An exploratory study of the entrepreneurial attitudes of secondary school learners

by

André Gerard Steenekamp

Mini-dissertation submitted in partial fulfilment of the requirements for the degree

MASTER IN BUSINESS ADMINISTRATION (MBA)

at the Potchefstroom Business School, North-West University

Study leader: Dr. S. P. van der Merwe

November 2009

ACKNOWLEDGEMENTS

The following contributions to this study are gratefully acknowledged:

- My Heavenly Father for granting me the opportunity and persistence in bringing this work to reality.
- My wife Ronel and daughter Chandé for their patience and support during the so many hours spent in seclusion.
- Dr. Stephan van der Merwe for his leadership, patience and sharing of knowledge in the field of entrepreneurship and research methodology.
- Rosemary Athayde[1] for the development of the *Attitudes Toward Enterprise Test* (ATE Test)[2] and permission to use the instrument.
- Professor Robert Blackburn[3] for and on behalf of the SBRC at Kingston University for approval to use the ATE Test in this study.
- Christine Bronkhorst at the Ferdinand Postma Library (North-West University, Potchefstroom campus) for assistance with research.
- The academic and research fraternity for providing so many insights and research results on the topic of this study.
- Secondary schools and grade 10 pupils in the Sedibeng District for their participation in the empirical study.
- Statistical Consultation Services of the North-West University, Potchefstroom campus for the statistical analysis of the empirical data.

This study is dedicated to the South African youth as our leaders of tomorrow. It is my sincere wish that you will become all you can be...

André G. Steenekamp

[1] Rosemary Athayde is Senior Researcher at the Small Business Research Centre (SBRC) at Kingston University, London, United Kingdom [r.athayde@kingston.ac.uk].
[2] Intellectual Property Rights for the Attitudes Toward Enterprise Test (ATE Test) belong to the Small Business Research Centre (SBRC) at Kingston University, London, United Kingdom [Tel. 020 8547 2000].
[3] Professor Robert Blackburn is the Director of the Small Business Research Centre (SBRC) at Kingston University, London, United Kingdom [Direct Tel. 020 8547 7247].

ABSTRACT

AN EXPLORATORY STUDY OF THE ENTREPRENEURIAL ATTITUDES OF SECONDARY SCHOOL LEARNERS

This study highlights the urgent need for a youth entrepreneurship development program of value in South African secondary schools. It examines the entrepreneurial attitudes of grade 10 learners in 16 secondary schools in the Sedibeng District of the Gauteng Province, South Africa, using the *Attitude Toward Enterprise Test* (ATE Test) developed for young learners in the United Kingdom.

The study is based on the attitude-approach to entrepreneurship research. Although there is support for the trait-approach based on an extensive list of common personality traits that are identified as distinctive to entrepreneurs, wide-ranging criticism for this approach suggests that the attitude-approach based on the theory of planned behaviour presents a more appropriate method for entrepreneurship research on school learners.

The theories and definitions of entrepreneurship are examined to determine 'who' and 'what' an entrepreneur is, but the study concludes that neither an accurate theory nor a universally accepted definition of the concept has as yet been developed. It also concludes that the fundamental requirement for successful entrepreneurial activity has not changed: it remains dependent on breaking with the past and acting outside routine, often conflicting with social norms, by introducing new and improved combinations of resources into the economic lifecycle.

The entrepreneur remains that person with unusual will and energy to break away from the *status quo* and realize a profit against the odds, often in the face of multiple failures and at great personal expense.

An investigation into the current status of entrepreneurship in South Africa revealed that the country's position in the lower end of global competitiveness may have a negative impact on entrepreneurial development. South Africa is facing many challenges in terms of poverty, unemployment, income inequality and a large concentration of discouraged work seekers in the younger age groups. In addition,

the youth are being marginalized due to their low self-esteem and confidence, parents that are not involved or qualified, dysfunctional community structures and the negative side of globalisation.

Against this, the study shows that the South African youth has a positive attitude towards opportunity-based entrepreneurial activity. This finding is supported by both the literature review and empirical research conducted in the study. Statistical analysis of the 'Enterprise Attitude Questionnaire' completed by 1 748 grade 10 learners produced satisfactory levels of construct validity, reliability and relationships between the constructs of 'leadership', 'achievement', 'personal control' and 'creativity' to conclude that learners are positive about opportunities in South Africa and the formation of new entrepreneurial ventures.

However, the study suggests that grade 10 learners in the Sedibeng sample have overrated expectations of their future academic qualifications. A positive attitude towards further learning can be commended, but failure to reach these goals will result in frustration which would counteract successful youth development.

In addition, respondents in this study appear to be overly positive regarding the existence of entrepreneurial opportunities; their knowledge, skills and plans to start their own business after completing school; as well as their low fear of failure as a factor that will prevent them from starting their own business. It is suggested that young learners need to be exposed to the realities of entrepreneurial venturing so they can understand that the path to entrepreneurial success is strewn with many obstacles and personal challenges.

The study also reveals that there is no practical significant differences between the mean values for the demographic variables gender, ethnic origin, exposure to entrepreneurship at school and self-employed parents or guardians. Whereas the results for gender and ethnic origin suggest that male and female learners from different ethnic groups should react similarly to a program of entrepreneurial learning, the lack of practical significant differences between learners from the perspectives of entrepreneurship exposure at school and having self-employed parents or guardians suggest that catalytic factors (which should impact positively on the attitudes of learners) have not had the desired effect on the Sedibeng sample.

Major shortfalls in the current education system are highlighted including teachers with low morale and high levels of stress, the lack of resources, the transfer of mainly theoretical knowledge, the traditional "*listen and take notes*" role of learners and an urgent need for changes in "*traditional classroom delivery*" to a focused approach on entrepreneurial learning. The lack of an organised system of youth learnerships is also singled out as a possible cause for the poor involvement of South African business in the development of youth.

A gap-analysis between the current and desired state of entrepreneurship education in South Africa shows an extensive list of shortfalls, and the study concludes that public schools in South Africa, given the challenges currently facing both teachers and learners, do not have the capacity to implement a successful program of youth entrepreneurship development without an intervention driven from the outside.

In essence, this study concludes that the window for accelerated youth entrepreneurship in South Africa is open, and that a collaborative effort driven by entrepreneurs with the involvement of the Government, educators and organised business is needed to promote youth entrepreneurship in South Africa. Accordingly, the study presents a number of recommendations directed at the grassroots level for the promotion of youth entrepreneurial learning in the Sedibeng District.

The study expands on these basic recommendations by presenting a national strategy for accelerated youth entrepreneurship development in secondary schools in South Africa. The proposed South African Youth Entrepreneurship Development Initiative (SAYEDI) is explained in broad detail, but the study concludes that further research is needed to determine the appropriate method and required curricula to find an entrepreneurial solution for the entrepreneurial dilemma facing the South African youth.

ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
ATE Test	Attitudes Toward Enterprise Test
BBBEE	Broad Based Black Economic Empowerment
BEE	Black Economic Empowerment
CTrans	Translation services, North-West University, Vaal campus
DoE	Department of Education, South Africa
DPRU	Development Policy Research Unit, UCT
DTi	Department of Trade and Industry, South Africa
EAO	Entrepreneurial Attitude Orientation
EFA	Exploratory factor analysis
EFCs	Entrepreneurial Framework Conditions
EOR	Entrepreneurial Opportunity Recognition
FET	Further Education and Training band
FIAT	Functional Intelligence Assessment Tool
GEM	Global Entrepreneurship Monitor
GET 2	General Enterprising Tendency Test Version 2
GHS	General Household Survey (Stats SA)
HIV	Human Immunodeficiency Virus
HSRC	Human Sciences Research Council
ICT	Information and Communication Technology
IT	Information Technology
km^2	Square kilometre
KMO	Kaiser-Meyer-Olkin measure of sampling adequacy
LFS	Labour Force Survey (Stats SA)
MIT	Massachusetts Institute of Technology, USA
nAch	Need for achievement
NALEDI	National Labour and Economic Development Institute
NQF	National Qualifications Framework
NWU	North-West University, Potchefstroom Campus
OBE	Outcomes based education

- OSD Occupational specific dispensation
- PWE Protestant Work Ethic
- QSEs Qualifying small enterprises
- SAYEDI South African Youth Entrepreneurship Development Initiative
- SBRC Small Business Research Centre, Kingston University, UK
- SMMEs Small, micro and medium enterprises
- SSA Sub-Saharan Africa
- STATS SA Statistics South Africa
- TEA [Total] Early-stage Entrepreneurial Activity
- TPB Theory of Planned Behaviour
- UCT University of Cape Town
- UK United Kingdom
- USA United States of America
- US United States of America
- WCY World Competitiveness Yearbook
- YAA Young Achievement Australia enterprise program
- YE Young Enterprise company program, United Kingdom
- YES Young Enterprise Scheme, New Zealand

TABLE OF CONTENTS

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

NATURE AND SCOPE OF STUDY

1.1 INTRODUCTION

> *"...Past economic periods govern the activity of the individual – in a case like ours – not only because they have taught him sternly what he has to do, but also for another reason. During every period the farmer must live, either directly upon the physical product of the preceding period or upon what he can obtain with the proceeds of this product. All the preceding periods have, furthermore, entangled him in a net of social and economic connections which he cannot easily shake off. They have bequeathed him definite means and methods of production. All these hold him in iron fetters fast in his tracks."*
>
> (Schumpeter, 1934: 6)

The above extract from Joseph Schumpeter's 1934 '*Theory of Economic Development*' seems to hold true for South Africa. Schumpeter theorized that economic activity is governed by social and econornic networks that can only be changed with great effort. Innovation in such an environment cannot occur as an automatic adjustment, but only by breaking with the past. It is this capacity to break with the past that identifies the individual as an entrepreneur (McFarling, 2000: 707).

South Africa faces many challenges including poverty and unemployment (Maas & Herrington, 2007; Frye, 2006; Leatt, 2006; HSRC, 2004), the HIV/AIDS epidemic, a weak currency and declining growth due to current worldwide economic conditions. Many jobs have been lost in South Africa due to labour being replaced by capital (equipment and machinery) as a result of new technology, the shift towards a more capital and skills intensive export sector and the demand for higher wages causing a decrease in the demand for labour (Horn, 2006: 116). The South African government has not succeeded in creating sufficient numbers of new jobs (Stats SA, 2007); hence the onus for job creation has shifted to small, micro and medium enterprises (SMMEs).

Globalisation and rapid technological change has led to a resurgence of interest in Schumpeter's theory that markets are continuously being reshaped by innovations to existing products and production methods, and by the introduction of new products to the market (Clemens, 2005: 32). Hospers (2005: 20) uses the famous Schumpeterian phrase "*creative destruction*" for this evolutionary process of reshaping and reinventing markets to emphasize the important role entrepreneurship, technological advancement and innovation have to play in economic development.

Entrepreneurship has a crucial role to play in South Africa's endeavours to break with the past and promote a business environment conducive to sustainable growth as well as economic and social prosperity. Considering the country's long history of economic isolation and social injustice it is obvious that the mindsets of young learners will have a significant impact on their employability and inclination towards self-employment in the future.

Hence, this study is aimed at examining the entrepreneurial attitudes of grade 10 school learners in the Sedibeng District (Gauteng Province). These young South Africans constitute the labour force of the imminent future as they will be entering tertiary education or the labour market in 2012. The main aim of this study is to determine whether the learning environment has instilled an entrepreneurial attitude capable of promoting self-employment, and in turn, business and job creation in South Africa.

1.2 BACKGROUND TO THE STUDY

Interest in this topic originates from the current situation of unemployment, poverty and the insufficient absorption rate of scholars into the South African labour market. A major requirement for successful research is that the findings will contribute to the eradication of a pressing problem. In addition, the research must expand the pool of academic knowledge to enable the research fraternity to build on these findings and identify viable solutions to address the particular challenge.

It can be argued extensively that research on the entrepreneurial attitudes of school learners and the formulation of recommendations to improve their employability and inclination towards self-employment will contribute towards the existing pool of knowledge.

In terms of links with previous research a similar study was identified in the Cape region that focused on the entrepreneurial attitudes of grade 12 learners (Burger, 2002). A hardcopy of the study was obtained from the Stellenbosch University and this study aims to build on the outcomes of the earlier study. Although Burger's study focused on grade 12 learners, the research in this instance included an exploratory study on grade 10 learners to examine the shortfalls in the education system at a younger age. In so doing, it is believed that an entrepreneurial mindset can be cultivated at an earlier stage in the learning environment.

1.3 PROBLEM STATEMENT

The latest Labour Force Survey (Stats SA, 2007) revealed an unemployment rate of 22.7%, a labour absorption rate[1] of 43.7% and a labour force participation rate[2] of 56.6%. Although the unemployment rate has declined from 29.7% to 22.7% from September 2001 to September 2007 and the absorption rate has increased from 39.8% to 43.7%, the labour force participation rate has remained virtually unchanged from 56.3% to 56.6%.

It is of grave concern that unemployment rates are increasingly higher in the lower age groups with the highest occurrence in the group aged 15 to 24 years. The age profiles of discouraged work-seekers (people that have given up on finding employment) also indicate that the highest concentration are in the younger age groups of 20 to 24 years (19.4%) and 25 to 29 years (16.1%) (Stats SA, 2007).

In the Global Entrepreneurship Monitor (GEM) 2007 South African Report, Maas and Herrington (2007: 35) concluded that although respondents in the three provinces Gauteng, Kwa-Zulu Natal and the Western Cape accepted the responsibility to find their own employment, more than 50% felt that it is the government's responsibility to create employment for all South Africans. This finding suggests a high dependency on the government to create jobs rather than a true entrepreneurial mindset where the responsibility lies with individual South Africans.

Respondents in the study by Maas and Herrington (2007) also regarded level of education and school grades as important factors in securing employment. This

[1] The percentage of the working age population who were employed.
[2] The number of people in the labour force as a percentage of the population aged 15 – 65 years.

finding has been a consistent theme in all GEM reports and can therefore be earmarked as one of the most important factors for the promotion of youth entrepreneurship in South Africa.

Unfortunately, even under the new political dispensation, a matriculation certificate does not guarantee employment for those wishing to enter the labour market after school. Many reasons have been given for this situation: ill-prepared learners, an inferior schooling system, teachers with insufficient motivation and / or knowledge to transfer the skills required for the modern world of work, an economy which is not conducive to job creation, affirmative action, and other causes such as increased mechanisation by industry (Horn, 2006: 113).

The preceding discussion gives rise to the problem statement central to this study: the high level of unemployment and increasing number of discouraged work-seekers under young South Africans against evidence of the expectation that job creation is the sole responsibility of the government (Maas & Herrington, 2007: 35), will continue to impact negatively on the sustainable growth and global competitiveness of South Africa.

The probability for the majority of successful grade 12 learners finding suitable employment in the formal sector soon after leaving school remains low. South Africa needs young people to accept responsibility for their own future by being involved in entrepreneurial activities conducive to new venture and job creation. The only means to achieve this is by developing an entrepreneurial attitude at a younger age, i.e. during schooling years.

This study can therefore make a contribution to the existing body of knowledge by examining the desired state of entrepreneurial learning in secondary schools, by investigating the current entrepreneurial attitudes of school learners in the demographic area and by constructing recommendations to narrow the gap between the desired and the current state.

1.4 RESEARCH OBJECTIVES

The purpose of this study is defined under a primary objective and secondary objectives.

1.4.1 Primary objective

The primary objective of this study is to evaluate the entrepreneurial attitudes of grade 10 learners in secondary schools in the Sedibeng Municipal District (Gauteng Province) registered with the Department of Education (DoE), and to compile recommendations for improved entrepreneurial learning in the Further Education and Training (FET) band, i.e. for grades 10 to 12 learners.

1.4.2 Secondary objectives

Secondary objectives that were set to develop a structured approach for the attainment of the primary objective include:

1) Literature review
   - To examine the early theories of entrepreneurship to identify the underlying components of the discipline.
   - To examine the entrepreneurial process, perspectives on the entrepreneur and entrepreneurial attitude to determine what an entrepreneur is.
   - To examine the current status of entrepreneurship in South Africa for the identification of shortfalls.
   - To examine best practices for entrepreneurship education as a platform for the compilation of recommendations.

2) Empirical study
   - To identify a valid instrument for the measurement of entrepreneurial attitudes in the demographic area of the study.
   - To collect data from participating schools in the demographic area for statistical analysis.
   - To draw valid conclusions on the entrepreneurial attitudes of grade 10 learners in the demographic area.

3) Recommendations
   - To make practical recommendations for improved entrepreneurial learning in schools in the demographic area of this study.

1.5 SCOPE OF THE STUDY

The scope of this study is limited in both the field of study and the geographical demarcation.

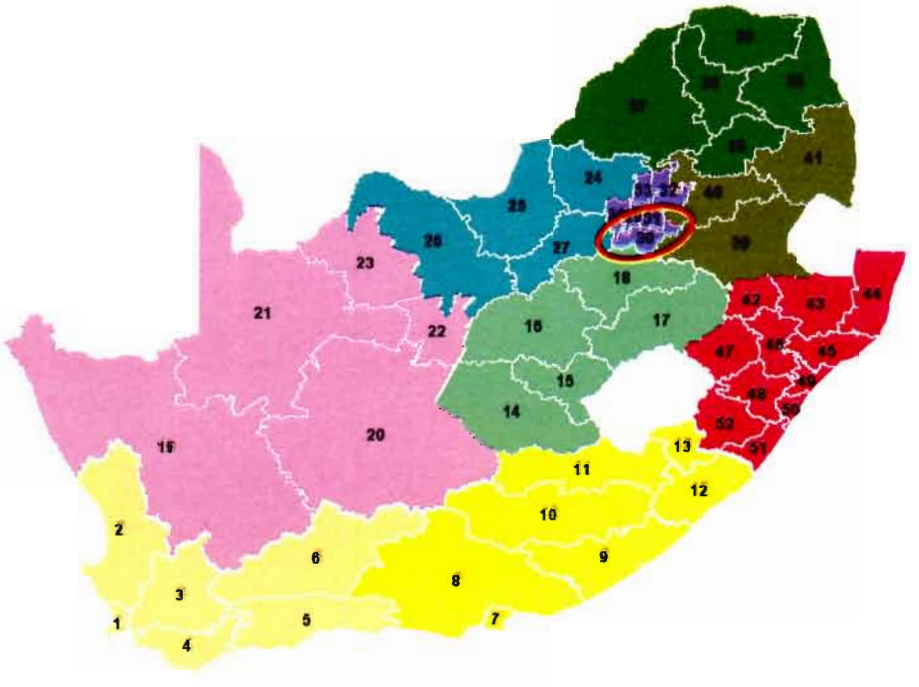
1.5.1 Field of study

The field of research is limited to entrepreneurship, and in particular, the entrepreneurial attitudes of school learners admitted to grade 10 in 2009.

1.5.2 Geographical demarcation

In terms of geographical demarcation the study is limited to the Sedibeng District of Gauteng Province, South Africa. Figure 1.1 presents the Sedibeng District as area 30 of 52 municipal districts in South Africa.

Figure 1.1 Municipal districts of South Africa



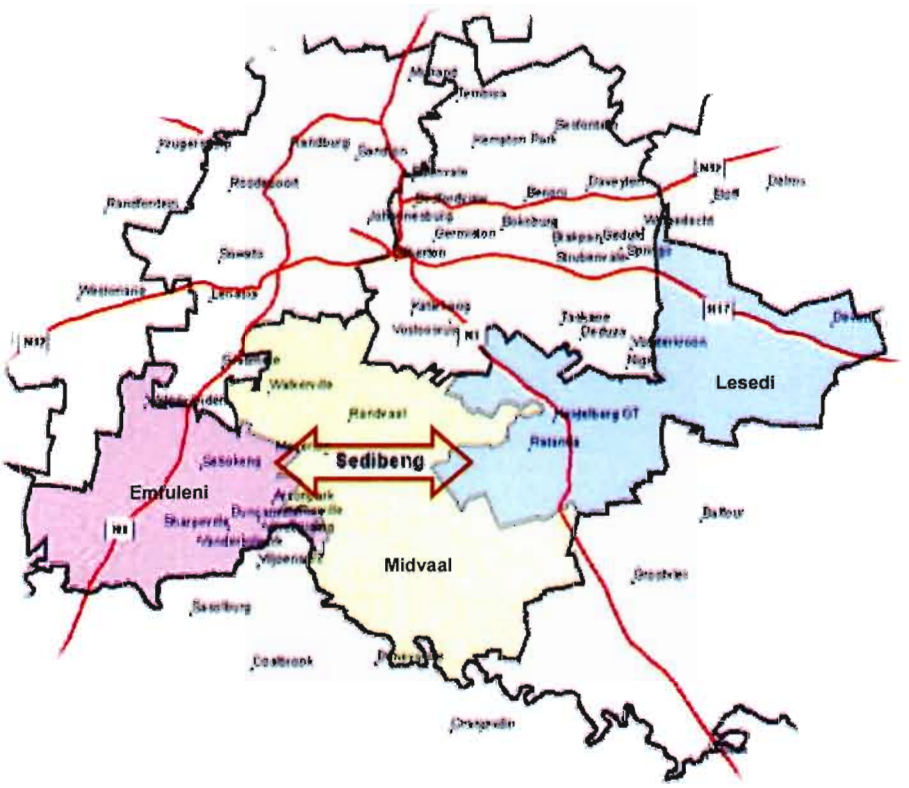
Source: http://www.nationmaster.com (Accessed 09/05/2009)

The Sedibeng District Municipality includes towns such as Vereeniging, Meyerton, Vanderbijlpark, Heidelberg and traditional townships such as Sebokeng, Evaton, Sharpeville and Ratanda. The total geographical area covers 4 630 square kilometres and includes the local municipalities of Emfuleni, Midvaal and Lesedi (Sedibeng, 2008: 5).

The total population of Sedibeng was 814 000 people in 2007 with a gender spread of 50.7% males and 49.3% females. Population density increased from 187 people per square kilometre (km^2) in 2000 to 195 per km^2 in 2007 (Sedibeng, 2008: 6, 7). The population is made up of 82% Black Africans, 16% Whites, 1% Coloureds and 1% Asians (Sedibeng, 2008: 8).

Figure 1.2 presents the three municipal boundaries (Emfuleni, Midvaal and Lesedi) within the Sedibeng District Municipality.

Figure 1.2 Municipal boundaries in the Sedibeng District Municipality



Source: http://www.demarcation.org.za (Accessed 09/05/2009)

Schools that were targeted for research included all secondary schools in the geographic area registered with the Department of Education (DoE), but excluded schools for special learning.

1.6 RESEARCH METHODOLOGY

The research methodology employed in this study includes a literature review on the construct of entrepreneurship to provide a theoretical base for the research followed by an empirical study in the geographical area.

1.6.1 Phase 1: Literature review

The literature review examines the early theories of entrepreneurship as a foundation for the study and then discusses the entrepreneurial process, perspectives on the entrepreneur and entrepreneurial attitude in an effort to determine what an entrepreneur is. The current status of entrepreneurship in South Africa is examined to identify shortfalls and the literature study concludes with best practices for entrepreneurship education.

Sources that were consulted for the literature study include, but are not limited to, the following:

- Journals such as the *Journal of the History of Economic Thought*, *Journal of Economic Issues*, the *South African Journal of Education*, *Social Science Journal* and *Entrepreneurship Theory and Practice*. Research included internet searches through the Ferdinand Postma Library of the North-West University, Potchefstroom. Articles were limited to those works that are peer reviewed and acceptable to the academic fraternity.
- Books including published works on entrepreneurship as well as any underlying issues identified during the course of research.
- Internet searches to examine current issues such as unemployment, labour absorption rates, poverty and wage trends in South Africa. These searches included websites of the South African Government (e.g. Department of Labour, Department of Education), Statistics South Africa, the South African Reserve Bank and non-governmental institutions such as the *National Labour and Economic Development Institute* (NALEDI). The Global Entrepreneurship Monitor (GEM) South African Report 2007 (Maas & Herrington, 2007) is an important source of reference throughout the study.

1.6.2 Phase 2: Empirical study

The empirical study was approached from the perspectives of a valid research design, thorough definition of the study population, the incorporation of a suitable measuring instrument and reliable statistical techniques for analysis of the data (Welman & Kruger, 2001: 250).

1.6.2.1 Selection of the measuring instrument

The design of the research project was approached from the fundamental requirement that the outcome must be a thorough exposition of both the primary and secondary objectives described in section 1.4 of this study. In order to achieve these objectives it was imperative that a validated instrument was employed, moreover when considering the lirnited scope of this study.

Validation may influence the outcome of a research project and inhibit scientific research (Pellissier, 2007: 15). This included concerns about cause and effect relationships (internal validity) and the subsequent generalization of such relationships to the external environment (external validity). It was therefore necessary to incorporate a questionnaire that would in fact measure the concepts targeted for research (Hair, Money, Samouel & Page, 2007: 240; Sekaran, 2006: 206; Sekaran, 2000: 207).

Secondly, exploratory research was selected for the study: although a specific problem statement was formulated in 1.3 *supra*, the aim of this study was to investigate the underlying causes of entrepreneurial attitudes in young individuals (Welman & Kruger, 2001: 97). Several scholars (Hair *et al.*, 2007: 154; Pellissier, 2007: 33; Sekaran, 2006: 119; Coldwell & Herbst, 2004: 36) agree that an exploratory study is appropriate when little information is available on the research topic.

It can be argued that very little information is available in South Africa on the entrepreneurial attitudes of school learners apart from isolated studies such as those of Burger, Mahadea and O'Neill (2004), Burger, O'Neill and Mahadea (2005) and knowledge emanating from the Global Entrepreneurship Monitor (GEM) South African Report (Maas & Herrington, 2007). Hence, this study was designed to discover relationships and trends and not to test specific research hypotheses.

According to Sekaran (2006: 237), questionnaire design should focus on three important principles including [1] the wording of the questionnaire, [2] planning for the classification, scaling and coding of data and [3] general appearance. Structured questionnaires are best suited for quantitative research as responses can be coded into numbers providing a universal language that can be easily understood (Coldwell & Herbst, 2004: 15). In this sense, structured questionnaires include closed questions asking respondents to make choices from a set of alternatives presented in the questionnaire. Respondents can quickly choose from the set of alternatives and the information can be coded for subsequent analysis (Sekaran, 2006: 239).

The following step in the selection of a questionnaire focused on a suitable measuring scale for the study. The shortfalls of skills or trait approaches in research on entrepreneurship are well documented (Athayde, 2009a: 482; Bjerke, 2007: 85; Robinson, Stimpson, Huefner & Hunt, 1991: 13). It was therefore necessary to adopt a more contemporary approach focused on the attitude towards entrepreneurial activity (Athayde, 2009a; Van Wyk & Boshoff, 2004; Van Wyk, Boshoff & Bester, 2003; Douglas & Shepherd, 2002; Robinson *et al.*, 1991). The Likert-scale was identified as most appropriate for the measurement of entrepreneurial attitudes in young learners (Oakshott, 2006: 67; Welman & Kruger, 2001: 150).

Prior to selecting a suitable questionnaire for this study the findings of Rowley (2003: 148) were considered. Rowley questions the current methodologies for student feedback in so far the objectives of the evaluation process, the ability of standard questionnaires to serve a range of purposes, the issues covered by different questionnaires and the collection, analysis and use of data are concerned. It follows that questionnaire selection had to address these issues in view of achieving a successful outcome.

