “Higher Education and Graduate Employment in South Africa”. From a global perspective they argue: “There has been a move away from `mode 1’ pure knowledge to `mode 2’ knowledge with its greater concern for application and practices, along with a greater emphasis upon economic and social relevance.”

Maharasa and Hay (2001) posit that universities worldwide seem to be “undergoing a metamorphosis that could irrevocably change their long-standing nature, image, notion and traditions.” From a “knowledge production perspective,” Waghid (2002) reiterates this sentiment in his paper, “Knowledge production and Higher Education Transformation in South Africa: Towards Reflexivity in University Teaching, Research and Community Service”. Waghid (2002) states:

In view of this emergent shift in knowledge production or formation (research), universities are increasingly being challenged in terms of their responsiveness and relevance to societal needs (Subotzky 1999, p. 17). Given the extent of world-wide moral, economic and social problems, there is increasing pressure on universities to bridge the gap between higher education and society and "to become active partners with parents, teachers, principals, community advocates, business leaders, community agencies, and general citizenry" (Braskamp and Wergin 1998, p. 62).

From a global perspective there has been a clear shift towards problem-solving/applied as opposed to traditional disciplinary research and teaching methods. As a result, there is a growing demand for higher education (from a teaching and research perspective) to exhibit greater social relevance and accountability (Muller 1999, cited in Waghid, 2002). In commenting on the reform of contemporary Western universities, Coffield and Williamson (1997) state: “In short, the old elite model has run its course and needs to be replaced.” Placing rhetoric and legislative frameworks aside, the underlying question is whether South African universities are adapting sufficiently to respond to national socio-economic needs and challenges? This can arguably be measured by three discerning factors: 1) the employability and marketability of graduates – the quality labour market inputs; 2) the capacity and quality of knowledge production; and 3) the practical application and the commercialisation of knowledge – a fundamental construct of the national system of innovation (this theme is contextualised and discussed in greater depth in Chapter Three).

2.3. Graduate Unemployment and Employability in South Africa

In South Africa the high incidence of unemployment among graduates from the higher education system has become a significant concern. Even though GDP growth rates have recently been on the increase the labour market has not sufficiently absorbed new job-market entrants. A worrying trend is emerging whereby the graduate unemployment rate, “although low in comparison to the overall unemployment rate, has been growing the fastest among of all the education cohorts since 1995” (Pauw et al., 2006). Although, young South Africans have become better educated over the last decade, many of these young labour market entrants struggle to find employment. According to Pauw et al.:

77% of unemployed graduates are youth, defined here as individuals between the ages of 15 and 34, suggesting that many of the graduate unemployed graduates are recent graduates. Unemployment among educated youth is damaging for the economy as it can lead to frustration and disillusionment among young people, while extended periods of unemployment may result in erosion and outdating of young peoples skills base.

Graduate unemployment in South Africa is primarily based on an acute skills deficit. According to the Development Policy Research Unit (DPRU, University of Cape Town, 2006): “The unemployment problem in South Africa can be described as structural in nature, given that there appears to be an ongoing, almost intractable, mismatch between the types of workers demanded by firms and those supplied in the labour market.” Thus, implying there is an urgent need for broader and more intensive dialogue between employers and learning institutions (DPRU, 2006).

According to a 2007 report by the Joint Initiative on Priority Skills Acquisition (JIPSA)⁸, graduate unemployment is aggravated by factors such as: “race, field of study, the institution from which the person graduated, employer perceptions of the graduates’ quality and

⁸ JIPSA drives the skills development agenda in support of AsgiSA’s economic growth objectives. JIPSA advises on: “aligning the training and skills-development efforts of the public and private sectors with the objectives of AsgiSA without undermining the development and implementation of longer-term HRD strategies.” In addition, JIPSA also provides “an inclusive platform through which the social partners can demonstrate their commitment to human resource and skills development, deliver on both short- and medium-term skills targets, and strengthen the existing mechanisms for skills delivery.” (JIPSA, 2007)

employability, a lack of skills among graduates...their lack of access to employers and networks, their attitude and lack of work experience.” Crosser (2003, cited in Koen, 2006), in an assessment of national and institutional graduate tracer studies concludes:

There is sufficient evidence that students who choose the science, engineering and technology (SET) fields are more likely to be immediately employed upon completion of their programme of study than are commerce or economics graduates (Moleke & Albertyn, 1999; Moleke, 2001; Maharasoa and Hay, 2001). For commerce and economics graduates, there is a waiting period. The situation is worse for students who choose humanities and arts in that there is an even longer waiting period before employment opportunities can be realized.

It is expected that students in different fields of study will have different prospects in the labour market affected by demand and supply. However, it is of stark concern to observe that race, gender, and institution play a role in influencing young graduates’ employment prospects. On this point Moleke (2003) argues:

Even taking into consideration the differences in fields studied, African and coloured graduates seem to have fewer prospects when compared to their white and Asian counterparts even where they have similar qualifications (studied in the same fields of study). Similarly, those who graduated from historically black universities are absorbed into the labour market more slowly after they have obtained their degrees than those from historically white universities, whose absorption rate peaks earlier within the first few months after graduation. It appears that males are also absorbed more rapidly into the labour market than females.

The existing skills deficit among graduates is evidenced by the apparent lack of soft skills, as many firms feel that graduates lack generic soft skills and are not workplace ready (DPRU, 2006). JIPSA also identifies the lack of “experiential training” opportunities and “project management training” as two key problem areas affecting graduate employability.

In an increasingly competitive globalizing economy, there exists a growing demand for new labour market entrants (recent graduates) to exercise a greater margin of flexibility and develop generic competencies such as: soft skills (i.e. communication skills), personality development, problem-solving skills, and information-technology skills. The general consensus amongst firms

is that South African “graduates often do not possess the necessary skills and experience to be considered even for entry-level positions” (DPRU, 2006).⁹

The phenomenon of rising graduate unemployment has to be analysed within the context of skills shortages and the corresponding vacancies (job opportunities) in the market. “Graduate employment relates either to an oversupply of graduates in general or perhaps, more likely so, an oversupply of inappropriately qualified or poor quality graduates” (DPRU, 2006). According to the DPRU (2006) study, some firms clearly stated that the “average new recruit’s education is of a lower quality than in the past, while others suggested that if they could find more good quality graduates they would increase the intake of graduates.”

2.3.1. Research on the Graduate Labour Market in South Africa

Research on the graduate labour market segment is imperative, seeing as substantial resources are invested in their education (human capital) by both public and private individuals (Moleke, 2003). Koen (2006) emphasizes the importance of graduate tracer studies and employer perception studies as offering “an indispensable understanding of both the role of higher education graduates in national development and the productive function of HEIs with regard to the economy.”

In the study, “Higher Education and work setting a new research agenda,” Koen (2006) provides an in-depth analysis on the state of research on graduate unemployment and employment in South Africa. “The analysis is based on data from national graduate and institutional surveys, questionnaires in employment outcomes in particular professions and data from census, household and labour force surveys in South Africa” (Koen, 2006).

⁹ A majority of the respondents in the DPRU survey (2006) highlighted this as one of the main reasons why so many graduates are not readily employable. Furthermore, this was specifically a concern for graduates from historically Black HEIs. “For many, the transition from poor quality secondary schooling to tertiary education is a difficult one, and that from tertiary institutions to the workplace is even more challenging.” (Pauw et. al., 2006)

Framed by human capital perspectives, the core research questions underpinning graduate studies address: “‘what return society derives’ from graduate training, ‘the edge’ graduates have over other labour market participants and the utilitarian function education provides” (Koen, 2006). Based on the relevant value of the findings from studies on graduates, extensive research on this demographic of the labour market is seemingly justified. These research findings are valuable because they:

- Investigate whether universities and technikons are producing graduates who meet labour market demands
- Indicate the degree of responsiveness of higher education institutions to national economic needs
- Demonstrate the labour market absorption patterns for the generally expanding number of graduates; and
- Provide insight into the changing nature of employment and social class dimensions. (Koen, 2006)

Koen (2006) argues that while one perspective on graduate unemployment and employability maintains that expanded graduate training is the most sensible solution, other studies argue that expanded graduate training has failed to diminish demand problems. Despite the importance of such findings, Koen claims that these results tell us little that we do not already know, “as evidence of demographic and skills mismatch as well as graduate shortages has been available since the 1960s.” In other words, Koen bases his argument on the prevailing structural (Apartheid induced) inequities inhibiting the South African labour market, he states:

Given the racialisation of South African society and the level of systemic inequalities, the results from graduate studies show that the main demographic characteristics that coincide with high-level employment patterns have not really changed (for systemic reasons) and that the range of mismatches between demand and higher education supply has persisted in several sectors.

For the purpose of this research paper, one of the most relevant observations which Koen (2006) provides is that, little is actually known about graduates, their lives and perceptions. Koen establishes that there is a need for future graduate tracer studies to explore a wider range of issues, and accumulate more in-depth knowledge about graduates in order to improve the value of research on this topic. “The wrong response would be to persist with the current pattern of conducting research, which to a large extent simply deifies existing knowledge” (Koen, 2006).

2.4. The Nature of Graduate Employability

In recent years the increase in graduate unemployment has been a catalyst for the debate surrounding graduate employability and its relationship with higher education. Furthermore, in the contemporary era “global economic factors mean that graduates are not necessarily restricted by national borders in their search for employment and there is an increasing necessity for a model of generic skills that are recognized not just nationally but internationally” (Bowers-Brown and Harvey, 2005).

The modern knowledge economy is dependent on life-long learning and in this regard higher education is influential. In South Africa the growing service sector demands highly skilled and competent young graduates from a range of academic disciplines, emphasizing the influence of a growing knowledge-based economy. Future and current graduates will be expected to gain the skills to remain employable throughout their working life. Teodorescu (2003) argues: “The emerging knowledge-based economies will be increasingly dependent on constant and lifelong learning and training and new graduates will have to be self sufficient, self directed, lifelong learners; understand when they need information and what kind of information they need.”

Griesel (2002) contends, “There is not a sufficiently strong fit between graduate attributes (i.e. what higher education ‘delivers’) and the demands of the workplace.” In the modern competitive global economic environment, companies are seeking graduates with theoretical knowledge and who are able to convert what they have learnt from a text book into a working environment. Today, the antiquated perception of ‘get a degree – get a job’ is challenged in a competitive global labour market. Thus, the importance of self-development (development of core competencies) from an early undergraduate stage must be emphasized to students in order to improve their future profile in the labour market.

2.4.1. Examples of University-based Graduate Employability Programmes

HEIs have addressed the employability agenda in different ways, and some institutions have been more effective than others in adopting measures to assist students in making the transition from higher education to the world of work. Bowers-Brown and Harvey (2005) argue that, “there have been numerous approaches to improve the employability of students such as embedded skills, additional core-skills, work-experience and evaluation of what has been learned.”

The high level of graduate unemployment in South Africa implies that the responses from South African HEIs in addressing graduate employability have been inadequate. A cursory overview of available HE employability programs indicates that responses have been slow and somewhat isolated. This assumption is concurrent with the sentiment expressed by Maharasoa and Hay (2001), who argue that higher education curriculum reforms intended to enhance graduate employability are patchy. However, an example of two proactive responses is evident in the cases of the “World of Work Programmes, University of Witwatersrand”, and the “Alumni Entrepreneurship Workshop, University of KwaZulu-Natal”.

2.4.1.1. World of Work Programmes, University of Witwatersrand

The World of Work Programmes include: 1) World of Work Training Programme and 2) World of Work Internship Programme, which is administered by the Faculty of Humanities at University of Witwatersrand (WITS):

- World of Work Training Programme – This is an intensive short course (duration: one month), wherein participants refine their employability skills and learn how to apply for an internship or permanent position in an organization. In addition, South African business leaders host seminars presenting current workplace issues.
- World of Work Internship Programme – Internship scholarships are available, to allow students to develop invaluable working experience while being closely mentored by the World of Work staff (<http://www.wits.ac.za/Humanities/GSH/>).

This initiative serves to bridge the gap between university and the world of work, targeting human sciences and social sciences graduates – designed to increase students’ employability skills and marketability. The programs are formulated on the corporate internship culture in the USA, where internships have become a major method of graduate recruitment (<http://www.wits.ac.za/Humanities/GSH/>).

2.4.1.2. Alumni Entrepreneurship Workshop UKZN

The UKZN Corporate Relations Alumni Affairs Unit hosts bi-annual entrepreneurship training and job skills workshops for recent alumni/graduates. The main objective of the workshops is to assist graduates in bridging the gap between theory and practice, by facilitating the development of generic competencies. According to the Alumni Affairs Manager, Mr Christensen: “The workshops are the result of numerous requests from recent graduates for assistance in securing vital skills – such as interview protocol, leadership skills, entrepreneurship and project management” (cited in Nyaba, 2008).

The workshops cover themes such as: 1) The Entrepreneur and Management in Small Business Partners, 2) Writing a Business Plan and 3) Franchising as a Business Opportunity. The June 2008 entrepreneurship workshop sessions were facilitated by managers from Business Partners Limited, “a specialist investment company providing debt and equity investment, mentorship and property management services for SMMEs in South Africa” (<http://www.businesspartners.co.za/>). The shortfall of this skills development initiative is that it only accommodates a handful of graduates – only 45 graduates benefited from the most recent rollout of workshops in June 2008. Furthermore, these workshops fail to target final year students and are not consistent features throughout the academic calendar.

2.5. Chapter Summary

Chapter Two has reviewed key themes which elucidate one of the main contextual frames of this study. Insofar as to deconstruct a component of the two-part problem statement – ‘graduate employability’. The existing levels of graduate unemployment in South Africa, warrants an inspection into the degree of responsiveness of HEIs towards national economic needs and the link between higher education curricula and graduate employability.

There is an urgent need to deliver offerings to improve the employability and marketability of graduates. It is necessary to overcome existing institutional (HEIs) boundaries and invent alternative social organizations (“reflective learning communities”)¹⁰ that foster transdisciplinary competencies and mindsets (Derry and Fischer, 2005). From the perspective of the service provider-client relationship, it is necessary for the provider (university) to understand the needs of the client (student). Hence, in order to design appropriate responses there is a need for further research on the perceptions of students and graduates pertaining to their curriculum, skills sets, transition to work life and barriers to labour market entry.

In line with evolving global trends, universities in South Africa must consider transforming their ivory tower disposition and shift closer towards a mode of knowledge production and teaching which emphasizes greater application and practice. As a preamble to Chapter Three, it is attested that the multiplier effect of higher education has the potential to catalyse opportunity-oriented entrepreneurship development, and subsequently influence sustainable job-creating growth in South Africa.

¹⁰ The concept of “reflective learning communities” is discussed in more pertinent detail in Chapter Four.

Chapter Three: Entrepreneurship Development in South Africa

“It is proven that the level of education can have a positive impact on youth entrepreneurship, especially within the current knowledge environment era.” – Herrington and Maas (2007)

This study is grounded on the thesis that ‘education is the key of a country’s future entrepreneurial capacity’. Cultivating an entrepreneurial culture depends on how well the education system equips young people with the relevant entrepreneurial skills and values. Nieuwenhuizen and Kroon (2002) maintain that the national educational system “has to be supported by economic and political institutions to inculcate the entrepreneurial culture in society and to ensure the facilitation and actual establishment of enterprises.” Furthermore, in emerging knowledge economies an inclusive national system of innovation has to be developed, led by re-examining the traditional role of universities. A key element of this transformation is the development of entrepreneurial mindsets and capabilities toward knowledge commercialization (Wong et al., 2007).

To increase the employability and entrepreneurial skills of graduates there is a need to embrace an inclusive paradigm of holistic, co-operative and experiential based learning models. This in turn will develop a closer link between academic discourse to real world problems and industries. Implementing innovative experiential learning models requires significant institutional support, and a need for universities to embrace a more entrepreneurial service delivery ethos. In this regard, there is a call for South African universities to explore the feasibility of moving towards a context-specific variant of the so-called ‘entrepreneurial university’ – which is characterised by a high degree of openness and interaction towards the surrounding socio-economic environment.”

This chapter is segmented into the following key themes:

- Theories of Entrepreneurship
- Entrepreneurship Development in South Africa
- The Role of Higher Education in Developing Entrepreneurs
- Conceptualizing an “Entrepreneurial University” Model to Support Knowledge-Based Economic Development

- An Entrepreneurship Paradigm of Learning
- Entrepreneurship Training in South African HEIs

3.1. Theories of Entrepreneurship

Entrepreneurship is a central theme in this study therefore it is necessary to provide a cursory overview of the fundamental theories of entrepreneurship. Section 3.1.1 to 3.1.3 traces the origins of entrepreneurship theory and is a prerequisite to Section 3.5, which discusses the development of a conceptual framework for the design of entrepreneurship learning practices within higher education. The dominant philosophy of entrepreneurship has been cultivated within an Anglo-American liberal market context. It is argued that in the case of emerging market economies, it is critical to develop a new paradigm of entrepreneurship learning, which is conceptualised within a relevant socio-economic development framework. In short, how can entrepreneurial values and behaviour succeed in progressing societies in developing countries?

3.1.1. Origins of Entrepreneurship Theory

The term ‘entrepreneur’ originated in the dialect of French economic in the 17th-18th centuries and is commonly accredited to the French economist, Jean Baptist Say. Writing around the turn of the 19th century, he defined the entrepreneur as a person who “shifts economic resources out of an area of lower and into an area of higher productivity and greater yield” (cited in Dees, 2001). In Say’s view, entrepreneurs essentially create value.

Dees (2001) defines the traditional entrepreneur as:

In French it means someone who “undertakes”...someone who undertakes a significant project or activity. More specifically, it came to be used to identify the venturesome individuals who stimulated economic progress by finding new and better ways of doing things.

In Joseph Schumpeter’s (1883-1950) theory, entrepreneurs played “the role of dam breakers, unleashing a flood of innovation into the marketplace” (Beinhocker, 2007). By this means

economic growth does not occur in a steady stream, but as Schumpeter famously stated: “in gales of creative destruction”. In Schumpeter’s words, “the function of entrepreneurs is to reform or revolutionize the pattern of production” (cited in Dees, 2001). In his theory of “creative destruction” entrepreneurs distort the market equilibrium (creating disequilibrium in the prevailing economic system), and move the economy forward by creating new ways of doing things (innovation) or serving new markets. Innovation is therefore a central means by which entrepreneurial agents/firms catalyze economic growth.

Whereas neoclassical economic theory tends to view innovation as an external/exogenous factor (a random variable that affected the economy), Schumpeter believed that innovation had to be perceived as an internal/endogenous variable in the economic system. He posited that for economic growth to occur there must be “a source of energy within the economic system which would itself disrupt any equilibrium that might be attained” (Schumpeter 1934, cited in Beinhocker, 2007). In Schumpeter’s view this source of energy was personified by ‘the entrepreneur’.

3.1.2. Contemporary Theories of Entrepreneurship

The Say-Schumpeter tradition that identifies entrepreneurs as the catalysts and innovators behind economic progress has served as the foundation for the contemporary use of this concept (Dees, 2001).

Entrepreneurship theory has historically been associated with the birth and conception of an enterprise. In contemporary writings on entrepreneurship, there is a shift of focus towards the relationship between the entrepreneur and opportunity embedded situations. “The notion of opportunity has come to be central to many current definitions of entrepreneurship” (Dees, 2001). Shane and Venkatamaran (2000) refer to entrepreneurship as, “the nexus of two phenomena, the presence of lucrative opportunities and the presence of enterprising individuals” (cited in Blenker, Dreisler and Kjeldsen, 2006).

Peter Drucker (1985) amplifies the focus on ‘opportunity’, he says, “the entrepreneur always searches for change, responds to it, and exploits it as an opportunity.” Furthermore, he argues

that, “not every new small business is entrepreneurial or represents entrepreneurship”. He uses the example of a husband and wife who open another eatery or another Mexican restaurant in a typical American suburb as a case in point. Drucker also emphasizes that entrepreneurship does not necessarily require a profit motive.

A leading theorist of entrepreneurship from Harvard Business School, Howard Stevenson, “added an element of resourcefulness to the opportunity-oriented definition based on research he conducted to determine what distinguishes entrepreneurial management from more common forms of ‘administrative’ management” (cited in Dees, 2001). Stevenson defined entrepreneurial management as “the pursuit of opportunity without regard to resources currently controlled.” He found that entrepreneurs identify and pursue opportunities that elude administrative managers, and do not allow resource constraints to limit their available options.