Several questionnaires were considered for use in this study. The selection included the questionnaire used by Burger (2002), the '*General Enterprising Tendency V2 Test GET 2*' (Caird, 2009), the '*GEM 2004 Country Expert Interview Questionnaire*' (GEM, 2004) and the '*Entrepreneurial Attitude Orientation*' *(EAO)* of Robinson *et al.* (1991). Although all of these tests had relevance for this study with the EAO of Robinson *et al.* (1991) showing the highest potential, none had been developed and validated for young people in particular.

Further research identified a study by Athayde (2009a; 2009b; 2004) on the measurement of enterprise potential in young people using the '*Attitude Toward Enterprise Test*' (ATE Test). The study by Athayde (2009a) was conducted in six secondary schools in the United Kingdom (London) and subsequent reliability testing using exploratory factor analysis (EFA) and Cronbach's alphas produced satisfactory results subject to the limitations acknowledged in the study (Athayde, 2009a: 488-489, 496). Approval was obtained from both the author and the Director of the Small Business Research Centre (SBRC) at Kingston University, United Kingdom, for employment of the ATE Test (*see* Appendix 3) in this study.

1.6.2.2 Study population

The study population was limited to the 2009 intake of grade 10 learners in schools registered with the Department of Education (DoE) and situated in the Sedibeng District of Gauteng, but excluded schools for special learning. The entire population was targeted due to the expectation of a poor response rate. The DoE assisted with the identification of 74 secondary schools in the research area. An invitation to participate in the study was mailed to the Principal of each school including a short questionnaire and a self-addressed postage paid envelope. The questionnaire made provision for the school's details, the appointment of a responsible person, an option whether or not to participate in the study and the expected number of grade 10 learners for 2009 (*see* Appendix 1).

The response rate was below expectation (22.97%) with only 17 schools returning the questionnaire, of which one school indicated that it was a school for children with behavioural problems and was therefore excluded from the study. The remainder of responding schools indicated a total number of 2 099 grade 10 learners expected for 2009.

Based on the response rate a decision was made to include all responding schools (with the exception of the special school) to reach critical mass in the sample size (n = ± 2,100). Hence, all questionnaires completed by grade 10 learners of participating schools were included in the sample with the exception of those that had to be excluded due to insufficient entries or statistical errors.

1.6.2.3 Data collection

The gathering of data was initiated by a telephonic discussion with each of the responsible teachers at responding schools due to the period that had lapsed since mailing the invitations in August 2008. The purpose of the study was explained and teachers were reminded of their written agreement to participate.

A pilot study was conducted in July 2009 at one of the responding schools, Greenacres private high school in Meyerton, to identify unclear items in the questionnaire and to monitor the behaviour of respondents during the completion of the questionnaire (Welman & Kruger, 2001: 141). A total of 13 grade 10 learners completed the questionnaire and subsequent evaluation confirmed that the full-scale empirical study could proceed.

1.6.2.4 Statistical analysis

The statistical analysis of the data was carried out by Statistical Consultation Services of the North-West University, Potchefstroom campus. Analysis of the data focused on the following techniques using Statistica software:

- *Descriptive statistics* to examine the composition and characteristics of the sample (referred to as the 'Sedibeng sample').
- *Exploratory factor analysis (Varimax)* to examine the construct validity of the measuring scale.
- *Cronbach alpha coefficients* to determine the reliability of the measuring scale.
- *Correlation analysis* to examine the relationship between the extracted factors.
- *T-tests and effect sizes* to determine the relationship between demographic variables and the extracted factors.

1.7 LIMITATIONS OF THE STUDY

There are a number of constraints associated with this study. Some of these constraints were planned to limit the scope of the study such as the geographical demarcation and focus on grade 10 learners. It should therefore be noted that the outcome of the study is not representative of all schools in South Africa, nor is it a representation of the entrepreneurial attitudes of all learners in secondary schools in the Sedibeng District.

The unplanned limitations of the study became evident in the response rate received from the invitation to participate in the study. Of major concern was the general lack of response from schools in the traditional black townships. Only two schools from these areas responded indicating an expected 436 grade 10 learners for 2009 which translated into 20.77% ($^{436}/_{2099}$) of the targeted sample size. It can therefore be argued that the outcome of this study is limited to a particular group of learners in the demarcated area.

The results obtained from the empirical research in this study are also subject to limitations that need to be acknowledged. These limitations originate from the limitations acknowledged by Athayde (2009a; 2009b) in the development of the ATE Test being the instrument employed in this study. Firstly, the perceived lack of enterprise programs in South African secondary schools made it difficult to employ pre- and post-training testing; hence the possibility of self-selection by respondents cannot be excluded.

The second concern relates to the accurate measurement of the concept of '*enterprise potential*' as Athayde (2009a: 496) acknowledges weaknesses in the procedures for identifying underlying structures as well as tests for reliability and validity.

Thirdly, results for the construct '*intuition*' had to be excluded from this study as reliability testing produced a Cronbach alpha coefficient of only 0.318. However, intuition had also been excluded in Athayde's study as it, according to Athayde (2009a: 497), exposed items that loaded on other factors during exploratory factor analysis (EFA) suggesting that it was not a uni-dimensional factor. Here, it is suggested that a separate scale may be needed to measure intuition as a construct of enterprise potential.

In addition, the study produced no evidence of any practical significant difference between the mean values of respondents for the demographical variables gender, ethnic origin, exposure to entrepreneurship at school and self-employed parents or guardians. It was therefore not possible to distinguish between the entrepreneurial attitudes of male and female learners from Black African and White backgrounds, as well as for the effect of exposure to entrepreneurship at school and the influence of self-employed parents or guardians. It could, however, be concluded that catalytic

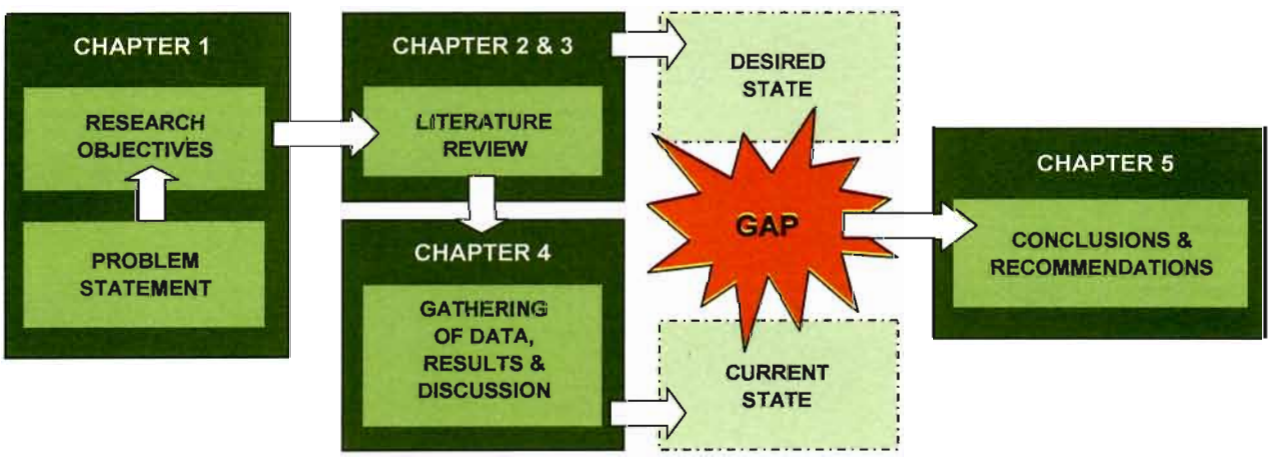
factors such as exposure to entrepreneurship and self-employed parents did not have the desired effect on the Sedibeng sample.

Finally, the lack of valid data on the entrepreneurial attitudes of the South African youth made it impossible to reach a conclusion as to whether the youth are more or less inclined to entrepreneurial behaviour than in the past. However, considering the exploratory nature of this study it is argued that the results provide at least an indication of the entrepreneurial attitudes of grade 10 learners in the geographic area, moreover when compared to the attitudes of British youth presented in the study by Athayde (2009a: 495).

1.8 LAYOUT OF THE STUDY

The layout and structure of the study is graphically presented in figure 1.3.

Figure 1.3 Layout of the study



Chapter 1 has defined the nature and scope of this study. The remaining chapters are presented in the following layout:

- Literature review on entrepreneurship: theories and modern views
  Chapter 2 examines the early theories and modern views on the concept of entrepreneurship in an attempt to identify a universal definition as well as the personality traits, characteristics and attitudes underlying the typical entrepreneur. Although this section of the study provides for extensive reading, it is deemed

necessary to create an understanding of the concept of entrepreneurship and its evolution since the eighteenth century.

- Literature review on entrepreneurship: current status and education
  Chapter 3 narrows the study from the early theories and modern views on the entrepreneur (chapter 2) to a focused examination of the current status of entrepreneurship in South Africa. It also includes a review of current literature on entrepreneurship education to identify best practices or the desired state of entrepreneurial learning.

- Gathering of data, results and discussion
  Chapter 4 focuses on the empirical study including the collection of data from participating schools, the statistical analysis of the data and the interpretation of the results. The main purpose of this chapter is to identify the current state of entrepreneurial learning in the demographic area.

- Conclusions and recommendations
  Chapter 5 examines the gap between the desired state and the current state of entrepreneurial learning in the Sedibeng District to draw valid conclusions and formulate recommendations for the promotion of entrepreneurial attitudes in the learning environment.

CHAPTER TWO

LITERATURE REVIEW ON ENTREPRENEURSHIP: THEORIES AND MODERN VIEWS

2.1 INTRODUCTION

What is entrepreneurship? Who can be classified an entrepreneur? These questions remain the topic of academic research, but many scholars agree that there is no universally accepted definition of entrepreneurship and the entrepreneur (Thompson, 2009; Deo, 2005; Howorth, Tempest & Coupland, 2005: 24; Cromie, 2000: 7; Ripsas, 1998: 113; Gartner, 1989: 48; Long, 1983: 47). Deo (2005), after searching for a suitable definition of the '*entrepreneur*' in extant literature, and Gartner (1989: 57) concluded that it is easier to explain the '*what*' of an entrepreneur than to say exactly '*who*' an entrepreneur is.

Hence, this chapter examines the evolution of definitions, the theories of entrepreneurship and modern approaches to entrepreneurship research to construct a theoretical base and understanding for the construct of entrepreneurship in view of the empirical study to follow in chapter four.

According to Karlof and Loevingsson (2005: 137) and Deo (2005), the word '*entrepreneur*' comes from the French '*entreprendre*' which translated roughly, means to set about or to undertake. Willax (2003) notes that entrepreneurship is derived from the words *'entre prend'* that signify *"between-taking"* to describe the process by which an entrepreneur takes a position between resources and opportunities to make something positive happen. Long (1983: 47) found that entrepreneurship has had different meanings to different people for 800 years since the term '*entreprendre*' with the connotation to *"do something"* has been in use since the twelfth century.

Fuchs, Werner and Wallau (2008: 367) add that the term '*entrepreneurship*' was associated with risk-taking and the use of own initiative when it was first introduced into an economic context in the seventeenth century. Whereas Willax (2003) credits the economist Jean Baptiste Say for developing the concept of entrepreneurship,

Long (1983: 47) maintains that the concept first appeared as a formal theory in the work of Richard Cantillon around 1730. Ripsas (1998: 105), on the other hand, ascribes the origins of the word '*entrepreneur*' to the work of both Cantillon and Say.

Although opinions vary as to what an entrepreneur is, the word normally carries the meaning of new ideas and creative development in the framework of large organisations (Karlof & Loevingsson, 2005: 137). However, McDaniel (2000: 277) affirmed that entrepreneurship is being rediscovered by society through the growing importance of small businesses in the economy. It can therefore be deduced that entrepreneurial activity is not exclusive to large organisations.

These early descriptions suggest that entrepreneurs are people that undertake business ventures; they are exposed to risk and are involved in the management of businesses. The importance of these activities is obvious from a South African social and economic perspective labouring under unemployment and the impact of current global economic conditions.

2.2 EVOLUTION OF 'ENTREPRENEUR' DEFINITIONS

Definitions of the '*entrepreneur*' have evolved since inception of the term in the 18th century and are still evolving in the modern economic arena, thus justifying a brief discussion on the meaning of the term over four centuries.

2.2.1 18th Century

In the 18th century Richard Cantillon formally defined entrepreneurship as self-employment of any kind. The critical difference between entrepreneurs and "*hired people*" is identified as the uncertainty associated with self-employment (Long, 1983: 48). Cantillon added the component of risk by later defining the entrepreneur as someone undertaking a business venture without any guarantee of profits. The entrepreneur therefore carried the risks caused by changes in market demand (Williams & Napier, 2004). Various physiocrats following from Quesnay later agreed with the bearing of uncertainty, but added that the entrepreneur must have the ability to economically combine goods and services to realize maximum profits (Long, 1983: 48).

2.2.2 19th Century

During this period three economists (Jean Baptiste Say, John Stuart Mill and Alfred Marshall) posted views on entrepreneurship that, for the first time, included actions and special skills as requirements for entrepreneurs. Say's definition required the entrepreneur to have knowledge and judgement towards awareness of the costs and prices of goods and how to identify and compare opportunities. Mill subsequently built on Say's judgement definition by adding management of the business venture to the definition, effectively making the entrepreneur a person who simultaneously manages a business while assuming the risks associated therewith (Williams & Napier, 2004). Long (1983: 48) describes Say's entrepreneur as an "*adventurer*" or "*master-manufacturer*" with sound judgement, perseverance and knowledge of both the world and business.

Towards the end of the century Alfred Marshall combined the resource component from Say and the management component from Mill by emphasizing the four primary factors of land, labour, capital and organization necessary for production. Mill claimed that entrepreneurs need these primary factors, but emphasized that organization is the key factor required to coordinate the other three resources (Williams & Napier, 2004). According to Long (1983: 49), Marshall distinguished between the activities of undertaking a business (new venture set-up) and "*superintendence*" (management).

2.2.3 20th Century

By the mid-20th century scholars included the importance of innovative talent in their definitions of entrepreneurship. This line of thought is predominantly ascribed to Joseph Schumpeter. Schumpeter (1951: 261) emphasized that an entrepreneur is the person who gets new things done, and not necessarily the person who invents new things. In addition, Schumpeter (1951: 263) theorized that reference to the entrepreneur means more a particular function than a physical person. Gartner (1989: 64) supports Schumpeter's theory by stating that *"the entrepreneur is not a fixed state of existence; rather entrepreneurship is a role that individuals undertake to create organisations".*

This theory has important implications for the development of entrepreneurial attitudes among school learners: if accepted that entrepreneurship is a function, it

follows that this function can be taught and developed and that it is not, as often thought, dependent on inborn aptitude. Long (1983: 50) revisits Schumpeter's view that *"carrying out new combinations"* of production forces distinguishes the entrepreneur from other people. In essence then, entrepreneurs are defined as the creators of new business combinations.

2.2.4 21st Century

Modern definitions of entrepreneurship are in abundance and still evolving. Listing all would not serve the purpose of this study, but the following are of note:

- Acs and Audretsch (2005: 88) draw from the earlier definition of Kirzner by highlighting two important constructs: firstly, **alertness to new opportunities** and secondly, **seizing the opportunity by taking innovative action**. Hence, entrepreneurs are defined as people that are alert to opportunities (this is how they are) and they innovate (this is what they do). It follows from this definition that what entrepreneurs do is dependent on what they are like. In this way new opportunities are discovered through the alertness of the entrepreneur, and if the opportunity is real, the entrepreneur will act on it accordingly.
- Bjerke (2007: 17) opines that it is impossible to limit the understanding of an entrepreneur to one specific character, and cautions against painting a precise picture of the entrepreneur. In line with this thought, Bjerke limits his definition of entrepreneurship to the creation of **new user value**.

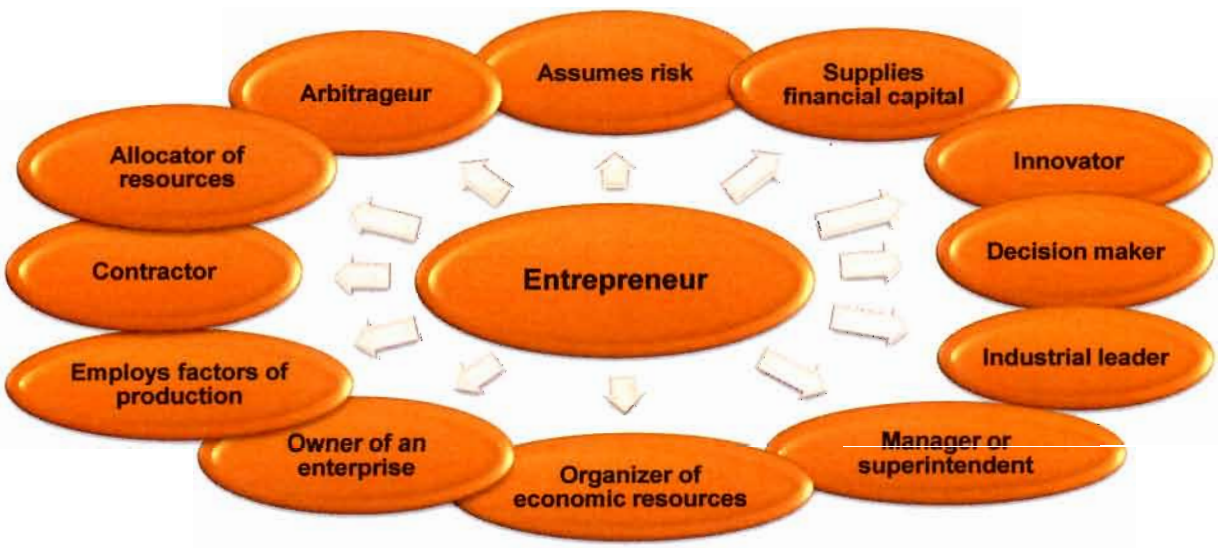
Other modern definitions attempting to describe entrepreneurship and the entrepreneur are:

- *"...a person who recognises a gap or an opportunity in the market in his / her own area of interest and passion; seizes and converts the opportunity into a workable and marketable idea; uses effort, time, money and skills to add value to the idea; takes risks to implement the idea generally in a competitive marketplace; and endeavours to obtain the rewards for taking risk and use of resources"* (Deo, 2005).
- "*...a way of thinking, reasoning, and acting that is opportunity obsessed, holistic in approach, and leadership balanced*" (Timmons & Spinelli, 2007: 79).

- *"...a general attitude that can be usefully applied in all working activities and in everyday life"* (European Commission *in* Fuchs *et al.*, 2008: 367).
- *"...a person who sees an opportunity in the market, gathers resources and creates and grows a business venture to meet these needs. He or she bears the risk of the venture and is rewarded with profit if it succeeds"* (Nieman & Nieuwenhuizen, 2009).

In summary, it is evident from the above that there is no universally accepted definition of entrepreneurship and the entrepreneur. Long (1983: 47), however, concludes that three recurring themes emerge from the definitions of theoretical economists since Richard Cantillon, namely that entrepreneurship involves [1] *"uncertainty and risk"*, [2] *"complementary managerial competence"* and [3] *"creative opportunism"*. Against this finding, Hébert and Link (1989: 41) identified twelve distinct themes in the economic literature as shown in figure 2.1.

Figure 2.1 Distinct themes of the entrepreneur



Source: Hébert and Link (1989: 41)

The themes shown in figure 2.1 suggest that entrepreneurs are simultaneously business owners, managers, leaders and innovators that employ production factors and organise economic resources to carry out their business activities while assuming the risks associated therewith.

2.3 OVERVIEW OF THEORIES ON ENTREPRENEURSHIP

This section of the study provides an overview of the theories of entrepreneurship in an attempt to expose universal themes underlying the discipline that are still relevant in the modern society. The theories of the founding fathers of entrepreneurship are discussed with comments by modern scholars where appropriate.

2.3.1 Entrepreneurship and economic development

Baumol (1968: 65) confirms that the entrepreneurial function has long been recognized as a vital component of economic growth. Frank (1998: 513) agrees by reiterating Joseph Schumpeter's life-long argument that the creative responses of entrepreneurs and entrepreneurial innovation are the primary determinants of economic change. Schumpeter described economic development as a dynamic process; a disturbance of the *status quo*. The entrepreneur is placed in the centre of this process as the *persona causa* of economic development, and in particular, by using the process of *"creative destruction"* to disturb the circular flow in economics and carry out new combinations (Hébert & Link, 1989: 43-44).

Using Schumpeter's now famous metaphor *"gale of creative destruction"* to describe the competitive forces responsible for capitalist development, Casson, Yeung, Basu and Wadeson (2006: 46) opine that this gale is caused by the energy of entrepreneurs who use innovation to outwit their competition in the market place. Hospers (2005: 20) agrees that the catchword *"creative destruction"* points to the importance of entrepreneurship, technological advancement and innovation policy for economic development.

For Schumpeter, entrepreneurship is the force that maintains the economic system and resists the approach of the classical stationary state. In so doing, Schumpeter attributed market competition mainly to the dynamic innovations of the entrepreneur (Hébert & Link, 1989: 43-44).

2.3.2 Entrepreneurship and innovation

In his 1934 '*Theory of Economic Development*', Joseph Schumpeter (1934: 136) questioned what the entrepreneur has contributed to economic development. Schumpeter argues that it is neither tangible products nor purchasing power; the

entrepreneur had employed existing means of production differently, more appropriately and more advantageously. It follows that the entrepreneur had given will and action, and therefore, innovation.

According to McDaniel (2000: 278), Schumpeter viewed innovation as much more than simple invention: an invention can only become innovation when it is employed in productive use. Schumpeter (1939: 102, 103) reserved the term *'enterprise'* for actions focused on carrying out innovation, and *'entrepreneur'* for those individuals carrying out such activities. It may seem as if Schumpeter reserved the term entrepreneur exclusively for those who start up new businesses. This is not true, as the definition is expanded to those who continue with the same business, but proceed to new changes in the enterprise (Schumpeter, 1934: 136).

McFarling (2000: 708) draws a comparison between Schumpeter's theory (1934) and John Commons' theory on the *"artificial selection of institutions under sovereign authority"*. Both theories imply that innovation will have disruptive consequences and subsequently promote processes to re-establish stability. Schumpeter's model, however, describes the entrepreneur as the actor who disrupts the economy, while the disruptive act in itself is innovation (McFarling, 2000: 712).

According to Casson *et al.* (2006: 48), Schumpeter's view that entrepreneurial innovation is revolutionary and discontinuous rather than marginal and cumulative is in sharp contrast with the view of Kirzner. Kirzner's entrepreneur is more a *"dynamic auctioneer"* in the neo-Austrian view that virtually any economic agent can be an entrepreneur. These entrepreneurs are not necessarily specialists: they use local knowledge of people, conditions and circumstances in an environment where economic progress is seen as *"incremental, experimental and evolutionary"*. However, Hébert and Link (1989: 44) conclude that the appeal for Schumpeter's theory of the entrepreneur is derived from its simplicity and power: Schumpeter succeeded in providing an explanation for meaningful economic progress by attributing the fundamental nature of change to the innovator.

2.3.3 Entrepreneurship and profit

In his definition of *'entrepreneurial profit'*, Schumpeter (1934) describes it as a surplus over costs, and for the entrepreneur, this means the difference between the

receipts and expenses of the business. Schumpeter discusses market competition and emphasizes that competitors will be drawn by the alluring profits of the new business. This will result in the reorganisation of industry, increased production, competition, obsolete businesses and the dismissal of workers (Schumpeter, 1934: 131-133). Here, Schumpeter identifies the essence of entrepreneurship: the profit falls to those who introduced the new methods of combining resources into the circular flow and not to the mere investors, producers or users of such equipment.

Kirzner, a former student of Mises, forwarded a provocative new theory on entrepreneurship by defining the essence of entrepreneurship as alertness to profit opportunities (Jakee & Spong, 2003: 466; Hébert & Link, 1989: 46). Kirzner maintained that the market must be in disequilibrium for a profit opportunity to exist, and when the opportunity is discovered the entrepreneur's actions must be seen as moving the market towards equilibrium (Jakee & Spong, 2003: 466).

Kirzner argued that the role of the entrepreneur is to adjust economic markets towards a state of equilibrium; a role that has been overlooked by economic models focused on equilibrium results rather than the process by which it is attained. This focus on pure alertness emphasizes quality of perception to recognize an opportunity that is *'a sure thing'*, but exposes a shortfall in Kirzner's argument as in reality, every profit opportunity is uncertain (Hébert & Link, 1989: 46).

2.3.4 Entrepreneurship: function or personality

According to Hébert and Link (1989: 42), Cantillon generalized the function of the entrepreneur to include many different occupations across several functions including production, distribution and exchange. It is evident that Cantillon stressed the function of entrepreneurship, and not the personality of the entrepreneur.

Schumpeter (1951: 255) agreed that the entrepreneur need not be embodied in a physical person, and in particular, a single individual by postulating that every social environment has its own way of fulfilling the entrepreneurial function. It is exhorted that the entrepreneurial function can be filled co-operatively in corporations, institutions and groups. However, whereas Schumpeter (1934: 91) suggests that individual choice is always (in different ways and to different lengths) *"fenced in by social habits or conventions"*, the entrepreneur is simultaneously described as

rational, egotistical, self-centred, and in possession of these qualities to an extent that is *"peculiar and rare by nature"* providing at least some support for the personality approach towards entrepreneurship (Schumpeter, 1934: 85).

2.3.5 Entrepreneurship and risk / uncertainty

Long (1983: 48) describes Cantillon's definition of entrepreneurship as self-employment of any sort in the presence of uncertainty. Hébert and Link (1989: 42) also interpret Cantillon's entrepreneur as a person who exchanges for profit by exercising business judgement in the presence of uncertainty.

Contrary to Cantillon's view of uncertainty and subsequent risk, Schumpeter (1934: 137) maintained that risk-taking is not part of the entrepreneurial function as the entrepreneur can only risk his reputation, whereas the economic responsibility of failure falls on others such as credit providers. The possibility of losing property or the possession of wealth is real, but Schumpeter holds firm that possessions are not essential for successful entrepreneurial activity.

Schultz's human capital approach to entrepreneurship also rejects the idea of entrepreneurial rewards as a return to risk (Hébert & Link, 1989: 46). Although this view is based on definition, Schultz maintained that there is no exclusive relationship between entrepreneurial activity and risk as both entrepreneurs and non-entrepreneurs assume risk. Kirzner also downplayed the importance of uncertainty in decision making. In response to criticism, Kirzner altered his position to acknowledge that uncertainty is central to entrepreneurial activity, but that the relationship is more subtle than formerly supposed (Hébert & Link, 1989: 47).

In reference to the work of the classical economists, Casson *et al.* (2006: 39) opine that these theories are open to widely differing interpretations. Casson *et al.* (2006: 45) quote Knight in his 1921 '*Risk, Uncertainty and Profit*' stating that *"...with uncertainty present doing things, the actual execution of activity becomes in a real sense a secondary part of life; the primary problem or function is deciding what to do and how to do it"*. The authors draw from this refinement of the French tradition and conclude that judgement in the face of uncertainty is required from the entrepreneur. Having made a judgemental decision, the entrepreneur must now be able to implement the decision which will normally involve the employment of other inputs.

Casson *et al.* (2006: 41) refer to Schumpeter's (1934) rejection of the entrepreneur as a risk-bearer and submit that it fits uneasily in the French tradition and the work of Cantillon and Say. Theory as conceived by Cantillon suggests that the receipt of residual income would by virtue require the acceptance of risk. Casson *et al.* (2006: 45) note that Schumpeter's objection to risk-bearing would presumably apply to Knight's uncertainty-based theory postulating that *'judgement of men'* is more important for successful entrepreneurship than *'judgement of things'*.

2.3.6 Entrepreneurship and social order

In Cantillon's notion of entrepreneurship, social standing is irrelevant to such an extent that even beggars and robbers were classified as entrepreneurs, provided that they take chances (i.e. face economic uncertainty) (Hébert & Link, 1989: 42). Schumpeter (1939: 104) agreed that entrepreneurs *per se* do not form a particular social class as they originate from all classes which happened to exist at the time of their emergence. However, Schumpeter maintains that entrepreneurs do become esteemed due to their abilities in a capitalist society (Hébert & Link, 1989: 44).

From a different perspective, Commons' theory postulates that it is a mistake to regard a net of social connections as purely a limitation on individual actions. Commons maintains that collective action increases the range of attainable goals even while constraining the individual's choice of action in pursuit of such goals (McFarling, 2000: 714). From the social perspective, the main difference between the theories of Schumpeter and Commons relates to self-interest. Although the individual is bound in a net of social and economic obligations in both theories, Commons' view suggests that individual self-interest would not be served by breaking from these obligations, but rather by reconfiguring these bounds so the individual obtains a greater share of the existing joint product. To the contrary, Schumpeter's entrepreneurs are those people who break from social and economic limitations by deciding to innovate and set up new production functions (McFarling, 2000: 716).

According to Goss (2005: 208), a strong theory of social control is at the centre of Schumpeter's conception of entrepreneurship. These controls, resting on the constraints of convention, routine, habit and social sanctions, act to regulate individual behaviour, in turn limiting the propensity towards innovative entrepreneurial action. Against these social limitations, Schumpeter uses the social motives of status,

ambition and superiority as well as the '*joy of creating*' as motives for entrepreneurial activity. Hence, Goss (2005: 208) questions Schumpeter's theory on the balance between three social motives (status, ambition and superiority) and only one intrinsic motive ('*joy of creating*') for entrepreneurship, arguing that the overly focus on social motives provides insufficient support to motivate breaking with routine conformity and social sanctioning. Goss (2005: 217) concludes that new and emerging forms of entrepreneurship may be identified if entrepreneurship is viewed as a form of social action rather than a systemic function.

2.3.7 Entrepreneurship and the combination of resources

Schumpeter (1934) described the entrepreneur as pivotal to the introduction of new methods of production into the circular flow. For Schumpeter (1934: 129), the combination of innovation, opportunity identification, determination and mathematical skills are essential to produce entrepreneurial activity delivering a greater product than the existing methods of combining resources (i.e. synergy). Schumpeter (1939: 103) affirmed that the entrepreneur may (but need not) invent the product or process introduced to the market; the entrepreneur may also (but need not) be the supplier of capital for the undertaking. Based on this theory, it becomes evident that leadership, and not ownership of resources, is the foundation for entrepreneurial activity.

Following in the tradition of Schumpeter (1939), Kirzner, in his earliest formulation of entrepreneurship, advanced the belief of a *"pure and penniless entrepreneur"*, also suggesting that ownership of capital is not a prerequisite for entrepreneurial activity (Hébert & Link, 1989: 46). Max Weber supported the notion of an entrepreneur being a person with *"unusual will and energy"*, but with no capital (MacDonald, 1965: 380). These views clearly reject the Marxist and the classical view of the '*man who has the capital creates the business*'.

From another perspective, T.W. Schultz's approach to entrepreneurship is fully compatible with the neoclassical tradition where each useful factor of production has an identifiable marginal product. Schultz's theory of entrepreneurship is rooted in the theory of human capital, and contributes two major advances: firstly, it redefined the concept of entrepreneurship as *"the ability to deal with disequilibria"* and, secondly, it extended the notion to non-market activities in everyday life (such as time allocation

and household decisions) in addition to recognised market activities (Hébert & Link, 1989: 45).

2.3.8 Entrepreneurship and management

Hébert and Link (1989: 41) note that theories of entrepreneurship may be either static or dynamic, but maintain that only dynamic theories have any significant operational meaning. It is postulated that the entrepreneur has no role to play in a static world apart from being the supplier of financial capital, a manager of a business, the owner of an enterprise or the employer of production factors. These roles are commensurate with the roles carried out by managers and are therefore not distinctive to the entrepreneur. Hébert and Link (1989: 41) therefore maintain that the entrepreneur can only become a robust figure in a dynamic world.

Schumpeter (1951: 249) revisits Cantillon's definition of an entrepreneur as *"...the agent who buys means of production at certain prices in order to combine them into a product that he is going to sell at prices that are uncertain at the moment at which he commits himself to his costs".* Schumpeter supports the definition in so far it recognizes business activity as an integral part of the entrepreneurial function and its emphasis on elements of direction and speculation that do belong in the arena of entrepreneurial activity. Schumpeter therefore conceded that the entrepreneurial function includes the necessity of other managerial functions, but asserted that these functions do not elicit the distinctive role of the entrepreneur (Hébert & Link, 1989: 44).

Schumpeter (1939: 102-103) argues that it should be common sense to recognize the difference between the economic functions of deciding how much product to buy for production (manager or head of a firm) as opposed to the introduction of a new process of production (entrepreneur). It is, however, acknowledged that it is not always easy to identify the entrepreneur in a given case. This is not due to lack of precision in the definition of entrepreneurship, but rather the difficulty in finding the person who actually fills the position. Schumpeter opines that no single person can be an entrepreneur all the time: a person carrying out innovation will inadvertently have to perform non-entrepreneurial tasks (management) in the course of carrying out new combinations (Schumpeter, 1939: 103).

On issues of the entrepreneurial function and that of ordinary administration or management, Schumpeter (1951: 253) draws an important distinction between these related functions. The distinctive element, according to Schumpeter, is recognized in the meaning of "*acting outside the pale of routine*" conversant with entrepreneurial behaviour. Schumpeter (1951: 254) uses this distinction of acting outside routine combined with a distinct return (surplus over costs) and then conceptualizes the entrepreneur as a *'business leader'* or *'innovator'*.

Baumol (1968: 64) agrees that it is necessary to differentiate between entrepreneurial and managerial functions. Baumol describes a manager as someone who is *"constantly on the lookout for means to save a little here and to squeeze a bit more there"*. Against this, the entrepreneur must identify new ideas and put them into practice, lead and inspire and fulfil the role of the Schumpeterian innovator and some more (Baumol, 1968: 65).

According to Casson *et al.* (2006: 46), Schumpeter maintains that the [other] classical economists had overlooked the most important role of the entrepreneur. This role includes the introduction of new processes and products which require skills separate from normal management. It is, in particular, this dynamic task of *'exploration and innovation'* that represents the entrepreneurial function. Schumpeter therefore stands firm in his vision of the entrepreneur being a revolutionary innovator (Casson *et al.*, 2006: 46). MacDonald (1965: 378) supports Schumpeter's theory as a dynamic model *"in which capitalism proceeds gradually, yet by discontinuous steps, and each wave of improvement is succeeded by a period of relative quiet, a new position of equilibrium"*.

2.3.9 Entrepreneurship and education

The '*Essays of J.A. Schumpeter*' (1951) presents a striking challenge to modern entrepreneurship education. Schumpeter (1951: 264, 265) holds that entrepreneurs will be few and without significant importance in environments where an entrepreneurial attitude is "*despised and frowned upon*". To the contrary, entrepreneurial success in a given environment will tend to change this situation. The work of Schultz (Hébert & Link, 1989: 45) also produced evidence on the positive influence of education on people's ability to perceive and react to disequilibria.

According to Teixera (2006: 2), Adam Smith vested great confidence in education to mould and improve human behaviour while assigning less importance to abilities and natural influences in human behaviour. Smith deemed education as important for its social benefits such as improved moral standards, the promotion of a peaceful character, acceptance of the authority of parents, better understanding and judgement of government policies and decreasing the vulnerability of 'lower classes' to political intrigue and conspiracy (Texeira, 2006: 3).

The study by Texeira (2006) further revealed wide ranging support for the contributions of economics' founding fathers to higher education including John Stuart Mill (social, political and economic benefits), Alfred Marshall (development of individuals' intelligence, readiness and trustworthiness) and Milton Friedman (the role of government in higher education). Mill's proposition that the poor should not be denied access to education if they are unable to pay, still carries significant relevance today (Texeira, 2006: 5). Mill, however, limits his proposition for financial help to those students that have proved themselves worthy of such help during elementary education.

2.3.10 Summary of overview

Baumol (1968: 64) concluded that the entrepreneur *"is at the same time one of the most intriguing and one of the most elusive characters in the cast that constitutes the subject of economic analysis"*. In a similar finding, Hébert and Link (1989: 47) concluded that research on the nature and role of the entrepreneur in economic theory has been impeded by *"lack of a uniform, universally accepted view of who the entrepreneur is and what he does"*. Ripsas (1998: 103) also concedes that entrepreneurship is one of the least understood topics in economics. Notwithstanding the increasing significance of small companies and new ventures for job-creation, Ripsas maintains that there is still no theory of entrepreneurship. Van Wyk, Boshoff and Bester (2003: 22) also submit that a *"well established"* theory of entrepreneurship has not yet been developed.

Hospers (2005: 34) concluded that Schumpeter's vision has not (yet) become true. However, entrepreneurship theory as postulated by Schumpeter tends to increasingly reflect the temper of modern times. Although Frank (1998: 514) notes that

Schumpeter's theory was not successful in identifying or characterizing the entrepreneur of the future, it is acknowledged that any changes in the embodiment of the entrepreneurial function over time does not make Schumpeter's theory of economic development any more or less useful.

Ebner (2006: 328-329) also indulges critical issues of Schumpeter's ideas in the history of economic thought that have remained unresolved, including the evolution of capitalism in a different direction than imagined by Schumpeter. However, Ebner (2006: 329) admits that current tendencies actually confirm the relevance of Schumpeter's theory of economic development in so far as capitalism is an evolutionary process of economic change.

Casson *et al.* (2006: 49) found one distinct commonality between all the theories on entrepreneurship: the entrepreneur conducts business with other people, and claims the residual after all the commitments relating to the transaction have been honoured. It follows that the realization of profit, despite great differences in the theories of Cantillon, Von Thünen, Schumpeter, Knight, Kirzner and Casson, is the basic conception underlying the entrepreneur.

2.4 MODERN PERSPECTIVES ON ENTREPRENEURSHIP

The study has so far shown that the realization of a surplus over costs (i.e. profit) is the basic underlying concept of the entrepreneurial function. It is also evident that there is no universal theory of entrepreneurship that can be employed by scholars as a master template for the training of successful entrepreneurs.

The question then remains: how can entrepreneurial skills be transferred successfully to school learners to promote entrepreneurial activity in South Africa? Henceforth the study focuses on modern entrepreneurship to examine the prime requisites for successful entrepreneurship in the current business environment.

2.4.1 Entrepreneurship and the modern society

Acs and Audretsch (2005: 3, 27) suggest that entrepreneurship in its current form shows tremendous growth in almost all dimensions. It has become a component of most disciplines in business including economics, management, finance, strategy,

psychology and sociology. In turn, Casson *et al.* (2006: 540) note that entrepreneurs carry out a "*highly complicated composite act*" as *"they need intelligence to collect and digest information about business opportunities. They need foresight about the possibilities new technologies and other developments create. They need judgement and leadership skills to enthuse financiers to back their vision"*. It follows that the number of active entrepreneurs at any given time is determined by the presence of certain skills.

Table 2.1 lists a number of characteristics identified by Bjerke (2007: 7) that can be associated with the modern entrepreneurial society.

Table 2.1 Characteristics of the new entrepreneurial society

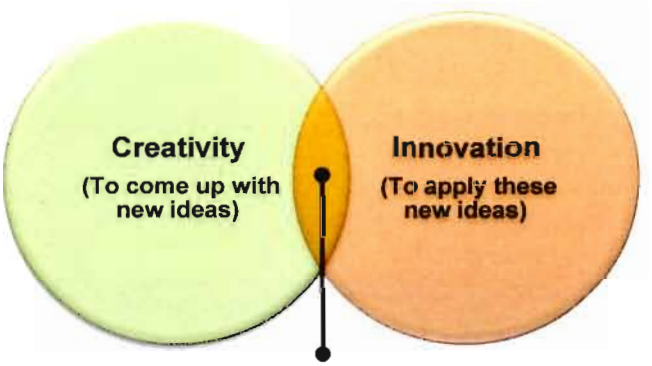
Some characteristics of the new entrepreneurial society:
▪ A new kind of change has emerged.
▪ Information technology (IT) and other technologies play a decisive role.
▪ Knowledge is central.
▪ Business has a new type of content.
▪ New methods of organisation and work.
▪ Relationships and networks have become more important.
▪ Globalisation has a great influence on society.
▪ A new perspective on distance and time has emerged.
▪ New types of capital are available.
▪ Industrial boundaries are less fixed.
▪ Members of the economy are, on average, older than in the past.
▪ Words are more important in the modern context.

Source: Adapted from Bjerke (2007: 7)

Bjerke (2007: 7) proposes that these characteristics, when combined, point to a new society which can no longer rely on the past for sustainable success. This deduction provides support for the much earlier theory of Schumpeter (1934) that innovation cannot occur as an automatic adjustment, but only by breaking with the past. According to Bjerke (2007: 18), the definition of entrepreneurship as the creation of **new user value** should not be interpreted too narrow in the entrepreneurial context as it can be simply a new way to exercise an existing *application or a mere*

modification of something already in existence. This conceptualization looks at the relationship between creativity, innovation and entrepreneurship presented in figure 2.2.

Figure 2.2 Relationship between creativity, innovation and entrepreneurship



Entrepreneurship: to devise new applications that can be used by others to fill a need and / or satisfy some demand

Source: Adapted from Bjerke (2007: 17)

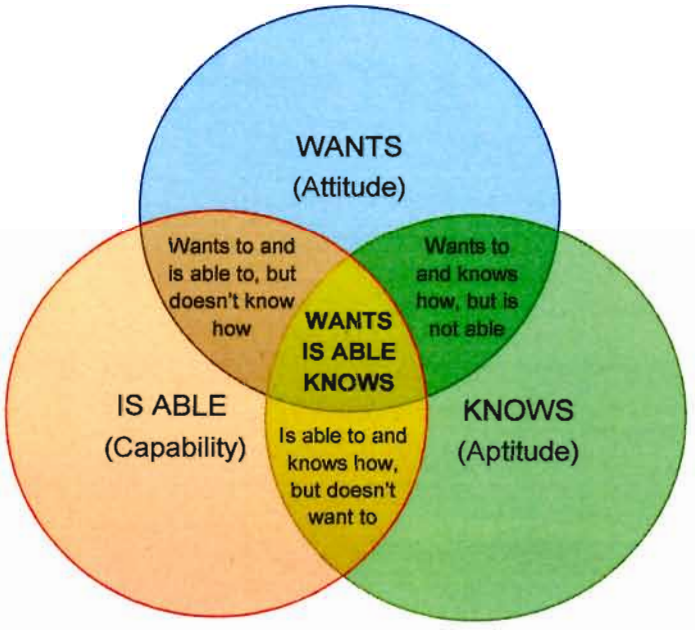
It follows from figure 2.2 that entrepreneurial activity is equally dependent on both creativity (ideas) and innovation (action) in the development of new applications that will fill a need and / or satisfy a demand.

Against the characteristics of the modern entrepreneurial society (Bjerke, 2007), entrepreneurial success depends on the economic environment which can be either supportive or detrimental to entrepreneurial activity. Casson *et al.* (2006: 541, 542) identified a number of factors imposed by the state or society causing behavioural constraints for entrepreneurial activity. These factors include rules, regulations and property rights that have an effect on transactional trust; government policies, rules and regulations that either promote or discourage entrepreneurship; the disruptive nature of entrepreneurship resulting in opposition from corporate firms; the influence of culture on the entrepreneur's strive for social status; the crucial role basic institutions have to play in awakening entrepreneurs to seize opportunities; and finally, the importance of openness to the outside world and diversity to bring in new ideas.

From an opposing perspective, Bjerke (2007: 86) lists a number of socio-demographic circumstances that are conducive to the promotion of entrepreneurial behaviour, namely the establishment of institutions designed to help small firms and emerging entrepreneurs, the higher propensity of people with self-employed parents towards self-employment and the positive influence of education and work experience on entrepreneurial activity.

Fínez (2008) proposes that there are three different (but related) perspectives that need to be considered in research on entrepreneurship: attitude, aptitude and capabilities. The relationship between these perspectives is shown in figure 2.3.

Figure 2.3 Entrepreneurial attitude, aptitude and capabilities



Source: Adapted from Fínez (2008: 102)

Figure 2.3 suggests that entrepreneurial behaviour will be most prevalent in an environment where individuals who want to be entrepreneurs have sufficient knowledge of business as well as the skills to start and run entrepreneurial firms. For the purpose of this study, it can be argued that grade 10 school learners cannot be expected to have sufficient knowledge of business and the skills required to set up innovative new businesses. However, the infusion of attitude ('wants') in the approach of Fínez (2008) suggests that a positive attitude towards entrepreneurship may be a valid starting point for research on young learners.

2.4.2 The entrepreneurial process

Hisrich and Peters (1998: 39) describe the entrepreneurial process as "*the process through which a new venture is created by an entrepreneur*". Opportunity identification and evaluation play a central role in the entrepreneurial process, but Hisrich and Peters (1998: 39) warn that it is a most difficult task. In turn, Longenecker, Moore, Petty and Palich (2006: 3) define an entrepreneurial opportunity as "*a value-creating innovation with market potential*", essentially making the entrepreneur a person who finds a way to create value for customers.

Napoleon Hill (2007: 23) provides an important insight into the mind of the entrepreneur and the entrepreneurial process. Hill recalls that those who have accumulated great fortunes had *"dreamt, hoped, wished, desired and planned"* before they acquired any money. According to Hill (2007: 93), *"ideas are the beginning points of all fortunes; ideas are products of the imagination".* On the identification of opportunity Hill opines that *"it has a sly habit of slipping in by the back door, and often it comes disguised in the form of misfortune or temporary defeat"* (Hill, 2007: 3).

Adding to the elusive nature of entrepreneurial opportunity, Acs and Audretsch (2005: 164) point out that opportunities must exist for the entrepreneur to discover and exploit them as illustrated in figure 2.4.

Figure 2.4 The direction of the entrepreneurial process

Source: Acs and Audretsch (2005: 164)

The existence of opportunities does not guarantee entrepreneurial success. An entrepreneurial action can only be executed in the presence of a perceived opportunity and with specific intent to pursue it. Such intent is described as the cognitive state experienced by an individual immediately before executing particular behaviour, thus necessitating a belief that the behaviour is both feasible and

desirable (Acs & Audretsch, 2005: 108, 109). Kuratko and Welsch (2001: 171) agree that opportunity perception reflects an intentional process and that these intentions are driven by perceptions of feasibility and desirability.

The entrepreneurial process, according to Timmons and Spinelli (2007: 82-83), has a *"highly dynamic, fluid, ambiguous, and chaotic character"*. Hence, constant changes in the process often pose paradoxes that need to be managed by the entrepreneur. Timmons and Spinelli (2007: 88) continue by identifying a number of driving forces that account for greater success among higher potential ventures. Table 2.2 presents a summary of these driving forces.

Table 2.2 Driving forces of the entrepreneurial process

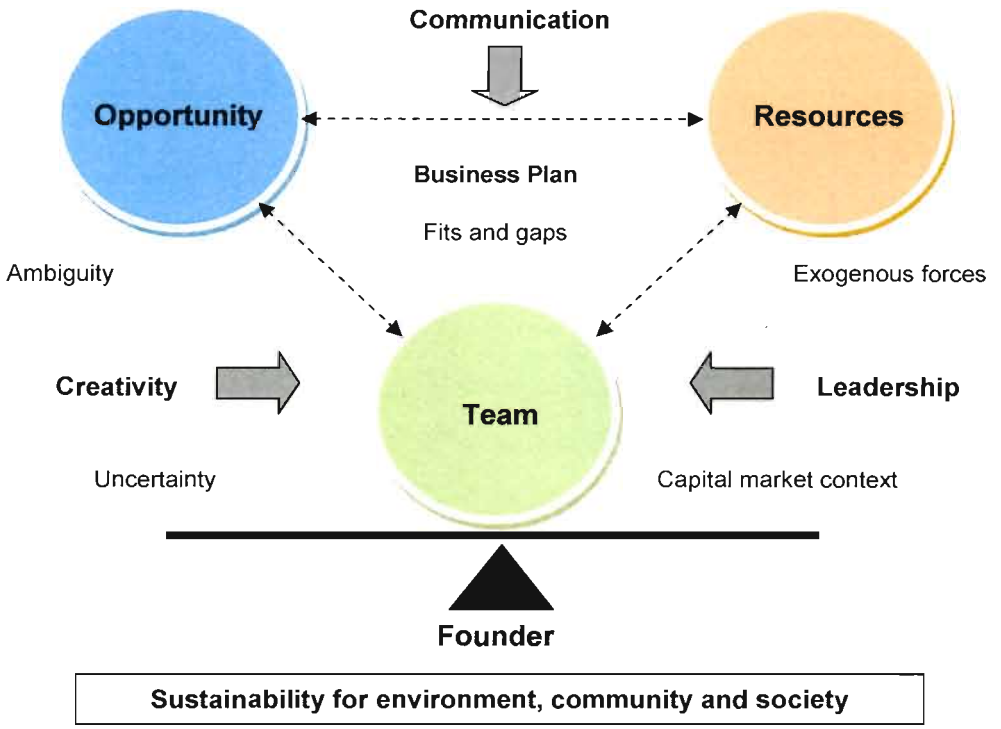
The entrepreneurial process:
▪ is opportunity driven;
▪ is driven by a lead entrepreneur and an entrepreneurial team;
▪ uses resources sparingly and creatively;
▪ is dependent on fit and balance in the organisation;
▪ is integrated and holistic; and
▪ is sustainable.

Source: Timmons and Spinelli (2007: 88)

The Timmons model (Timmons & Spinelli, 2007: 89) best describes the interaction between the components of the entrepreneurial process. The model includes three components: opportunity, resources and the team which in turn, are balanced by the founder or lead entrepreneur who takes charge of the success equation.

The opportunity is at the heart of the entrepreneurial process. Knowing the difference between what may seem like a good idea and a good opportunity is the key to entrepreneurial success. Resources need to be employed sparingly and with creativity to establish a powerful competitive weapon by *'doing more with less'.* It is also said that successful entrepreneurs think cash last, hence the necessity for leanness in the organisation and the conservation of equity. The third component, the entrepreneurial team, is a key ingredient for the higher potential firm and the biggest challenge for the lead entrepreneur to develop (Timmons & Spinelli, 2007: 89-91). The Timmons model of the entrepreneurial process is presented in figure 2.5.

Figure 2.5 The Timmons model of the entrepreneurial process



Source: Timmons and Spinelli (2007: 89)

In figure 2.5 the founder is depicted as the fulcrum on which the opportunity, resources, team and several forces influencing the process are balanced. This simile emphasizes the crucial role the founder (lead entrepreneur) has to play in achieving the goals of sustainability for the environment, the community and society in general.

Acs and Audretsch (2005: 105-107) believe that entrepreneurs, almost by definition, see more opportunities than other people. Intentionally pursuing such opportunities is another critical distinction between entrepreneurs and non-entrepreneurs. It is proposed that successful entrepreneurs are capable of identifying opportunities from signals in the environment that are then filtered and processed through various mechanisms such as perception (including biases, attention and consciousness); decision making (problem solving skills, creativity, intelligence, discovery); knowledge representation (memory, language); and learning and cognitive development.

2.5 PERSPECTIVES ON THE ENTREPRENEUR

Nieman, Hough and Nieuwenhuizen (2003: 9) describe entrepreneurship as *"the emergence and growth of new business"* and identify the motive for entrepreneurial activity as the making of profit. Drawing on the key concepts of different definitions, Nieman *et al.* (2003: 9) identify some important components of entrepreneurship and the entrepreneur including:

- the ability to identify a real business opportunity;
- innovative and creative behaviour;
- the ability to secure resources such as capital, labour and infrastructure;
- starting a new venture and growing it, or converting an existing business into an entrepreneurial venture;
- propensity towards taking risks;
- focusing on rewards in the form of profit or increased value of the business; and
- the functions of planning, organising, leading and control.

It can be inferred from the above that successful entrepreneurs are opportunity spotters, they are innovative and creative, they have a propensity towards taking action and they possess the managerial skills to run a business. Bjerke (2007: 75, 76), however, concluded that entrepreneurs are not extremists in any way. They are normal people just doing things differently, thus supporting the proposition that entrepreneurship can be taught successfully.

2.5.1 Types of entrepreneurs

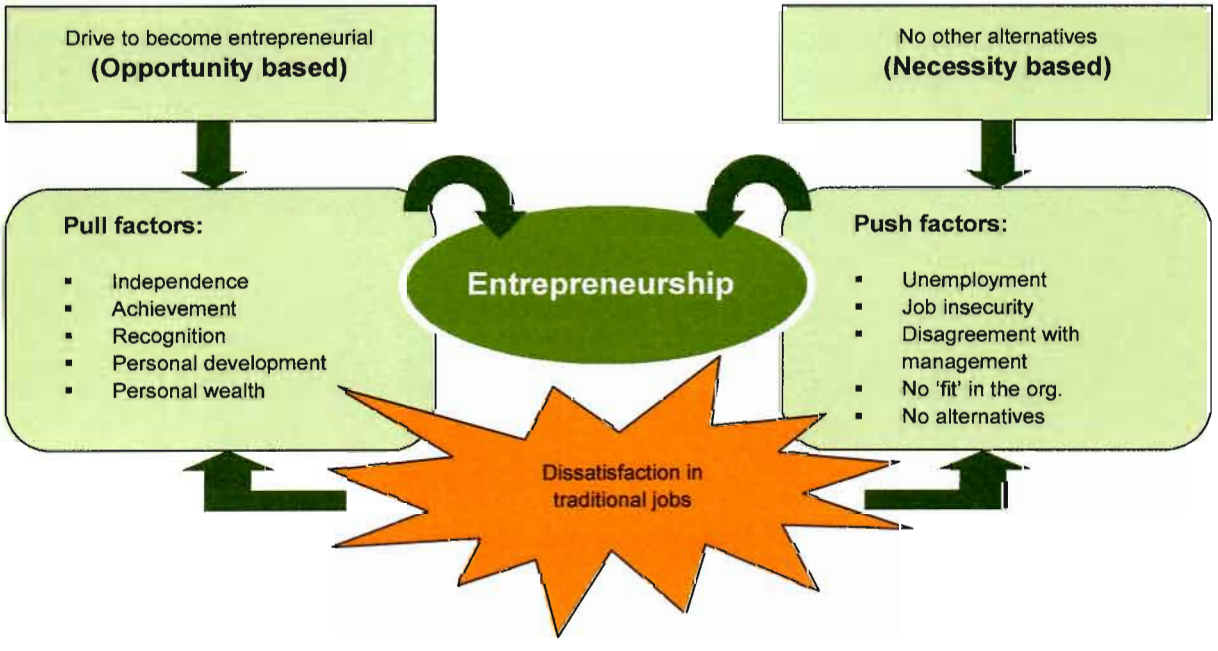
Casson *et al.* (2006: 461) maintain that entrepreneurial behaviour is increasingly recognized as being heterogeneous with variations in the level and nature of experience as a notable source of the differences between entrepreneurs. A distinction is made between habitual (experienced) and novice (first-time) entrepreneurs. For purposes of this study it is implicit that grade 10 school learners need to be approached from the novice perspective.