3.1.3. Social Entrepreneurship

In the context of an emerging market economy, it is imperative that future entrepreneurs are equally motivated by an economic and greater social agenda. These entrepreneurs should seek to stimulate economic growth in line with creating sustainable job opportunities. Ideally, enterprise development should be congruent with triple bottom line principles – a holistic focus on sustainable practice. Practitioners in the not-for-profit (NFPs) sector should also strive to provide entrepreneurial solutions to social problems, by addressing their social mission with business-like discipline and innovation – “the idea of social entrepreneurship”.

In writing “The Meaning of ‘Social Entrepreneurship’” Gregory Dees (2001) defines social entrepreneurship based on a strong tradition of entrepreneurship theory. Dees constructs a definition of social entrepreneurship by: combining a fundamental emphasis on discipline and accountability, “with the notions of value creation taken from Say, innovation and change agents from Schumpeter, pursuit of opportunity from Drucker, and resourcefulness from Stevenson.”

Dees succinctly describes his idea of the social entrepreneur below:

Social entrepreneurs play the role of change agents in the social sector, by:

- Adopting a mission to create and sustain social value (not just private value),
- Recognizing and relentlessly pursuing new opportunities to serve that mission,
- Engaging in a process of continuous innovation, adaptation, and learning,
- Acting boldly without being limited by resources currently in hand, and
- Exhibiting heightened accountability to the constituencies served and for the outcomes created.

In working towards a more a structured definition, Mort, Weerawandra and Carnegie (2002, cited in Dees, 2001) conceptualise social entrepreneurship as: “a multidimensional construct involving the expression of entrepreneurially virtuous behaviour to achieve the social mission, a coherent unity of purpose and action in the face of moral complexity, the ability to recognise social value-creating opportunities and key decision-making characteristics of innovativeness, proactiveness and risk-taking.”

3.1.4. Defining Entrepreneurship

The definition of entrepreneurship is widely debated. This section has briefly documented the underpinning philosophies of entrepreneurship however it is not the aim of this study to critically engage the definitional debates encompassing the concept of entrepreneurship. For the purpose of this study, it is postulated that innovation and entrepreneurship are instrumental in matters of employment and socio-economic development, and that it is feasible to undertake entrepreneurial approaches to social problems. Nevertheless, the definition of entrepreneurship embodied in this study still adheres to these generally accepted principles:

- Entrepreneurship can facilitate employment creation and economic growth;
- Entrepreneurs are involved in exploiting new opportunities, which necessitates a high degree of personal creativity and innovation; and
- Entrepreneurship is different from a normal business i.e. a normal business focuses mainly on maintaining a fixed quality of life whereas entrepreneurship is a risky enterprise and therefore calls for the ability to work with ambiguity (Herrington and Maas, 2007).

3.2. Entrepreneurship Development in South Africa

This study is premised on the belief, that if South Africa is to overcome its structural socio-economic challenges (namely unemployment), then it urgently needs to develop into a more entrepreneurial society. Davies (2001) states: “The larger vision of economic development and job creation in South Africa will be directly linked to the level of entrepreneurial drive that can be unleashed to fuel new business start-ups and business expansion.” A study of 21 countries by Babson College and the London School of Economics revealed that all countries with high levels of entrepreneurial activity have above-average growth (Reynolds, Hay, Bygrave, Michael Camp and Autio; 2000).

The South African government professes its commitment to enterprise development through its funding and support initiatives, implemented by organisations like the Small Enterprise Development Agency (SEDA)¹¹. Arguably, stipulations in the finalized BEE Codes of Good Practice rebuff the government’s enterprise development rhetoric. Despite these fractured interventions and government’s extended policy rhetoric, South Africa still lags far behind other developing countries in creating sustainable and employment-creating small businesses. “Whereas small firms contribute as much as two-thirds of GDP in many developed economies, it is estimated that their South African counterparts currently contribute just one-third of our GDP” (CSI Handbook, 2007).

A recent study on entrepreneurship conducted by the Centre for Development and Enterprise (CDE) concluded that, “small business development in South Africa remains weak despite the government’s insistence that encouraging emerging entrepreneurs is central to transforming the business sector and tackling poverty.” The South African government professes that the number of SMMEs entering the local market has over the last decade grown at an impressive rate of 7% per annum. However, are these SMMEs actually creating sustainable jobs? The problem is that

¹¹ SEDA spearheads government’s efforts and possesses the mandate to establish a national network of support systems and services for small businesses. SEDA also provides enterprises with government-backed finance, via its partnerships with state funding agencies – Khula Enterprise, the Industrial Development Corporation (IDC) and the Umsobomvu Youth Fund (UYF).

many South Africans are 'survivalist entrepreneurs' as opposed too much needed 'opportunity entrepreneurs'. This sentiment of poor small business development was highlighted by the findings of the South African Global Entrepreneurship Monitor (GEM)¹² 2005 report reveals:

South Africa's overall entrepreneurship ranking has dropped from 20th position in 2004 to 25th position out of 35 in 2005. And the country's Total Early-stage Activity (TEA)¹³ was measured at only 5.1 per cent, down from 5.4 per cent in 2004. We also have one of the lowest new business success rates: except for Mexico, South African start-up businesses are the least likely of all developing countries to mature to the new firm stage. (Von Broemson, 2005)

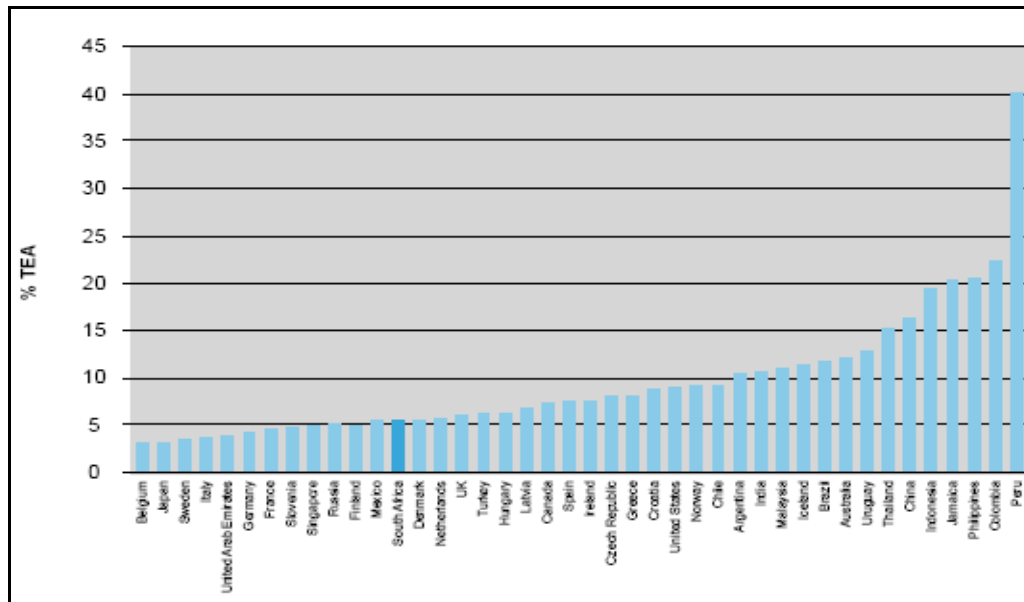
In line with the GEM findings Davies (2001) emphasizes that the entrepreneurial base in South Africa is neither wide nor solid. Davies contends that a majority of South African have grown up with very little home (family orientated) experience of business innovation and entrepreneurship, "and consequently have little notion of themselves as 'resource creators' or 'mobilisers.'" The 2006 GEM report highlights that: "Total Early-Stage Entrepreneurial Activities (i.e. from 0 months up to 3.5 years) are not up to standard if South Africa wants to sustain economic growth rates...with a young population, more pressure will be exerted on existing businesses to create enough wealth for all." Despite improved macro-economic conditions South Africa's GEM ranking has deteriorated (Herrington and Maas, 2006).

Figure 1 (below) illustrates where South Africa is positioned in comparison with other countries based on the international GEM 2006 survey. In the GEM 2006 survey the TEA average for all countries in the survey is 9.43%, whereas South Africa's was 5.29% (Herrington and Maas, 2006). This means that for every 100 adults between the ages of 18 to 64 approximately five own and manage a start-up business. This compares very poorly to a world average of just below eight and a developing country average of nearly 15 out of every 100.

¹² 42 countries (including South Africa) around the globe have participated in the GEM 2006 study and it is the largest longitudinal study of entrepreneurship in the world.

¹³The Total Early-stage Activity (TEA) index measures the percentage of individuals between the ages of 18 and 64 that are involved in starting a new business which they wholly or partly own and which is less than three-and-a-half years old (Herrington and Maas, 2006).

Figure 1: TEA¹⁴ rates of all countries (Source: Herrington and Maas, 2006)



The GEM survey data indicates that South Africa is positioned below the average of all other countries. Since South Africa’s participation in the international GEM survey, its performance in terms of relative position has consistently been below the median. Therefore, indicating that South Africa’s position has not improved since 2001. It is necessary to highlight that this list includes countries at different levels of economic development (Herrington and Maas, 2006).

In the GEM South African Report 2007, South Africa was placed in 31st position out of 42 nations profiled in the study (Herrington and Maas, 2007). In a study by Herrington, Maas and Bisset (2007, cited in Herrington and Maas, 2007) it was established that in South Africa innovation is not the prime reason for low TEA rates. Herrington and Maas (2006) posit that entrepreneurial mindsets and the level of education might be contributing factors. In general they claim that although South Africa’s TEA rates are lower in comparison to other countries, it seems as though the entrepreneurial situation is slowly gaining momentum (Herrington and Maas, 2007).

¹⁴Herrington and Maas (2007) highlight that the TEA rate “is not a forecast of the economic strength of a country, nor does it provide an indication of the successful development and support of entrepreneurship within a country.” However, it does provide an overview of perceptions. This is important because perceptions determine whether entrepreneurship is valued and therefore supported in a country.

The foundation for a robust SMME sector is a strong entrepreneurial culture. The South African Institute for Entrepreneurship (SAIE) believes that the key to future enterprise development is to cultivate an entrepreneurial mindset among the youth. Youth entrepreneurship is an influential factor in stimulating economic growth. As the youth constitute the majority percentage of the population, their importance in venture creation cannot be underestimated.

The GEM South African Report 2007 assessed positive or inhibiting factors on the promotion of youth entrepreneurship in South Africa (Herrington and Maas, 2007). Results indicated that South African youth are positively orientated towards entrepreneurship. Herrington and Maas (2007) argue: “In essence, the youth in South Africa is no different to youth in other countries. Similar opportunities and challenges exist such as being qualified for the world of small business/entrepreneurship, unemployment of youth and social problems like substance abuse.” They conclude that the overall picture in South Africa is more positive than negative and posit that the following key areas need to be addressed in order to effectively promote youth entrepreneurship:

- Education and training efforts should focus on inculcating an entrepreneurial mindset and providing the youth with the right knowledge and skills to start their own business.
- Youth entrepreneurs need exposure to different market conditions and support in identifying modern, cutting-edge business ideas.
- Provide support services that will help youth entrepreneurs to develop the above ideas into sustainable businesses.
- A national integrated and co-coordinated support system should be developed, addressing the specific needs of youth entrepreneurs.
- A special focus on developing entrepreneurship in lesser developed and rural areas is essential. (Herrington and Maas, 2007)

3.3. The Role of Higher Education in Developing Entrepreneurs

Davies (2001) argues: “For South Africa to effectively address unemployment and revitalize the economy is through the rediscovery of the entrepreneur who takes risks, who breaks new ground and who plays an innovative role in the economy.” From an education perspective this arouses a seasoned debate: Is entrepreneurship an innate ability or learned skill? According to Davies the debate remains unresolved, “but the international experience (particularly in developed countries where re-skilling has been necessary) suggests that much can be done to raise levels of new venture start ups by systematic and mass delivery of entrepreneurship training.” This dissertation is premised on the understanding that entrepreneurship is a skill that can be learned.

Entrepreneurship education in higher education curricula is critical for the successful incubation of tertiary entrepreneurial talent. Arguably, HEIs are fertile intellectual breeding grounds for skilled entrepreneurs. This niche skilled youth demographic (students in higher education) are presented with the opportunity to learn within an infinitely rich knowledge resource environment. By this virtue they possess the latent potential and access to intellectual resources to develop into future job creators – ‘agents of change’. However, institutional structures and curriculum design must be engineered to incite the development of skilled student entrepreneurs and the systematic evolution of their business ideas into sustainable enterprises.

Entrepreneurship training can be effective in alleviating graduate unemployment – by equipping graduates with the entrepreneurial skills needed for venture creation, and as a result improving their skills set and overall employability. The Broad-Based Black Economic Empowerment (B-BBEE)¹⁵ Codes of Good Practice creates an incentive for large South African companies to invest

¹⁵ The South African government defines Black Economic Empowerment (BEE) as: “An integrated and coherent socio-economic process that directly contributes to the economic transformation of South Africa and brings about significant increases in the numbers of black people that manage, own and control the country’s economy, as well as significant decreases in income inequalities. Thus BEE process will include elements of human resource development, employment equity, enterprise development, preferential procurement, as well as investment, ownership and control of enterprises and economic assets.” (www.thedti.gov.za).

in start-up ventures initiated by the black¹⁶ unemployed graduates. By supporting (i.e. by providing seed capital) such venture enterprises they could earn B-BBEE points in terms of the Enterprise Development Code and consequently improve their B-BBEE scorecard.¹⁷

The 2000 edition of the Global Entrepreneurship Monitor stipulated that the level of participation in tertiary education in a country is strongly related to the level of entrepreneurial activity in that economy (Reynolds et al., 2000). Findings from the GEM 2003 survey indicated that the more education an individual had, the more likely they were to start a sustainable business and the more people they would employ (Orford, Wood, Fischer, Herrington and Segal; 2003). The survey revealed that the potential of graduates from higher education to create employment generating enterprises is two and a half times greater than for people who have only completed formal secondary education. This finding highlights the importance of education in cultivating a secure entrepreneurial culture in a country (Nieuwenhuizen and Kroon, 2002).

Educational Institutions Should Introduce and/or Strengthen Entrepreneurship Education. An entrepreneurial culture should begin at home, and then proceed to higher education and training institutions. When pupils are oriented into entrepreneurship from an early age, it becomes easier when they have their own entrepreneurial ventures. (Ladzani and Van Vuuren, 2002)

Ladzani and Van Vuuren (2002) contend that entrepreneurship should be promoted at an early (formative) stage in the educational development of young people. What role does higher education serve, in harnessing or inducing the entrepreneurial potential of students with the definitive goal of sculpting skilled entrepreneurs? Firstly, the educational system is an excellent starting point for inculcating entrepreneurial values. McClelland (1986 cited in Nieuwenhuizen and Kroon, 2002) argues, “changes in values are often associated with changes in the educational system, because changes in thinking and actions occur during development”. Expanding upon McClelland’s argument within the context of higher education, Merten (1995 cited in Davies, 2001) maintains that HEIs can contribute to the creation of an entrepreneurial society by

¹⁶ ‘Black’ is a generic terms which refers to people from indigenous African, Coloured and Indian communities in South Africa (www.thedti.gov.za).

¹⁷ The ‘balanced scorecard’ is used to measure the progress made in achieving BEE by companies and industry sectors (www.thedti.gov.za).

developing relevant knowledge systems and inculcating an entrepreneurial attitude among graduates – “the objective being to effect a change in the mindsets of students from potential employees to employers”.

From an international perspective, before the 1970s “it was most likely that undergraduate and graduate students enrolled in collegiate schools of business had little opportunity to study entrepreneurship” (Klofsten and Spaeth, 2004). Entrepreneurship as a contemporary academic discourse is not new to higher education subject matter, however “entrepreneurship education as an application-based training for new business development is a relatively recent phenomenon” (Klofsten and Spaeth, 2004). HEIs can play an active role in contributing towards the creation of an entrepreneurial society by developing entrepreneurial traits and skills in their students, and further instilling a sense of understanding of risks and rewards, and of business creation and business destruction.

In brief, developing entrepreneurial attitudes and entrepreneurship-competence among students is a task that should be seriously undertaken by HEIs. Merten (1995 cited in Davies, 2001) asserts that HEIs can improve the nature of their entrepreneurship education by: 1) educating and training students (entrepreneurial skills development), 2) by having a lecturing body that embraces and practices entrepreneurship,¹⁸ 3) by researching the problems faced by entrepreneurs in society (understanding the constraints within the SMME sector), and 4) by influencing government policies and actions.¹⁹

¹⁸ It is critical for the lecturing body to act as a role model. Merten (1995 cited in Davies, 2001) argues that, “members of the faculty need to be involved in wealth generation activities, and facilitate opportunities for the student body to become involved in the process.”

¹⁹ In order to influence government action, it is important for “the systematic development of base data and reliable trend indicators on the SMME sector with all its complications is critical for the assessment of policy efforts and the planning of policy reforms” (Merten 1995 cited in Davies, 2001).

3.4. Conceptualizing “The Entrepreneurial University” Model to Support Knowledge-Based Economic Development

The interest in exploring this theoretical frame is based on the philosophy that innovation and entrepreneurship remain key input factors for economic growth and employment. It is argued that via creative practice and institutional configuration, HEIs can improve the capacity of a country in generating new businesses and engendering growth in existing businesses. Beyond the generic narrow ‘business-school education of entrepreneurship’, how can the university promote ‘the development of enterprising behaviour’? Blenker et al. (2006) question whether the traditional university model constitutes a barrier. They present the thesis that “the development of entrepreneurship and enterprising behaviour as subject fields and frames of understanding can only happen concurrent with a transformation of the universities from ivory tower into entrepreneurial university...or into the modern university...used to refer to new, alternative, experimenting universities.”

Blenker et al. (2006) state that, “there are many dimensions to the development of entrepreneurship education at university level, e.g. drawing up new course descriptions or revising the mix of the course subject portfolio...such development requires a good more than just looking into the specific course content.” It is imperative to perceive the institutional framework conducive to fostering entrepreneurship among university communities. From a broader institutional perspective, it is critical to assess the evolving conceptual understanding of “the entrepreneurial university” model.

Etzkowitz, Webster, Gebhart and Terra (2000) argue that universities worldwide are evolving beyond their traditional role as educational service providers and facilities of scientific knowledge production. As a result, realizing the evolution of a more complex “entrepreneurial university model that incorporates the additional role of commercialization of knowledge and active contribution to the development of private enterprises in the local and regional economy” (Wong et al., 2007). In the current global economic climate universities worldwide as well as in South Africa are pressured to generate new sources of income, and have begun to increase their involvement in knowledge commercialisation - transforming university research into marketable

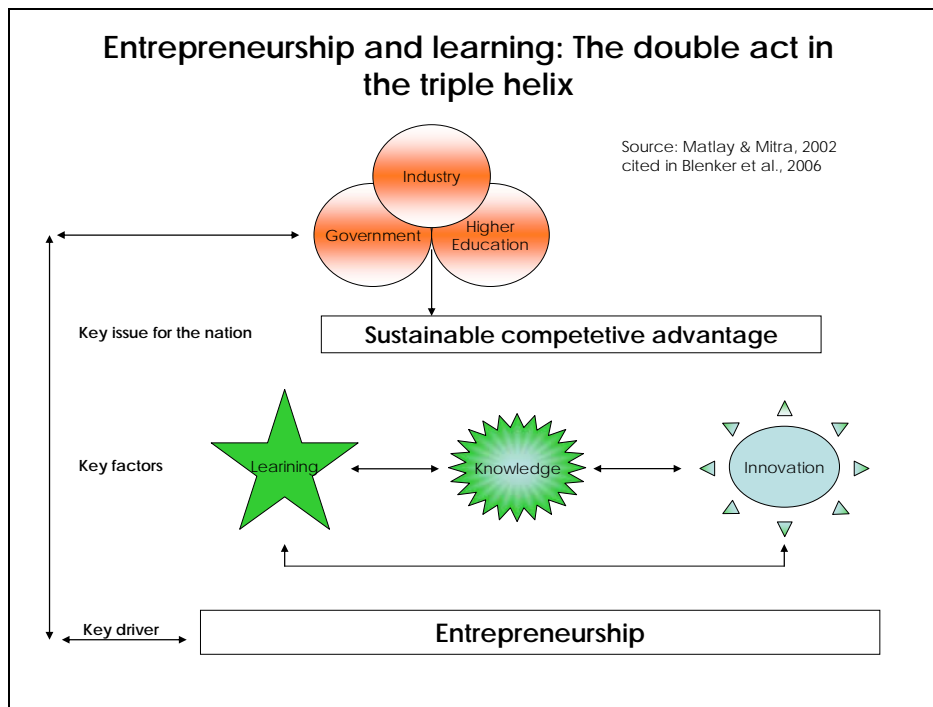
products and services. Universities are becoming key players in the national innovation systems, operating within a “Triple-Helix nexus”²⁰ involving close interaction government institutions and private industries. Etzkowitz and Zhou (2006 cited Wong et al., 2007) explain:

An entrepreneurial university is the generative principle of university-industry- government interactions as a source of innovation. The key elements of the entrepreneurial university model are: a research base with commercial potential, a tradition of generating start-ups, an entrepreneurial ethos on campus, policies for defining ownership of intellectual property, sharing profits and regulating conflicts of interest and participation in regional innovation strategy.