Research on entrepreneurial motivation has produced two broad hypotheses popularly known as the 'push' and 'pull' theories of entrepreneurial motivation (Kirkwood, 2009; Nieman *et al.*, 2003; Gilad & Levine, 1986). The push-theory postulates that people are pushed into entrepreneurship by negative situational

factors such as dissatisfaction with their existing jobs, unemployment and setbacks in their careers. To the contrary, the pull-theory postulates that alert people are attracted to entrepreneurship by potentially profitable business opportunities (Gilad & Levine, 1986: 46-47).

Kirkwood (2009) identified five pull-factors as important motivators for entrepreneurship including the need for independence, money (personal wealth), challenge or need for achievement, opportunity identification and lifestyle desires. Four push-factors consisting of job dissatisfaction, the changing world of work, help from an employer to start a business and motivations regarding children were found to be important motivators. Figure 2.6 illustrates the influence of push and pull-factors on the type of entrepreneurial activity.

Figure 2.6 Push and pull factors in entrepreneurial activity



Source: Nieman *et al.* (2003: 31)

Figure 2.6 shows that opportunity-based entrepreneurs are driven by personal attributes and desires. They are in fact pulled out of their traditional jobs by opportunities around them. To the contrary, necessity-based entrepreneurs are pushed out of their existing surroundings and, without any other alternatives at their disposal, seek entrepreneurial behaviour to make ends meet.

It stands to reason that necessity entrepreneurs have very little chance of success apart from earning a meagre income to survive. Entrepreneurship education should therefore focus on the development of opportunity entrepreneurs for sustainability, and not necessity entrepreneurs as a shallow attempt to address unemployment and poverty.

2.5.2 Nascent and habitual entrepreneurs

In an article reviewing empirical literature on nascent entrepreneurs, Davidsson (2006: 5, 6) concludes that a number of factors play an important role in research on personal factors identifying the nascent (emerging) entrepreneur. These factors include latent individual propensity toward entrepreneurial behaviour, the role of successful entrepreneurial experience in future activities, persistence and various situational factors.

Thompson (2009: 674) maintains it is difficult to make a clear distinction between people with entrepreneurial intent and nascent entrepreneurs, partly as a result of different implicit definitions of nascent entrepreneurs. For the purpose of this study, however, the proposition that persistence is a key component of successful entrepreneurship is of crucial importance: it suggests that nascent entrepreneurs can be developed by understanding that failure is a given on the road to entrepreneurial success rather than an outcome in itself.

According to McGrath and MacMillan (2000: 2-3), habitual entrepreneurs make careers out of starting businesses and they possess the required skills to create opportunities from uncertainty. It is postulated that these entrepreneurs share five common characteristics, namely [1] passionately seeking [2] and pursuing with enormous discipline [3] the best opportunities [4] with the focus on execution and adaptability [5] by involving many people in their pursuit to create networks supportive of the attainment of their goals. Simultaneously, habitual entrepreneurs also focus on helping other people to attain their own goals.

It is evident from the above that nascent entrepreneurs develop from the persistence of the individual to engage in entrepreneurial behaviour, as well as the continuance of such behaviour even in the face of multiple failures. Habitual entrepreneurs, on the other hand, have already developed a natural propensity towards entrepreneurial

behaviour. This mindset appears to give habitual entrepreneurs the vision to see beyond the immense hardships (commitment to engage and threat of failure) associated with new venture formation and to focus on the opportunity and the execution of plans.

It therefore stands to reason that entrepreneurship education must assist the nascent entrepreneur to look beyond the perceived hardships and threats of failure to focus on the identification and exploitation of opportunities.

2.5.3 Trait-approaches to entrepreneurship research

Academic research on entrepreneurship has focused extensively on the personality traits, characteristics and 'special' skills of entrepreneurs (Moen, Rahman, Salleh & Ibrahim, 2004; Lüthje & Franke, 2003; Cromie, 2000; Caird, 1991; Hisrich & Brush, 1986; Cromie & Johns, 1983).

Nieman *et al.* (2003: 29) maintain that a person must exhibit certain characteristics to be successful as an entrepreneur. Against these typical characteristics, it is acknowledged that entrepreneurs differ from each other as a result of diverse business opportunities, societies and cultures. It would therefore be extremely difficult, if not impossible, to compile a list of mutually exclusive characteristics distinct to entrepreneurs.

Bjerke (2007: 82), however, argues that personality is exposed through patterns and regularities in the individual's actions, as well as feelings and thoughts as experienced by people. Using a similar approach with due consideration for the influences of situational circumstances and social function, Cromie and Johns (1983: 317) also view entrepreneurship as a personality characteristic in their research on Irish entrepreneurs.

Based on these similarities in the actions and feelings of entrepreneurs, the following common personality traits have been identified as distinctive to entrepreneurs:

2.5.3.1 Achievement motivation

The accomplishment of a task considered as being worthwhile contributes to the enhancement of an individual's self-esteem, in turn encouraging the acceptance of other demanding assignments. It follows that enterprising people are constantly

seeking new challenges to overcome (Bjerke, 2007: 82; *"motivation to excel"* in Timmons & Spinelli, 2007: 8 and Buys & Havenga, 2006: 37; Nieman *et al.*, 2003: 29; Kuratko & Welsch, 2001: 16; *"drive to achieve"* in Kuratko & Hodgetts, 1998: 102).

Longenecker *et al.* (2006: 16) include "*motivation to excel*" as a characteristic of entrepreneurs and note that successful entrepreneurs are goal oriented and aware of their weaknesses and strengths. In a study by Hisrich and Brush (1986: 5), achievement was identified as the highest ranking motivation or reason for starting a new business. Moen *et al.* (2004: 193) and Cromie and Johns (1983: 317) draw on the work of McClelland by noting respectively that most successful entrepreneurs have a desire towards achievement and that the need for achievement is a key factor in successful entrepreneurship.

Cromie (2000: 16) agrees that the need for achievement (nAch) is regarded by many as a key entrepreneurial attribute, but maintains that there are a number of problems in simplistically linking nAch to entrepreneurship. People with a strong need for achievement, according to Cromie (2000: 17), might act entrepreneurially, but may also be attracted to other jobs such as management.

2.5.3.2 Risk-taking propensity

Cromie (2000: 19) holds that entrepreneurs should not be *"overawed"* by risky situations as they function in uncertain environments. Although there is lack of agreement on the specific nature of entrepreneurial risk-taking, Cromie (2000: 19) notes that there is some evidence suggesting that entrepreneurs have a greater propensity towards taking risks than other groups (supported by *"tolerance of risk"* in Timmons & Spinelli, 2007: 8 and Buys & Havenga, 2006: 37; *"taking of moderate risk"* by McClelland *in* Moen *et al.*, 2004: 193; *"high risk taking"* in Lüthje & Franke, 2003: 143; *"risk taking"* in Kuratko & Welsch, 2001: 16; *"calculated risk taking"* in Caird, 1991: 178).

Longenecker *et al.* (2006: 16) agree with risk-taking propensity by describing entrepreneurs as "*risk takers, risk minimisers, and uncertainty tolerators*". In support of this view, Douglas and Shepherd (2002: 81) conclude in their study that respondents' tolerance for risk was significantly related to the strength of their intention to become self-employed. Bjerke (2007: 82) and Nieman *et al.* (2003: 29)

note that entrepreneurial ventures are significantly riskier than conservative firms, thus also supporting the proposition that an entrepreneur must have the ability to tolerate risk and the mental strength to cope with failure.

2.5.3.3 Locus of control

Bjerke (2007: 82) maintains that there is a distinct difference between people that make things happen and those that feel things just happen to them. Entrepreneurs tend to make things happen and pay less attention to the probability of mere luck or fate. It seems as if entrepreneurs believe they have considerable control over events in their daily activities (Bjerke, 2007; Kuratko & Hodgetts, 1998: 102; Cromie & Johns, 1983: 323).

Lüthje and Franke (2003: 143) agree that high internal locus of control is an important characteristic of entrepreneurial behaviour. Although Cromie (2000: 17) concedes that locus of control is an important dimension of entrepreneurship, it is suggested that high achievers will also exhibit similar behaviour. In addition, Cromie (2000: 18) notes other concerns over locus of control such as the influence of knowledge and skills as well as interpersonal, political, social and organisational constraints on the acquisition of skills and experience on the individual's perceptions of control. It is suggested that entrepreneurship is a generic activity and that a task specific measure such as locus of control is unnecessary for entrepreneurial selection and research.

2.5.3.4 Need for autonomy / independence

Entrepreneurs in general express the need to control their own lives. They therefore have a strong inclination to depend on themselves and go it alone (Bjerke, 2007: 82). Cromie and Johns (1983: 323) conclude that entrepreneurs are relatively independent from their relatives and less inclined (than managers) to plan their affairs. Nieman *et al.* (2003: 29) and Kuratko and Welsch (2001: 16) also list the need for autonomy as one of the distinguishing characteristics of entrepreneurs.

Cromie (2000: 21) and Kuratko and Hodgetts (1998: 105) agree that entrepreneurs may find it difficult to function in restrictive (bureaucratic) environments as they have the need to be in control, whereas Buys and Havenga (2006: 37) identify self-reliance as a characteristic often contributed to entrepreneurs. Douglas and Shepherd (2002:

81) also found that entrepreneurs have a preference for independence as it was significantly related to the strength of respondents' intention to become self-employed.

2.5.3.5 Determination / persistence

Entrepreneurs must have determination to complete what they have started, even in the face of numerous failures. It follows that at least a certain degree of persistence is a prerequisite for the aspiring entrepreneur (Bjerke, 2007: 82; Timmons & Spinelli, 2007: 8; Buys & Havenga, 2006: 37; Nieman *et al.*, 2003: 29; Kuratko & Welsch, 2001: 16). According to Longenecker *et al.* (2006: 16), successful entrepreneurs show commitment and determination by being "*tenacious, decisive, and persistent in problem solving*".

Hisrich and Brush (1986: 6) conclude that there is no substitute for *"perseverance, preparation, hard work, and belief in one's product or service"* for the aspiring entrepreneur, supported by Kuratko and Hodgetts (1998: 101) describing dedication to success (commitment, determination and perseverance) as the most important trait to overcome obstacles and setbacks. In a similar finding, Cromie and Johns (1983: 323) conclude in their study on Irish entrepreneurs that responsibility (i.e. determination, perseverance, reliability) was the dominant personality trait in successful entrepreneurs.

2.5.3.6 Initiative

It is essential that entrepreneurs have initiative to seek opportunities and take action accordingly. It should be obvious that the entrepreneurial venture has little chance on success even if the entrepreneur has all the required personality traits, but neglects to take initiative and transform this predetermined vision into action (Bjerke, 2007: 82; Nieman *et al.*, 2003: 29).

2.5.3.7 Creativity

Kuratko and Hodgetts (1998: 103) propose that creativity is not an exclusively inherited trait, thus suggesting that creativity can be learnt. Longenecker *et al.* (2006: 16) note that successful entrepreneurs are creative, self-reliant and adaptable by being open-minded, flexible, quick learners and always uncomfortable with the *status quo.*

According to Bjerke (2007: 82), entrepreneurs are more adaptable and open to alternative approaches than other (non-entrepreneurial) people, whereas Cromie (2000: 20) notes that enterprising individuals are responsible for the development of new ideas, the spotting of market opportunities or for the combination of existing ideas and resources in different ways to create additional value. These individuals often present solutions that contradict established knowledge. Timmons and Spinelli (2007: 8), Buys and Havenga (2006: 37), Nieman *et al.* (2003: 29) and Kuratko and Welsch (2001: 16) also list creativity as an important characteristic often attributed to entrepreneurs.

2.5.3.8 Self-confidence and trust

Successful entrepreneurs maintain confidence in their own abilities and let those around them know it (Kuratko & Hodgetts, 1998: 104). Bjerke (2007: 82) agrees that enterprising people cannot lack self-confidence as creativity and achievement often require major change. Trust cannot be separated from self-confidence as the entrepreneur has to coordinate dissimilar inputs for a successful enterprise. It follows that the entrepreneur must have the ability to trust those who make a contribution to the venture.

Timmons and Spinelli (2007: 8) agree that entrepreneurs have high levels of self-reliance in pursuing their goals. Cromie (2000: 21), however, considers that self-confidence may be an outcome rather than a determinant of entrepreneurship in pointing out that available literature fails to confirm that entrepreneurs are necessarily more self-confident than other people.

2.5.3.9 Responsibility

Historically, entrepreneurs have been viewed as "*independent and highly self-reliant innovators*". Hence, they put themselves in positions where they are personally responsible for the success or failure of the venture (Kuratko & Hodgetts, 1998: 102). Entrepreneurs prefer to be in control of the venture's resources and they use those resources to achieve self-determined goals. For this reason, they have a deep sense of personal responsibility towards the enterprises they create (Bjerke, 2007: 82; Cromie & Johns, 1983: 323).

2.5.3.10 Opportunity obsession

The obsession with opportunity has become a prominent factor in this study. Successful entrepreneurs are obsessed with and passionate about opportunity: it is always the opportunity guiding them when dealing with important issues (Bjerke, 2007: 82; Timmons & Spinelli, 2007: 8; Buys & Havenga, 2006: 37; Nieman *et al.*, 2003:29; Kuratko & Hodgetts, 1998: 102). This obsession with opportunity means that successful entrepreneurs are always aware of market and customer needs (Longenecker *et al.*, 2006: 16).

The study by Hisrich and Brush (1986: 5) on the characteristics of the 'minority' entrepreneur showed that opportunity was regarded a major motivation for starting a new business. Allinson, Chell and Hayes (2000: 33) also emphasize the importance of opportunity by defining entrepreneurs as *"owner-managers who relentlessly seek to identify and pursue opportunities for capital accumulation and growth".*

2.5.3.11 Desire for immediate feedback

Entrepreneurs enjoy what they do (i.e. creating and running their businesses), but they like to know how they are performing and are constantly looking for feedback from people in their immediate surroundings. It appears that the desire for feedback is closely related to the entrepreneur's need for achievement (Bjerke, 2007: 82). Kuratko and Hodgetts (1998: 102) describe entrepreneurs as quick learners using feedback as a process to learn from their mistakes and setbacks.

2.5.3.12 Future orientation

The obsession with opportunity plays an important role in the entrepreneur's vision. Entrepreneurs know where they want to go (Kuratko & Hodgetts, 1998: 103) and are forward looking always searching for new opportunities to exploit (Bjerke, 2007: 82). Where other people see nothing or just problems, the entrepreneur sees an opportunity even against the possibility of being ridiculed initially. It follows that true entrepreneurs are less concerned with what happened yesterday: they are visionaries focused on what should be done tomorrow (Bjerke, 2007: 82).

Kuratko and Welsch (2001: 16) list vision as a characteristic of both entrepreneurs and leaders. Considering that entrepreneurs have to be leaders to build high

performing organisations (*see* section 2.5.3.15), the importance of being a visionary becomes evident.

2.5.3.13 Tolerance of ambiguity

Entrepreneurs seem to function well in dynamic, uncertain, complex and ambiguous environments. Whereas the challenges of a venture start-up phase will deter most people, entrepreneurs find these conditions challenging and exciting (Bjerke, 2007: 82; Nieman *et al.*, 2003: 29).

Research conducted by Koh (1996) indicates that tolerance of ambiguity is one of the essential features differentiating entrepreneurs from non-entrepreneurs. Timmons and Spinelli (2007: 8) and Buys and Havenga (2006: 37) agree that tolerance of ambiguity and uncertainty is a characteristic often attributed to entrepreneurs. Allinson *et al.* (2000: 36) concede that there seems to be considerable agreement about the nature of entrepreneurial activity as it appears to involve *"high levels of uncertainty, few precedents, a lack of hard data, and, often, the need to make decisions under time pressure".*

2.5.3.14 High commitment

Timmons and Spinelli (2007: 8) and Buys and Havenga (2006: 37) list commitment as one of the general characteristics most often contributed to entrepreneurs. According to Bjerke (2007: 82), entrepreneurial ventures commonly require an extraordinary level of commitment from its leaders. These commitments include the entrepreneur's time, emotions and loyalty; hence entrepreneurs live under high and constant pressures all the time.

2.5.3.15 Leadership

True entrepreneurs are patient leaders, firstly as the custodian of a tangible vision and long-term leader, and secondly, as a model, coach and motivator for their teams (Bjerke, 2007: 82). Scarborough, Wilson and Zimmerer (2009: 669) emphasize the importance of leadership as entrepreneurs have to relinquish control and learn to depend on the energy of others to achieve results. Without leadership abilities, entrepreneurs (and their companies) cannot achieve the full potential of the venture or that of employees.

According to Timmons and Spinelli (2007: 267) and Longenecker *et al.* (2006: 16), entrepreneurs are (amongst other traits) self-starters with high standards, team builders and hero makers that inspire others while being honest and reliable in practising fairness and building trust. They are patient with a sense of urgency and share their wealth with those who helped create it.

2.5.4 Criticism on trait-approaches to entrepreneurship research

The preceding section discussed the trait-approach to entrepreneurship in which the entrepreneur is seen as a set of personality traits. However, many scholars agree that trait approaches have not been successful in entrepreneurship research (Athayde, 2009a; Johnston, Andersen, Davidge-Pitts & Ostensen-Saunders, 2009; Bjerke, 2007; Van Wyk & Boshoff, 2004; Cromie, 2000; Robinson, Stimpson, Huefner & Hunt, 1991; Ajzen, 1991; Gartner, 1989).

Gartner (1989: 47) argues that focussing on the traits and personality characteristics of entrepreneurs will promote neither a true definition of the entrepreneur nor the understanding of entrepreneurship and proposes that behavioural approaches will be a more productive perspective for research on entrepreneurship (i.e. not who the entrepreneur is, but what the entrepreneur does) (Gartner, 1989: 57).

Caird (1991: 178) highlights the limitations on research using 'crude' selection measures such as risk-taking, creative tendency, high need for achievement, high need for autonomy and internal locus of control. It is argued that trait approaches profile human potential in a fixed way, thus ignoring the influences of environmental conditions and human potential for change. However, Caird (1991: 179) recognises the usefulness of simplistic tests based on traits for exploration and descriptive purposes; hence the use of these traits in her research on enterprising tendency in occupational groups.

Cromie (2000: 24) agrees that trait theories are useful in explaining some aspects of why people become entrepreneurs, but highlights some concerns such as the difficulty in the preparation of 'objective personality inventories', frequent failure of trait-tests to distinguish between entrepreneurs and other groups (e.g. managers), as well as the complexity in the process of becoming a true entrepreneur.

In support of the preceding scholars, Robinson *et al.* (1991) conclude that '*attitude*' is a better approach to the description of entrepreneurs than either personality characteristics or demographics. According to Robinson *et al.* (1991: 14-15), basing entrepreneurship research on personality theory poses four fundamental problems: [1] methodologies based on the personality approach were not developed to be used in measuring entrepreneurship, [2] different instruments claiming to measure the same concept lack convergent validity, [3] personality theories are intended for use across a wide range of situations, thus measuring general tendencies, and [4] personality approaches are not suitable for research in human behaviour requiring interactive models (models that both influence and are influenced by activities in the environment).

On the demographic approach, Robinson *et al.* (1991: 15-16) note that the use of demographics (e.g. birth order, role models, age, sex, education levels of parents) to predict entrepreneurship is deficient on three key points, namely [1] that entrepreneurship is far too complex to be predicted by simple demographic factors, [2] that some researchers seem to use demographic factors as surrogates for personality characteristics, and [3] the failure of this type of research to stand up to established criteria for the evaluation of social science research and theory.

Littunen (2000: 304) measured the characteristics of the entrepreneur's personality during different phases of entrepreneurship, and concluded that the entrepreneurial learning process had indeed changed the personal characteristics of the entrepreneur. This finding causes problems for the trait-approach in research as it may result in the exclusion of potential (latent) entrepreneurs from entrepreneurial learning based on their prior-learning personality characteristics being seen as 'unfit' for development. In addition, Littunen (2000: 305) argues that entrepreneurship and personal characteristics cannot be studied separately from the features of the environment.

Although Lüthje and Franke (2003: 135, 143) concluded that personality traits have a strong impact on students' attitude towards self-employment in their study at the Massachusetts Institute of Technology (MIT), they simultaneously acknowledged that the '*attitude towards entrepreneurship*' produced the strongest explanation for the entrepreneurial intentions of students.

Furthermore, Urban, van Vuuren and Owen (2008: 2) found that previous results on the study of motivation in entrepreneurship using personality constructs such as achievement need, risk-taking, tolerance of ambiguity and locus of control have produced mixed results. The study by Johnston *et al.* (2009: 41) on student potential for Information and Communication Technology (ICT) entrepreneurship also found no significant relationship between specific personality types and potential entrepreneurial ability.

Referring to the earlier research of Caird (1991), Athayde (2009a: 482) argues that the development of a model of entrepreneurship based on personality traits such as calculated risk-taking, creative tendency, high need for achievement, high need for autonomy and internal locus of control suffers from conceptual and methodological problems.

Considering the magnitude of the personality traits discussed in section 2.5.3 and criticism for the trait-approach to entrepreneurship, the literature study thus far suggests the need for a different approach to research on entrepreneurship, and in particular, for entrepreneurship research involving young school learners.

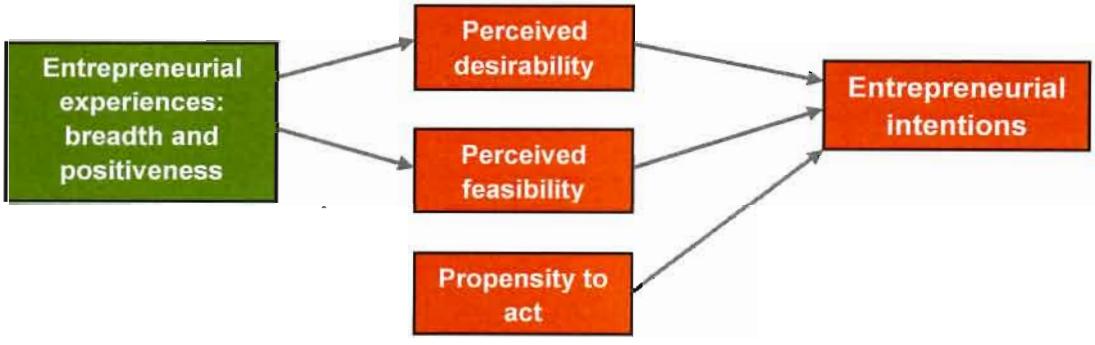
2.5.5 Attitude-approaches to entrepreneurship research

The literature on entrepreneurship suggests that the attitude-approach to research is largely based on the theory of planned behaviour (TPB) as proposed by Ajzen (1991). According to TPB, behaviour can be predicted by intentions, and these intentions, in turn, can be predicted by the attitude towards the behaviour, subjective norms regarding the behaviour, and perceived behavioural control over the behaviour (Ajzen, 1991). Krueger and Brazeal (1994: 93) comment that research on intentions mostly focuses on proximal behaviours and not long-term goals, but concede that TPB appears to be applicable in entrepreneurship research.

Gird and Bagraim (2008) examined the theoretical sufficiency of TPB by considering four additional factors believed to influence entrepreneurial intention (personality traits, situational factors, demographics and prior experience to entrepreneurship). The study showed that prior experience of entrepreneurship, contrary to personality traits and situational and demographic factors, significantly added to the predictive power of TPB in explaining entrepreneurship intentions (Gird & Bagraim, 2008: 711).

Krueger (1993: 5) agrees that prior entrepreneurship experience should influence entrepreneurial intentions indirectly through the perceptions of feasibility and desirability, as well as a propensity to act on opportunities based on Albert Shapero's model of entrepreneurial intentions shown in figure 2.7.

Figure 2.7 Shapero's model of entrepreneurial intentions



Source: Krueger (1993: 7)

Peterman and Kennedy (2003) and Krueger (1993: 17) found significant support for Shapero's proposition that entrepreneurial intentions are largely derived from [1] perceptions of feasibility, [2] perceptions of desirability, and [3] a propensity to act which are, in turn, derived from control beliefs. The results of Gird and Bagraim's study (2008: 717), as predicted by TPB, confirmed that perceived behavioural control, subjective norms and attitudes towards entrepreneurship had statistically significant positive correlations with entrepreneurial intent.

Of even greater importance for this study, was the finding that the '*attitude towards entrepreneurship*' variable had the strongest effect on entrepreneurial intent, while the perceived behavioural control and subjective norm variables had weaker statistically significant effects (Gird & Bagraim, 2008: 717).

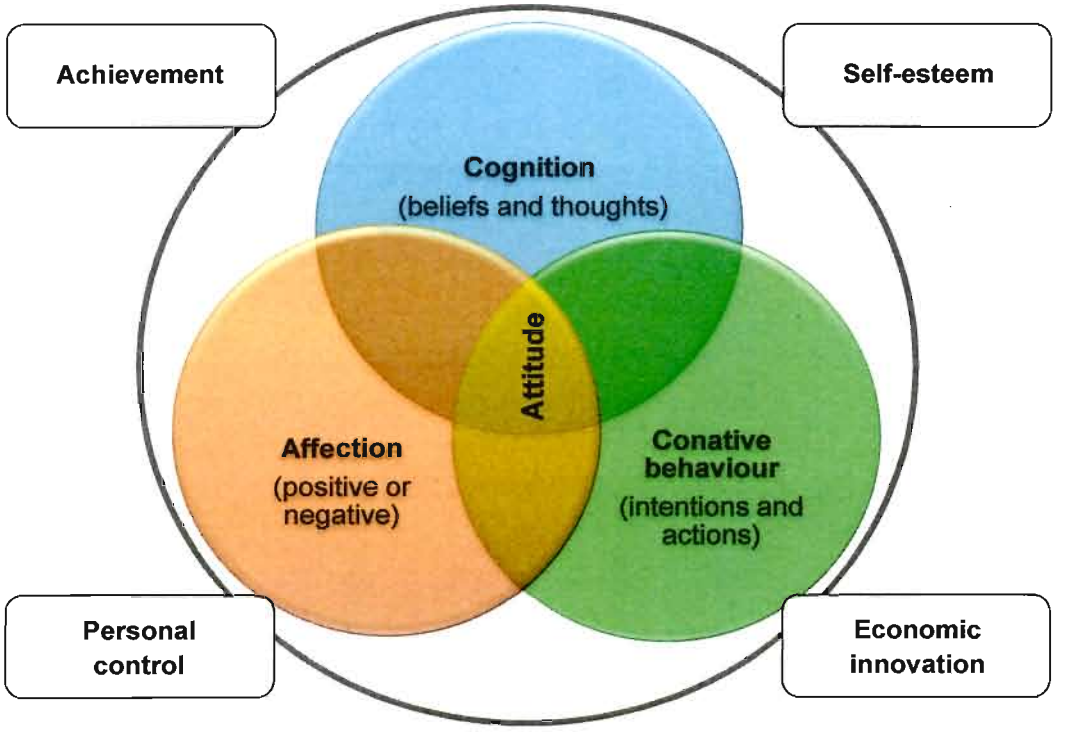
2.5.5.1 The entrepreneurial attitude orientation (EAO) scale

The approach to entrepreneurship research in this study has its origin in the study conducted by Robinson *et al.* (1991), firstly, to present attitude theory as an alternative to the trait and demographic approaches, and secondly, to explain the development and validation of the Entrepreneurial Attitude Orientation (EAO) scale (Robinson *et al.*, 1991: 13).

The EAO is based on the tripartite model of attitude predicting three types of reaction to everything: affect, cognition and conation. According to Robinson *et al.* (1991: 17), the cognitive component reflects the individual's beliefs and thoughts about an attitude object, the affective component consists of positive or negative feelings toward the object, and the conative or behavioural component includes behavioural intentions and predispositions to behave in a given way toward the object.

Four constructs were identified as being highly relevant to entrepreneurship, including innovation, personal control, need for achievement and self-esteem, and subsequently developed into four attitude sub-scales consisting of *achievement* in business, *innovation* in business, perceived *personal control* and perceived *self-esteem* in business (Robinson *et al.*, 1991: 19) as illustrated in figure 2.8.

Figure 2.8 Attitude sub-scales and cognition, affection and conation



Source: Van Wyk and Boshoff (2004: 34)

Robinson *et al.* (1991: 23-24) concluded that the reliability of the EAO was within acceptable standards and that the entrepreneur and non-entrepreneur groups were significantly different for each of the four subscales. Discriminant analysis confirmed

that three of the four subscales (innovation, personal control and self-esteem) contributed significantly to the discriminant function.

Van Wyk, Boshoff and Bester (2003) later employed the EAO scale of Robinson *et al.* (1991) in a study to determine whether entrepreneurial attitudes correlated with the biographic variables and personality characteristics of respondents (pharmacists and accountants). Van Wyk *et al.* (2003: 18) found that biographic / demographic variables such as age, number of jobs held, and the number of organisations worked for, correlated significantly (negatively) with some of the entrepreneurial attitudes with statistically significant, but not strong, relationships. This led to the conclusion that predictor variables in this group do not show strong relationships with entrepreneurial attitudes, and therefore, cannot be regarded as an important source of entrepreneurial attitudes.

The study by Moen *et al.* (2004), which was also based on the EAO scale of Robinson *et al.* (1991), produced similar results with no significant relationship between entrepreneurial attitude orientation and respondents' age, sex, race, religion and state of origin. However, there was a significant relationship between entrepreneurial attitude and differences in the residential areas of respondents. Moen *et al.* (2004: 192) therefore conclude that respondents' residential area, field of study (including school), parents' education and fathers' occupation have a significant relationship with entrepreneurial attitudes.

Van Wyk *et al.* (2003: 21) conclude that certain personality sub-scales of type A behaviour (achievement striving and impatience / irritability with Cronbach's alphas of 0.79 and 0.65 respectively), locus of control, career orientations and self-concept were strong predictors of entrepreneurial attitude orientation in their study. Van Wyk and Boshoff (2004: 34) later found significant differences between entrepreneurs and engineers on three of the EAO sub-scales including innovation, self-esteem and achievement, as well as on the overall EAO scale.

2.5.5.2 The entrepreneurial opportunity recognition (EOR) scale

The Entrepreneurial Attitude Orientation (EAO) scale was later expanded by McCline, Bhat and Baj (2000) to include two new exploratory scales to measure [1] attitude toward risk and [2] opportunity recognition in what they called

'*Entrepreneurial Opportunity Recognition*' (EOR). In their study on the health care industry, McCline *et al.* (2000: 89) found that two of the EAO sub-scales (perceived control and self-esteem in Robinson *et al.*, 1991) uncovered a significant difference between entrepreneurs and non-entrepreneurs. It is suggested that a scale combining measures of the individual's attitude toward [1] recognizing opportunities in the immediate environment, [2] having perceived control over this environment, and [3], having the tendency to achieve entrepreneurially presents a more parsimonious attitudinal approach to the prediction of entrepreneurship.

2.5.5.3 The attitudes toward enterprise (ATE) test

Another adaptation of the EAO scale of Robinson *et al.* (1991) surfaced in the work of Athayde (2009a; 2009b; 2004). Athayde (2009a: 481) found that entrepreneurship in young people under 25 currently represents a relatively *"untapped source of new business start-ups and economic growth".* As a result of the limitations of personality trait theory (*see* 2.5.4 *infra*), Athayde (2009a:482) focused on attitude theory by building on the EAO scale of Robinson *et al.* (1991) and subsequent work (EOR) of McCline *et al.* (2000).

The '*Attitude Toward Enterprise Test*' (ATE Test) was developed to measure young people's attitudes towards a similar collection of constructs employed by Robinson *et al.* (1991), but taking into account the need for an instrument to measure enterprise potential in young people instead of actual, adult entrepreneurs (Athayde, 2009a: 483).

Athayde (2009a: 483) excluded '*risk-taking*' due to mixed findings in research and difficulties in conceptualizing and operationalizing the construct for young people at school. The construct of '*self-esteem*', included in the study of Robinson *et al.* (1991), was also excluded for reasons of complexity, moreover in relation to children. Based on the criteria that measurement dimensions should consistently be associated with theories of entrepreneurship and should have been measured in empirical studies on entrepreneurship, Athayde (2009a: 483) selected five dimensions of latent enterprise potential: **achievement**, **personal control**, **creativity**, **leadership**, and **intuition**.

These dimensions were operationalized (Athayde, 2009b: 2) by placing them in a context relevant to young people still at school as shown in table 2.3.

Table 2.3 Operationalisation of ATE Test dimensions

Dimension	Focus	Supporting scholars
Attitudes towards creativity	▪ Beliefs about the importance of creativity and personal assessment of creativity (*"how creative am I?"*)	Timmons and Spinelli (2007); Bjerke (2007); Buys and Havenga (2006); Casson *et al.* (2006); Nieman *et al.* (2003); Cromie (2000); McCline *et al.* (2000); Caird (1991); Robinson *et al.* (1991)
Attitudes towards personal control over future career	▪ Internally (*"I am in control"*) ▪ Externally (*"others are in control"*)	'Locus of control' in Bjerke (2007); Lüthje and Franke (2003); Cromie and Johns (1983). Athayde (2009a: 485) notes that 'personal control' used as an attitude by Robinson *et al.* (1991), McCline *et al.* (2000) and Littunen (2000) is a more appropriate measure than 'locus of control'
Attitudes towards achievement in project work	▪ Seeing things through ▪ Taking pride in project work	Bjerke (2007); Timmons and Spinelli (2007); Buys and Havenga (2006); Moen *et al.* (2004); Van Wyk and Boshoff (2004); Nieman *et al.* (2003); Van Wyk *et al.* (2003); McCline *et al.* (2000); Robinson *et al.* (1991); Caird (1991); Hisrich and Brush (1986); Cromie and Johns (1983)
Attitudes towards using intuition in problem solving	▪ Risk-taking ▪ Coping with uncertainty ▪ Preference of informality over formality	'tolerance of uncertainty' and 'propensity towards taking risks' in Timmons and Spinelli (2007); Bjerke (2007); Buys and Havenga (2006); Moen *et al.* (2004); Lüthje and Franke (2003); Douglas and Shepherd (2002); Cromie (2000); Caird (1991); and 'intuition' in Allinson *et al.* (2000)
Attitudes towards leading others	▪ Leading friends and fellow students ▪ Bringing people together ▪ Persuading others ▪ Achieving consensus	Timmons and Spinelli (2007); Bjerke (2007); Casson *et al.* (2006); Baumol (1968)

Source: Adapted from Athayde (2009b: 2)

Athayde (2009a: 483) argues that these characteristics, given favourable situational factors such as access to resources and market conditions, combine to represent the essence of what is needed to become an entrepreneur. Drawing from the theory of planned behaviour, Athayde (2009b: 2) notes that latent entrepreneurial potential is a prerequisite for entrepreneurship, and maintains that the ATE Test was developed to measure this predisposition in young people. Krueger and Brazeal (1994: 91) agree that potential entrepreneurs need not have any prominent intentions toward starting a business as their potential is latent and causally and temporally prior to intentions.

Athayde (2009a: 483) emphasizes that it is attitudes associated with enterprise such as achievement and other dimensions that are measured, and not the dimension itself (e.g. respondents' actual achievement). The focus of measurement is therefore not on the actual traits of the entrepreneur, but rather on respondents' attitudes towards using achievement, personal control, creativity, leadership and intuition (Athayde, 2009b: 1). The resulting model of enterprise potential in young people is shown in figure 2.9.

Figure 2.9 Model of enterprise potential in young people

Source: Athayde (2009a: 484)

In line with the work of Robinson *et al.* (1991), items in the ATE Test were designed to reflect one of the three dimensions of attitude as shown in figure 2.8 *infra* (Athayde, 2009a: 484). As an example, the original ATE Test (*see* Appendix 4) includes the following items to measure self-perceptions of the ability to lead others:

- Q15 I believe I can persuade my classmates to agree on a plan (cognitive)
- Q26 I don't like being the centre of attention in class (affective)
- Q7 I'm good at motivating my classmates (behavioural)

Athayde (2009a: 488) employed exploratory factor analysis (EFA) and Cronbach's alphas for reliability testing of the ATE Test. EFA showed that four of the factors shown in figure 2.9 were within acceptable levels of reliability, whereas the **intuition** construct provided no solution and was therefore omitted from the measure. Using 0.7 as the benchmark for Cronbach's alphas, the remaining four constructs passed the threshold.

It appears that a Cronbach alpha of 0.7 is acceptable based on the study by Peterson (1994: 383) where alpha coefficients were obtained from 832 different articles, proceeding papers, and manuscripts reporting data from 1 030 samples consisting of more than 300 000 individuals. Peterson (1994: 383) notes that only those alpha coefficients reported for rating scales designed *"to measure individual difference constructs such as personality, attitude, and opinion in non-special populations were included in the analysis"* to obtain a *"conceptually coherent pool"* of alpha coefficients. Average reported alpha coefficients ranged from 0.70 for values and beliefs to 0.82 for job satisfaction, revealing that the results were within the minimum acceptable reliability for preliminary research as recommended by Nunnally in 1978 (Peterson, 1994: 381).

The validity of the ATE Test was measured against the Protestant work ethic (PWE) scale (Athayde, 2009a: 490). According to Ali, Falcone and Azim (1995: 26), the belief that society's commitment to work (and hard work) is associated with economic development and competitiveness, has its origin in the Protestant work ethic advanced by Max Weber. Several scholars draw on the work of Weber by noting that the PWE is the willingness to work now for later returns (Porter, 2005: 336); it is considered part of the individual belief system (Freund & Carmeli, 2003: 710); it is the belief that work is desirable and rewarding in its own right (Abdalla, 1997: 251); and it means that work is considered an important value in itself (Mudrack, 1999; Greenberg, 1978).

Validity testing of the ATE Test against the Protestant work ethic (PWE) scale resulted in **achievement**, **leadership** and **personal control** all being positively correlated with the PWE scale, whereas **creativity** showed negative correlation indicating that this construct is not related to the PWE (Athayde, 2009: 490). **Achievement**, **leadership** and **personal control** were all correlated with each other,

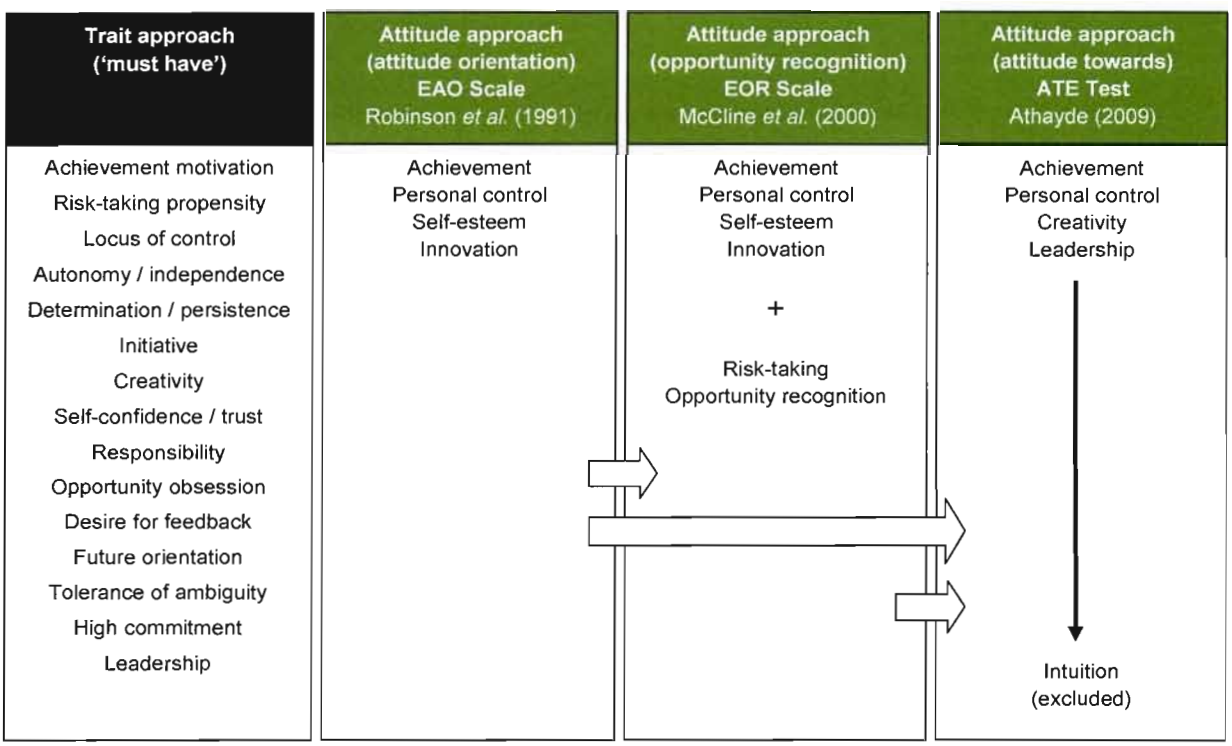
whereas correlations for each construct with **creativity** was low. Here, Athayde (2009a: 490) acknowledges the possible limitations of the meta-construct of entrepreneurial '*potential*' as the purpose for which the ATE Test was designed.

According to Athayde (2009b: 2), the ATE Test was tested and refined during four separate pilot studies until a valid and reliable instrument was developed. The subsequent study at secondary schools in London (Athayde, 2009a) concluded that participation in an enterprise program positively influenced young people's enterprise potential and attitude towards entrepreneurship. In addition, the type of school (private / public), parents' occupation and gender were also found to be related to the attitude towards entrepreneurship (Athayde, 2009b: 2). The desire for self-employment was influenced by demographic characteristics such as ethnic background, gender and having a self-employed parent (Athayde, 2009a: 495).

2.5.5.4 Summary of attitude scales

In summary, the 'evolution' of attitude scales for the measurement of entrepreneurial potential is presented in figure 2.10.

Figure 2.10 'Evolution' of entrepreneurship attitude scales



Notwithstanding the limitations of the measurement scales developed by Robinson *et al.* (1991), McCline *et al.* (2000) and Athayde (2009a) emanating from the literature study, it can be argued that the 'evolution' of entrepreneurship attitude scales provides sufficient validity for employment of the ATE Test in this exploratory study, moreover when considering that the instrument has been validated to measure enterprise potential in young people.

2.6 CHAPTER SUMMARY

Chapter 2 examined the origin of entrepreneurship and the entrepreneur and found that it was introduced into the economic arena as early as in 1730. The development of entrepreneurship since the 18th century was examined in search of a universally accepted definition, but it was concluded that, apart from a number of distinctive themes associated with the entrepreneur, no such definition has (as yet) been developed.

An overview of the theories of entrepreneurship suggested that the construct remains one of the least understood topics in economics and that there is still no accurate theory of entrepreneurship. The overview did, however, reaffirm the importance of the early theories for modern-day entrepreneurship, with particular emphasis on the work of Joseph Schumpeter. Despite great differences in the early theories, it was confirmed that the realization of profit is the basic conception underlying entrepreneurship.

The examination of modern entrepreneurship revealed that the characteristics of the 'new' entrepreneurial society have changed and that entrepreneurial activity is influenced by a number of factors imposed by the state and society. This finding supports Schumpeter's theory that entrepreneurial activity is dependent on breaking with the stationary or 'fixed' nature of the state and society by introducing new and improved combinations of resources into the economic lifecycle. It was also evident that opportunity recognition is central to the entrepreneurial process, which in itself, is ever-changing and driven by various factors.

In terms of the different types of entrepreneurs, the study showed that South Africa should focus on the development of opportunity entrepreneurs in its efforts to

eradicate poverty and unemployment. It was concluded that grade 10 learners, as the focal point of this study, should be approached from the nascent perspective in order to promote entrepreneurial activity in the country.

The different approaches to entrepreneurship research were examined, starting with the conventional trait-approach where the entrepreneur is seen as a combination of different personality characteristics. The study produced an extensive list of 'must have' traits for entrepreneurs, but simultaneously exposed wide-ranging criticism for this approach. The attitude-approach to entrepreneurship drew more support from scholars and also provided a better fit for the research involved in this study. The literature review pointed towards an existing attitude scale (Athayde, 2009a & 2009b) that had not only been validated in empirical research, but had also been developed particularly for use with young learners.

Although the work of Robinson *et al.* (1991), McCline *et al.* (2000) and Athayde (2009a) are subject to limitations acknowledged by the authors, it was concluded that the '*Attitude Toward Enterprise Test*' (ATE Test) of Athayde (2009a) provided the best fit for employment in this study on the entrepreneurial attitudes of grade 10 learners.

CHAPTER THREE

LITERATURE REVIEW ON ENTREPRENEURSHIP: CURRENT STATUS AND EDUCATION

3.1 INTRODUCTION

The preceding chapter examined the early theories of entrepreneurship as well as the personality traits and attitudes that are distinctive to entrepreneurs. Judging by the vast array of requirements for successful entrepreneurship, this study so far suggests that the transfer of all these requirements may prove to be an impossible task in so far as secondary schooling in South Africa is concerned.

This chapter examines the current status of entrepreneurship in South Africa and in comparison with other global economies. The composition of the labour force in South Africa as well as poverty and unemployment are analyzed to highlight the urgent need for measures directed at entrepreneurial development in the country. For this purpose, the text includes recent survey results of Statistics South Africa (http://www.statssa.gov.za) as well as independent research commentary on these findings.

The Global Entrepreneurship Monitor (GEM) 2007 South African Report (Maas & Herrington, 2007) is the central theme in this section of the study. In addition to a brief discussion on the GEM 2008 Executive Report (Bosma, Acs, Autio, Coduras & Levie, 2009), the literature review presents the main findings of the GEM 2007 South African Report (Maas & Herrington, 2007) to highlight the current status of youth entrepreneurship development as the burning platform for the empirical study discussed in chapter four.

The chapter concludes with a review of existing literature on entrepreneurship education from both a global and a South African perspective. The purpose of this section is to examine current trends in entrepreneurship education in an attempt to identify best practices and isolate valid recommendations for the improvement of youth entrepreneurship education in the country.

3.2 CURRENT STATE OF ENTREPRENEURSHIP IN SOUTH AFRICA

The current state of entrepreneurship in South Africa is approached from a number of different perspectives. These include South Africa's ranking in terms of economic performance, the composition of the labour force, poverty and unemployment and the Global Entrepreneurship Monitor (GEM) (http://www.gemconsortium.org).

From an introductory point of view, the study has so far shown that innovation is closely linked to economic growth. Innovation in turn, is one of the basic components of successful entrepreneurial activity. It can then be deduced that entrepreneurial activity plays a significant role in the competitiveness of countries when measured against each other.

The World Competitiveness Scoreboard 2008 (IMD, 2008: 13) presents the overall rankings of 55 economies covered by the World Competitiveness Yearbook (WCY). The leading economy in 2008 was the United States of America, followed by Singapore, Hong Kong and Switzerland. South Africa's position weakened from 50th in 2007 to 53rd out of 55 countries in 2008 with only the Ukraine and Venezuela trailing. However, in 2009 South Africa's position on the World Competitiveness Scoreboard improved to 48th out of 57 economies covered by the WCY (IMD, 2009).

From this perspective it stands to reason that South Africa's position in the latter end of global competitiveness may have a negative impact on the promotion of entrepreneurial activity in the country.

3.2.1 Composition of the labour force: the Labour Force Survey

Entrepreneurs in South Africa emerge from either the labour force, or in other words, the sum of employed and unemployed people in the country, or from those people that are not economically active.

The Labour Force Survey (Stats SA, 2007: ii) defines the *'employed'* as "*persons aged 15-65 who did any work or who did not work but had a job or business in the seven days prior to the survey interview*". The official definition of *'unemployed'* is given as *"persons aged 15-65 who did not have a job or business in the seven days prior to the survey interview but had looked for work or taken steps to start a business in the four weeks prior to the interview and were available to take up work*

within two weeks of the interview". People who are neither employed nor unemployed are categorized as *"not in the labour force"* or *"not economically active".*

It is evident from the definitions above that grade 10 school learners are neither employed nor unemployed, but fall within the definition of those that are not economically active. It should be noted that these learners will enter the job market or tertiary education in 2012, in turn suggesting an urgent need for measures to ensure that they will be able to enter the job market when they pass grade 12 at the end of 2011. Table 3.1 presents a summary of the principal variables and September 2007 estimates relating to the South African labour market.

Table 3.1 The South African labour market (estimates for September 2007)

Labour market variable	Estimate for Sep. 2007
Levels ('000)	
Employed	13,306
Unemployed	3,905
Labour force	17,211
Not in the labour force	13,209
Population of working age	30,420
Discouraged work seekers	3,443
Rates (%)	
Unemployment rate	22.7
Labour force participation rate	56.6
Labour absorption rate	43.7

Source: Stats SA (2007: ii)

The number of people that were not in the labour force (13.2 million) is of particular importance for this study as it includes school learners that will be completing grade 12 in 2009. The impact of a large number of these learners being added to the unemployed component of the labour force in 2010 should not be under-estimated.

Perhaps of greatest concern for South Africa, and undoubtedly for the purpose of this study, is the concentration of discouraged work seekers (people who have given up on finding employment) in the younger age groups. Table 3.2 presents the discouraged work-seekers in September 2007 by age group.

Table 3.2 Discouraged work-seekers by age group, September 2007

Discouraged	Age Group (Years)										
From:	15	20	25	30	35	40	45	50	55	60	
To:	19	24	29	34	39	44	49	54	59	65	Total
Thousand	292	905	700	496	348	234	193	147	85	38	3,443
Percent*	5.9	19.4	16.1	12.9	11.6	9.8	8.7	7.8	5.8	2.4	11.3

*Percentage of the working age population

Source: Stats SA (2007: xxi)

Table 3.2 shows the highest concentration of discouraged work-seekers in the age groups 20 to 24 (19.4%) and 25 to 29 (16.1%). If one considers that 1.6 million people in the age group 20 to 29 have given up on finding employment in South Africa, it stands to reason that not enough is being done to include this generation in the economy of this country, or to stimulate self-employment for future sustainability.

Of equal concern is the finding by the Labour Force Survey (Stats SA, 2007: 61) that only 202 000 people (0.66%) of the approximately 30.4 million people of working age in South Africa were involved in government job creation programs in September 2007. The results for Gauteng revealed that only 36 000 people (0.51%) of the approximately seven million people of working age in the province were involved in such government programs. This finding supports the notion of government's incapacity to create sufficient numbers of new jobs, and that job creation has to a large extent become the responsibility of private sector industry.

3.2.2 Poverty and unemployment in South Africa

Frye (2006:1) concluded that levels of poverty and unemployment in South Africa are *"critically"* high, despite the country's status as an upper middle income country. Frye notes that poverty and unemployment are structural in nature, and that these structural manifestations are far more difficult to rectify than short-lived cyclical phases. According to Frye (2006:1), 23.8% of people in South Africa were living on less than two US dollars a day and 10.5% on less than one US dollar in 2002.

Leatt (2006: 27) raises the concern that 55% (10 million out of 18 million) of South Africa's children were living in ultra poverty in 2005 (under R 800 per month per household). However, the General Household Survey 2007 (GHS) conducted by

Statistics South Africa showed a downward trend in terms of reported hunger in the 12 month period preceding the survey. Reported hunger decreased from 6.9% to 2.0% for adults and from 6.7% to 2.0% for children (Stats SA, 2008a: 46).

Statistics South Africa (Stats SA, 2008a: 5) concluded that the number of employed people in South Africa increased from 11 million in July 2002 to 12.7 million in July 2007 and that the labour absorption rate increased from 39.2% to 41.9% in the same period. The unemployment rate declined to 24.8% in July 2007, 3.8% lower than in July 2006 and 0.7% lower than the unemployment rate measured in the Labour Force Survey (Stats SA, 2007) in March 2007 (Stats SA, 2008a: 6). However, the percentage of 'more skilled' people employed in the manufacturing sector has decreased from 18.9% to 16.6% since 2002 (Stats SA, 2008a: 6).

Frye (2006: 2) emphasizes the major problem that chronic poverty is usually transferred across generations. Households with a lack of access to assets have great difficulty in accumulating sufficient surpluses to move out of poverty over time. The harsh circumstances in which the poorest live also hamper their ability to use their available resources to move out of poverty (Frye, 2006: 2).

Statistics South Africa (Stats SA, 2008a: 44) agrees that ownership of assets helps the poor in difficult circumstances as these assets can be converted into cash for household consumption when needed. According to Frye (2006: 2), people often use what assets they have to produce some income, but it should be noted that low risk ventures (e.g. street vendors) result in low risk (and small) returns. These people are the so-called necessity entrepreneurs earning an income that is, in most cases, barely enough to survive.

Statistics South Africa (Stats SA, 2008a: 48) reports that annual expenditure on social grants have increased more than four-fold since 1994. In March 2006 11 million South Africans were receiving grants from an annual state expenditure of R 70 billion. However, Frye (2006: 2) maintains that the social security system in South Africa is based on European models developed after the Second World War and approaches unemployment as being short term and cyclical. The fund is available to formal economy employees only and provides financial relief for a maximum period of six months. Against this, there is no relief for the millions of chronically unemployed people in the country.

It follows that destitute children, aged people and the chronically unemployed are forced to look elsewhere for financial assistance. It is not uncommon for working people in South Africa to support entire families including their grandparents, parents, siblings and their own households. Based on the results of the 2007 GHS, 77.5% of people (76.8% in 2002) that are not employed rely on financial assistance from a person within their household (Stats SA, 2008a: 27).

Of the 47.8 million people in South Africa, 6.6 million (13.87%) indicated that they made use of a welfare office in the 12 month period prior to the GHS 2007 interview (Stats SA, 2008a: 87). From the total number of 13.26 million residential dwellings in South Africa, 5.89% (782 000) were informal dwellings or shacks in a backyard and 9.34% (1 239 000) similar structures on farms or in squatter settlements (Stats SA, 2008a: 95). These figures by virtue suggest high levels of poverty in the country.

According to the Human Sciences Research Council (HSRC, 2004), new estimates of poverty have shown that the proportion of people living in poverty in South Africa has not changed significantly between 1996 and 2001. Approximately 57% of South Africans were living below the poverty income line in 2001, a figure that has remained unchanged from 1996.

However, poor households have sunk deeper into poverty as evident from growth in the poverty gap from R 56 billion in 1996 to R 81 billion in 2001 (HSRC, 2004). Statistics South Africa (Stats SA, 2008b: 33) agrees that income inequality is clearly evident between the different population groups in South Africa from the data of the 2005 / 2006 *'Income and expenditure of households'* survey as shown in table 3.3.