As illustrated in Figure 2, “these three institutional spheres which formerly operated at arm’s length in liberal capitalist societies are increasingly working together, with a spiral pattern of linkages emerging at various stages of the innovation process, to form the so-called ‘Triple Helix’” (Viale et al. 1998 cited in Blenker et al., 2006). This close interaction between higher education, business community and public authorities, drives the development of strengthened knowledge networks, creating the precondition for a society in change and advancing the transition towards a knowledge-based economy.

²⁰ “The Triple Helix is a metaphor borrowed from biotechnology. It consists of three spirals and refers to the biomolecular DNA structures in biophysics. The metaphor is used to illustrate the three forces or actors in society: academia, enterprises and government” (Blenker et al., 2006).

Figure 2: The Triple Helix



The Triple-Helix nexus (portrayed in Figure 2 above) is perceived as, “An expression of how to understand innovation systems, including technology transfer, and as a basis for building up trilateral networks and hybrid organisations” (Leydesdorff et al., 2000 cited in Blenker et al., 2006). The proposed thesis is that ‘the entrepreneurial university’ is characterised as an institution which, “by virtue of its close and intense interaction with its communities, provides the foundation for regional and national growth and development.”

In debating the interpretation of the Triple- Helix nexus Blenker et al. argue:

The model can be interpreted as a neo-corporatist development, in which the three parties, in a top-down process, initiate joint institutions to further the development and exchange of knowledge and resources between participants, to strengthen innovation and competitiveness...results of the cooperation have tended to be meagre, both as to integration between participants and start-up of new technology based, innovative enterprises.

Or,

The opposite of this is an evolutionary understanding of the concept, aiming for - as proved in practice - that it is possible within specific local contexts to develop relationships, e.g. loosely linked mutual relations or joint working and adapting to the changing situations, in order to be able to act on changing opportunities...the model has managed to produce a number of successful results.

This study adopts the evolutionary understanding of the concept, because this interpretation of the Triple Helix-nexus places the universities (academia) in the role as an initiator of a socioeconomic development in cooperation with the other stakeholders. This interpretation is more applicable in conceptualising the role of universities (within the Triple Helix-nexus) in the developing economy context.

The entrepreneurial university is conceptualised within the prevailing market orientated globalisation dynamic. In the modern economic system the university is affected by discerning market factors. There are advantageous and adverse effects of interacting to closely with the market economy. The entrepreneurial university in the American context is characterised by close contact with the market, whereas in the European context it assumes a strong political influence before any direct orientation towards the market (Blenker et al., 2006). This study posits that through creative organisational design and partnerships it is possible to establish mutual beneficial interactive systems for all the stakeholders within the Triple-Helix nexus. Furthermore, with globalisation affecting every facet of society, it is critical for the university to develop the capacity for thinking and acting globally. (Please note, this study will refrain from further engaging debate pertaining to issues of globalisation).

With the growth of intensive knowledge-based societies, the Triple-Helix nexus embeds academia, government and industry in lateral relationships. Within this theoretical construct, Wong, Ho and Singh (2007) performed an empirical analysis of the National University of Singapore (NUS).²¹ In the current era of economic transformation, “increasing prominence has

²¹ Among the Newly Industrialized Economies (NIEs) in East Asia, Singapore has achieved the highest economic growth performance in the past four decades (1960-2000), with an average GDP growth rate of 8 % per annum. Like other NIEs, Singapore has also adopted a knowledge-based strategy in the drive towards sustainable economic growth. Wong and Singh (2002) state: “Policy makers have chartered a course for Singapore’s transition from an investment-driven economy to an innovative-driven economy, emphasizing the building of intellectual capital and its commercialization to create value and jobs” (cited in Wong et al., 2007).

been given to the role of Singapore's universities in stimulating economic growth through industrially relevant research, technology commercialization, high-tech university spin-offs (USOs)²², attracting foreign talent, and inculcating entrepreneurial mindsets" (Wong et al., 2007).

Within the Triple-Helix nexus universities can still sustain their traditional roles as ivory towers of independent reflection (seekers of truth) and educators, in conjunction universities can develop as key actors in innovation and incubators for entrepreneurial development. Blenker et al. conclude that the Triple-Helix nexus is necessary, but not a prerequisite for entrepreneurship. They stipulate that the underlying principle is that in the future universities will play a more active part in the society they are apart of. By utilizing the Triple-Helix framework to understand the entrepreneurial university Blenker et al. argue that there is no direct conceptual correlation between the entrepreneurial university and teaching entrepreneurship. However, they choose to link them in order to highlight the internal and external challenges faced by universities in developing pragmatic entrepreneurship pedagogies.

In the case of emerging market economies there is a strong focus on human capital development through the assimilation of foreign technologies and knowledge, with much less emphasis on new knowledge creation through indigenous research activities. The transition toward a hybrid knowledge-based/natural resource-based economy requires a shift in the indigenous capabilities of local enterprises to create and commercialize new knowledge, and not just using knowledge imported from advanced countries. As portrayed within the Triple-Helix nexus the university must undertake a key role, moreover in the context of emerging market economies.

In the case of Brazil, the university has played a leading role within the Triple-Helix nexus. The modern Brazilian university has embraced academic entrepreneurship²³ and acts as a key

²² There is wide debate upon a universally accepted definition for USOs; for the purpose of this study the concise definition developed by Pirnay, Surlemont and Nlemvo (2003) is adopted: they describe USOs as "new firms created to exploit commercially some knowledge, technology or research results developed within a university."

²³ Academic entrepreneurship is defined as the involvement of students and staff in commercial activities in a system that builds on university-industry relations, in which industry acquires specialized knowledge from HEIs to utilize in the innovation process (Grundling and Steynberg, 2007).

facilitator for business incubation and enterprise development.²⁴ The incubator movement in Brazil began as a bottom-up product of multi polar initiatives as opposed to the government mandate in China (Chandra, 2007). The main objectives of these university-based incubators are economic development, employment generation and technology commercialization (catalysing USOs). Today Brazil has a well-developed incubator ecosystem with approximately 400 incubators funded by plural government and non-government sources. Brazil leads one of the most successful incubation movements in Latin America, through innovation and adaptation of incubator models to suit indigenous needs (Chandra, 2007).

Entrepreneurship education is offered at many leading Brazilian universities as a means of creating a pool of skilled entrepreneurial talent to support new venture creation. Chandra describes the progressive role of Brazilian university-based incubators as, “the logical next step after entrepreneurial education by co-locating the resources and capabilities needed for the support of new ventures”. The Brazilian incubation model is premised on the following set of assumptions (Chandra, 2007):

...new venture creation can be organized as an educational process, with formal and informal aspects (Etzkowitz, 2002). New venture failure in a vast majority of cases is due to lack of financing, weak management skills and poor understanding of market needs (Lewis, 2001). Business incubators fill an important gap by providing fledgling firms help in navigating these pitfalls, while providing a safe environment for new venture survival and growth.

In contrast to Brazil, HEIs in South Africa are struggling to comply with the demands of the knowledge economy and in the enhancement of applied research, academic entrepreneurship and promoting USOs. Grundling and Steynberg (2008) argue that South Africa being a country undergoing a radical social transformation process invariably imposes unique demands on HEIs to promote academic entrepreneurship. In a process of transforming higher education to address historical imbalances, “the question arises whether higher education is able to make the transition

²⁴ Etzkovitz et al. (2005 cited in Chandra, 2007) state that after the fall of the military regime in Brazil (in the mid 1980s), “the nexus of innovation shifted from a top-down approach to a bottom-up grass roots approach with the incubator playing a key role in facilitating new venture creation at a local or regional level.” But from a macro-level the synergies between university-industry-government (Triple Helix-nexus) helped increase the growth of incubators.

to academic entrepreneurship as expected by the new global economy which regards knowledge as a commercialized commodity” (Grundling and Steynberg, 2008).

According to Professor Anastassios Pouris, director of the Institute for Technological Innovation at the University of Pretoria, “South Africa’s 23 universities, although often very large in terms of student numbers, are very small in terms of research capacity” (Macgregor, 2007). In 2006, Pouris conducted a research ranking exercise, wherein he investigated the disciplinary strengths and international standing of South African HEIs by measuring their inclusion in the top 1% of HEIs worldwide cited in the international scientific literature (Macgregor, 2007). He concluded that South Africa was not effectively supporting specific fields of research in which it excels. “That was because the government is not sufficiently focused on areas of established excellence, is not pumping enough funding into university-based research and is not properly implementing the research priorities that it identifies” (Macgregor, 2007). From a national legislative position, the South African National Plan for Higher Education²⁵ places emphasis to “link government and business appropriations for universities to the quality of their performance in education and research” (Adams, 2006 cited in Grundling and Steynberg, 2008).

In a recent study, “Knowledge-intensive university spin-off firms in South Africa: fragile network alignment”, Glenda Kruss (2008) argues that “the degree of alignment in the South African national systems of innovation is fragile, in that networks may exist but not sufficiently widely across the system, or they may not function effectively.” The results of her empirical study indicate that it is difficult to sustain and grow spin-off firms from university-based research in South Africa. The fundamental concern is that institutional networks (between universities and firms) are not yet sufficiently developed in our national system of innovation (OECD, 2007 cited in Kruss, 2008). Kruss highlights the weak capacity of government to implement policy as a binding constraint. In conclusion, she underlines the need for stronger linkages (networks) between government, universities and industry as a precondition to sustain competitive USOs.

²⁵ The National Plan for Higher Education 2001; The New Funding Framework; The White Paper on Education 1997 and The Higher Education Act provide a framework for HEIs to deal with national challenges in higher education and formulate objectives in terms of: 1) National planning and policy priorities; 2) Quantum of funds made available in the national education budget and 2) Approved plans of individual HEIs (Robert, Gouws and Van der Merwe, 2006 cited in Grundling and Steynberg, 2007).

This dissertation argues that the existing theory of the entrepreneurial university, presents a point of departure in designing appropriate university-community-industry-government systems which facilitate socio-economic development processes – either via the commercialisation of research in the form of technology transfer or university spin-offs (enterprise development), consultancy services and engaging community-based projects (social entrepreneurship). In South Africa, there is a need to create stronger networks between universities and their surrounding environments in order to promote applied research and knowledge commercialization, furthermore catalysing quiescent entrepreneurial potential.

3.5. An Entrepreneurship Paradigm for Learning

In reference to the theories of entrepreneurship discussed in Section 3.1., Dees (2001) argues that the ideas presented by Say, Schumpeter, Drucker and Stevenson are “attractive because they can be as easily applied in the social sector as the business sector.” Furthermore, “they describe a mind-set and a kind of behaviour that can be manifest anywhere.” Dees synthesizes elements of these definitions in his conceptualization of social entrepreneurship – arguably a relevant theoretical frame within the developing economy context.

In pursuit of a new entrepreneurship paradigm of learning to Allan Gibb (2002) argues: “The challenge here is to distance the subject from its heroic ideology and association with business and market liberalization philosophy...there is a need for a radical Schumpeterian shift in entrepreneurship education involving ‘creative destruction’ and new ways of organizing knowledge and pedagogy.” For Gibb without such a denouncement, evolutionary progress in entrepreneurship pedagogies will not be made.

Jack and Anderson (1999 cited in Blenker et al., 2006) describe “the goal of education in ‘enterprising behaviour’ and ‘entrepreneurship’ as being that of creating ‘reflective practitioners’ – i.e. graduates capable of applying theory in dissimilar contexts and equipped for an entrepreneurial career.” By perceiving new possibilities through the process of reflective action, it

is argued that students will be empowered and motivated to participate in the creation of change through innovation and the consequent growth of society.

Distinguishing between ‘the entrepreneurial person’ and ‘the enterprising person’ is difficult. ‘The enterprising person’ can be described as an individual whose is creative, capable of doing things in a different way, full of initiative and able to inspire others. ‘The entrepreneurial person’ exhibits the same characteristics, however is more likely to contemplate starting her/his own business. Blenker et al. (2006) contend that both understandings are necessary in creating an educational understanding which intends to promote ‘enterprising behaviour’. Consequently, this study is built upon the contention that as an applied science, entrepreneurship educational programmes should promote ‘the development of enterprising behaviour’.

Research on entrepreneurship education is limited, “there is a lack of accepted paradigms or theories of entrepreneurship education and training” (Laukkanen 1998, cited in Blenker et al., 2006). Like the Swedes, the Irish have several years’ of experience in entrepreneurship education, consequently many universities work in close cooperation with the business community. At Ireland’s University of Limerick, the entrepreneurship educational model is formulated on the following objectives (Fleming, 1999 cited in Blenker et al., 2006):

- To provide participants with an insight into the role of entrepreneur and entrepreneurial process;
- To develop the core skills and attributes necessary for entrepreneurship, such as creative problem-solving, diagnostic skills, communication and projects to induce enterprising behaviour;
- To focus participants business vision so that they think strategically and can generate and manage business opportunities;
- To assist personal development through freedom and opportunity to practice entrepreneurship

Gibbs posits that business-school education focuses on business, whereas “entrepreneurship education is about ‘new venture management’, ‘business planning’, ‘growth’ and ‘innovation.’” On this point Blenker et al. (2006) state that the issue is not about shifting entrepreneurship education away from the business school institution, but rather in establishing education communities that seek to integrate theory and practice. The underlying philosophy is that for entrepreneurship education to be effective, it must be practical (Herrington and Maas, 2007).

The entrepreneurship learning practice analysed in this study, the ‘Junior Enterprise (JE) Concept’ is based on a bottom-up application-based learning practice. A JE can be depicted as an informal entrepreneurship education community – an entirely student run and managed co-operative. The JE-concept can also be described as a co-operative education practice characterised by experiential learning. Section 3.5.1 presents a theoretical frame for entrepreneurship learning by employing constructivist learning theory and experiential learning theory as constructs for a co-operative education model.

3.5.1. Learning Theories

It is widely held that entrepreneurship learning falls within the realm of life-long learning. Entrepreneurship education is most effective when a collaborative learning culture exists among the institution and students. “In short, a learning culture provides the contexts in which creative ideas challenge traditional norms, whilst at the same time maintaining a climate of sharing and mutual respect” (Davies and Pillay, 2000). Davies and Pillay argue that co-operative education is considered as the means to effect a necessary change in learning culture. Co-operative education is broadly defined as the method of combining classroom/lecture-based education with practical work experience. This model of education provides both the opportunities (the processes) and the contexts for experience (the environment) (Eakins, 1997 cited in Davies and Pillay, 2000). “There are generally two types of co-operative education on the one hand it is structured work experience and on the other it is informal work experience with the prime aim of introducing students to the reality of working life” (Hassan, 1997 cited in Davies and Pillay, 2000).

3.5.2. Constructivist Learning

The framework of learning theory in this study is grounded in “constructivism” – which argues that humans construct meaning from existing knowledge structures. Constructivism is associated with pedagogic teaching approaches that employ experiential learning methodologies (i.e. learning by doing).

In his paper on “constructivist learning” Thanasoulas (2001) argues:

It is the learner who interacts with his or her environment and thus gains an understanding of its features and characteristics. The learner constructs his own conceptualizations and finds his own solutions to problems, mastering autonomy and independence. According to constructivism, learning is the result of individual mental construction, whereby the learner learns by dint of matching new against given information and establishing meaningful connections, rather than by internalising mere factoids to be regurgitated later on.

Within the cognitive paradigm of constructivism, the responsibility for learning ultimately shifts from the teacher to the learner. “The student is viewed as an individual who is active in constructing new knowledge and understanding, while the teacher is seen as a facilitator rather than a ‘dictator’ of learning” (Thanasoulas, 2001).

3.5.3. Experiential Learning Theory

From the experience and research obtained in 1980s and 1990s, it was found that it is difficult to acquire entrepreneurial skills via conventional pedagogic routes. There is a variety of pedagogical instruments which can be used in entrepreneurship education and training, “such as lectures, readings, entrepreneurs’ testimonies, case analysis, case development, journal writing and computer simulations” (ERDU, 2004). However, evidence suggests that ‘learning by doing’ (via experiential pedagogies) induces the highest retention rates. It is maintained that, “students who actually write a business plan, take part in a game where they have to make some decisions or even set up a real business venture will learn much more than those attending traditional classroom lectures” (ERDU, 2004).

Hence this study explores the application of experiential learning theory (ELT) in university entrepreneurship education and training. The concept of learning through experience can be tracked back to a famous dictum of Confucius around 450 BC, “Tell me, and I will forget. Show me, and I may remember. Involve me, and I will understand.” ELT is grounded in the concept that people have a natural capacity to learn and that experience catalyses the process of dialectic enquiry.

ELT can be defined as: “Experiential learning takes place when a person involved in an activity looks back and evaluates it, determines what was useful or important to remember, and uses this information to perform another activity” (Dewey, 1907 cited in Jumani, 2008). According to Bowers-Brown and Harvey (2005) ELT is based upon three fundamental concepts:

- You learn best when you are involved in the learning experience
- As a learner, you have to experience or discover concepts, if they are to change your behaviour
- Your commitment to learning will be greatest when you are responsible for setting your learning objectives

Applied within a constructivist learning framework, ELT places the onus entirely upon the learner to determine learning objectives and influence learning activities. The conceptual basis of experiential learning explores the cyclical pattern of learning from experience through reflection and conceptualising to action and on to further experience (Kolb, 1984). David Kolb is recognised as an authority on ELT, he describes learning as “the process whereby knowledge is created through the transformation of experience” (Kolb, 1984). ELT is portrayed as a four-stage cycle of learning, in which ‘immediate or concrete experiences’ provide a basis for ‘observations and reflections’. “Kolb’s point is that most people go through this four stage cycle whether primarily through physical actions or mental activity, but to omit the reflective is to lose out on some learning” (Evans 1992, cited in Davies and Pillay 2000).

Experiential learning and co-operative education constitute fundamental characteristics of the JE-concept. Chapter Four discusses the application of these learning models within the JE conceptual framework.

3.6. Entrepreneurship Education in South African HEIs

Entrepreneurship education at South African HEIs is still at an early developmental stage. There is evidence proving that some of the HEIs have been involved in this field since the early 1990s. In Kroon and Meyer’s (2001) study on South African university students taking an entrepreneurship course, “they found that exposure to one course in entrepreneurship does not ensure entrepreneurial orientation or more positive expectations about entrepreneurial abilities

and careers” (cited in Jesslyn Co and Mitchell, 2006). Kroon and Meyer’s findings prompted them to conclude that entrepreneurship education must be implemented earlier in the educational system (i.e. at primary or secondary level education).

There are fundamental academic subjects regarding entrepreneurship that can be learned and “examples of these subjects are systematic approaches to the identification of business opportunities, risk analysis and managerial competence” (Schollhammer and Kurriloff 1979, cited in Nieuwenhuizen and Kroon, 2002). Nieuwenhuizen and Kroon argue that the identification of entrepreneurial success factors is implicit in determining the content of entrepreneurship subjects. They conclude that the training of entrepreneurs and potential entrepreneurs should “follow a multidisciplinary, holistic and outcomes-based approach that focuses on the development of those skills and abilities identified as success factors of entrepreneurs.”

A seminal study conducted by Jesslyn Co and Mitchell (2006),²⁶ “Entrepreneurship education in South Africa: a nationwide survey,” is the first nationwide survey on the state of development of entrepreneurship education and the importance of entrepreneurship at South African HEIs.

In qualifying the importance of entrepreneurship education in South Africa’s socio-economic development context, Jesselyn Co and Mitchell (2006) state:

The previous economic structure in South Africa was well served by HEIs in that they provided a resource pool for large corporations. This, however, has developed a student mindset that favours employment in big business in the formal sector. With an economy in transition, small businesses now account for an increasing proportion of economic activity, Hence, HEIs need to redefine their role in the economy and society, specifically in what they offer.