Table 3.3 Income inequality in South Africa

Population group	% of population	% of households	% of household income*
Black African	79.4%	76.8%	41.2%
White	9.2%	12.8%	45.3%
Coloured	8.8%	7.8%	8.6%
Indian / Asian	2.5%	2.5%	4.8%

*Percentage of household income from work and social security grants

Source: Stats SA (2008b: 33)

Burger and Yu (2006: 7) agree that the post-transition period (*post* 1994) appears to be characterized by increasing inequality between groups with women, the non-white population and unskilled workers receiving little gains from the average wage increases in South Africa. However, the study also demonstrated that formal-sector employees and domestic workers earning less than R 1 million per year have seen a small increase in their real earnings over the 1995 to 2005 period. A study by the *Development Policy Research Unit (DPRU)* of the University of Cape Town (School of Economics) also concludes that current trends seem to be showing a decline in poverty in South Africa starting from around the year 2000 (DPRU, 2008: 8).

Statistics SA further concluded that the poorest 20% of households in South Africa allocate 37% of their consumption expenditure to food and non-alcoholic beverages, against the 10% spent by the richest 20% of households (Stats SA, 2008b: 2). In South Africa, 10% of the population continues to earn more than 50% of the total household income, against the less than 7% earned by the poorest 20% accounting for less than 1.5% of income (based on income from work and social grants) (Stats SA, 2008b: 2).

From this perspective it becomes obvious that the development of an entrepreneurial society is of crucial importance for the eradication of poverty and unemployment in South Africa. In this sense, it can also be argued successfully that the development of family businesses can play an important role in this process.

3.2.3 The Global Entrepreneurship Monitor (GEM)

The Global Entrepreneurship Monitor (GEM) was established in 1997 and has since become a leading consortium on the understanding of the relationship between entrepreneurship and national development (http://www.gemconsortium.org). This section of the study focuses on the GEM 2008 Executive Report (Bosma *et al.*, 2009) and the GEM 2007 South African Report (Maas & Herrington, 2007), as well as literature emanating from or commenting on these studies.

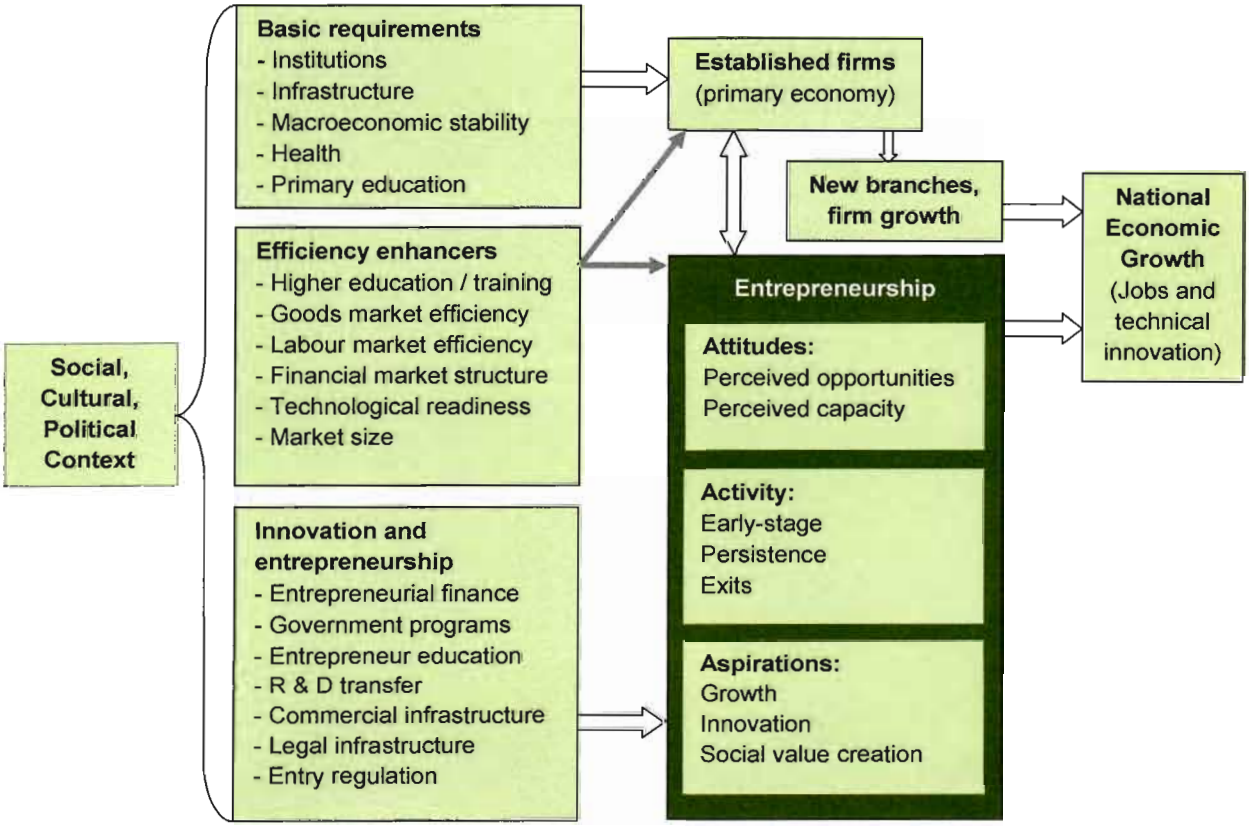
3.2.3.1 GEM 2008 Executive Report

In 2008 a total of 43 countries participated in the GEM project. These countries were classified as factor-driven, efficiency-driven and innovation-driven economies with South Africa falling into the efficiency-driven category (Bosma *et al.*, 2009: 4).

Bosma *et al.* (2009: 10) explain that all three principal types of economic activity are present in all national economies, but their relative prevalence (and contribution to economic development) varies. It follows that the relative importance of the different entrepreneurial framework conditions (EFCs) to a given country may vary by phase of economic development. The 2004 GEM Global Report noted that *"one size does not fit all"* (Bosma *et al.*, 2009: 10); hence the GEM-model was revised to put the emphasis on those conditions best suited to the level of economic development in each particular country.

The revised GEM-model shows the relationship between the social, cultural and political context in a country on the one side of the spectrum and national economic growth on the other. The revised model, presented in figure 3.1, shows that both established firms and entrepreneurship play a role in national economic growth.

Figure 3.1 The revised GEM Model



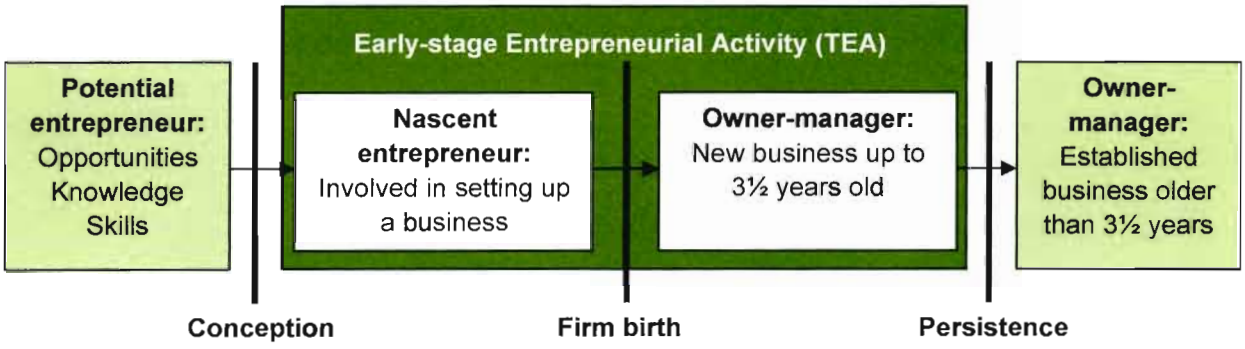
Source: Bosma *et al.* (2009: 10)

Figure 3.1 shows that infrastructure development and basic health and education are pre-requisites for factor-driven economies. These basic requirements will support

necessity-based entrepreneurship, but will not be sustainable for opportunity-based entrepreneurs. As economies progress, such as in the case of South Africa, other conditions known as efficiency enhancers become important. These conditions, as shown in figure 3.1, include education and training, technology and the efficiency of the goods, labour and financial markets. Innovation-driven economies in turn, require entrepreneurial framework conditions (EFCs) that include a holistic approach to entrepreneurship from a governmental, educational, commercial and legal perspective (Bosma *et al.*, 2009: 10).

Bosma *et al.* (2009: 11) reaffirm that entrepreneurship is a process. It is therefore important that GEM captures attitudes, activities and aspirations in different phases of entrepreneurship ranging from the nascent phase where businesses are still in gestation through to the established phase and even the discontinuation of business. Figure 3.2 presents the entrepreneurial process and operational definitions from the GEM research perspective.

Figure 3.2 The entrepreneurial process and GEM operational definitions

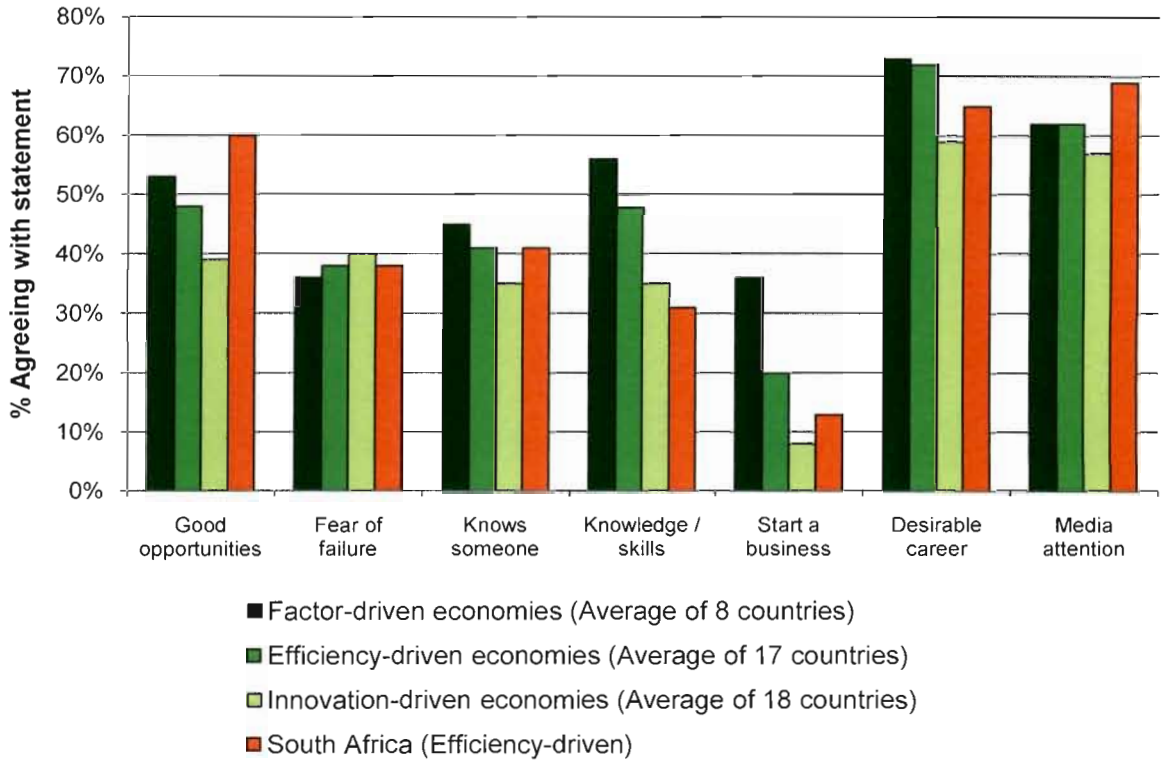


Source: Bosma *et al.* (2009: 11)

For the purpose of this study figure 3.2 shows that entrepreneurship education in secondary schools should focus on the development of potential and nascent entrepreneurs. It must, however, be stressed that support structures are necessary to assist these entrepreneurs after schooling and in the early stages of entrepreneurial activity until their [new] businesses have passed the 3.5 year threshold.

In terms of entrepreneurial attitudes and perceptions, the GEM 2008 Executive Report (Bosma *et al.*, 2009: 16) presents data for comparison of the 43 countries that participated in the study. These comparative figures are presented in figure 3.3.

Figure 3.3 Entrepreneurial attitudes / perceptions in 43 GEM countries (2008)



Source: Data adapted from Bosma *et al.* (2009: 16)

Figure 3.3 shows that all three types of economies (based on averages) and the South African sample have comparable attitudes and perceptions towards [1] **fear of failure** preventing them from starting a business, [2] personally **knowing someone** who started a business in the past two years, [3] considering entrepreneurship as a **desirable career** choice, and [4] **media attention** for entrepreneurship in the respective countries.

It is noteworthy that a higher percentage of South Africans agree that they see **good opportunities** for starting a business in the next six months. Against this it is evident that a lower percentage of South Africans feel they have the required **knowledge and skills** to start a business. Second to the average of 18 innovation-driven economies, South Africans least expect to **start a business** in the next three years.

Notwithstanding the positive attitude and perceptions towards the existence of good opportunities, it is concluded from a global perspective that South Africa needs

urgent measures to increase the entrepreneurial knowledge and skills of its citizens as well as their attitudes (expectations) towards the starting of new businesses.

3.2.3.2 GEM 2007 South African Report

The GEM 2008 Executive Report provided an insight on entrepreneurial attitudes and perceptions from a global perspective. The GEM 2007 South African Report (Maas & Herrington, 2007) narrows the research to youth entrepreneurship in South Africa and is therefore of critical importance for this study.

In terms of national comparisons for South Africa, the GEM 2007 South African Report shows that Early-stage Entrepreneurial Activity (TEA) rates (*see* figure 3.2) have not changed significantly over the years. Table 3.4 presents the South African TEA rates for the period 2001 to 2006.

Table 3.4 South African TEA rates

Year	2001	2002	2003	2004	2005	2006
TEA	4.3	6.2	4.1	5.1	5.0	5.0

Source: Maas and Herrington (2007: 13)

Maas and Herrington (2007: 13) confirm that TEA rates for most countries do not change significantly over time. 'Massive' changes in the macro-environment must occur for TEA rates to differ significantly from one year to another, which in any event, is not the case in South Africa.

It is also important to distinguish between TEA rates for opportunity and necessity entrepreneurial activity. This study has shown that opportunity entrepreneurs have greater access to income than necessity entrepreneurs, in turn indicating that more opportunity entrepreneurs are needed for socio-economic growth. Table 3.5 presents the opportunity and necessity TEA rates for the period 2001 to 2006.

Table 3.5 Opportunity and necessity TEA rates for South Africa

Year	2001	2002	2003	2004	2005	2006
Opportunity	2.8	3.1	2.7	2.6	2.9	3.4
Necessity	0.8	2.1	1.3	2.4	1.9	1.4

Source: Maas and Herrington (2007: 13)

Table 3.5 indicates that opportunity entrepreneurship consistently contributes more to the TEA rate than the necessity component. This is a positive trend for South Africa, moreover when considering that opportunity entrepreneurship has increased from 2004 to 2006 against a decline in necessity entrepreneurship for the corresponding period. Maas and Herrington (2007: 13) conclude that the general trend of new business formation in South Africa is very positive using the sub-stages of early entrepreneurial attempts as an indicator. Table 3.6 presents the stages of entrepreneurial activity within the TEA index.

Table 3.6 Stages of activity within the TEA index

Year	2001	2002	2003	2004	2005	2006
Start-up phase	75.6%	72.0%	64.5%	71.4%	70.6%	66.7%
New firms	24.4%	28.0%	35.5%	28.6%	29.4%	33.3%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Maas and Herrington (2007: 13)

From table 3.6 the increase in the percentage of new firms (up to 3.5 years old) suggests that more businesses are successfully maturing after the initial start-up phase.

Maas and Herrington (2007: 15) emphasize the importance of youth development as evident from the demographical composition of the population. South African youth constitute the majority of the population, but are being marginalized as a result of low self-esteem and confidence, parents that are not involved or qualified, dysfunctional community structures and the negative side of globalisation. In addition, education has a significant impact on entrepreneurial success, especially for innovation as a key success factor in the technologically advanced global environment.

Consequently, Maas and Herrington (2007: 16) highlight a number of challenges facing the South African youth. These challenges include:

- Youth enterprise and development are hampered by two-thirds of the population between 18 and 35 years of age being unemployed. Entrepreneurial growth is not sufficiently supported by education and training.
- The social well-being of youth is threatened by the interrelationship between poverty and unemployment, with the latter being primarily related to the youth. In addition, HIV infection, child-headed households and substance abuse cause further deterioration in the well-being of the South African youth.
- In terms of economic participation, the work experience of youth is characterized by low self-employment and insecure employment. The current growth rate of less than 4% is not sufficient to reduce unemployment and those with greater skills and access to resources receive a higher distribution of growth. With youth unemployment contributing 70% towards total unemployment in SA a much greater focus is needed on the development of youth.
- It is evident that the youth need more mathematical and professional skills to compete in international markets. The urgent need for improved mathematical skills is evident from the decline in higher grade maths during the period 1990 to 2005 (Indian schools 74% to 30%; White schools 60% to 36%; Black schools 65% to 8%; Coloured schools 38% to 3%).
- South Africa has a history of school boycotts and denied access to education; hence the country is ill-equipped for the demands of a knowledge-based global market.

These findings (Maas & Herrington, 2007) appear to correspond with that of Buys and Havenga (2006) in a study on the entrepreneurial functionality of learners enrolled in the New Venture Creation Learnership (NQF Level 4). After completing the Functional Intelligence Assessment Tool (FIAT), 58% of the respondents were declared incompetent in simple problem solving and 26% in terms of numeracy (mathematical literacy) (Buys & Havenga, 2006: 41).

The data on youth from previous GEM projects provides some insight into the state of youth entrepreneurship in South Africa. The TEA rates per age group for the period 2004 to 2006 are shown in table 3.7.

Table 3.7 TEA rates per age group

Age Group	Category	2004	2005	2006
18-24	TEA	3.9%	3.0%	4.1%
	Opportunity	2.2%	1.9%	3.0%
	Necessity	1.3%	1.0%	0.9%
25-34	TEA	7.0%	5.8%	6.0%
	Opportunity	3.1%	3.3%	4.6%
	Necessity	3.9%	2.3%	1.0%
35-44	TEA	6.1%	7.3%	5.8%
	Opportunity	2.8%	4.0%	3.2%
	Necessity	3.3%	3.1%	2.2%
45-54	TEA	3.3%	4.2%	4.1%
	Opportunity	1.6%	2.2%	2.7%
	Necessity	1.4%	2.0%	1.4%
55-64	TEA	3.7%	5.2%	5.3%
	Opportunity	2.9%	4.0%	2.8%
	Necessity	0.4%	1.2%	2.5%

Source: Maas and Herrington (2007: 19)

Table 3.7 shows that TEA rates are highest in the 25 to 34 and 35 to 44 age groups. Early-stage entrepreneurial activity is much lower in the age group 18 to 24. This finding raises concern for the age group in the life-stage immediately following secondary schooling. However, it should be considered that 18 to 24 year old individuals may still be involved in education or cared for by parents. It is also possible that they do not have sufficient experience to start a new business.

Notwithstanding these possible causes, the statistics in table 3.7 still justify the need for early-stage entrepreneurial development in the 18 to 24 age group. Maas and Herrington (2007: 20) maintain that a sound educational basis at this age is more important than entrepreneurial activity as it could benefit the country more in the longer term. The following consistent themes are highlighted in the GEM 2007 South African Report (Maas & Herrington, 2007: 39):

- The youth has a positive attitude towards South Africa and opportunity-based entrepreneurial activity.

- There is a lack of small business management knowledge and experience evident from the analysis of factors preventing people from starting their own businesses.
- The mindset that government must provide jobs for all and that only those who cannot find employment will start their own businesses indicates a non-small business attitude.
- Respondents indicated that level of education and grades at school are important factors in securing employment (a consistent theme in all GEM reports and accordingly one of the most important factors to promote youth entrepreneurship).

Maas and Herrington (2007: 4) therefore conclude that youth in South Africa are positive about entrepreneurship supported by their *"positive attitude towards various issues such as opportunity-oriented activities, their flair in trying out new ideas and willingness to work with others towards achieving their objectives"*. It is suggested that an open mindset is needed to allow *"fresh, creative and contextualised solutions"* to be implemented in the promotion of entrepreneurship.

Following the results of the GEM 2007 South African Report (Maas & Herrington, 2007), Mpafa (2008: 11) agrees that youth increasingly venture into business not out of necessity, but because of perceived opportunities they want to pursue. Mpafa suggests that *"retired executives, academics and professional service providers"* need to be encouraged and incentivised to become involved with young entrepreneurs and provide the much needed mentorship for them to succeed (Mpafa, 2008: 11). Anthony (2008: 16) supports the notion that far more resources should be committed to the post start-up phase by providing quality mentoring and coaching to young entrepreneurs.

In a later article, Herrington (2008: 24) reaffirms the positive mindset of young South Africans in regards the potential for new job creation. This mindset is earmarked as crucial for sustainable entrepreneurship and value-adding to the socio-economic growth of South Africa. Herrington therefore suggests that government policy could focus on education and training, exposure of young entrepreneurs to the market environment, the identification of viable business ideas and the provision of support services. The need for a national support system with the capacity to address the specific needs of youth entrepreneurs and to focus on the unique constraints associated with youth businesses is pointed out (Herrington, 2008: 24). Anthony

(2008: 16) agrees by speculating that the Government's focus on providing capital exclusively to start-ups may be the cause for approximately 75% of new businesses failing within the first three years.

More recently, Herrington (2009a: 53) estimated that two-thirds of the South African population between 18 and 35 years of age are unemployed. Since these individuals represent the majority of the population, their importance in the current and future economic and social environment should not be underestimated. Herrington refers to the findings of the GEM 2007 Report (Maas & Herrington, 2007) and emphasizes the important role played by the youth in socio-economic development, either as contributors or as beneficiaries of economic growth.

In addition to unemployment in South Africa, access to finance remains difficult without collateral. Many entrepreneurs do not know how to approach banks for financing. Moreover, banks are not geared to cope with small loans, whereas micro-financing providers are accessible but attract high interest rates (Herrington, 2009b: 2). These challenges are further exacerbated by the levels of bureaucracy limiting access to finance, a shortage of skills in the country and a general lack of innovation.

It is concluded that a real opportunity exists for youth entrepreneurship development, and that young South Africans appear to have a positive attitude towards setting up new businesses. It is also evident that the South African Government has a crucial role to play in the development of entrepreneurs, but that current policies and access to resources are not conducive to entrepreneurial development.

3.3 ENTREPRENEURSHIP EDUCATION

The GEM 2007 South African Report (Maas & Herrington, 2007) has shown that South African youth are positive about opportunities, but that entrepreneurial activity is impaired by a number of different factors including unemployment and social instability. The study now focuses on education to expose shortfalls in the current system in view of identifying sound methods for the improvement of youth entrepreneurship education.

The first question that needs to be addressed is whether entrepreneurship can be learnt as well as taught. Several studies (Athayde, 2009a; Dickson, Solomon &

Weaver, 2008; Frank, Korunka, Lueger & Mugler, 2005; Henry, Hill & Leitch, 2005a; Henry, Hill & Leitch, 2005b) suggest that entrepreneurship, or at least some aspects of entrepreneurship, can be taught successfully in general education.

Dickson *et al.* (2008) concluded that there is a significant and positive relationship between education and entrepreneurial performance, whereas Peterman and Kennedy (2003: 129) support the inclusion of exposure to entrepreneurship education as a variable in entrepreneurship intention models.

While maintaining that it is easier to influence entrepreneurial orientation than start-up inclinations, Frank *et al.* (2005: 259) concede that the education process as well as students' immediate and general environment can be used to influence entrepreneurial orientation and the inclination to start a new business. Henry *et al.* (2005b: 165) agree that some aspects of entrepreneurship can successfully be taught by differentiating between the art of entrepreneurship (which cannot be taught) and the science of entrepreneurship (which is teachable).

Bjerke (2007: 225) neither confirms nor denies that entrepreneurship can be taught, but maintains that it is necessary to clarify the circumstances in which such education takes place and what is meant by '*success*'. In general terms, entrepreneurship learning should enable the student to climb at least one, but preferably several stages of the pyramid presented in figure 3.4.

Figure 3.4 Pyramid of entrepreneurial learning

Source: Adapted from Bjerke (2007: 226)

Figure 3.4 suggests that teaching programs should be designed to transfer particular skills to students either to the point where they know what entrepreneurship is, or all the way to where the student is shown how to act entrepreneurially. Acs and Audretsch (2005: 110) agree by speculating that major strides can be made in influencing the '*how*' of entrepreneurship if the '*why*' of entrepreneurial thinking can be understood.

Also from a teaching perspective, Fiet (2001) maintains that entrepreneurship teachers must teach students what they *"ought to do"*, which in turn is coded language for theory. Fiet (2001) therefore holds that teachers should not merely emphasize descriptions of what successful entrepreneurs do, but that there is appeal for theoretical content in entrepreneurship education.

3.3.1 Entrepreneurship education: a global perspective

Research on entrepreneurship education exposes a wide array of requirements and shortfalls associated with successful entrepreneurial learning including a lack of entrepreneurial skills (Bawuah, Buame & Hinson, 2006); the need for interpersonal skills and social interaction (Wing Yan Man & Wai Mui Yu, 2007); the importance of creativity and prior entrepreneurial experience (Hamidi, Wennberg & Berglund, 2008); and the need for increased resources, the development of program material and training of teachers (Birdthistle, Hynes & Fleming, 2007).

In a study on entrepreneurship education in Sub-Saharan African (SSA) tertiary institutions, Bawuah *et al.* (2006: 1) deduced that the bottleneck in entrepreneurial activity in developing nations is caused by the lack of entrepreneurial skills. It is argued that formal education in SSA is *"unabashedly"* oriented towards preparing students for employment in the public sector and existing businesses and therefore not towards entrepreneurial activity and the establishment of new businesses.

Elenurm, Ennulo and Laar (2007: 51) agree from an Estonian view that business education in a dynamic market economy should not be limited to preparing students to work in the hierarchies of large organisations, but that it should develop entrepreneurial human resources for the creation of new businesses. On a suitable syllabus for entrepreneurship education, Bawuah *et al.* (2006: 7) suggest that it may be organised into two parts: concepts and practice. The former should focus on

theory, whereas the latter should facilitate the application of theory into practice. In so doing, students will not only receive knowledge of entrepreneurship, but also the means to apply such knowledge in entrepreneurial activity.

In a similar study by Lüthje and Franke (2003) on entrepreneurial intent among engineering students at the MIT School of Engineering, it was concluded that perceived contextual barriers and support factors play a significant role in the entrepreneurial behaviour of technical students. It also indicated that conviction to start a new business is to some extent dependent on personality structure. However, the attitude of students towards entrepreneurship provided the strongest explanation for entrepreneurial intentions among them.

In China, Wing Yan Man and Wai Mui Yu (2007: 620) concluded that effective enterprise education must maximize social interaction and develop learners' interpersonal skills. In similar research in India, Raichaudhuri (2005: 80) developed an extensive list of requirements for an entrepreneurship '*program of value*' including a balance between theory and practice; content integrating a variety of functional skills and knowledge; skills such as negotiation, leadership, creative thinking and tolerance for ambiguity; the provision of know-how through networking between academic institutions and the entrepreneurship community; and finally, an increased focus on the corporate angle to develop intrapreneurship (entrepreneurship in large organisations).

In a study on entrepreneurship education in secondary schools in Austria, Frank, Korunka, Lueger and Mugler (2005: 269) concluded that the education process plays an important role in the development of entrepreneurial orientation, and that schools can promote such orientation by reinforcing learners' knowledge of business and economics. The study suggested a number of possible measures for the promotion of entrepreneurial orientation among pupils at the personal level (exposure to junior entrepreneur projects); environmental level (exposure to entrepreneurs in the micro-social environment and to modern information technology); the process level (schools' orientation to entrepreneurship in the education process); and resources as a result of the interaction between personal traits, support from the individual's own environment and methods of tuition (Frank *et al.*, 2005: 269-270).

Birdthistle *et al.* (2007: 265) in turn, studied enterprise education programs in Ireland and concluded that the provision of increased resources, the development of program material and training of teachers are fundamental to the effectiveness of enterprise training programs. The need for formal recognition and accreditation of training programs is highlighted to encourage greater participation in entrepreneurial learning by both teachers and pupils.

A comparative study on the effect of different school systems on entrepreneurship education in Germany and Sweden (Fuchs, Werner and Wallau, 2008: 365), revealed that German schools do not succeed very well in promoting self-employment as an attractive alternative to dependent employment, whereas Swedish pupils show a higher preference for self-employment. These findings seem to be supported by the study of Hamidi *et al.* (2008: 304) in Sweden where high scores on a creativity test and prior entrepreneurial experiences were positively correlated with entrepreneurial intentions. The study also found that students involved in academic entrepreneurship programs have higher intentions to start their own businesses (Hamidi *et al.*, 2008: 316).

The research of Athayde (2009a), Lewis (2005) and Peterman and Kennedy (2003) holds significant importance for this study. The study by Peterman and Kennedy (2003: 129) measured the perceptions of a sample of secondary school learners enrolled in the '*Young Achievement Australia*' (YAA) enterprise program using a pre- and post-test control-group design. The results showed an increase in YAA participants' perceived desirability and feasibility towards entrepreneurship, in turn providing support for enterprise education programs in secondary schools (Peterman & Kennedy, 2003: 141).

Lewis (2005) later evaluated the '*Young Enterprise Scheme*' (YES) in New Zealand and found that participation in YES does, at least to some extent, influence the choices made by students about future studies and work opportunities. Lewis (2005: 474) suggests that entrepreneurship programs for 16 and 17 year old students must specifically address the attitudinal barriers to the establishment of new enterprises and perceptions of self-employment as a career option. Lewis (2005: 474) maintains that while technological skills can be attained during tertiary education, the attitudinal

and motivational aspects of entrepreneurship need to be developed at the primary and secondary school levels.

Lewis (2005: 481) concluded that the impact of YES appears to be more influential on students exposed to enterprising role models among their family and friends. Also, students believed that their employability had increased through enhanced business and personal capabilities as a result of their participation in YES.

The study by Athayde (2009a) produced similar results. A control-group cross-sectional design was used to examine the impact of participation in a '*Young Enterprise Company Program*' based on the American '*Junior Achievement*' model in six secondary schools in London, United Kingdom. The study concluded that the enterprise program had increased the enterprise potential of respondents, providing further support for the notion that enterprise education in secondary schools can promote the inclination towards self-employment in young people (Athayde, 2009a: 495).

3.3.2 Entrepreneurship education: a South African perspective

From a South African perspective, Horn (2006: 113) raises the concern that only between 5% and 7% of successful grade 12 candidates in South Africa find employment in the formal sector. Several reasons for the low employability of learners are provided including structural changes in the economy with increased focus on the more knowledge-based service sector, the lack of entrepreneurial skills and intentions to create new businesses as well as teachers with low morale resulting in learners not being prepared for the job market.

Horn (2006: 119) accentuates that educational reform is necessary in an effort to *"bring school and work closer together"*. The '*school-to-work*' strategy employed in the USA is used as an example: employers provide work-based learning opportunities to schools in their surrounding area, while teachers integrate these experiences and career information in the classroom curriculum.

According to Nieuwenhuizen and Groenewald (2008: 140), the ideal entrepreneurial-directed approach is one where the instructor becomes a learning facilitator. In this approach learning exercises such as role playing, management simulations, structured exercises and focused feedback is used extensively in which the learner

must take an active role. In so doing, the traditional '*listen and take notes*' role of learners is minimized as they are prompted to revisit their experiences in small discussion groups.

It is also suggested that training on perseverance and positive attitude is important as entrepreneurs have different learning preferences from other learners. Entrepreneurs are 'doers' and prefer to learn in an environment where they can *"experiment, reflect and be active in the learning process"*. It follows that educators have to adjust their method of teaching if they want to produce successful entrepreneurs (Nieuwenhuizen & Groenewald, 2008: 142).

Davies (2001: 33) believes that tertiary institutions in South Africa can promote an entrepreneurial society by instilling in their students a sense of understanding of risk and reward, as well as for business creation and its destruction. Universities can contribute to an entrepreneurial society by *inter alia* transferring the knowledge, skills and attitudes present in their graduates and by educating and training practitioners.

Davies (2001: 34) adds that universities can further contribute to entrepreneurial development by influencing governmental policy and actions relating to the small, medium and micro enterprises (SMME) sector. It is acknowledged that academic interest in the SMME sector has increased significantly, but exhorted that the implementation of entrepreneurship through tertiary institutions continues to be hampered by, amongst others, the curriculation process, funding, fixed mind sets and a severe shortage of entrepreneurship and SMME experts.

Co and Mitchell (2006: 348) agree that institutions are increasingly committed to academic and research offerings, but maintain that teaching and assessment methods continue to follow *"traditional classroom delivery"*. It follows that entrepreneurship education in South Africa is in its developmental stage, notwithstanding the perception that it is important to elevate the profile of training institutions.

North (2002: 24) examined some of the initiatives taken by both the educational and private sector to promote entrepreneurship education in South Africa over a period of ten years. The study concluded that the entrepreneurial energy of all people (including children) should be harnessed to reach the country's full potential for

economic growth and realise a better life for all South Africans. North (2002: 27) warns that the implementation of a new curriculum *inter alia* focused on entrepreneurship will be a problem for some years to come, and that care should be exercised to prevent entrepreneurship education from becoming yet another activity where predominantly theoretical knowledge is acquired.

The integration of entrepreneurial leadership programs, according to Kroon, de Klerk and Dippenaar (2003: 319), can play a critical role in developing the skills required to start and run successful businesses. Kroon *et al.* (2003) conducted research to determine the role and perceptions of business people regarding entrepreneurial learnership programs in secondary schools. The study showed that business people recognise the role they have to play, but feel no obligation towards involvement with schools in terms of entrepreneurial development. It does, however, appear that business people are willing to be involved, but the absence of an organised system of youth entrepreneurial learnerships may be the underlying cause for the low involvement of organised business.

In a study on grade 12 learners and their perceptions of entrepreneurship as a career option in South Africa, Burger *et al.* (2004: 201) identify the important role schools can play in the lives of their learners by instilling *"relevant academic, business and positive life-long skills".* This finding highlights an important relationship between schools and the self-image of learners, which by virtue of the entrepreneurial discipline, is an important requirement for successful entrepreneurial activity.

Burger *et al.* (2004: 203) concluded that South Africa does not suffer from a lack of creative spirit, but rather a lack of business education and entrepreneurial skills that can empower individuals in an enabling environment. It is emphasized that perceptions regarding failure need to be addressed to enable potential entrepreneurs to accept mistakes and persevere in their objectives.

In a later study on the impact of previous knowledge and experience on the entrepreneurial attitudes of grade 12 learners, Burger *et al.* (2005: 89) came to the conclusion that South Africa has a poorly developed entrepreneurial culture. The country has a shortage of entrepreneurs and suffers from negative attitudes towards entrepreneurship as a career choice.

These negative attitudes are to some extent in contrast with the findings of Maas and Herrington (2007) in the 2007 GEM South African Report, but it should be noted that the study by Burger *et al.* (2005) was conducted on grade 12 learners in a small geographic area in South Africa. Burger *et al.* (2005: 93) maintain that attention should be paid to *"formal learning, informal learning and practical experience"* if previously disadvantaged groups are to be supported in bridging the existing gaps.

Isaacs, Visser, Friedrich and Brijlal (2007: 613) agree that entrepreneurship education and training must fulfil a primary role in preparing South African youth for their future. The authors draw from evidence in industrialized countries indicating that enterprise education at school plays an important role in contributing to economic growth. However, Isaacs *et al.* (2007) agree with Horn (2006) that various problems in schools impede effective entrepreneurship education including poorly trained teachers and lack of adequate resources.

The low morale and high stress levels of teachers present a significant challenge to entrepreneurship (and basic) education in South Africa. According to Horn (2006: 121), this phenomenon is detrimental to both learners and the teaching profession. It is doubtful whether learners will receive the necessary motivation and assistance from such teachers to gain basic knowledge, let alone the required knowledge and skills for successful entrepreneurial activity.

Isaacs *et al.* (2007: 625) suggest that entrepreneurship education in South African schools can be improved through a national service provider supported by provincial or local service providers. The national provider will be responsible for the design of quality programs and quality control, whereas the provincial providers will be responsible for the actual training of learners. It is acknowledged that education alone cannot fully prepare entrepreneurs to become successful business owners, but maintained that education increases their chances of success. Isaacs *et al.* (2007: 625) therefore propose that entrepreneurship education must include:

- education for enterprise (developing business related skills);
- education about enterprise (nurturing knowledge and understanding); and
- education through enterprise (learning to be enterprising).

The literature review produced an extensive list of recommendations for the improvement of entrepreneurship education in South Africa. Table 3.8 presents a summary of some important recommendations.

Table 3.8 Recommendations for entrepreneurship education in South Africa

Scholar	Recommendations
Nieuwenhuizen and Groenewald (2008)	Teach learners self-concept (exposure to role models and mentors), creativity and innovation (how to compose ideas and approaches), risk orientation (how to evaluate risk) and good human relations (how to persuade people).
Isaacs *et al.* (2007)	Include enterprise education in schools and tertiary institutions. Teachers and academics must create and nurture interest in enterprise education. Organised business must be involved as role models and for financial support. Networking between all stakeholders is vital. International affiliation with 'like-minded' organisations should be sought to establish contact on a global basis and promote the transfer of knowledge and feasible methodology.
Co and Mitchell (2006)	Curriculum development should be an ongoing process with cooperation between government, higher education and secondary schools. Present teaching methods must be re-assessed to ensure they are effective. Partnerships with local communities and small business owners are crucial for support and mentorships. Academics must continuously update themselves on the latest developments and trends in entrepreneurship education.
Horn (2006)	Teachers must continuously acquire relevant knowledge of new developments in their disciplines and learners should be prepared for the realities of the South African environment (part-time employment, flexibility and life-long learning). Teachers must have the ability to assist learners in developing entrepreneurial and critical thinking. Subjects need to be made more attractive and imitable through a positive attitude and enthusiasm on the part of teachers.

Isaacs *et al.* (2007: 626) conclude that their research could find no evidence to support the proposition that *"[E]ntrepreneurship education and training is an accepted element of the high school curriculum"*. Hence, a radical rethinking is

suggested as the best place to nurture an entrepreneurial environment is at school level, which to date has only received sporadic recognition in South Africa.

3.4 CHAPTER SUMMARY

Chapter 3 examined the current state of entrepreneurship in South Africa as well as extant literature on entrepreneurship education. The study exposed a high concentration of discouraged work seekers in the younger age groups of 20 to 24 and 25 to 29. In addition, less than one percent of people of working age were involved in government job creation programs suggesting that the Government has failed to create sufficient numbers of new jobs in South Africa. The study showed that poverty and unemployment in the country are unacceptably high despite the country's status as an upper-middle income country.

Researchers agree that South African youth are positively oriented towards entrepreneurship and that the window of opportunity is open for accelerated youth entrepreneurship development. Conversely, the study indicated that financing for young entrepreneurs is almost impossible to obtain without reverting to micro-financing institutions charging exorbitant interest rates. High levels of bureaucracy, the prevailing shortage of skills and lack of innovation further impede entrepreneurial activity in the country.

Data from the GEM 2008 Executive Report confirmed that South Africans see good opportunities for starting a business, but feel (in comparison with other countries) that they do not have sufficient knowledge and skills to start such businesses. It was concluded that South Africa needs urgent measures to increase the entrepreneurial knowledge and skills of its citizens as well as their expectations of starting new firms.

The GEM 2007 South African Report recommended that fresh and creative solutions within the prevailing South African context are required to promote entrepreneurship in the country. Early-stage entrepreneurial activity (TEA) rates have not changed significantly, but it was evident that opportunity entrepreneurship consistently contributes more to the TEA rate than the necessity component. This indicated a positive trend for South Africa, further supported by stages within the TEA index also suggesting that more businesses are maturing after the initial start-up phase.

A number of challenges facing youth entrepreneurial development were highlighted including unemployment, social deterioration, low self-employment and insecure employment statistics, an insufficient economic growth rate and the need for improved mathematical and professional skills. South Africa still carries the scars of not so distant school boycotts and denied access to education, thus the country is ill-equipped to compete in a knowledge-based global market.

Early-stage entrepreneurial activity was shown as being lower in the age group 18 to 24 raising concerns for the future of our youth as these individuals are in the age group entering the labour market. The study revealed a number of focal points for improved entrepreneurship education including appeals for both theoretical content and a more action-oriented approach. The current focus of education and training on management skills and functional business training rather than entrepreneurial skills was highlighted as an underlying cause for the shortage of entrepreneurs in South Africa.

Strong similarities between the perceived obstacles for entrepreneurial education in both secondary and tertiary institutions emanated from the literature study. It was evident that business people recognize the role they have to play in youth entrepreneurship education, but also that they feel no obligation towards entrepreneurial development in South African schools. The lack of an organised system of youth learnerships was singled out as a possible cause for the poor participation by organised business.

It is concluded that entrepreneurship education in secondary schools should not endeavour to develop 'ready-made' or instant entrepreneurs, but rather a new generation of open-minded individuals with a positive attitude towards enterprise in South Africa. In support of this vision, learners must be armed with basic business knowledge and people skills. Particular emphasis should be placed on mathematics as the underlying concept of entrepreneurial activity, i.e. the capacity to earn profits.

It is also put forward that the role of organised business in youth entrepreneurial development is largely under-estimated and obviously under-developed. In this sense it is suggested that an incentivised program be developed and implemented to draw business people into the world of the young entrepreneur instead of expecting potential entrepreneurs to break into the world of business.

Assuming that the South African government will not significantly increase its current role in the development of young entrepreneurs, it should at least be influenced to declare its national support for such programs and open its doors for discussion. It is concluded that government's public support and organised business' incentivised participation in youth entrepreneurship development will entice experienced entrepreneurs to become involved in the process. This process will entail the development of entrepreneurial solutions to what may be classified an entrepreneurial problem.

CHAPTER FOUR

GATHERING OF DATA, RESULTS AND DISCUSSION

4.1 INTRODUCTION

This section of the study describes the gathering of data from participating schools, the statistical analysis of the data and the presentation and discussion of the results.

In August 2008, invitations to participate in the study were sent to the Principals of 74 secondary schools identified by the Department of Education (DoE) in the demarcated area (Sedibeng District, Gauteng Province). The invitation included a short questionnaire for completion by each principal with provision for the school's details, the appointment of a responsible teacher, an option to participate in the study and the expected number of grade 10 learners for 2009 (*see* Appendix 1).

Seventeen schools (22.97%) returned the completed questionnaire, of which one indicated that it was a school for learners with behavioural problems. The remaining 16 responding schools indicated an expected 2 099 grade 10 learners for 2009 (*see* Appendix 2). A decision was made to include all the responding schools (target n = 2 099) to reach critical mass in the sample size.

4.2 INCORPORATION OF THE 'ENTERPRISE ATTITUDE QUESTIONNAIRE'

The incorporation of a suitable measuring instrument in the empirical study developed from criticism on trait-approaches to entrepreneurship research (section 2.5.4), attitude-approaches to entrepreneurship research (section 2.5.5) and in particular, the development and validation of the '*Attitude Toward Enterprise Test*' (ATE Test) by Athayde (2009a; 2009b; 2004) discussed in section 2.5.5.3.

The ATE Test was received by e-mail (*see* Appendix 4) with the coding procedure for the calculation of results (*see* Appendix 5). The ATE Test was incorporated into section A of the '*Enterprise Attitude Questionnaire*' without any changes to the first 30 statements, whereas the final question was adapted for the South African environment as the '*Young Enterprise Company Program*' (YE) used in the original study does not exist in South Africa.

The work of Bosma *et al.* (2009: 16) on the entrepreneurial attitudes and perceptions in 43 Global Entrepreneurship Monitor (GEM) countries (2008) was incorporated into section B of the questionnaire to measure the perceptions of respondents in this study for comparison with South Africa and other countries. Section C of the questionnaire focused on demographic information and was based on part two of the ATE Test with additions and changes to adapt the questionnaire for the South African environment.

The '*Enterprise Attitude Questionnaire*' was constructed in English and subsequently translated into Afrikaans based on the confirmation by participating schools that tuition is presented in these official languages (*see* Table 4.2). The Afrikaans version ('*Houding oor Ondernemerskap Vraelys*') was language edited by CTrans (North-West University School of Languages, Vaal campus) and certified as a true translation of the original English (*see* Appendix 7).

A total of 2 300 questionnaires were printed on yellow (English version) and green paper (Afrikaans version) to ensure that learners would receive a questionnaire in their language of choice. Each questionnaire consisted of four double-sided printed pages resulting in eight A4-pages that had to be completed by learners (*see* Appendix 6).

4.3 GATHERING OF DATA

As grade 10 learners are minors, only schools where the Principal had provided written permission for learners to participate in the study by returning the completed questionnaire (*see* Appendix 1), were included in the empirical study.

The gathering of data commenced with a telephonic conversation with each of the responsible teachers towards the end of July 2009. Considering the period of time that had lapsed since the invitation to participate in August 2008, the purpose of the study and responding schools' written agreement to participate were revisited during the discussion.

4.3.1 Method of data gathering

During further telephonic conversations in late July 2009, dates were set for the presentation of the questionnaires to responsible teachers or for the completion of

the questionnaires. The responsible teachers were given the opportunity to select the method of completion in an attempt to secure their full cooperation. Hence, the data was gathered during school hours under the supervision of the responsible teacher after a meeting to discuss the requirements and procedures for the completion of the questionnaires; or under the supervision of the researcher in this instance or the researcher's appointed assistant.

Learners were informed, prior to the questionnaires being handed out, that participation in the study was not compulsory. The responsible teachers provided supervision during completion of the questionnaires, but did not intervene in the presence of the researcher or the researcher's assistant.

4.3.2 Pilot study

A pilot study was conducted at Greenacres private high school on July 23, 2009 during which 13 grade 10 learners completed the English questionnaire. The pilot study was conducted to identify unclear items and to monitor the behaviour of respondents during the completion of the questionnaire.

Subsequent evaluation indicated that the full-scale study at other schools could proceed. The pilot study was not subjected to statistical evaluation, as Statistical Consultation Services of the North-West University (Potchefstroom campus) would conduct the analysis once all the data had been gathered.

4.3.3 Sample size

All the responding schools (with exclusion of the special school for learners with behavioural problems) participated in the study over a period of two weeks in July and August 2009 (16 schools from a population of 74 schools; 21.62%). A total of 1 756 questionnaires (n = 1 756) were completed, translating into 83.66% ($^{1,756}/_{2,099}$) of the targeted sample size. Four of the participating schools generated completed questionnaires in excess of the expected number of learners, whereas the remaining schools produced fewer responses (*see* Appendix 2) for reasons that were not disclosed.

Eight questionnaires were removed from the dataset due to inadequate information provided by respondents resulting in a final sample of 1 748 responses (n = 1 748).

4.3.4 Statistical analysis of data

Statistical Consultation Services of the North-West University, Potchefstroom campus, conducted the statistical analysis of the data. The statistical analysis was carried out using Statistica (Statsoft, 2008) and SPSS (SPSS, 2008) software. The composition and characteristics of the Sedibeng sample were analysed using descriptive statistics, whereas the construct validity and reliability of the measuring instrument were respectively examined by performing exploratory factor analysis and calculating Cronbach alpha coefficients.

The relationship between the extracted factors was examined by means of correlation analysis. Finally, *t*-tests and effect sizes (*d*-values) were carried out to examine the relationship between demographic variables and the extracted factors.

In view of addressing the objectives of this study, the following propositions were formulated:

P^1: The measuring instrument has acceptable construct validity.

P^2: The measuring instrument has acceptable reliability.

P^3: There is correlation (a relationship) between the constructs of leadership, achievement, creativity, personal control and intuition measured in the ATE Test.

P^4: There is a difference between the entrepreneurial attitudes of male and female grade 10 learners with regard to the constructs of leadership, achievement, creativity, personal control and intuition.

P^5: There is a difference between the entrepreneurial attitudes of grade 10 learners from Black African and White ethnic backgrounds with regard to the constructs of leadership, achievement, creativity, personal control and intuition.

P^6: There is a difference between the entrepreneurial attitudes of grade 10 learners who had been exposed to entrepreneurship at school and those that had not with regard to the constructs of leadership, achievement, creativity, personal control and intuition.

P^7: There is a difference in the entrepreneurial attitudes of grade 10 learners with self-employed parents or guardians as opposed to those learners whose parents or guardians are not self-employed with regard to the constructs of leadership, achievement, creativity, personal control and intuition.

P^8: There is a difference in the entrepreneurial attitudes of grade 10 learners in the Sedibeng sample and British learners (Athayde, 2009a) with regard to the constructs of leadership, achievement, creativity, personal control and intuition.

4.4 RESULTS AND DISCUSSION

The results of the empirical study are presented in the following sequence:

- Demographic profile of the Sedibeng sample (section C of the questionnaire)
- Results of the GEM comparison (section B of the questionnaire)
- Results of the ATE Test (section A of the questionnaire)

4.4.1 Demographic profile

The demographic profile of the sample includes age, gender, ethnic grouping and home language. It also presents the profile of respondents in terms of the language in which they receive tuition, expected level of education, exposure to entrepreneurial activity at school and in their personal environment, as well as the highest academic qualification and employment profile of parents or guardians.

Table 4.1 presents the sample profile in terms of age, gender, ethnic origin and home language. The majority of respondents (61.27%) were 16 years of age with more than ninety percent (90.39%) being 15 to 17 years old. Gender spread was fairly balanced with slightly fewer males (44.79%) than females (54.18%). The ethnic composition of the sample was representative of the population of Sedibeng (*see* section 1.5.2) with Black Africans being the majority followed by Whites.

Afrikaans (36.50%) and Southern-Sotho (32.04%) were the predominant home languages of respondents. The combination of 'black' languages in South Africa represented 55.49% of respondents' home language. It was of interest to note that only 4.63% of respondents selected English as the language spoken at home.

Table 4.1 Demographic profile of the Sedibeng sample (*n* = 1 748)

Characteristic		Category	Results		Total	
			Number	%	Number	%
C.2	Age	13	2	0.11		
		14	4	0.23		
		15	196	11.21		
		16	1071	61.27		
		17	313	17.91		
		18	107	6.12		
		19	25	1.43		
		20	16	0.92		
		Not answered	14	0.80	1 748	100.00
C.3	Gender	Female	947	54.18		
		Male	783	44.79		
		Not answered	18	1.03	1 748	100.00
C.6	Ethnic group	Asian	16	0.92		
		Black	974	55.72		
		Coloured	53	3.03		
		White	668	38.21		
		Other	22	1.26		
		Not answered	15	0.86	1 748	100.00
C.4	Home language	Afrikaans	638	36.50		
		English	81	4.63		
		Northern-Sotho	63	3.60		
		Southern-Sotho	560	32.04		
		Tswana	77	4.41		
		Xhosa	114	6.52		
		Zulu	156	8.92		
		Other	23	1.32		
		Not answered	36	2.06	1 748	100.00

The questionnaire made provision for learners to indicate their language of tuition (section C.5 in Appendix 6) to test the information provided by responsible teachers prior to the study that tuition is presented in English and Afrikaans (*see* section 4.2).

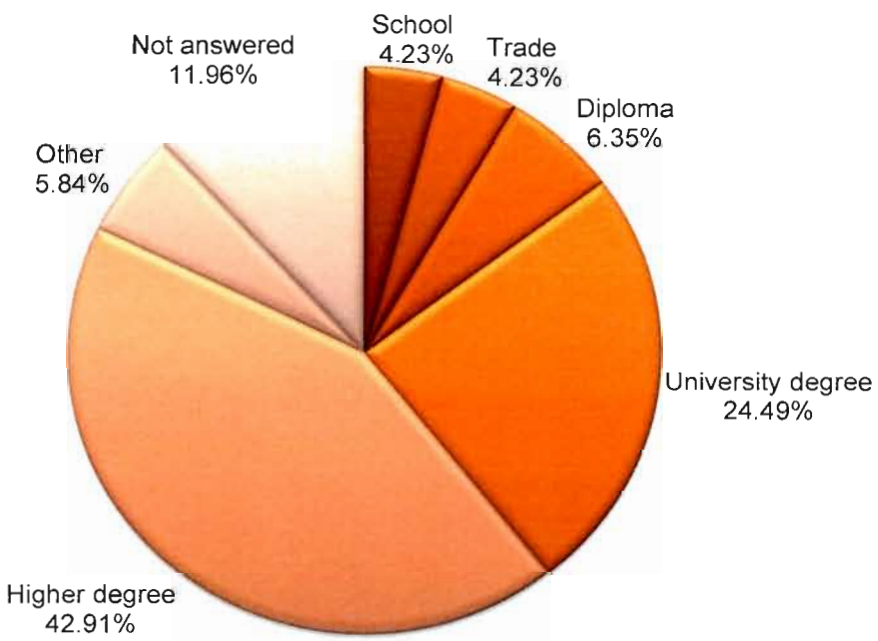
Table 4.2 confirms that 96.57% of respondents indicated that tuition is presented in these two languages.

Table 4.2 Language of tuition in responding schools (*n* = 1 748)

Characteristic		Category	Results		Total	
			Number	%	Number	%
C.5	Language of tuition	Afrikaans	664	37.99		
		English	1 024	58.58		
		Northern-Sotho	6	0.34		
		Southern-Sotho	26	1.49		
		Tswana	2	0.11		
		Xhosa	2	0.11		
		Zulu	7	0.40		
		Other	2	0.11		
		Not answered	15	0.86	1 748	100.00

Section C.9 of the questionnaire asked learners to indicate the highest academic qualification they expected to achieve one day as shown in figure 4.1.

Figure 4.1 Highest qualification expected by respondents (*n* = 1 748)



The pie chart in figure 4.1 shows that the majority of the respondents that participated in this study (1 178; 67.40%) expected to obtain a university degree (428; 24.49%) or a higher degree (750; 42.91%). It was notable that only 74 learners (4.23%) indicated that they were only planning to finish school, which in itself, suggests a positive attitude towards learning.

The results, however, do raise a concern for the trade profession in South Africa and the future availability of apprentices for industry in general. Only 74 learners (4.23%) indicated that they were expecting to qualify in some trade. In addition, 209 respondents (11.96%) did not provide any answer in this instance, which in turn, may suggest uncertainty towards their expectations for the future.