According to Jesslyn Co and Mitchell, the prevailing perception is that research on entrepreneurship in South Africa is less rigorous than other management disciplines. In turn, their

²⁶ The research methodology employed in this study: An email based-survey conducted on South African HEIs – “the respondents were academic staff members who were involved in teaching and researching entrepreneurship” (Jesselyn Co and Mitchell, 2006).

study proves that there is limited research on entrepreneurship education within South African HEIs. The key findings of their study illustrate:

- The courses offered, teaching methodologies as well as assessment methods still adhere to the more teacher-centred way of 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.
- There should also be an increased use of more interactive methods such as role playing and simulation for students to practice analytical and decision making skills. Outside classroom methods such as internships, small business consulting and community development can be encouraged to expose the students to actual problems and experiences of entrepreneurs.

Altogether the outcomes of this study illustrate the need for further in-depth research surrounding the contemporary discourse on entrepreneurship education in South Africa. The findings of this study also underline the need for South African HEIs to experiment with more innovative ‘practice-based/experiential learning-based’ curriculum related mechanisms.

A recent study on the state of entrepreneurship education at HEIs²⁷ in the Western Cape revealed that offerings were predominantly knowledge based and that only some of the programmes employed experiential learning – exposing students to real businesses (Brijlal, 2008). An analysis of the findings, prompted Brijlal to put forward the following conclusions:

- Not much attention paid to the development of entrepreneurial attributes and behaviours
- Little emphasis on motivation or entrepreneur as a person, the individual as an entrepreneur seemed to be overlooked.
- A need to design courses to develop students’ awareness and characteristics of the ‘calculated risk taking and opportunity-orientated entrepreneur’
- Lack of networking and sharing of resources among the respective HEIs in the study
- HEIs were not incorporating successful entrepreneurs or role models in the curriculum
- Most of the offerings were short courses or electives and thus limiting their effect on the stimulating the development of successful entrepreneurs

²⁷ These HEIs included: University of Western Cape (UWC), University of Cape Town (UCT), University of Stellenbosch and Cape Peninsula University of Technology.

3.6.1. Co-operative Entrepreneurship Education in South African HEIs

Research on entrepreneurship education in South African HEIs indicates that there is a need for more co-operative and experiential learning practices in the field of entrepreneurship education. Sections 3.6.1.1 and 3.6.1.2 present examples of two co-operative and experiential based training programs which are current offerings at HEIs in South Africa. The “Post Graduate Diploma in Enterprise Management (PDEM)” is a structured academic program offered at the University of Cape Town. In contrast “Students in Free Enterprise (SIFE)” is an informal co-operative educational programme promoted by an international non-profit organisational network.

3.6.1.1. Students In Free Enterprise (SIFE)

Founded in 1975, Students in Free Enterprise (SIFE) is a global non-profit organization (NPO), working in partnership with universities and businesses. “SIFE organizes, motivates, and trains university students to form ‘management teams’ that design, develop and implement thousands of community based micro-business, training and educational projects to create and expand economic opportunity through hands-on and practical training projects.” (www.sife.org). This student-driven program is based on experiential learning principles – project conception and management responsibilities are undertaken by enterprising student project teams.

SIFE programmes operate in over 1,700 universities in 47 countries and have sponsored well over 5,000 community-based business development and training/educational projects worldwide. SIFE projects are designed and implemented under the supervision/mentoring of university advisors (i.e. lecturers) and professional managers from local businesses. In addition, these social entrepreneurship projects are “funded by the generous financial contributions, management time, and business expertise of many international corporations, as well as over 100 Africa-based companies” (www.sife.org). In Africa, SIFE chapters are present in 130 universities in 11 countries: Botswana, Egypt, Ghana, Kenya, Lesotho, Morocco, Nigeria, Senegal, South Africa, Swaziland, and Zimbabwe. In South Africa, the SIFE model was introduced in 2001 and today there are approximately 660 active students spanning across 21 HEIs.

3.6.1.2. Postgraduate Diploma in Enterprise Management (PDEM), University of Cape Town (UCT)

This unique UCT diploma utilizes experiential learning methodology as a practical framework for students to learn about enterprise development and develop specialized management skills. “Students, in small groups, are required to set up and run real businesses for the duration of the study year. This practical side of the course is balanced by sound academic theory taught in a variety of modules throughout the year. In this way, students are given opportunities to implement and evaluate theory in their own businesses” (www.commerce.uct.ac.za).

With a strong entrepreneurial focus the PDEM is open to students with an undergraduate degree from diverse academic and professional backgrounds. The teaching methodology includes lectures, skills workshops and regular evaluations in each course. Students attend courses that have been developed specifically for the PDEM, while running their own small business, referred to as the “Genesis Project”. The first half of the academic year focuses on general business courses such as: entrepreneurial strategies, finance, and business in context, marketing and business computing. While the second half of the year concentrates on enterprise management.

3.7. Chapter Summary

This chapter has presented a detailed review of the relevant literature, providing a detailed discussion of the primary concepts (entrepreneurship theories, learning theories and innovation systems theory – the Triple-Helix nexus), which construct the other main contextual frame. Consequently, this chapter has unpacked the second complex area of the problem statement – ‘entrepreneurship development and education in South Africa’. In South Africa small business is accounting for a greater and greater proportion of economic activity, hence it is imperative for HEIs to pragmatically redefine their role in facilitating youth entrepreneurship development operating within a Triple-Helix nexus. In turn, policy-makers and practitioners must consider addressing the correlated nature of investment in entrepreneurship education and venture creation.

From a skills development perspective, entrepreneurship education is not only about small business creation as it includes the development of diverse skills – implicitly addressing employability. Entrepreneurship training and skills are becoming sought after and valued in all types of organizations (www.commerce.uct.ac.za). It is critical that entrepreneurship education becomes more inclusive, moving beyond the walls of the business school and more toward the creation of informal education communities (co-operative education) that engage in practical entrepreneurial activities (experiential learning). Thus, beyond stimulating venture creation, entrepreneurship education is about creating enterprising and reflective practitioners.²⁸

To inculcate an enduring culture of entrepreneurship among students, it is essential to develop their entrepreneurial awareness by encouraging them to engage in practical learning activities (by working in multi-disciplinary project teams). Thereby, presenting students with the opportunity to realize appreciate and develop their own abilities within a dynamic learning environment.

It is imperative that South African policy-makers, practitioners and aspiring student entrepreneurs continuously consult international best practices. In sum, it is necessary to commission further research in this area, so as to inform the conceptualization and design of appropriate entrepreneurship training practices relevant to the South African context.

²⁸ Moon (1999) defines reflective practice as “a set of abilities and skills, to indicate the taking of a critical stance, an orientation to problem solving or state of mind” (cited in <http://www.ukcle.ac.uk/resources/reflection/what.html>).

Chapter Four: Sharing Best Practice in Entrepreneurship Education

“But everyone who can face up to decision making can learn to be an entrepreneur and to behave entrepreneurially. Entrepreneurship, then, is behaviour rather than personality trait. And its foundation lies in concept and theory rather than in intuition.” – Peter Drucker (1985)

The sharing of international best practices is instrumental for the synthesis of knowledge and the development of new approaches. It is debatable whether similar entrepreneurship training practices used by other countries can be implemented without contextualising them for the South African higher education environment. Herrington and Maas (2006) posit: “Cultural differences, level of education, different markets and a different socio-political environment are some of the factors that should be taken into consideration.” Although, the entrepreneurship training practices profiled in this study are designed for and by universities in Western Europe (developed economies), there are still important lessons that we can adopt in designing innovative educational models to suit indigenous needs.

In October 2006 the European Commission in partnership with the Norwegian government hosted a European Conference on entrepreneurship education. The conference was titled: “Entrepreneurship Education in Europe – Fostering Entrepreneurial Mindsets through Education and Learning.”²⁹ The workshop on “Entrepreneurship in Higher Education” discussed educational programmes and teaching methodologies “both in business and in non-business studies, with an emphasis on how to ensure that entrepreneurship is horizontally spread across different fields of study” (European Commission, 2006)³⁰. Furthermore, other key issues debated were: 1) how to support business ideas of students, 2) how to promote university spin-offs and 3) increase cooperation between universities and enterprises.

²⁹ The conference aimed to exchange experiences and good practice, “and to discuss how to move forward in promoting entrepreneurship education more systematically, based on concrete evidence and recommendations presented by the Commission’s Communication” (European Commission, 2006). It covered policies and practices in entrepreneurship education from primary school to tertiary education.

³⁰ This reference refers to the conference’s final proceedings document published by the European Commission, Enterprise and Industry Directorate-General (2006).

Profiles of selected best practices included³¹:

- Teaching of entrepreneurship across different subjects, Dundalk Institute of Technology (DKIT), Ireland
- Science Enterprise Challenge (UKSEC) – Changing the culture at UK universities, University of Sheffield, UK
- TOP Programme for young start-ups, University of Twente, Netherlands
- An Integrated Approach to Entrepreneurship Education, BI Norwegian School of Management, Norway
- The Junior Enterprise Concept

This chapter profiles one of the best practices presented at the conference - ‘The Junior Enterprise Concept’. Reasons for selecting this particular practice:

- The JE-concept is modelled along co-operative and experiential learning design.
- This practice has been successfully applied in Western and Eastern European universities, resulting in students and graduates (JE alumni) founding their own spin-off service-orientated enterprises.
- More importantly the JE-concept has been successfully re-modelled and applied in the higher education context of a middle-income developing country, Brazil.

4.1. The Junior Enterprise Concept

The learning practice explored in this study is the ‘Junior Enterprise (JE) concept.’ The JE-concept was presented as a best case practice for entrepreneurship in higher education at the “Entrepreneurship Education in Europe” conference hosted by the European Commission. The JE-concept is based on bridging the gap between theory and practice. This acclaimed European concept is founded on the principle of “learning by doing” and provides a model whereby students (with the support of their university) manage a small to medium sized non-profit

³¹ See Appendix A for summaries of these European best practices.

enterprise and conduct professional consulting projects for clients (private and public sector). Junior Enterprises offer university students and graduates the opportunity to add invaluable practical work experience to their theoretical knowledge and develop entrepreneurship qualities at an early stage (www.jadenet.org).

Text Box 1: Definition of the JE-concept

The JE-concept as defined by the European Confederation of Junior Enterprises

(JADE):

The JE-concept is based on non-profit organizations whose aim is to bridge the gap between theory and practice for students that follow higher education studies. In order to achieve this, the students carry out projects for companies and institutions. The activities of a JE aim at professionalism in projects and organization.

Organisation

A JE is an association or co-operative society which is, in most cases, linked to a university or graduate school. A JE and its operationally active administrators are completely independent of influences that are outside national and European confederations of JEs. A JE dissociates from political and religious issues, and refrains from any form of discrimination.

Project

A project is a sequence of linked activities that are bound by a contract and are carried out at fixed financial and temporal conditions. The project is realized by using a specific methodology to reach the aims that have agreed with the client previously. A project is the JE's means to improve student's know-how and finance its activities.

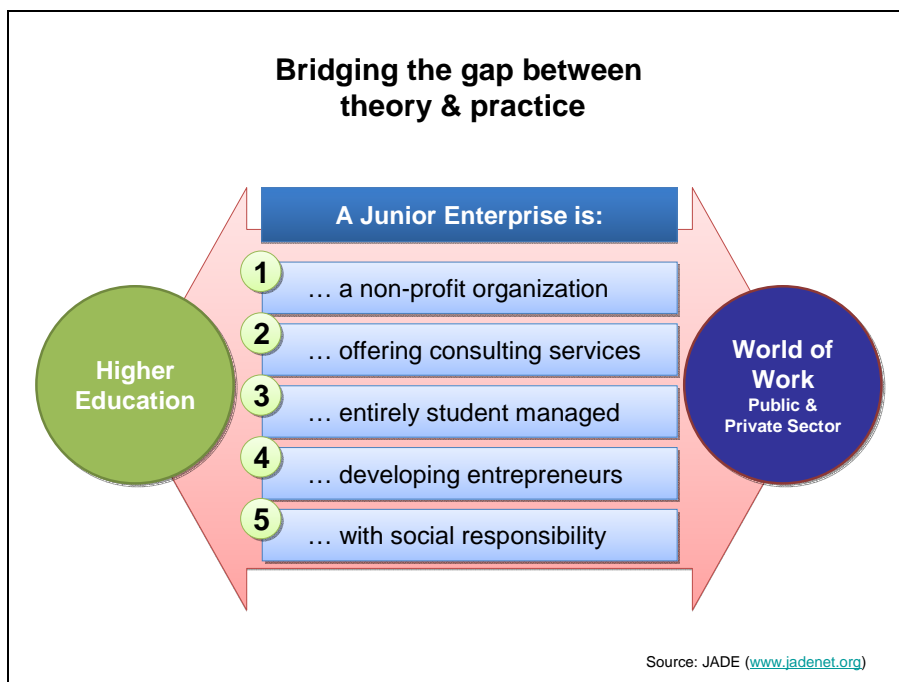
Performance and Management

Students are involved in managing both the JE and the projects. Managing a JE means to define and to implement a strategy. This work is never remunerated, while project management and performance are. Managing a project means ensuring the progress of the service related to a specific customer while co-ordinating the activity of the performers.

Gibbs (2002) argues that “entrepreneurship education is most effectively placed in centres that do not have too strong formalised ties with business schools and that in general education in this field is best left without too much formalisation.” The JE-concept falls within this informal, constructivist and experiential learning domain. Within this domain the learner undertakes legitimate “participation in the socio-cultural practice – in a so-called practice community” (Blenker et al., 2006). Blenker et al. contend that entrepreneurship education will be most effective within the framework of reflective practice/learning communities.

In the JE model, learning is diffused through practical project experience, as students deal with real world problems in real organizations. In this learning community context, multi-disciplinary student project teams seek to provide solutions through informed research and theoretical application. In providing a consulting service, student project teams adopt an authentic ‘problem-based learning’ approach developing project management and soft skills in a relevant context.

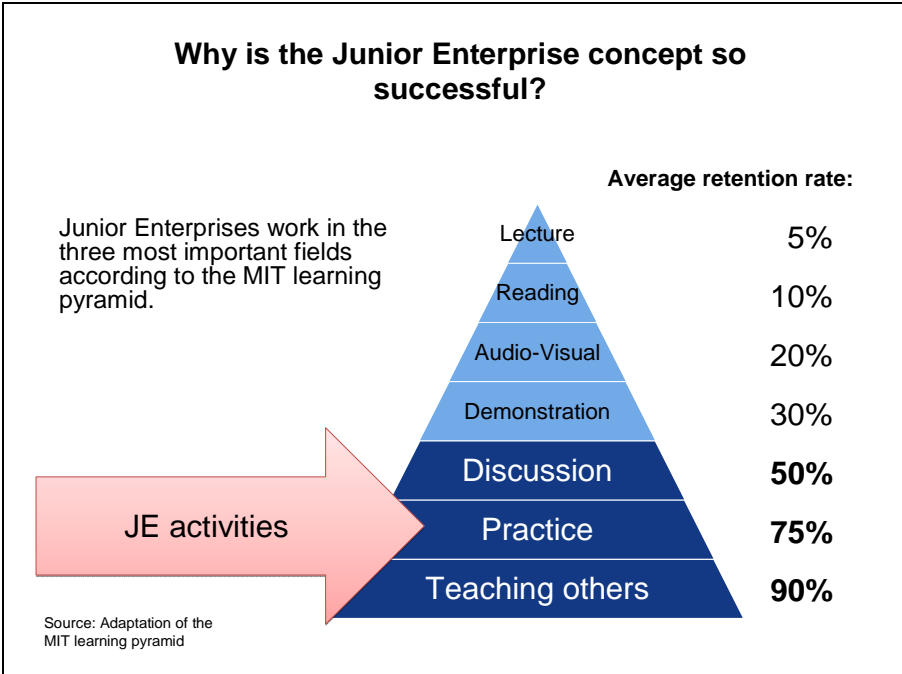
Figure 3: Illustrated Definition of the JE-concept



As portrayed in Figure 3, the main objective of a JE is to bridge the gap between theory and practice by creating stronger linkages between the university and the world of work, illustrating

the position of the JE model as a fitting organizational design within the Triple Helix-nexus. By allowing students the opportunity to add practical experience to their theoretical skills they are able to increase their employability and capacity. JEs serve to enhance the personal development of students and foster entrepreneurship qualities. In turn JEs offer companies a competitively priced alternative in the area of consultancy at a university academic level (see appendix for examples of JE projects). Even though JEs are fundamentally non-profit institutions, they must be financially independent which means they must ensure financial remuneration for services (consulting) rendered. As mentioned previously JIPSA identifies “experiential training” and “developing project management capacity” as two focus areas. The JE-concept is an experiential training service model founded on the principle of “learning by doing” and is fundamentally based on learning from experiences. In Figure 4 (below), the JE activities (as practiced in European JEs) are highlighted in a ‘learning pyramid’, illustrating the laden educational value of the JE-concept and the potential of this model to supplement a student’s higher education experience.

Figure 4: Learning Pyramid



Why hire a team of students to execute consulting projects?

- The university environment provides a diverse range of academic skills which can be sourced by a JE pending on the specific skills requirement of a project.
- JEs are non-profit organizations thus they benefit from fiscal advantages. This factor coupled with the cheaper rates associated with outsourcing projects to students allows JEs to practice very competitive prices in comparison to professional service companies.
- In terms of recruitment, companies (clients) are provided with a direct link to a pool of talented experienced students from various academic disciplines.
- Companies are able to improve their Corporate Social Investment (CSI) portfolio by creating and sustaining mutually beneficial partnerships with JEs. Furthermore, by providing contract work to university students they contribute to human capital development and job creation.

4.2. History of the Global Junior Enterprise (JE) Movement

4.2.1. European JE Movement

In 1967 a motivated group of students from the French business school ESSEC felt the need to gain practical experience next to their curriculum and decided to found an association which enables students to conduct business consulting projects next to their studies. Consequently, they founded a student run consulting firm. “It was called Junior ESSEC Counsel and became the first Junior Enterprise. The Junior Enterprise concept itself was such widespread that a first national confederation (CNJE) was also created in France, in 1969” (www.jadenet.org).

Today the concept of students advising managers is extremely successful in continental Europe, with over €17 million in annual turnover generated by approximately 22 000 students – forming the largest student consultancy network in the world under JADE (European Confederation of JEs). JADE is a student-run, pan-European network representing more than 300 JEs in countries

as diverse as France, Germany, Italy, Portugal, Norway and Poland (www.jadenet.org).³² “JADE promotes the JE-concept to third parties, ensuring constant quality of its members and offering a platform for knowledge transfer.”

4.2.2. Brazilian JE Movement

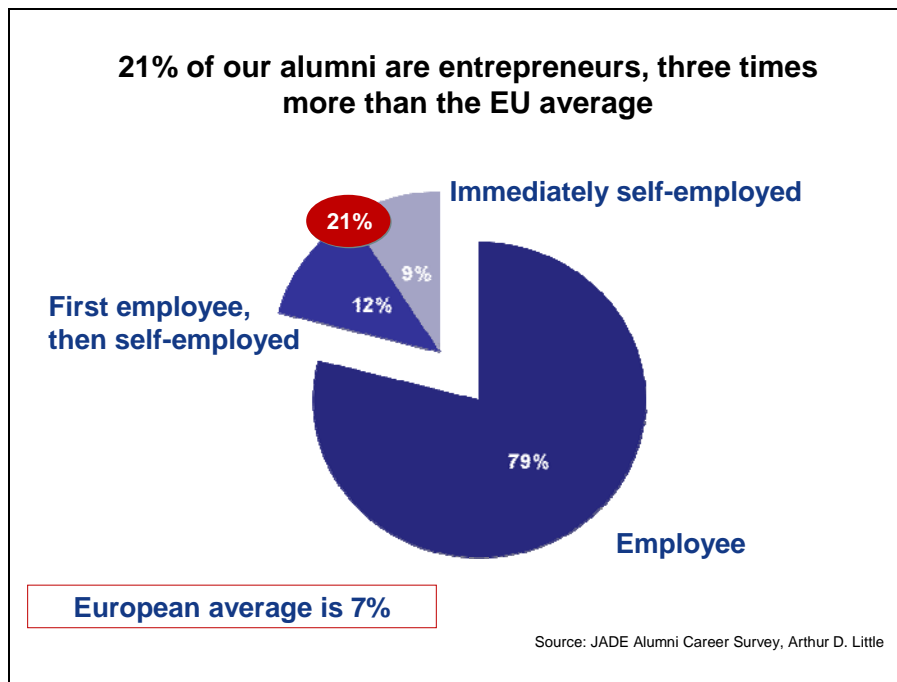
“BrasilJunior” was founded in 1988 and now has around 600 Junior Enterprises all over Brazil. BrasilJunior and JADE have been in close contact for several years, and together organized the first Junior Enterprise World Conference in 2004 (www.jadenet.org). A key project area for JEs in Brazil is on micro-enterprise development, increasing skills and building capacity by providing business support services to small businesses in the local economy. As opposed to the European JE Model, Brazilian JEs are cultivated within a highly supportive university institutional framework, receiving support from faculties and staff (lecturers). The success of the JE Movement in Brazil shows that the JE-concept can be implemented within the national higher education framework of a middle-income developing economy. Furthermore, this model has yet to be successfully implemented in an African HEI.

4.3. The JE-concept a European best practice

Based on the premise that entrepreneurship is a key driver for economic growth, the European Union (EU) actively promotes entrepreneurial education in order to encourage young entrepreneurs to be proactive. The European Commission focuses highlights best practices in entrepreneurial education. “The European Commission recognizes Junior Enterprises, student-run not-for-profit companies, as one of the best practices in the field of entrepreneurial education and the fostering of entrepreneurial mindsets among young people, as a basis for a more entrepreneurial society” (www.jadenet.org). This sentiment is substantiated by the 2006 JADE Alumni Career Survey, as illustrated in Figure 5 students who are active members of JEs during their studies are moulded into skilled entrepreneurs and 21% of them (JE alumni) succeed in founding and running their own businesses (www.jadenet.org).

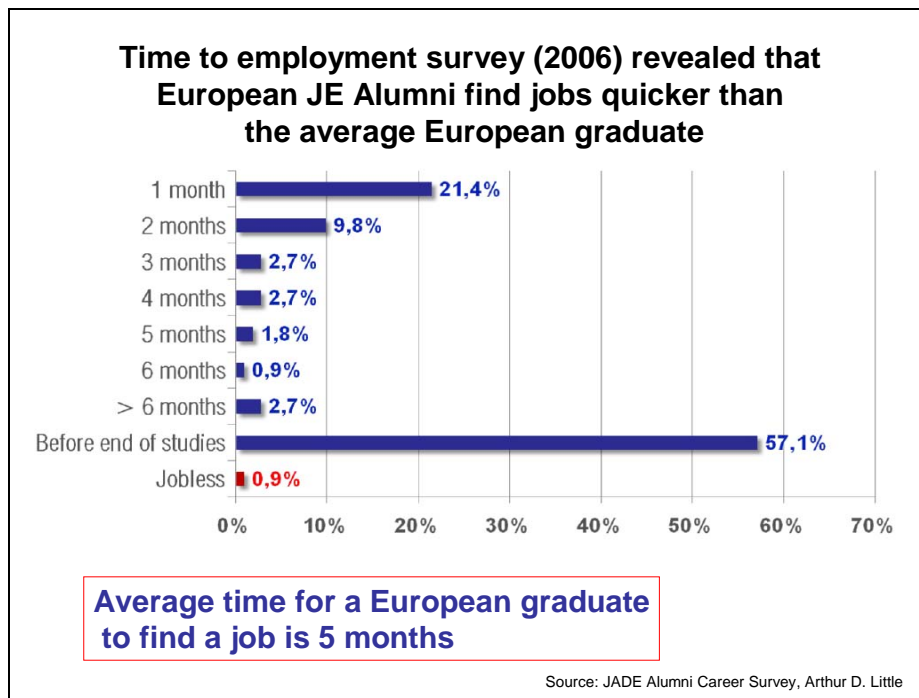
³² See Appendix E for profiles of JEs and their respective national confederations from: France, Germany and Poland

Figure 5: JADE Alumni Career Survey, part I



The 2006 JADE Alumni Survey also revealed that on average JADE alumni start businesses at a younger age, 28 years old, compared to the European average of 35 years old (www.jadenet.org). As portrayed in Figure 6 (below), the survey also revealed that European JE alumni secure employment quicker than the average European graduate. Thus, espousing the argument that there is a strong demand for JE alumni in the European graduate labour market, evidence of employers recognising the value of their enhanced skills portfolio and practical project management experience. As older JE members graduate from university they transfer the knowledge and skills to younger members via internal training mechanism (i.e. interactive training workshops). In Europe JE alumni have close long lasting relationships with their Junior Enterprise proactively assist in nurturing the organisation through mentoring, networking and transferring knowledge.

Figure 6: JADE Alumni Career Survey, part II



In an attempt to gauge the impact of the Junior Enterprise experience on member's careers, JADE in cooperation with Prof. Renaud Redien-Collot from Advancia University in Paris conducted the survey, Entrepreneurial Spirit 2005. The survey revealed that:

- 25% of current JE members will create their own company during their studies or immediately after completing them.
- 30% of the alumni members have already created a company or are creating one at the moment which significantly exceeds the European average.
- 36% of the alumni members are planning to create a company after gathering more professional experience.
- 94% of the current and past Junior Enterprise members remark that their JE experience stimulates them to become creators of enterprises (www.jadenet.org).

Figure 7: Early-stage Entrepreneurial Activity

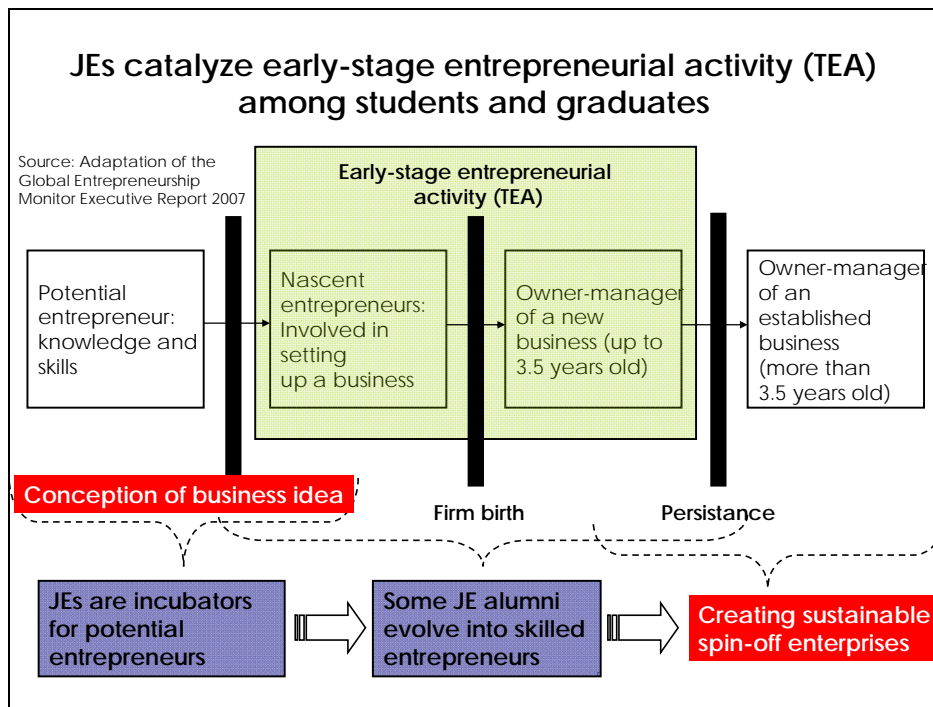


Figure 7 delineates the various early-stages of entrepreneurial activities that students will experience in establishing and running a new Junior Enterprise within their university faculty. The management and entrepreneurship training is ‘hands on’ as students are exposed to the stimulus of real market forces. JEs also serve as a breeding ground for young entrepreneurs. Akin to basic idea incubation (innovation) centers for future SMME start-ups – ‘a student run and managed entrepreneurship laboratory’. There have been numerous successful European cases, where JE alumni started their own businesses, in some cases as spin-offs from their JEs. See Appendix B for testimonials from European JE alumni who have successfully started their own sustainable businesses. They attribute their entrepreneurial flair and skills to the practical experience they gained from working on team projects within their JE.

4.4. Chapter Summary

Chapter Four has portrayed an overview of the history and the organisational design of the JE-concept. The JE-concept is a model of a ‘reflective learning community’, which cultivates transdisciplinary competencies among students. This study is formulated on the assertion that the diverse skills (i.e. soft skills, project management skills and practical entrepreneurial skills) and experience gained by students from working for a ‘university based Junior Enterprise’ will make them increasingly more employable and enterprising. It is argued that these graduates will be presented with broader employment and discover entrepreneurship opportunities, consequently decreasing their time-to-employment. However, it is stressed that the JE-model as it stands may not be suitable to the South African context and therefore may require further remodelling and pilot experimentation – by means of empirical research. Prior to conceptualising a design solution, it is foremost to investigate the feasibility of applying this practice at South African universities.

To assess the feasibility of adapting and implementing a JE model in South African universities, it is imperative to analyse the perspectives of the target group – students in higher education. Seeing as university students are the driving force behind the success of this co-operative and experiential learning model, it is vital to capture their perspectives regarding this type of non-traditional entrepreneurship learning practice. This constitutes the encompassing objective of the primary research in this dissertation. In short, are South African students motivated to undertake the responsibilities of engaging in a non-traditional learning practice of this variety?

Chapter Five: Research Methodology

“Research is formalized curiosity. It is poking and prying with a purpose.”

– Zora Neale Hurston (1942)

Chapter Five describes the chosen path of inquiry, discussing the various research methodologies employed in this small scale case study. Mouton and Marais (1996) declare that, “social sciences research is a collaborative human activity in which social reality is studied objectively with the aim of gaining a valid understanding of it.” In the case of this explanatory study, the hypothetical social reality under investigation is the application of co-operative and experiential learning practices (like the Junior Enterprise Concept) in the South African context. The study adopts a deductive research strategy³³ as a frame of reference for analyzing the feasibility of applying the JE-concept in South Africa.

As mentioned in Chapter One, this inquiry is positioned within the conceptual framework of the service provider-client relationship between the university (provider) and the student (client/consumer). From this point of departure, it is argued that motivated students are the primary input for the successful organization of a Junior Enterprise within a university faculty. The most discerning variable in evaluating the feasibility of implementing a contextualised JE-model is the student demand (and motivation) for the provision of this type of non-traditional and experiential learning practice.

5.1. Research Design

Mouton and Marais (1996) posit that the “aim of the social scientist to demonstrate the validity or invalidity of a given theory or model (or even interpretation, or finding) by mustering sufficient evidence.” To infer the validity or invalidity of the adaptation and application of the JE-concept

³³ Mouton and Marais (1996) explain deductive research strategy as: “In the deductive strategy the researcher embarks upon a research project with a clear conceptual framework in mind. This may be a model, a theory, or a typology or a set of explicit hypotheses. A framework of this nature leads to a relatively rigid manner of conceptualization, operationalization, and data collection and it will ultimately constitute the frame of reference for analysis and interpretation.”

in South African HEIs, empirical evidence was collated by a combination of qualitative (primary data) and quantitative (primary and secondary data) data collection methodologies. The primary research instruments consisted of a concise (one page) survey questionnaire and focus group discussions.

5.1.1. Quantitative Research

5.1.1.1. Secondary Research

In March 2007, 400 survey questionnaires targeting the student population were conducted at Howard College Campus (UKZN). The survey focused on measuring UKZN's service delivery, based on the perceptions of students (undergraduate and postgraduate) – “a client perspective”. This survey was conducted by graduate students from the department of Industrial Organizational and Labour Studies (IOLS, UKZN) and Professor Sitas kindly agreed to share this data. Certain elements of the questionnaires addressed the issue of employability. This supplementary data was analyzed and compared to the results of the main survey questionnaire which was subsequently conducted as one of the primary research components of this study (discussed below).

5.1.1.2. Primary Research

The survey questionnaire (see Appendix C) was comprised of open-ended and closed questions, targeting both the undergraduate and graduate student population (200 questionnaires) at Howard College Campus, University of KwaZulu-Natal (Durban). Building on the survey conducted by the department of IOLS, this survey questionnaire directly probed student's perceptions on employability and experiential learning education. The main objective of this survey questionnaire: to assess the student demand (learner perspective) for supplementary and alternative mechanisms to gain professional practical work experience and engage in experiential entrepreneurship learning activities.

Participants were selected by using a “stratified random sampling³⁴” methodology, also referred to as proportional or quota random sampling. Stratified random sampling involves dividing the target population into homogenous subgroups thereafter taking a simple random sample in each subgroup (www.socialscienceresearchmethods.net). In stratified sampling, the population is divided into groups called strata/subgroups, which for this study comprised the various academic disciplines housed at the Howard College Campus, namely: Humanities, Law, Engineering and Health Science.

5.1.2. Qualitative Research

5.1.2.1. Primary Research

In terms of conducting qualitative research within a university environment focus-group discussions (FGDs) are considered to be a highly effective method of data collection, as Sapp and Temaris (1993, cited in Maharasoa and Hay, 2001) point out, “focus groups offer another technique for understanding the needs and opinions of the members of the university community by probing selected areas of special interest.” Furthermore, “informants are able to respond spontaneously to questions and researchers are able to probe for more information,” and, “the physical presence enables researchers to observe and pick up gestures which supplement verbal utterances” (Maharasoa and Hay, 2001).

In June 2007 FGDs were conducted with 27 graduate students (Masters and PhD level) from developing countries (studying in Germany), introducing the application of the JE-concept in the context of a developing economy – furthermore presenting South Africa as a potential case study. The FGDs created a forum for discussion and knowledge sharing. The outcomes reflected the perceptions of how students from other developing countries respond to the hypothesis of employing the JE-concept as a mechanism to improve graduate employability and foster entrepreneurship in higher education. A brief questionnaire (see Appendix D) was conducted after the FGDs to summate participants’ views and present an anonymous forum for them to

³⁴ Stratified random sampling exhibits more statistical precision than simple random sampling (www.socialscienceresearchmethods.net).

openly express themselves. The data captured from these FGDs presents a broader scope of learners' perceptions – particularly the perceptions of students from other developing countries. At the time of conducting the FGDs, the researcher was employed by the South African foreign mission in Germany (Berlin). One of his research assignments was to investigate the application of the JE-concept in Europe and he was thus able to draw on focus group material generated through this research.

5.2. Ethical Considerations

A high ethical standard and accepted degree of sensitivity was exercised when interacting with respondents/participants, mechanisms were in place to “provide them with adequate information about the project, what is expected of them...how their anonymity will be assured, as well assuring them that the information they provide will be treated in confidence, and that they have the right to withdraw from the process at any stage” (Blaihie, 2000). During a brief introduction about the research project verbal consent was secured from the participants in the survey questionnaire.

There are various ethical considerations to take into account when conducting research in an internationally and culturally diverse environment, especially in the case of FGDs conducted in Germany. In this regard Isaacs (2007) states, “The cultural diversity of the participants should be acknowledged and actively addressed so that cultural differences can be caught up in an upward spiral of constructive engagement. Working across cultures enables one to recognize commonalities and differences in a much clearer way.”

5.3. Research Constraints

Due to the nature of this research topic a certain measure of inherent bias on behalf of the researcher naturally influenced the process. This induction was formulated within a post-positivist and constructivist domain. It is argued that most post-positivists are constructivists, who believe that we all construct our personal view of the world based on our perceptions and thus we

are all somewhat bias and our observations are invariably affected (theory laden). Arguably, “we never achieve objectivity, perfectly, but we can approach it” (www.socialresearchmethods.net).

The lack of adequate funding (an immediate financial constraint) in turn imposed various resource constraints inhibiting the scope and depth of the overall study. The modest sample size of the short questionnaire offered a limited insight and cannot with complete entirety be considered as an accurate statistical representative of the entire student body at Howard College Campus (UKZN).

The principal researcher was a young English speaking South African male (of Indian heritage); therefore limitations included cross cultural constraints and language barriers. These cultural constraints were experienced in facilitating the FGDs. Students (Masters and PhD) from other African countries initially exhibited a certain sense of distrust towards the principal researcher (a South African post-graduate student) and interrogated the merits of South Africa being considered a “developing nation”. However, once the initial point of distrust was debated, a wealthy discussion ensued.

Language constraints did inhibit full expression, seeing as English was a second language for a majority of the participants. Another inhibiting factor was the uneven gender representation within the focus groups, as a majority of participants were male. This translated into the male participants dominating the interactive sessions.

As mentioned previously, the inescapable and inherent bias on behalf of the principal researcher must be accounted for. This was simply due to the fact that the principal researcher (as a postgraduate student at Howard College Campus, UKZN) was living and working in the environment in question. Conversely, this can be considered a strength as the researcher possesses the tacit ability to draw on the experiences and resources of local and regional qualitative expertise. In these circumstances the researcher has the cultural awareness and understanding to evaluate what is not said as much as what is.

Chapter Six: Data Presentation, Analysis and Interpretation

“One true lover of knowledge naturally strives for reality, and will not rest content with each set of particulars which opinion takes from reality, but soars with undimmed and unwearied passion till he grasps the nature of each thing as it is...” – Plato (Republic, 490b)

Chapter Six is designed to provide a detailed presentation and analysis of the data collected by the primary researcher. This chapter concludes with a critical comparative analysis of the corresponding primary and secondary research findings.

6.1. Primary Research: Survey Questionnaire

The survey questionnaire (see Appendix C) conducted in this study consisted of both closed and open ended questions. To measure the student demand for experiential based skills development practices, the survey questionnaire was designed to assess learners’ perspectives on the following relative issues:

- Graduate employability
- The practical application of higher education curriculum
- Improving the dialogue and interaction between the university and the world of work
- The need for more innovative skills development programs from their university
- Learning about entrepreneurship and project management
- Motivation to work on small scale consulting projects beside their studies
- How to enhance the skills capacity of students? (Open ended question)

6.1.1. Methodology Report

6.1.1.1. Stratified Random Sampling

The University of KwaZulu-Natal (UKZN) is comprised of five campuses; Westville Campus, Howard College Campus, Medical School Campus, Edgewood Campus and Pietermaritzburg Campus (www.ukzn.ac.za). Each campus hosts a different range of faculties. The target

population were university students (undergraduate and postgraduate) enrolled at Howard College Campus (Durban). By applying a proportionate stratified random sampling technique, the target student population was segmented into key sub-groups – namely the different academic faculties housed at the Howard College Campus, which are Engineering, Health Sciences, Humanities and Law. These specific strata were selected in order to attain a proportionately representative sample of the main academic schools situated at this specific campus.

Although there are students registered in the faculties of Science and Agriculture, Education and Management Studies based at Howard College Campus, these faculties were not considered in the sampling frame due to the negligible size of these strata demographics. Students in these faculties comprise 0.4% of the total registered student population, equating only to 45 students as highlighted in red text in Table 1. These faculties are based at other campuses, Science and Agriculture (Pietermaritzburg Campus), Education (Edgewood Campus) and Management Studies (Westville Campus). The majority of students in these faculties are based on other campuses of UKZN.

Table 1: UKZN Student Registration Summary 2007³⁵

Discipline	Undergraduate	Postgraduate	Total
Engineering (N1)	2297	229	2526
Health Sciences (N2)	1578	71	1649
Humanities (N3)	3934	1115	5049
Law (N4)	1286	210	1496
Sub-total = Stratified Sample Frame (N)			<u>10720</u>
Science & Agriculture	-	24	24
Education	-	1	1
Management Studies	16	4	20
Sub-total = Excluded Strata			<u>45</u>
Total No. of Registered Students in 2007	9111	1654	<u>10765</u>

Stratified Random Sampling Definitions (<http://www.socialresearchmethods.net>):

- N = the number of cases in the sampling frame = 10720
- n = the number of cases in the sample = 10720 x 3% = 321
- f = n/N = the sampling fraction = 3%

The objective was to divide the sample population (321 students) into non-overlapping groups (strata) such that $N_1 + N_2 + N_3 + N_4 = N$. The sampling fraction ($f = n/N$) in each strata is 3%. For example in the case of the Engineering stratum (see Table 2), the number of students in the sample (n_1) equals $2526 (N_1) \times 3\% = 76$. N_1/N is proportionate to n_1/n .

³⁵ Source: UKZN Division of Management Information, (http://www.ukzn.ac.za/dmi/ukznstats/students_sum.asp)

Similarly, in the case of the other strata the number of students in the samples equates to:

- Health Sciences: $n_2 = 1649 \times 3\% = 49$
- Humanities: $n_3 = 5049 \times 3\% = 151$
- Law: $n_4 = 1496 \times 3\% = 45$

6.1.1.2. Sample Size and Features

Table 2: Distributed Questionnaires vs. Number of Completed and Returned Questionnaires

Discipline/Strata	Distributed Questionnaires	Targeted Strata Sample Proportions	Completed & Returned Questionnaires	Real Strata Sample Proportions
Engineering (n1)	76	24%	12	8%
Health Sciences (n2)	49	15%	5	3%
Humanities (n3)	151	47%	120	77%
Law (n4)	45	14%	18	12%
Total	321	100%	155	100%

Table 3: Gender Table

Discipline	Female	Male
Engineering	1	11
Health Sciences	4	1
Humanities	73	47
Law	9	9
Total	87 (56%)	68 (44%)

Table 4: Level of study

Discipline	Undergraduate	Postgraduate
Engineering	11	1
Health Sciences	5	
Humanities	96	24
Law	16	2
Total	128 (83%)	26 (17%)

Table 5: Race

Race	Total	%
Black	78	50.3 %
Coloured	9	5.8 %
White	22	14.2 %
Indian	44	28.4 %
Other	2	1.3 %
Total	155	100%

Table 6: Work Experience

Experience	No.	%
More than 2 yrs	11	7%
1-2 yrs	21	14%
Less than 6 months	23	15%
None	100	65%
Total	155	100%

With the permission of lecturers and tutors questionnaires were randomly distributed in tutorials and lectures. From the 321 questionnaires which were distributed, 155 (48%) questionnaires were completed and returned. And of which 56% (87) of the questionnaire respondents were female and 44% (68) were male (see Table 3). Table 5 shows that by race stratification 50.3% (78) of the respondents were Black, 28.4% (44) Indian and 14.2% (22) Whites. Table 2 shows that the

targeted stratified sample population did not effectively respond to the distributed questionnaires. Due to the average response and the consequent limitations of the small and disproportionate real sample size (155 students), there is a threat to the validity³⁶ of the sub-group inferences and the representative nature of the sample. However, valid sub-group inferences can be seriously considered in the case of the Humanities sub-group (stratum). Arguably, the overall quantitative findings still provide a certain measure of evidence to infer reasoned deductions in gauging student demand for experiential and cooperative practices like the Junior Enterprise Concept at the Howard College Campus (UKZN). Although the respondents (predominantly undergraduate students = 83%) had limited work experience (65% no work experience), an interesting array of insights was collated and analysed from the diverse responses to the open ended question.

6.1.2. Findings

The questionnaire was composed of 8 closed ended questions (as portrayed in Table 7 above) and one open ended question. As mentioned above, other than the Humanities sub-group there is a threat to the validity of the sub-group inferences. Nevertheless, it is still important to paint an overall picture of the findings from all the entire sample population. Table 7 statistically presents a summary of the responses from all the survey participants.

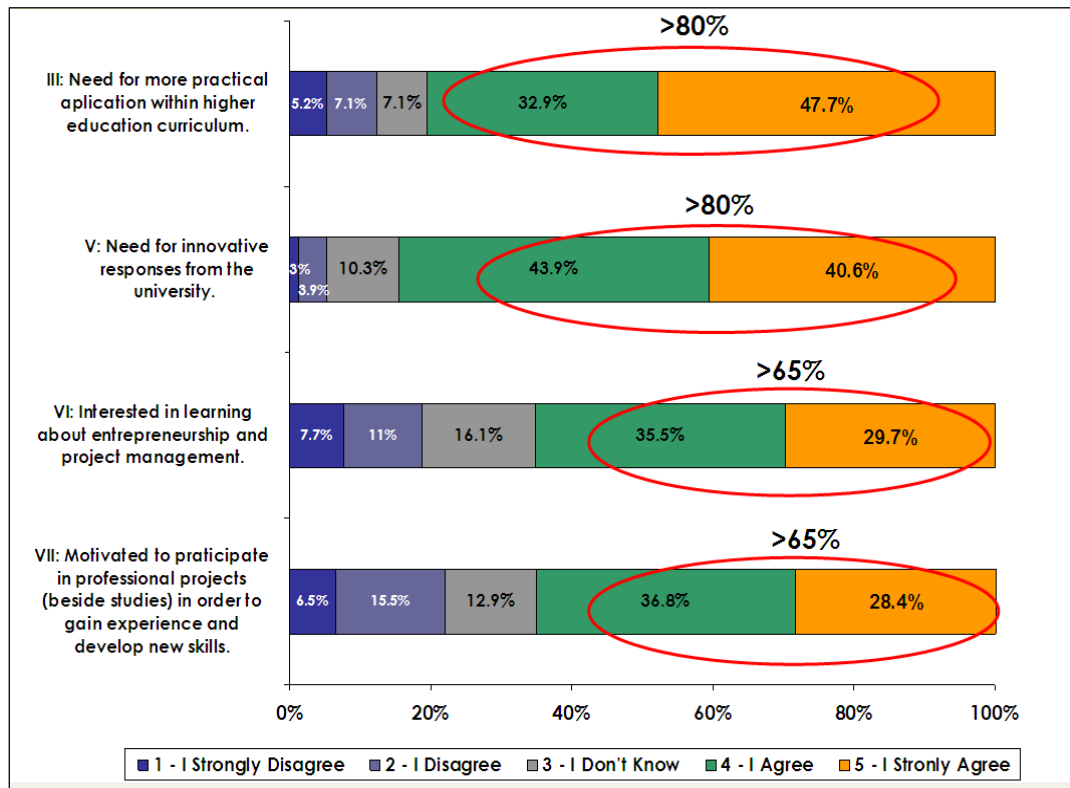
³⁶ In this context the term validity is defined as, “the best available approximation to the truth of a given proposition, inference, or conclusion” (<http://www.socialresearchmethods.net>).

Table 7: Summary of Survey Questionnaire

Summary of Survey Questions		Strongly disagree	Disagree	Don't know	Agree	Strongly agree
I.	There is a high incidence of graduate unemployment in South Africa.	2.6%	4.5%	18.7%	41.3%	32.9%
II.	I am concerned about my level of employability after I graduate.	7.1%	6.5%	6.5%	36.8%	43.2%
III.	Within my curriculum there is a need for more practical application.	5.2%	7.1%	7.1%	32.9%	47.7%
IV.	There is a need for greater interaction and dialogue between universities and the world of work in order to increase students' exposure.	4.5%	1.3%	3.2%	31.6%	59.4%
V.	There is a need for more innovative responses from UKZN to provide students with opportunities to increase their skills portfolio.	1.3%	3.9%	10.3%	43.9%	40.6%
VI.	I am interested in learning about entrepreneurship and project management.	7.7%	11%	16.1%	35.5%	29.7%
VII.	I am motivated to participate in professional projects in order to gain practical experience and develop new skills.	6.5%	15.5%	12.9%	36.8%	28.4%
VIII.	With adequate mentorship and working as a part of student team I believe that I have the ability to work on small scale consulting projects.	3.2%	7.1%	26.5%	38.1%	25.2%

Responses to questions 3, 5, 6 & 7 are illustrated in Figure 8. Responses to these questions were specifically selected as they provide a collective insight into the perceptions of students and can be analysed to assess their demand for co-operative and experiential learning practices. The type of learning practices which facilitate entrepreneurship and project management training like the JE-learning model.

Figure 8: Summary of Responses for the Whole Sample – Questions 3, 5, 6 & 7

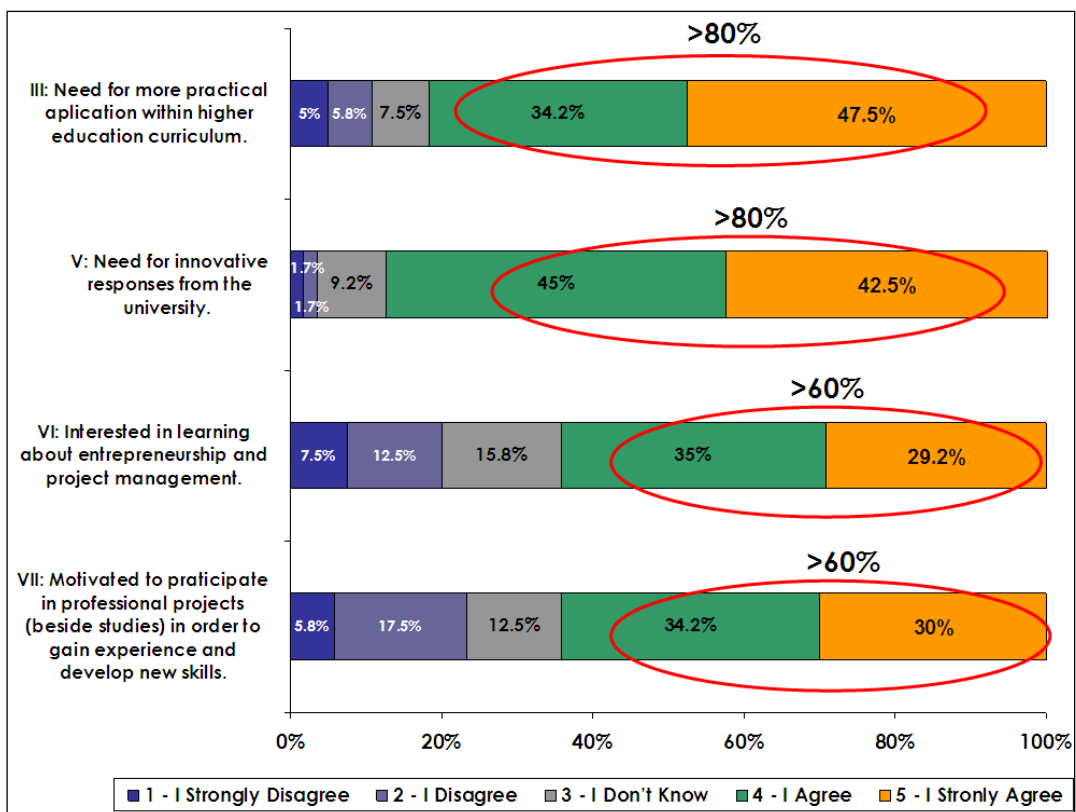


Due to certain disproportionate variables (sub-group samples) the sample cannot be considered entirely representative of the entire student body at Howard College Campus (UKZN). Nevertheless, it is argued that some indicatory evidence can still be derived from the findings of the survey questionnaire. Firstly, more than 80% (see Figure 7) of the respondents acknowledged the need for more practical application in their studies and the need for more innovative skills development programs from UKZN. This is indicatory evidence that among the sample population there is a notable demand for new approaches to bridge the gap between theory and practice, and to address employability. Secondly, as represented in Figure 7 more than 65% of the respondents were interested in learning about entrepreneurship and project management and expressed motivation to participate in small scale consulting projects. Thus, indirectly suggesting that among the sample student population resides the motivation to engage in JE-type experiential learning activities.

6.1.2.1. Sub-group Inferences – Humanities

Weaknesses in the survey sample have been highlighted and discussed, however it is contended that valid sub-group inferences can still be drawn from analysing the findings from the Humanities sub-group. The Humanities stratum sample in comparison to other strata samples was the largest sample, equating to 120 participants (96 undergraduate and 26 postgraduate, see Table 4). This sub-group recorded the highest response rate as 77% (see Table 2) of the distributed questionnaires to humanities students were completed and returned. Therefore, it is posited that there is sufficient statistical inference from this respective sub-group dataset to frame certain suggestions.

Figure 9: Summary of Responses for the Humanities Sub-group – Questions 3, 5, 6 & 7



On a national scale students from the Humanities comprise the largest and most susceptible demographic of unemployed graduates. According to Figure 8 among Humanities students there

is a relatively strong demand for this type of learning practice. More than 80% of respondents identify the need for more practical application within their curriculum and a greater responsiveness from the university in offering extra-curricular skills development programs. In addition, more than 60% of Humanities students professed an interest in learning about entrepreneurship and project management and a willingness to participate in small scale consulting projects – a core Junior Enterprise activity.

6.1.2.2. Documented Responses to the Open-ended Question: “How to improve the skills capacity of university students?”

To supplement the quantitative analysis of the closed ended questions, the open ended question investigated respondents’ views on how to improve the skills capacity of university students. From the 155 returned questionnaires, 106 students responded to the open-ended question. The results are presented (below) by adopting a thematic analysis approach. Thematic analysis is described as “a method for identifying, analyzing and reporting patterns (themes) within data” (Braun and Clarke, 2006). The 106 responses are segmented and analysed according to the most prevalent recurring themes in the data: a) Curriculum reform; b) Interaction between universities and the world of work; c) Entrepreneurship training and d) Community development service. The responses are summarised and presented in a thematic format (below):

a) Curriculum Reform:

- Adhering to workplace demands is not the primary function of the university but university curriculum should reflect some practical elements.
- Whereas Technikons (i.e. Universities of Technology) provide students with a large measure of practical experience, universities provide a large deal of theoretical knowledge – thus universities need to find a way to bridge this gap.
- Conceptualize practical approach to studies, incorporating more field work exercises thereby linking theory and practice.
- Improve the quality of theoretical instruction and how theory shapes practice.

- Course modules should comprise more practical projects in accordance with improving workplace readiness.
- Developing specific courses focussing on project management and soft skills – employable skills.

b) Interaction between HEIs and the World of Work:

- Create more links between the university, industry and government as antagonistic these relationships are?
- Networking with professional organisations and businesses (potential employers).
- Universities should assist students in capturing vacation employment with companies and organisations – provide students with relevant information.
- Internship programs prior to graduation (in final year 3rd/4th year) – compulsory component of degree structure and assessment.
- Humanities students and graduates do not have the same platform and opportunities as Science, Engineering and Commerce students and graduates therefore we need to create more opportunities for humanities students (such as compulsory internship programs).
- Student project teams should work on real projects commissioned by industry.
- Provide extensive career guidance and counselling programs.

c) Entrepreneurship Training:

- Promoting entrepreneurship and innovation by introducing an experimental widely accessible entrepreneurial training program with a practical project component.
- Mentorship programs and guest lectures by entrepreneurs to promote an enterprising student/learning culture and share knowledge and experience with student entrepreneurs.
- Additional and compulsory workshops jointly hosted by postgraduate students and experts focusing on practical skills developments and knowledge sharing (i.e. innovation and business creation).

- Students need to be more enterprising in their professional and academic approach. They must accept more responsibility for their professional development.
- Learners and universities must be more entrepreneurial in their disposition and measure themselves according to international benchmarks in an expanding and competitive global labour market.

d) Community Development Service:

- Community service which encourages students to work in rural and under developed areas – compulsory community service after graduation.
- Incorporate a sustainable development culture across academic disciplines and instil these values in students from a theoretical and practical perspective – allow learners to debate and practically realise their role in socio-economic development nexus.
- 3 year degrees do not succeed in moulding employable and skilled young professionals – move towards a four bachelors degree with a built in internship/community service program.

6.1.2.3. Summary and Analysis

The responses from the qualitative question reflect that students identify: 1) the need for a more practical approach towards higher education curriculum, 2) a closer interaction between universities and the world of work (i.e. internship programs built in the curriculum), 3) entrepreneurship training programs and 4) community development service programs (included in the curriculum). These insights infer that most students are fully aware of the shortcomings of their curriculum design and that they identify the need for additional learning programs to bridge the gap between traditional academic theory and practical experience.

6.2. Primary Research: Focus Group Discussions (FGDs)

Based on the premise that the JE-concept has been successfully implemented in Brazilian higher education institutions, the key objective of the focus group discussions (FGDs) was to gain an insight into the perceptions of students from developing countries (studying in Germany) on the feasibility of applying the JE-concept in a developing economy context. The discussion themes were:

- Evaluating the merits of the JE-concept
- Assessing the feasibility of adapting and implementing the JE-concept at universities in developing countries
- Discussing concepts of JE consulting projects with development objectives

The FGDs were conducted at the Brandenburgische Technische Universität Cottbus (Mecklemburg Vorpommern, Germany), where a majority of the students were undertaking their studies. The focus group was comprised of 27 postgraduate (Masters and PhD) students from wide range of developing countries: Cameroon, Tanzania, Nigeria, Ghana, India, China and Bangladesh (see Figure 9). Among the 27 participants there were 20 men and 7 women as shown in Figure 10.

Figure 10: Focus Groups – Sample Composition

	Cameroon	Tanzania	Nigeria	Ghana	India	China	Bangladesh
Ø number of participants	17	4	2	1	1	1	1
> 25 years	♂ 2 ♀ 1	♂ -	♂ - ♀ 1	♂ -	♂ -	♀ -	♂ -
25 – 35 years	♂ 9 ♀ 4	♂ 4	♂ 1 ♀ -	♂ 1	♂ -	♀ 1	♂ -
< 35 years	♂ 1 ♀ -	♂ -	♂ - ♀ -	♂ -	♂ 1	♀ -	♂ 1
	63 %	15 %	7 %	4 %	4 %	4 %	4 %

6.2.1.1. Outcomes from the Focus Group Discussions

Prior to engaging in discussion the group was informed about the history and theory of the JE-concept. In the subsequent plenary, session the FGD participants generally felt that the in theory the JE-concept has the potential to be adapted and implemented within universities in their countries. It was highlighted that this type of skills development program can be effective in addressing the high level of graduate unemployment prevalent in many of the participants' home countries. Moreover, allowing students and graduates opportunities to exercise their abilities and enhance their skills set. The participants responded positively to the conceptual merits of JE-model and its successful implementation in universities in European countries and Brazil. There was general consensus that a practice of this nature needed to be properly contextualised and remodelled, if it is to be implemented at their home universities. They felt that there were many constraints which applied in the case of most developing countries. The participants identified the following general constraints to implementing the JE-model at universities in their home countries:

- Lack of higher education infrastructure support.
- Low motivation among students and unemployed graduates.
- The need to provide financial incentives for students and graduates to participate in JE activities.
- Difficult to acquire sustainable funding from public or private sources.
- Securing financial and institutional support from public and private sector stakeholders.
- An underdeveloped private sector (as is the case in most developing economies) may stifle the demand for this type of student driven academic consulting service.
- Differing cultural contexts, students from developing countries may not possess the confidence and/or professionalism to execute consulting projects at a corporate level.

The highlight of the FGDs was the interactive exercise. The research objective of this exercise was to investigate the level of interest and motivation from students when engaging in a Junior Enterprise activity – the conceptualisation of a consulting project proposal relevant to their general field of study. The group was divided into four smaller focus groups and students were challenged to conceptualise a small scale junior enterprise consulting project which possessed an inherent socioeconomic development objective. In the short time allotted to them participants demonstrated how innovative they could be, their ability to work in a multicultural team, their potential leadership qualities and how skilfully and professionally they could present their ideas. The outcomes were very encouraging as the focus groups presented their innovative project proposal concepts to entire group. The high level of enthusiasm and engagement observed within the focus groups inferred that postgraduate students (from developing countries) were interested in participating in Junior Enterprise activities. In the subsequent discussion it was highlighted especially amongst the women that this model of co-operative practice would allow them to challenge traditional patriarchal norms which are resonated in the business environment. The outcomes of the FGDs proved that these students were highly interested in engaging in applied research activities within a university-based entrepreneurship facility.

6.2.1.2. Questionnaire for Focus Group Participants

A simple questionnaire (see Appendix D) was conducted at the end of the FGDs in order to quantitatively gauge their evaluation of the concept and compare the findings from the questionnaire to the qualitative outcomes of the FGDs. The questionnaire investigated participants' perspectives on the potential of the JE-concept to facilitate the development women in entrepreneurship and promote gender equality. In addition, the questionnaire allowed participants to express written comments. Text boxes 1, 2, and 3 frame extracts of the written comments posted by participants.³⁷

³⁷ Please note that the real names of the participants have been omitted in order to ensure anonymity.

**Text Box 2: Comment by focus group participant from Cameroon,
PhD student studying Berlin, 2007**

“Many young entrepreneurs in Africa are looking for a link to a ‘worldwide network’ in order to develop and expand their entrepreneurial ideas. The Junior Enterprise network provides a mechanism to foster and nurture organic entrepreneurship, moreover creating new opportunities for enterprising students from developing countries.”

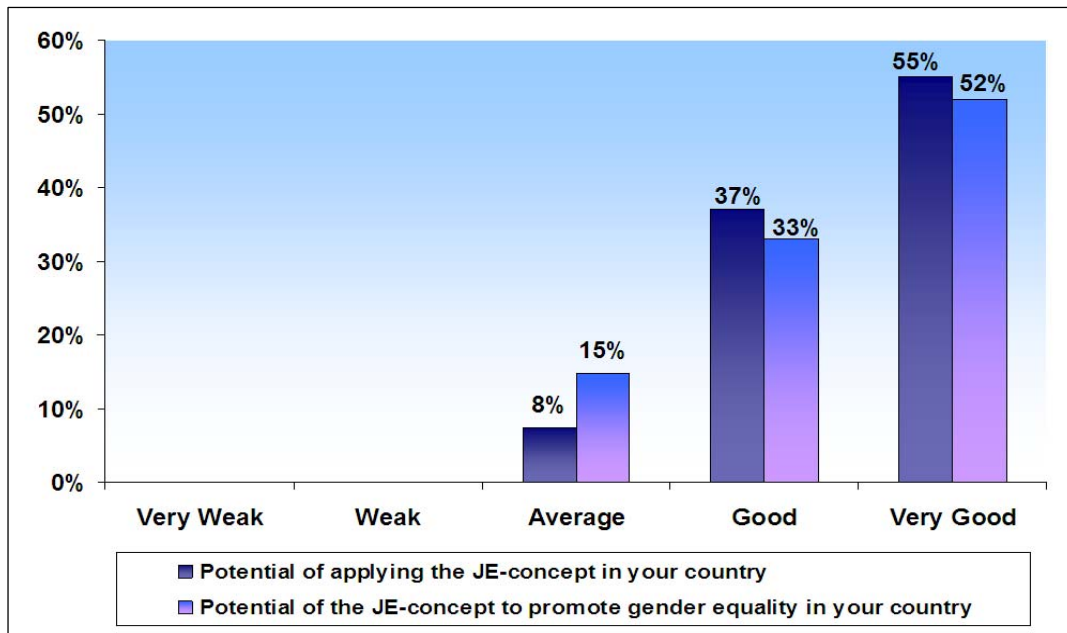
**Text Box 3: Comment by focus group participant from Nigeria,
Master of Science student studying in Berlin, 2007**

“The JE-concept has a relatively good chance of taking off in Nigeria, but it will be a great challenge getting the program to take off. Already, there exists an alternative system for students to gain practical work experience while studying. However, the chance to network with the private sector and transform their ideas into business concepts is lacking. Therefore, there is a chance that programs like the JE-concept might work. But certain social issues might pose some constraints.”

**Text Box 4: Comment by focus group participant from Tanzania,
Bachelor of Science student studying in Berlin, 2007**

“I think the JE-concept is very positive for entrepreneurship development at university level, but there isn’t adequate

Figure 11: Focus Groups Questionnaire – Evaluating the JE-concept



The results of the questionnaire confirmed the outcomes of the FGDs, 92% of the participants suggesting that the JE-concept has the potential to be adapted and applied at universities in their home countries. The questionnaire results also indicated that students were positive about the potential of this practice in promoting women in entrepreneurship, by allowing them undertake leadership positions and gain valuable management experience.

6.2.2. Summary and Analysis

Overall participants were positive about applying the JE-concept at universities in their respective developing countries. However, citing cultural differences and poor financial resources as potential constraints, they debated the relevance of applying this learning practice in universities in developing countries. In addition, they highlighted an underdeveloped private sector to rationalize the limited demand for this specific type of student driven academic consulting service. In light of variable development challenges, it is contended that there is latent demand within the public sector for an affordable mutually beneficial student consulting service model.

6.3. Secondary Research

To inform the design of a student support centre, the following research project was commissioned to identify and analyse student needs, graduate students from the Department of Industrial Organizational and Labour Studies (IOLS) conducted a survey at Howard College Campus (UKZN) in 2007. Questionnaires were distributed to students from all major faculties based at Howard College Campus, namely Engineering, Health Sciences, Humanities and Law. 868 questionnaires were distributed and 398 were completed and returned. The survey questionnaire was composed of both closed and opened ended questions, with the closed ended questions seeking student's views on specific issues. The questions were divided under the following six categories:

- Student's views on lecturers' accessibility.
- How they feel about the absence of racial and gender discrimination in the university?
- Students' views on the relevance of their course material /content.
- Students' views on the need for the university establish relationships with potential workplaces.
- Student's views on the current university's infrastructure.
- Students' views on the need for a more effective communication forum.

6.3.1. Findings

The results indicated that students require support in accessing employment opportunities (or recruitment) and attaining an industry entry level of workplace readiness. Readiness was defined as being able to engage in activities that are practical and reflective of issues that industry or workplaces are confronted by. From the different question categories the most relevant category considered for this particular study is: Students' views on the need for the university establish relationships with the world of work. Findings revealed:

- 52% (205) of the students felt that their degrees were not theoretically relevant and did not encourage them to critically engage with relevant workplace dynamics and challenges.

- 37% (149) feel that facilitated access to the world of work is not exclusively limited to the best performing students but all students benefit from it, whereas 35% (135) felt otherwise.
- 63% (251) felt that there is a need for long-term relationships to be forged with the world of work and the university in order to increase students' exposure to the workplace dynamics and practical work experience.

6.3.2. Summary and Analysis

Although the responses from this particular survey question are mixed, there is sufficient evidence to infer that a significant amount of students are concerned about: 1) the practical relevance of their curriculum, 2) employability issues, 3) and the need for a stronger links between higher education and the world of work. To a degree these findings correlate with the key findings from the primary survey questionnaire (conducted in this study) discussed in Section 6.1. The fact that both surveys were conducted in 2007 at Howard College Campus and targeted the same student population adds further impetus to the strength of these correlations.

6.3.3. Comparative Analysis and Interpretation

a) Graduate Employability

In 2001 Maharasoa and Hay conducted a seminal study on higher education and graduate employment in South Africa. This nationwide study employed focus groups and interviews to investigate and compare the perceptions of deans and students of their faculties regarding the quality and employability of higher education curriculum. Their findings revealed that students irrespective of race and gender agreed that employability is a significant curriculum concern. There was consensus between deans and students on the importance of employability as an indication of quality, yet there was seemingly a mismatch at the level of implementation, “where faculties have not committed the resources to ensure employability of their graduates” (Maharasoa and Hay, 2001). The prevailing levels of graduate un/underemployment and the

apparent skills mismatch infer that South African HEIs have not effectively responded to the employability challenge.

Regarding the issue of employability and related university responsiveness, Maharasoa and Hay's findings are congruent with the findings from the primary research (survey questionnaire) and the secondary research (IOLS survey) analysis conducted in this dissertation. Findings (discussed in section 6.1) indicate that students are still concerned about employability and feel that there is a need for innovative responses (i.e. curriculum reforms and experiential training activities) from their faculties to ensure that they are adequately prepared for entry into the labour market. Maharasoa and Hay also stipulate that in turbulent employment markets, the need to provide students and graduates with entrepreneurship training cannot be over-emphasised. The correlation between the findings in Maharasoa and Hay's study and this dissertation prove that: 1) employability issues are still as prevalent today as they were in 2001; and 2) there is a need for HEIs to be more responsive towards learners' requests for curriculum reforms and additional skills development offerings.

b) Student Entrepreneurship

In a recent study, Grundling and Steynberg (2008) analyzed the challenges of academic entrepreneurship for HEIs in South Africa by conducting a historical survey and a survey of students learning orientations – with regard “to their readiness to make a contribution to society in terms of academic entrepreneurship.” The survey was designed to give an indication to what extent academic entrepreneurship was installed in students' general academic disposition. They formulated their study on the premise that the installment of a learning orientation in students (exogenous learning driven by the knowledge economy) will result in students adopting an entrepreneurial disposition towards their education and future careers. In short, they argue that a learning orientation (as a criterion) is a prerequisite to inculcating a culture of entrepreneurship and consequently fostering entrepreneurship activity among students.

Grundling and Steynberg (2008) define and label the learning orientations as:

- *Grade orientation* – This orientation emphasizes learning for the sake of learning. Students tend to construe their tertiary career in terms of the grades they obtain. Grades, rather than learning, become the primary objective of the students.
- *Learning orientation* – This orientation emphasizes learning as a mechanism whereby students get the opportunity to gain access to significant ideas, innovative technologies, and new ways of thinking.

Their survey results indicated that the majority of respondents still possess a grade orientation instead of a learning orientation towards their studies. Insofar as to explicate the challenge for South African HEIs: installing a learning orientation in students as a prerequisite to promoting academic entrepreneurship (Grundling and Steynberg, 2008). Thus, predicting that the lack of entrepreneurship zeal and activity among students at South African universities can be attributed to their grade orientated learning disposition.

In contrast the research findings in this dissertation indirectly reflect that the majority of students are eager to pursue to learning activities associated with entrepreneurship discourse. Grundling and Steynberg emphasize that although students are aware that they should be learning orientated, their behaviour does not reflect that approach. This finding is pertinent as it reflects that although students maybe aware of the need to possess an entrepreneurial skills set, their inherent learning disposition may not be congruent with their cursory pronouncements. Considering Grundling and Steynberg's hypothesis, unless there is a fundamental shift in the learning disposition of students then an entrepreneurial culture will struggle to establish roots in South African higher education. As previously alluded, the challenge for HEIs is to install a learning orientation in students as a critical prerequisite to fostering academic entrepreneurship activity in South Africa.

Even though the findings of this dissertation infer that students identify the need for experiential learning practices (like the JE-concept), they might still not possess the requisite learning orientation to ensure the successful and sustainable implementation of this kind of student-driven learning practice. This deduction is clearly not conclusive, however it does infer that within South

African HEIs there may exist implicit challenges (i.e. students grading orientated mindsets) which could inhibit the widespread implementation and sustainability of student-driven learning practices like the JE-concept. In summary, due to the apparent grading orientated learning disposition of South African students, the application of student-driven learning practices like the JE-concept might not be feasible?

6.4. Chapter Summary

Students are the driving force behind the success of this cooperative and experiential learning model, therefore it is vital to capture their perspectives. Due to the small scope of the survey and the uneven response, the findings lack a certain degree of precision. However, there is sufficient preliminary evidence (statistical inference) to suggest that there is an existing demand among students pertaining to the need for co-operative and experiential learning practices – that address project management and entrepreneurship training. On closer inspection of the dataset, the sub-group inferences indicate that students from the Humanities portray a high demand for such extra-curricular learning practices. A thematic analysis of the open-ended question illustrates that respondents are aware of the shortcomings of their curriculum design and the need for HEIs to provide innovative offerings to bridge the gap between theory and practice. Findings from the FGDs show that students from other developing countries project a positive perception regarding the feasibility of contextualising and adapting the JE-concept for HEIs in their respective countries.

Learners' are concerned about employability and as a result identify the need for specific curriculum redress. In this regard, the findings of this dissertation are concurrent with Maharasoa's and Hay's 2001 study. The findings of Grundling and Steynberg's study underline the shortcomings of the findings from the survey questionnaire dataset in accurately discerning if this practice is appropriate for South African students. By interpretation their study illustrates that an assessment of student demand is incomplete as a premise to validate the feasibility of applying the JE-concept in South Africa. To conduct a comprehensive feasibility study it would be

necessary to assess the nature of demand from private and public sector organisations for this type of student consulting service.

In reference to Grundling and Steynberg's findings and by deductive reasoning, it is cautiously surmised that although there is an evident demand for this type of practice, grading orientated South African students might not possess the requisite learning disposition to sustain such a model. Hence, it is deduced that the only method of interrogating this supposition is by conducting a pilot project. By designing and implementing a contextualized JE-model within a South African university, it will be possible to evaluate students' learning outcomes and gauge their responsiveness to this practice. Insofar as to deduce if they have exhibited a learning orientation or grading orientation. Or ascertain if their orientation has shifted from a grading to towards a learning orientation due to their engagement with an experiential learning practice of this nature? The interpretation of the research findings and the comparative analysis lends to the logic that the most substantial test of feasibility is through the implementation, subsequent monitoring and evaluation (i.e. via qualitative and quantitative methodologies) of a contextualised pilot project. A further empirical ('factual') study is required. Furthermore, an empirical study would also indicate the nature of responsiveness from public and private sector organisations towards this type of student consulting model, and highlight the potential institutional constraints of establishing a JE at a South African university.

Chapter Seven: Conclusion

“Knowledge emerges only through intervention and re-invention, through the restless, impatient, continuing, hopeful inquiry human beings pursue in the world, with the world, and with each other”

- Paulo Freire (1970)

The extensive literature review conducted in this study indicates that in South Africa there is a need for a heightened pre-emptive response from HEIs towards the skills deficits among recent graduates. Beyond expanding external graduate training solutions, employability must be addressed holistically within the construct of higher education, targeting students throughout their tertiary career. In addition, there is a need to explore alternative approaches in fostering entrepreneurship activity among students. These responses must be designed to create productive collisions between students and the world of work. This study has explored the design of the JE-concept (a student consulting association), as one type of response to simultaneously address employability and foster entrepreneurship. The research attempted to discern if the JE-concept is appropriate for South African students. To this end the primary research explored the perceptions of students' pertaining to employability issues and entrepreneurship education. It is emphasized that the research yielded limited yet indirectly constructive findings.

7.1. Summary and Interpretation of Key Findings

The indicative evidence drawn from the primary research, suggests that South African students (based at Howard College Campus, UKZN) are aware of the importance of employability and identify the need to bridge the gap between theory and practice, consequently advocating for greater interaction between the world of work and university. The findings also provided some indicative evidence of student demand for more innovative responses from universities regarding specific interventions to address employability and entrepreneurship education. These findings also suggest that a majority of students are motivated to undertake the responsibilities of engaging with this kind of co-operative and experiential learning practice. In short, the findings suggest that students demand extra-curricular programmes to enhance core competencies and develop entrepreneurial skills.

Albeit somewhat limited, there is sufficient indicatory evidence to extrapolate that students will respond favourably to a learning practice akin to the JE-concept. However, by employing a deductive reasoning approach and engaging in a critical comparative analysis discourse, it is deduced that as a premise the assessment of student perceptions is inadequate to comprehensively discern the feasibility of applying this practice in the indigenous context. Invariably it is necessary to investigate the perceptions of private and public sector organisations regarding the demand for student consulting services. Are these organisations willing to procure consulting services from university students? As mentioned previously this study refrained from engaging this question due to research constraints. Due to this fact the findings from this study cannot proclaim to entirely discern the feasibility of applying the JE-concept in South African universities.

However, by gaining an insight into the perceptions of students regarding selected themes, the findings are constructive in cementing a foundation for future technical research frameworks such as performing a SWOT analysis for a potential pilot project. SWOT stands for Strengths, Weaknesses, Opportunities, and Threats. A SWOT analysis is a tool that can be used in an organisation's strategic planning process for environmental scanning (Hung, 2006). A SWOT analysis is a strategic planning tool applied to help universities respond to changes and challenges (Hung, 2006). Hence, in the process of designing appropriate interventions to respond to the challenge of employability and entrepreneurship training, universities should perform a SWOT analysis of the proposed pilot interventions. For this purpose the findings from this study are constructive. For instance if a SWOT analysis was performed to determine the viability of applying a contextualized JE-model at Howard College Campus (UKZN), the indication that there is student demand for this practice can be interpreted as a potential internal strength. Conversely, when Grundling and Steynberg's argument is considered then the apparent lack of a learning orientation among South African students can be interpreted as a potential internal weakness.

In summation, it is evident that the findings from this study do not provide conclusive grounds to discern if the JE-concept is appropriate for South African students. It is imperative to determine if

public and private sector organisations are willing to actively support this practice. Subsequently, it is critical to gather empirical evidence to validate or invalidate the suitability of this learning practice for South African students. Therefore, it is necessary to design, implement and evaluate a pilot project (testing the design in practice). The implementation of a pilot project will present an opportunity to: 1) understand of the institutional mechanics of such a practice; 2) evaluate the level of student (client) response across academic disciplines; 3) observe if participating students exhibit a learning orientation or grading orientation in this specific educational context; 4) and measure the responsiveness of South African public and private sector organisations towards experiential learning communities like Junior Enterprises.

7.2. Recommendations

Based on an in-depth analysis of the literature and findings from the secondary and primary research, it is recommended that South African universities consider acting on the following issues:

- Investigate the feasibility of implementing experiential learning practices like the JE-concept by conducting comprehensive feasibility studies, which in this case would include: 1) an exploration of the institutional mechanics of modelling a non-profit student consulting organisation; 2) and an assessment of the level of demand for student consulting services from public and private sector organisations (i.e. ‘market research’).
- Strengthen relationships and synergies between industry, government and communities – as depicted by the Triple-Helix nexus. In turn, creating proper mechanisms to manage the interface between universities and industry. Potential mechanisms should include: science parks; technology centres, centres for entrepreneurship (CfE); incubators for university spin-offs, student spin-offs and academic consulting spin-offs (likened to the JE-model).
- Promote a university-wide approach to entrepreneurship education and student enterprise development facilitated by a CfE. A CfE should endeavour to forge mutually beneficial partnerships with all university faculties and together inform the indigenous development

of faculty specific entrepreneurship learning practices. A CfE must consult students and practitioners whilst engaging in continuous research on international best practice in the area of entrepreneurship education. Researchers, practitioners and students must together mobilize this knowledge to design and implement contextualized learning models.

- Reforms in higher education curriculum should focus on engendering the development of transdisciplinary competencies that prepare students for meaningful and productive work lives. HEIs (provider) must undertake the provision of inclusive extra-curricular upskilling offerings for students and recent graduates (clients). Future employability programmes (or factoring in a compulsory internship requirement) must constitute a central feature of higher education curriculum design.

- In promoting entrepreneurship education and academic entrepreneurship, practitioners must place an emphasis on the inculcation of a “learning orientation” among students rather than conforming to the traditional “teacher – student” stereotype. Students should assume an active role in the learning process within a collaborative learning environment (i.e. reflective transdisciplinary learning communities like the JE-model).

7.3. Future Research

Future research in this field should focus on discovering solutions – ‘design research’. There is a need for an in-depth exploration of students needs and industry needs to inform the design of curricular and extracurricular interventions, which address employability and entrepreneurship education. The design of interventions should be informed by international best practice. Due to significant differences in cultural and institutional structures, it is critical that interventions of this nature are carefully contextualized and re-designed for South African HEIs. To design effective practices it is necessary to develop a set of construction principles grounded in scientific research. Therefore future research should adopt a “science-based design” approach.

A science-based design perspective is an emerging conceptual design framework within organisation research. The fundamental idea is that normative principles ground in research serve

to construct design rules, which in turn guide the creation of solutions, to be tested in practice (Romme and van Burg, 2006). This proposed framework links the scientific knowledge base produced by researchers (in the field of entrepreneurship education) to the pragmatic and creative work of practitioners (lecturers, student entrepreneurs and those advising entrepreneurs). Thus, implying the need to connect scholarly work to pragmatic knowledge and explain why certain practices in the field work and others do not? (Romme and van Burg, 2006)

Although any design process is as much emergent (decontextualised) as deliberate (contextualised) in nature, it is imperative to amass a scientific knowledge base to stimulate the design of solutions (Haragadon and Douglas, 2001 cited in Romme and van Burg, 2006). By analyzing the JE-concept this study has added to the indigenous scientific knowledge base of innovative practices in entrepreneurship education. A science-based design perspective provides a scientific and pragmatic perspective on researching and practicing the development of new models. In sum, it is critical to combine scientific inquiry with empirical study to inform the science-based design of experiential and cooperative learning practices within the construct of higher education. Empirical research is necessary to test and inform design.

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Appendix A: Profiles of best practices presented at the European Conference on Entrepreneurship Education

1. Teaching of entrepreneurship across different subjects, Dundalk Institute of Technology (DKIT), Ireland

Entrepreneurship at DKIT is taught across four faculties (Business and Humanities, Informatics and Creative Media, Nursing and Health Studies, and Engineering) and across levels 6-9 of the NQAI framework. Entrepreneurship as an educational course has been taught at DKIT since the mid 1980s – with the content, structure, duration and delivery style of such modules evolving over the years. A contemporary redesign of the entrepreneurship modules resulted in practical creative and innovative elements of entrepreneurship being taught in the first year, followed by theoretical components being covered in the second year module. “This facilitates students to think creatively right from the beginning” (European Commission, 2006).

The School of Business and Humanities offers undergraduate students an exciting and practical one-semester entrepreneurship module known as, “Creativity and Innovation” (level 6). This module introduces students to “problem solving and idea generation for the purpose of new venture creation” (European Commission, 2006). The teaching methodology includes interactive workshop-style sessions, and with no formal written examination students are assessed on a team-based creativity project. Subsequently, successful students can then progress to a level 7 module called, “Entrepreneurship”. This particular module offers a “higher level of study with a more theoretical and academic content, along with the ‘Business Project’ where students will research the potential for setting up a new business in the region” (European Commission, 2006).

2. Science Enterprise Challenge (UKSEC) – Changing the culture at UK universities, University of Sheffield, UK

The Science Enterprise Challenge was a UK government initiative launched in 1999 by the Office of Science and Technology. The goal was to transform the entrepreneurial culture at UK universities, in particular the learning experience of science and technology students.

Cultural change is apparent at universities throughout the UK. It is a complicated and lengthy process that has strategic implications. The key consequences of a move to an enterprise culture are that the research becomes more focused on its applications and teaching more focused on how to get and how to use rather than just the acquisition of subject knowledge (European Commission, 2006).

In 2004 UKSEC became a national network of enterprise centres open to all UK universities, enabling 160 000 students and 1000 university staff to become more involved with enterprise learning. In addition UKSEC set up 70 student enterprise societies and implemented 180 business plan competitions involving 8700 new ideas. On a national scale UKSEC has created a community of practice for those in enterprise development. “Its success resides in providing opportunities for talking, sharing and experimentation in a climate of competitive cooperation” (European Commission, 2006). Through a series of networking and conferencing events UKSEC creates a climate for knowledge (best practice) sharing and the development of new approaches.

While UKSEC has encouraged some universities to develop enterprise learning programmes through their business schools, others such as the University of Sheffield “have chosen an embedded approach where the learning is closely connected with the science or engineering subject and led by academic staff in those departments. The key to success in this approach is the infiltration of ‘enterprise teaching’ into the professional standards of the teaching staff” (European Commission, 2006).

3. TOP Programme for young start-ups, University of Twente, Netherlands

The Dutch Institute for Knowledge Intensive Entrepreneurship (NIKOS) is a part of the University of Twente and works to develop models/projects to reduce the gap between basic research, applied research and SME development. One of these successful projects is the TOP-programme, which was first implemented in 1984 to encourage graduates to start their own knowledge-based companies with strategic assistance from the university.

The main prerequisites for entering the TOP-programme are: 1) having a business idea that matches the interest of staff members in one of the research-groups at the University of Twente, and 2) having a comprehensive and consistent business plan. The TOP-programme offers the student entrepreneurs the following support services and resources:

- *Office space:* The entrepreneur is housed physically in the research-group. The research-group receives a financial compensation for its hospitality with the TOP-project.
- *Secretarial support:* The entrepreneur can use (within certain limits) communication aids as computer, fax, copier and telephone in arrangement with the research-group.
- *Laboratory facilities:* Depending on the type of company, the entrepreneur sometimes needs the access to expensive equipment.
- *Course "Becoming an Entrepreneur":* TOP is learning by doing but we strongly advise students to follow this course which helps to develop skills and to write a business-plan.
- *Financing:* The TOP-entrepreneur receives an interest-free loan of 12.000 euro if necessary. It is a personal loan, not a loan to the company, which has to be paid back in 4 years, starting the second year.
- *Mentorship:* Because the starting entrepreneur lacks experience in doing business, the entrepreneur is matched with an experienced businessman who started his own business (European Commission, 2006).

Since the inception of the TO-programme in 1984 and till the end of 2005, 355 entrepreneurs established 280 knowledge-based firms (sometimes a firm got started with 2 or 3 entrepreneurs). Monitoring and evaluation of these SMEs, showed that 75% still exist with only 22% ceasing operations. And of the existing companies, it is calculated that they sustain an average of 8.7 jobs.

4. An Integrated Approach to Entrepreneurship Education, BI Norwegian School of Management, Norway

Entrepreneurship education has been apart of the curriculum at the BI Norwegian School of Management for the past decade and includes everything from single courses in enterprise development to a specialized Bachelor in Entrepreneurship Programme – covering all the dimensions of setting up a new business. Their philosophy is to offer “research-based education with high academic standards in a manner which practitioners find useful.”

The Bachelor in Entrepreneurship Programme allows students to establish and develop their own company. The programme’s integrated approach is supplemented by the Centre for Entrepreneurship through its active network, allowing students to seek assistance from advisors, incubators, venture companies etc. Modules are based on “Active Participant Learning.” Students meet with actors in the field and engage in practical experiential learning activities as they develop a real company. “For those being at an earlier stage of developing themselves as entrepreneurs, the integrated approach involves possibilities to participate in Business Plan competitions, Youth Enterprise activities, or other practical activities enhancing learning by practical assignments” (European Commission, 2006).

Students are systematically exposed to actors valuable to entrepreneurs (i.e. investors). This is facilitated partly in the classroom, and partly by engaging with actors in their own working environment. In addition, students also experience “Real Time Live Cases”: for instance entrepreneurs develop business plans with the class before they seek refinancing. The success of BI’s Entrepreneurship Education Programmes is illustrated by the many students who have started their own companies either during or after their studies.

Appendix B: Testimonials and Success Stories

Testimonials and success stories from European students who worked (during the course of their studies) for Junior Enterprises at their respective universities and subsequently went on to create their own companies after completing their degrees (Source: <http://www.jadenet.org>).

“CONFABS GmbH (www.confabs.de) was started in 2003 and is now managed by three former members of two Junior Enterprises - Company Consulting Team from Berlin and uniforce Junior Enterprise from Vienna. We offer consulting services in the fields of IT-consulting and classic business consulting. However, we do not operate these two fields of service parallel but integrate them to form a comprehensive offer for our customers to cater to their needs both from an IT and a business point of view. In order to offer the customer innovative solutions at affordable prices we use open source software if possible.

We are based in Berlin and operate with customers throughout Europe. The entrepreneurial spirit that we lived and breathed in our different Junior Entrepreneurs spawned the desire in us to start our own company early on. Being real student entrepreneurs we already started the company while still finishing our respective degrees. Consequently, the start-up phase was pretty hectic but having experienced similar pressures and workloads while still in the Junior Enterprises we got used to it quickly.

Today we are our former university’s official start-up consultant and business plan coach and have carried out numerous projects for customers from different business fields. At the moment we are in the process of setting up another company round about the end of the year 2005.”

Christian Kiock

“I was a member of the Junior Enterprise Company Consulting Team, Berlin from 1996-99. After finishing my studies I started 1999 in the Life Sciences Practice of Gemini Consulting, a Management Consultancy that was later integrated into CapGemini. In 2003 I left Gemini and became one of the founding members of Type Two Ltd., a London-based Strategy consultancy that works only for Pharma and Biotech companies.

My motivation was that I did not want to work half of my time to pay for large staff overheads, expensive offices and senior partners that only work on sales. I also thought that a consultancy focused on only one, very complex, industry can be at least as or more successful than the large generalist consulting firms. Since Type Two's foundation we have grown from 3 to about 15 employees and our consultants have worked for more than half of the world's top 20 pharma companies. In the last 18 months alone we have delivered projects in many countries across Europe, in Mexico, Argentina, Brazil and Saudi-Arabia.

Type Two has no offices; our UK address is a virtual office and a mailbox. Consultants can live in Europe where they choose. All administrative activities such as payroll, accounting and legal are outsourced. This dramatically reduces our overhead costs and increases the life quality of our consultants. The employees meet every few months in person for a weekend to discuss, prepare and get to know each other. Last year we had a spring meeting in sunny Beirut and a winter get-together in the Austrian Alps. www.type-two.com Our firm has recently been featured in "Brand Eins", a German business/lifestyle magazine with an article focusing on our virtual company structure.”

Till Erdmanna

“My name is Lukasz, I am 27 and I was an active member of Junior Enterprises from 1998-2002. I started my own company while still having been active in JE consulting projects. Right now my company employs more than 90 people while being profitable. I was active with Campus Consult, Paderborn, Germany (1998-2000 and as a Vice-President Finance, project manager and JADE delegate for Integra e.V., Mannheim, Germany (2001-2002). Furthermore I worked as a Project Manager for JADE.

About my Company:

Spreadshirt is a specialist for onlinemerchandising and one of the most successful European Internet startups in the last years. Launched in 2002 in Leipzig, Germany without funding, Spreadshirt now employs more then 90 people, is profitable and is expanding internationally to the EU and US. Spreadshirt has been awarded by the FutureSAX 2002 Award as well as the Hewlett Packard Business Innovation Award 2004. Another award we received was the Founder Champion Saxonia 2005 and my company was nominated (top three) in the Start-Up competition by Stern, ZDF & McKinsey

The concept:

Spreadshirt allows private and commercial website owners to benefit from the popularity of their homepages with the chance to make a profit from the start an without costs or risks. Spreadshirt provides all the technology needed to create individual products and online shops. Shop Partners do not need to keep stock, produce items, ship merchandise, program software or manage payments. In addition, consumers at Spreadshirt can easily and quickly order online t-shirts and more in the style of their choice.”

Lukasz Gadowski

Founder & CEO

Appendix C: Survey Questionnaire

The following survey aims to assess student’s perceptions regarding the need for more innovative skills development responses from their university – responses which are designed to bridge the gap between theory and practice. By participating in this survey you are informing the assessment of an experiential learning practice designed to address employability and entrepreneurship education. (Please note that any information which is provided will be handled with the strictest confidentiality).

Survey Questionnaire: Applied to students based at Howard College Campus (Durban), University of KwaZulu-Natal. Please circle the correct option:

Sex	Female	Male		
Race	Black	Coloured	Indian	White
Field of Study	Engineering	Health Science	Humanities	Law
Level of Study	1 st year	2 nd year	3 rd year	Postgraduate
Level of Professional Work Experience	None	Less than 6months (internship level)	1-2 years	More than 2 years

	Please us the descriptions at the top of the questionnaire and circle the response of your choice:	I strongly disagree	I disagree	I don’t know	I agree	I strongly disagree
1.	There is a high incidence of graduate unemployment in South Africa.	1	2	3	4	5
2.	I am concerned about my overall level of employability after I graduate.	1	2	3	4	5
3.	I feel that within my higher education curriculum there is a need for more practical application – in order to bridge the gap between theory and practice.	1	2	3	4	5
4.	I feel that there is a need for more dialogue and interaction between universities and the world of work in order to increase students’ exposure to the working environment.	1	2	3	4	5
5.	I feel there is a need for greater and more innovative responses from UKZN in providing students with opportunities to improve their skills portfolio and overall employability.	1	2	3	4	5
6.	I am interested in learning about entrepreneurship and project management.	1	2	3	4	5
7.	I am motivated (and have enough time) to participate in professional extra-curricular projects in order to gain practical work experience and develop new skills – including project management and soft skills (such as	1	2	3	4	5

	presentation and communication skills).					
8.	In conjunction with adequate mentorship (from postgraduate students and lecturers) and working as a member of a student managed project team, I believe that I have the ability to work on professional (small scale) consulting projects for clients in the public and private sector.	1	2	3	4	5

9. Additional Comments: How to improve the skills capacity of university students?

Appendix D: Questionnaire for Focus Group Participants

Evaluation of the Junior Enterprise Concept by postgraduate students from developing countries studying in Berlin, Germany.

Your compliance and time is greatly appreciated. (Please note that any information which is provided will be handled with the strictest confidentiality).

Short Questionnaire: Applied to focus group participants – focus group conducted at the campus of Brandenburgische Technische Universität Cottbus, Germany.

Name:	
Age:	
Sex:	
Nationality:	
University:	
Current Degree:	

Please us the descriptions at the top of the questionnaire and circle the response of your choice:	Very Weak	Weak	Average	Good	Very Good
Rate the potential of applying the JE-concept in your country.	1	2	3	4	5
Rate the potential of the JE-concept to promote gender equality in your country.	1	2	3	4	5
Rate the potential of applying the JE-concept in South Africa.	1	2	3	4	5

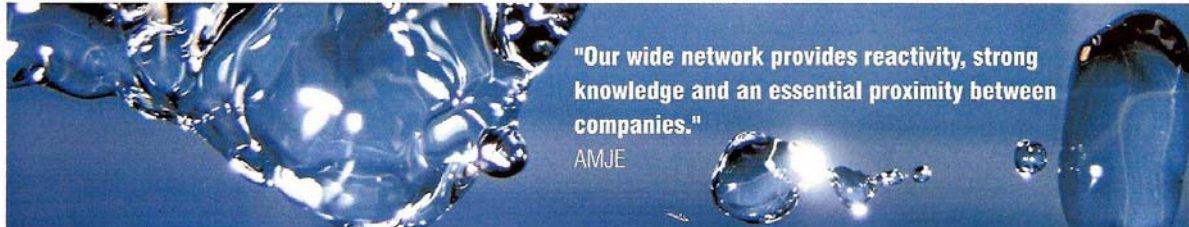
Additional Comments:	
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Appendix E: Profiles of JEs and their respective National JE Confederations from France, Germany and Poland

- 1. AMJE (Arts & Métiers ParisTech),
JADE France (French Confederation of JEs)**
- 2. Campus Consult (University of Paderborn),
BDSU (German Confederation of JEs)**
- 3. ConQuest Consulting (Warsaw School of Economics),
JADE Poland (Polish Confederation of JEs)**

AMJE, JADE France

The Junior Enterprise of Arts & Métiers ParisTech



The confederation: JADE France

JADE France was created in 1969, only two years after the creation of the first Junior-Enterprise. It gathers 98 J.E. and 42 associated members (J.I). It aims to protect and to promote the Junior Enterprise brand in France. For that, JADE France audits its whole network every year to insure the quality of Junior Enterprises. It also provides to Junior

Enterprises a support with benchmarks. Workshops are proposed during local and national meetings. They gather more than 600 Junior-Entrepreneurs during a weekend, twice a year. JADE France is also part of JADE network and helps the creation of Junior Enterprises abroad.



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AMJE

AMJE is the Junior Enterprise of Arts & Métiers ParisTech, one of the leading French Engineering Schools. For 200 years, it graduates generalist engineers in many areas such as mechanical, electrical, industrial and computer science. Thus, we are able to deal with various issues that companies have to face.

The internal structure of the AMJE is unique in France and makes our strength. Indeed, eight centers strategically spread in France compose our network: the AMJE Federation. Behind this organization, a human potential of 3,000 scientific students can act on local projects as well as international ones. Our dynamism and reactivity, enhanced by a dedicated communication unit, allow a better response fitting companies' needs at any scale, contributing to the growth of promising technologies. The power and the usefulness of this network have been demonstrated on wide projects with a petroleum group for example. AMJE is not a Junior Enterprise like other ones. The high technical degree in Arts & Métiers diploma enables the realization of very concrete and complex solutions. With our

general approach, we are present from the first drafts to the setting up of the final product with the customer. Because designing a solution is just a part of the work, we have also in each regional center a full equipped workshop with new generation machine tools. We can test prototypes on the go and quickly fix all the problems met: reactivity and efficiency is the key.

Moreover, students can count on the help of research professors, always ready to discuss on high technical aspects. By working for many years with famous industrials, they share their knowledge and experience with no limit. So, with such a scientific and rigorous background, many companies give us complex projects with short deadlines, cost reduction strategy and quality improvement research, and we do it.

Finally, our overture policy to other European Junior Enterprises allows us to share knowledge and new ideas in order to build, day after day, a stronger link, a stronger JADE.

"Our Network"



"Our Versatility"

- Industrialisation
- Industrial Marketing
- Industrial Computing
- Mechanical Engineering
- Electronic/Automatics
- Research/Prototype Design



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Campus Consult, BDSU, Germany

students advising businesses



"The quick comprehension and high motivation of the student consultants thoroughly convinced us."

Ante Trbara, Project Manager Deutsche Post AG



The confederation: BDSU

Currently, the BDSU consists of 28 of the largest German Junior Enterprises, representing a total of over 2000 students. JEs of the BDSU define themselves through a high level of commitment, professionalism and willingness to continuously foster improvement. This allows them to provide creative and innovative solutions for the demands of their customers. The BDSU guarantees quality in every aspect

of JE work, with its quality standards devised in allusion to ISO 9000. By auditing all of its members JEs at least once annually, the BDSU can ensure the implementation of these standards.

In a total of five annual meetings, the BDSU allows students to get in touch with leading companies of all fields of business and provides a platform for internal development and knowledge exchange.



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Campus Consult - more than a consultancy

Campus Consult is the Junior Enterprise of the University of Paderborn situated in a city of 140.000 inhabitants in western Germany.

Facts and figures – where passion leads to success

Within 14 years Campus Consult evolved into one of the most successful Junior Enterprises. In our last fiscal year 2006/2007 we had more than 140 highly committed student consultants out in the field, delivering solutions to our customers in more than 100 projects with a total of about 4.800 man days. Considering our diversified customer base – from regional small and medium sized-enterprises to corporations as IBM, Deutsche Post and Daimler Chrysler – our projects provide students with the opportunity to put their own ideas into action, gain a broad range of experience and, thus, develop themselves personally.

History – from a letterbox to our own premises

Just one year after the JADE was founded; seven students started Campus Consult in 1993 – owning just a letterbox. One year later, our young association entered into the BDSU, the German Federation of Junior Enterprises.

The increasing number of Campus Consultants worked hard and the association grew. In 1997 the Deutsche Bank offered us a project stretching over several years with a seven-digit Deutschmarks project-volume. Due to liability issues that came along with the high project volume, it was impossible to handle this project as an association. This was the birth of the Campus Consult Projektmanagement GmbH. This additional legal form of a Limited is totally owned by the association and makes it possible to conduct high-volume projects at renowned companies with a maximum of liability security. Having a limited additionally to our association is unique and distinguishes us from any other German Junior Enterprise. In April 2007 we moved into our new 313-square-meter office.

Being grateful for the long existence and the good cooperation with longstanding customers, Campus Consult organized this August an event under the motto "A Caribbean Night". Besides live-music and dance shows, we arranged a charity lottery for a regional, integrative kindergarten for challenged children. All contributions of the guests were doubled by Campus Consult.

"Besides the reliability in handling different methods, we are particularly persuaded of the dedication shown by the student consultants of Campus Consult."

Thomas Schmidt, Project Manager
DMG Vertriebs & Service GmbH



Thorsten Havemann
CEO, Campus Consult e. V.

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ConQuest Consulting, JADE Poland
Each day is a ConQuest



"We connect professionalism and high continuous quality in our services to awake student entrepreneurial spirit."
from the mission statement of ConQuest Consulting

The confederation: JADE Poland

Junior Enterprise Concept has been present in Poland since 1998. Until 2006 only two JEs were active in Central Eastern Europe. In 2006, after 8 years of common efforts, Polish Junior Enterprises managed to create an institution that takes care of them on national level – JADE Poland confederation. One of the most important goals of JADE Poland is spreading entrepreneurial spirit and concept of JADE in

Poland and Eastern Europe. Currently, there are four Junior Enterprises associated in JADE Poland. Services offered by them vary widely from market analysis, to IT services and legal consultancy.

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ConQuest Consulting

ConQuest Consulting has been present on the fluctuating Polish market for 9 years and successfully carried out over 200 business projects. Our clients choose us because they see young people with potential, creativity and passion. We provide them with individual solutions especially in the areas of Marketing and Management. Our core competence is advisory on the field of company restructuring towards relationship marketing (customer satisfaction surveys, partners matching). ConQuest Consulting has a clear measure of success – it is our clients' satisfaction. We believe that our projects should be completed with mastery and recommendation from a service taker is considered the best pay-off. Taking into consideration this measurement, we can consider our activity in the last years extremely successful – we gained loyalty of our regular customers, enjoyed trust of clients who recommended us to their business partners.

As a not-for-profit organization we focus on personal development of our consultants in terms of their business knowledge, soft skills and entrepreneurial spirit. In order to let them

gain new experience, knowledge and skills, we put much effort into the process of choosing projects we want to conduct. Projects should help the consultants understand the business better and show them the factors hidden behind the success. This approach constitutes our differential advantage. Not only are we able to meet all needs of our clients, but also create added value of benefit to all stakeholders.

We were the first Junior Enterprise on the Polish market and now we are still the most active one. However, ConQuest Consulting is built on a foundation of sharing the experience. That is why we want to pass on the idea of Junior Enterprise and JADE values to other students. We have actively supported the establishment of JADE Poland, we promote the idea and spread knowledge concerning students' consulting not only in Poland, but also in Eastern European countries.



"We offer a broad range of services, providing a comprehensive assistance on the Polish market. From business intelligence and market research to operational support - we help the companies to do business in Poland."
Agata Miskowiec, International Manager



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