Section A.31 of the instrument asked learners to indicate whether they have ever participated in any activity at school with the word '*entrepreneur*' included in the name of the activity (*see* Appendix 6 for full explanation). From the total number of 1 748 respondents, 920 (52.63%) indicated that they had been involved in entrepreneurial activities at school against 779 (44.57%) whom had never been exposed to such activities (49 respondents or 2.80% did not provide an answer). The results are graphically presented in figure 4.2.

Figure 4.2 Exposure to entrepreneurial programs in schools (*n* = 1 748)

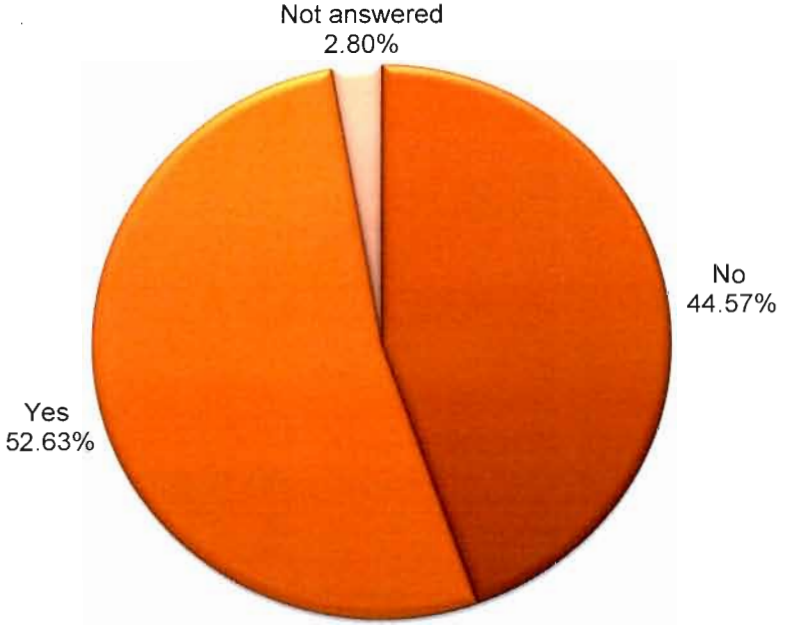
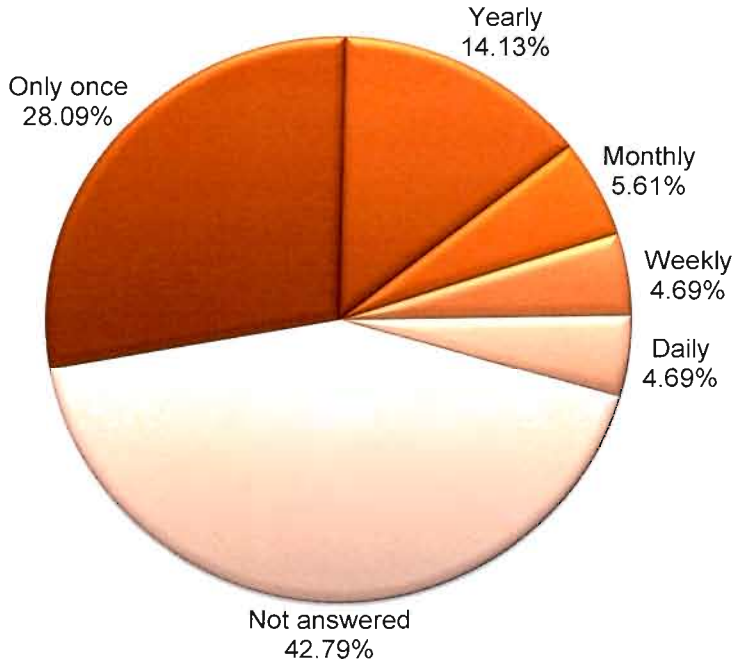


Figure 4.3 presents the results of a following question (A.33 in Appendix 6) where learners who had answered 'yes' in A.31 were asked how often they had participated in this type of [entrepreneurial] activity. Conversely, learners who had answered 'no' to A.31 were instructed not to answer the question.

Figure 4.3 Frequency of entrepreneurial participation in schools (*n* = 1 748)

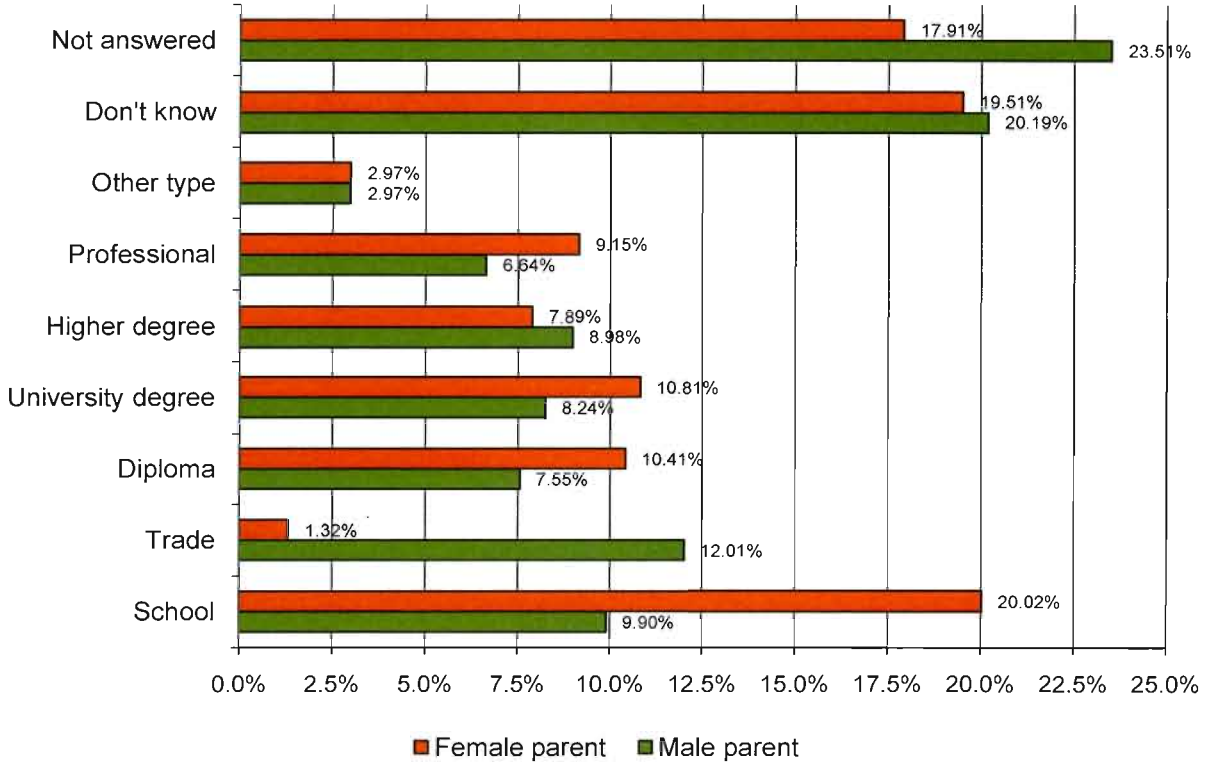


The majority of respondents (1 000; 57.21%) indicated that they have participated in entrepreneurial activity which is a positive sign for entrepreneurship development in schools. However, figure 4.3 also shows that the percentages of learners decline as frequency of participation increases, thus suggesting that entrepreneurial activities in schools remain sporadic.

There appears to be concurrence (although not statistically proven) between the number of respondents who indicated in A.31 that they have not participated in entrepreneurial activity at school (779; 44.57%) and respondents who did not answer A.33 (748; 42.79%) as instructed in the questionnaire.

It can be argued that the education level of parents will have an influence on the expected qualifications of their children. Hence, the measuring instrument (section C.13) also examined the highest academic qualification achieved by respondents' parents as shown in figure 4.4.

Figure 4.4 Highest academic qualification of parents (*n* = 1 748)



The bar chart in figure 4.4 reveals that the trade profession is dominated by respondents' fathers or male guardians (12.01%; mothers or female guardians 1.32%), whereas mothers or female guardians are more predominant in having diplomas, university degrees and professional qualifications (10.41%; 10.81% and 9.15% respectively against the 7.55%; 8.24% and 6.64% of fathers or male guardians). Male parents have slightly more higher degrees (8.98%) than female parents (7.89%) do.

Significant numbers of respondents did not provide their parents' qualifications (female parents 17.91%; male parents 23.51%). It is also evident that many learners do not know what their parents' qualifications are (19.51% for female parents; 20.19% for male parents). This finding may provide support for the notion that parents are not involved with their children (or *vice versa*) in so far their qualifications (i.e. achievements) are concerned.

The literature study suggested that learners with self-employed parents would have greater propensity towards entrepreneurial activity (*see* sections 2.5.5.1; 2.5.5.3 and

3.3.1). The results of section C.7 of the questionnaire, where respondents were asked what their parents or guardians do during weekdays, are shown in figure 4.5.

Figure 4.5 Employment profile of parents or guardians (*n* = 1 748)

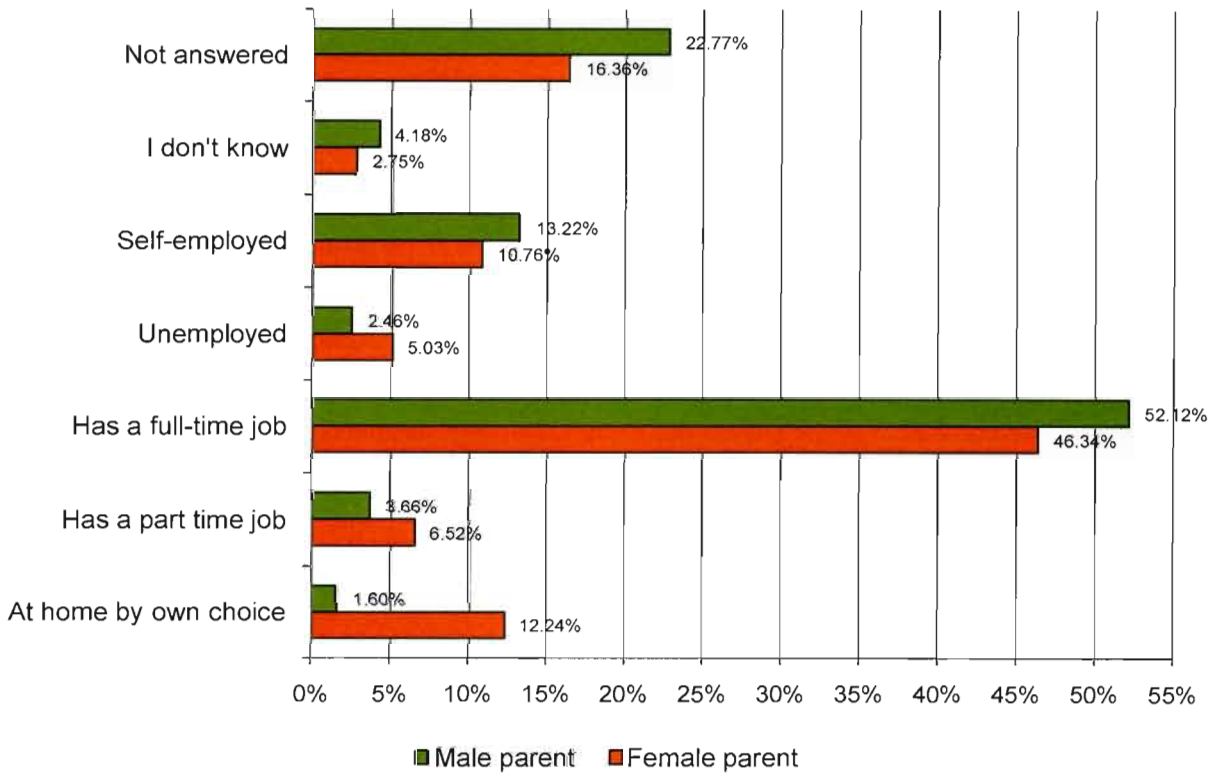
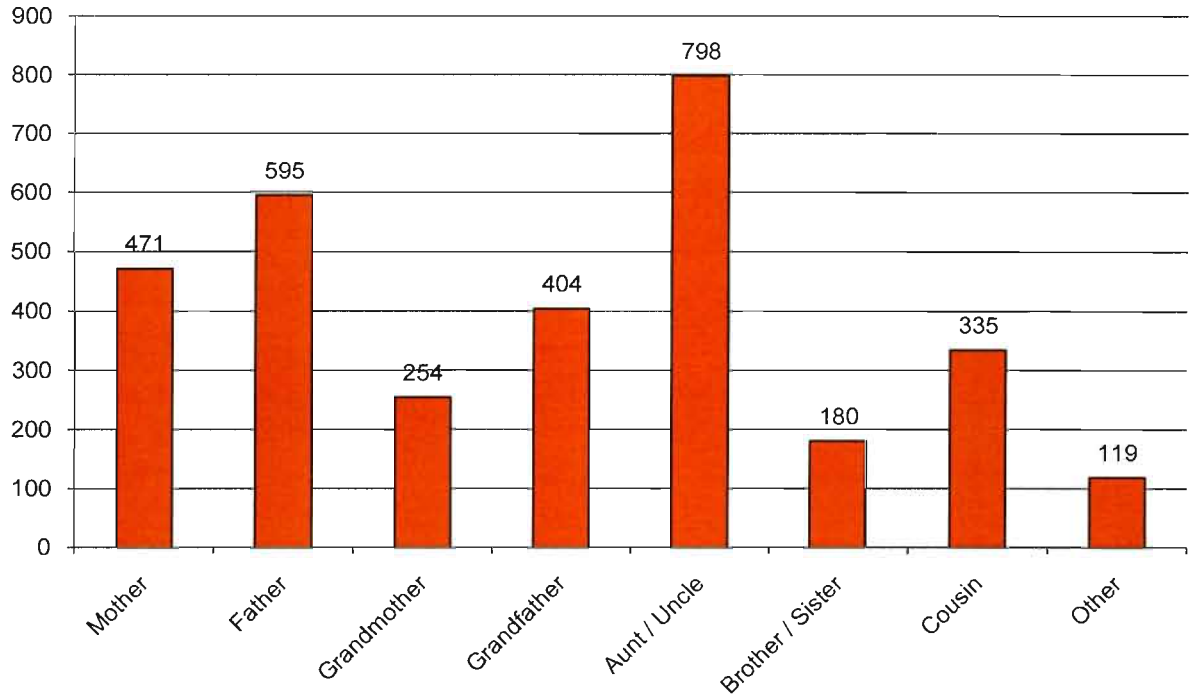


Figure 4.5 shows that the majority of fathers or male guardians have full-time jobs (52.12%) with mothers or female guardians trailing at 46.34%. The number of unemployed parents appears to be relatively low in the Sedibeng sample (male 2.46%; female 5.03%) in comparison with the statistics for South Africa discussed in chapter 3. Self-employed parents accounted for 13.22% (fathers or male guardians) and 10.76% (mothers or female guardians).

In an attempt to examine the entrepreneurial exposure of respondents in their personal environment, section C.12 asked respondents whether anyone in their family has ever owned a business. Surprisingly, the results presented in figure 4.6 exposed a significant number of family members that have owned (or still own) their own business.

Figure 4.6 Self-employment in respondents' families (*n* = 1 748)



The data in figure 4.6 indicates that 3 156 family members of the 1 748 respondents have owned (or still own) a business, translating into a ratio of 1.805:1 (1.8 self-employed family member for every learner in the Sedibeng sample).

Although this ratio may be a crude measure to examine respondents' personal exposure to entrepreneurship, it still warrants thought for the potential of such exposure if it could be harnessed effectively. However, it should be considered that 'self-employed' in this sense could include anything from a street vendor to the owner (or co-owner) of a large enterprise; hence care should be exercised not to draw any conclusion from this finding.

4.4.2 Global Entrepreneurship Monitor (GEM) comparison

Section B of the questionnaire examined the entrepreneurial attitudes of respondents in comparison with 43 GEM countries in 2008 (Bosma *et al.*, 2009). Table 4.3 presents the results for each of the seven statements included in the study by Bosma *et* al. (2009).

Table 4.3 Results of GEM comparison (*n* = 1 748)

Statement		Response	Results		Total	
			Number	%	Number	%
B1.	There are good opportunities in South Africa to start my own business.	Agree	1 218	69.68		
		Disagree	517	29.58		
		Not answered	13	0.74	1 748	100.00
B2.	When I finish school I will not start my own business because I am afraid of failure.	Agree	368	21.05		
		Disagree	1 371	78.43		
		Not answered	9	0.52	1 748	100.00
B3.	I personally know someone who started a business in the past two years.	Agree	1 176	67.28		
		Disagree	556	31.81		
		Not answered	16	0.91	1 748	100.00
B4.	I have the knowledge and skills to start my own business as soon as I finish school.	Agree	1 190	68.08		
		Disagree	538	30.78		
		Not answered	20	1.14	1 748	100.00
B5.	I plan to start my own business as soon as I finish school.	Agree	591	33.81		
		Disagree	1 138	65.10		
		Not answered	19	1.09	1 748	100.00
B6.	I think entrepreneurship is a desirable career choice.	Agree	1 017	58.18		
		Disagree	710	40.62		
		Not answered	21	1.20	1 748	100.00
B7.	The media in South Africa provides enough attention to entrepreneurship.	Agree	1 080	61.78		
		Disagree	635	36.33		
		Not answered	33	1.89	1 748	100.00

For the purpose of this study, it is important to compare the entrepreneurial attitudes of the Sedibeng sample with the entrepreneurial attitudes of respondents in the different types of economies (factor, efficiency and innovation driven) and the South African sample in the study by Bosma *et al.* (2009). Therefore, the results in table 4.3 were added to the column chart earlier presented in section 3.2.3.1 (figure 3.3) as shown in figure 4.7.

Figure 4.7 Entrepreneurial attitudes of respondents in comparison with 43 GEM countries in 2008 (*n* = 1 748)

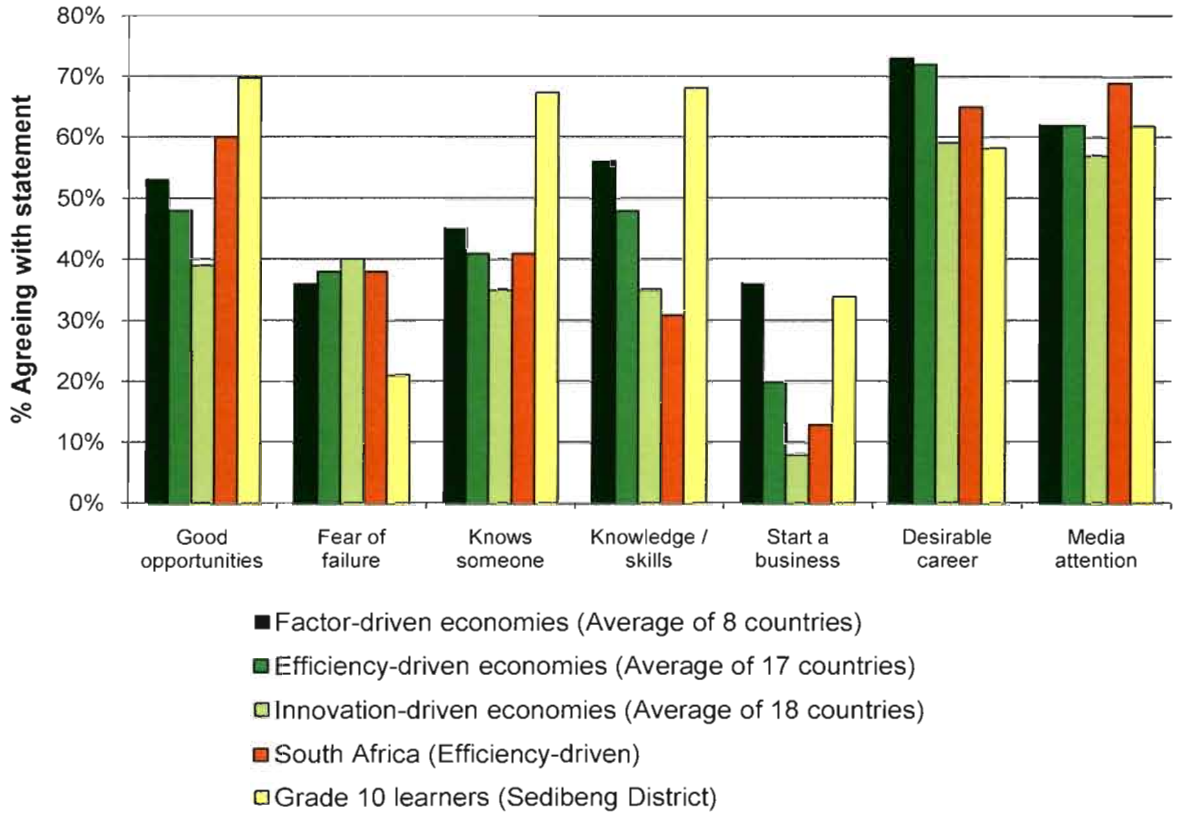


Figure 4.7 reveals that learners in the Sedibeng sample have comparative attitudes with other economies and the South African sample (Bosma *et al.*, 2009) in so far entrepreneurship as a **desirable career** and **media attention** to entrepreneurship are concerned. It is significant that a higher percentage of the Sedibeng sample sees [1] **good opportunities** in South Africa to start their own businesses; [2] personally **knowing someone** who started a business in the past two years; and [3] believing that they have the **knowledge and skills** to start their own businesses after finishing school.

In addition, respondents in the Sedibeng sample agree on planning to **start their own businesses** (after finishing school) at a level much higher than efficiency-driven and innovation-driven economies as well as the South African sample. In sharp contrast with all three types of economies and the South African sample, respondents in this study appear to be the least **afraid of failure** preventing them from starting a business.

The GEM-comparison in figure 4.7 suggests a positive trend for the entrepreneurial attitudes of South African youth, but the possibility of self-selection in the absence of a pre- and post-test control-group design cannot be excluded.

4.4.3 The Attitude Toward Enterprise Test (ATE Test)

This study was the first to employ the ATE Test in South African secondary schools. Hence, the discussion in this section first examines the validity and reliability of the measuring instrument as well as the relationship between the constructs prior to comparing the mean differences between constructs for demographic variables.

The latent variables examined in this study are presented in the '*Coding of ATE Test*' (*see* Appendix 5) where the items in the ATE Test are classified by Athayde (2004) under different constructs.

4.4.3.1 Construct validity of the ATE Test

An exploratory factor analysis (EFA) was conducted using Statistica software (Statsoft, 2008) to assess the discriminant validity of the 30 items measuring entrepreneurial attitudes in young people. Kaiser's criterion, stipulating that factors with eigen-values greater than one should be retained, was used to determine the number of factors to be extracted (Field, 2005: 735).

The first exploratory factor analysis (EFA 1; Varimax with Kaiser normalisation) resulted in the extraction of seven factors. For the analysis, factor loadings greater than 0.35 were considered significant as recommended by Field (2005: 637, 638). Although all 30 items demonstrated discriminant validity by loading to a sufficient extent, it was evident that the reverse score items in the measuring instrument (A.4; A.6; A.18; A.20; A.23; A.24; A.26 with the exception of A.14) loaded separately from the factors identified by Athayde (2009a). In addition, several items (A.2; A.8; A.9; A.11; A.29) loaded on more than one factor.

A second exploratory factor analysis (EFA 2; Varimax with Kaiser normalisation) was performed excluding the reverse score items that loaded onto separate factors. Five factors with eigen-values greater than one, explaining 45.38% of the variance before rotation, were extracted from the second exploratory factor analysis shown in table 4.4.

Table 4.4 Exploratory factor analysis (Varimax) for the ATE Test (*n* = 1 748)

EXPLORATORY FACTOR ANALYSIS			VARIABLES				
№	ITEM		LEAD	ACHIEVE	CONTROL	CREATIVITY	INTUITION
1	A.10	I am good at getting people to work well together	.719	.045	.073	.070	.039
2	A.19	I take responsibility for organising people in group work	.700	.125	-.041	.131	-.032
3	A.7	I'm good at motivating my class mates	.672	-.054	.124	.080	.069
4	A.15	I believe I can persuade my classmates to agree on a plan	.647	.092	-.004	.000	.324
5	A.17	I am proud of my project work this year	.487	.071	.262	.214	-.359
6	A.11	I trust my own instinct when solving problems in class	.413	.031	.219	.281	.278
7	A.22	Working hard on projects is well worth the effort	.087	.667	.244	.035	.043
8	A.27	It feels good when a school project works out well	.021	.603	.222	.058	.215
9	A.21	I'll keep trying out different solutions to a problem rather than give up	.189	.599	-.002	.260	.021
10	A.14*	It doesn't matter if my project work is no good	-.023	.578	.126	-.064	-.214
11	A.9	It is important to finish off a project as well as you can	.018	.492	.403	-.030	.067
12	A.29	I enjoy lessons where the teacher tries out different ways of teaching	.021	.449	.035	.410	.176
13	A.3	I think my future career success is largely up to me	-.035	-.035	.735	.096	.189
14	A.28	I have as much chance as anyone else of getting a good job in the future	.124	.235	.541	.006	.034
15	A.13	It is important to plan my future career	.034	.282	.536	.085	.017
16	A.8	I have a lot of faith in my own ability to succeed in my future career	.197	.246	.481	.178	-.057
17	A.2	I work hard to make my projects successful	.354	.148	.424	.191	-.356
18	A.1	I believe a good imagination helps you do well at school	.077	.008	.112	.695	-.003
19	A.12	I think I show a lot of imagination in my schoolwork	.317	.018	.058	.676	-.037
20	A.5	I like lessons that really stretch my imagination	.050	.130	.089	.661	.096
21	A.25	If I don't know the answer to a problem then I'll have a guess	.095	-.115	.060	-.042	.588
22	A.16	Making mistakes is a good way of finding out how to solve a problem	.006	.274	.039	.123	.507
23	A.30	Instinct helps me work out solutions to problems we are set	.300	.161	.136	.214	.479

* Score reversed for this item.

After rotation (converged in six iterations), these factors could be identified as the theoretical dimensions of **leadership**, **achievement**, **personal control**, **creativity** and **intuition** as latent variables in the measurement of the entrepreneurial attitudes of young people. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy of 0.871 indicated that patterns of correlations are compact and that factor analysis should yield reliable factors (Field, 2005: 640). Bartlett's test of sphericity yielded a significance (*p*-value) of smaller than 0.0001 indicating that correlation between variables are sufficient for factor analysis.

Rotation resulted in four of the items loading significantly on more than one factor with values greater than 0.35. Item A.17, categorized by Athayde (2004) under **achievement**, loaded on both **leadership** (0.487) and **intuition** (-0.359). Rather than deleting the item, it was decided to classify it under the factor that yielded the highest factor loading, i.e. **leadership**. Item A.9 loaded onto **achievement** (0.492) and **personal control** (0.403) and was allocated to the **achievement** construct based on the same criteria and in agreement with the findings of Athayde (2004).

Item A.29 loaded onto the factors **achievement** (0.449) and **creativity** (0.410). Here, it was decided to classify the item under **creativity** even with the lower factor loading, as the statement "*I enjoy lessons where the teacher tries out different ways of teaching*" makes more sense in the realm of **creativity** than in the construct of **achievement**. Item A.2 loaded onto three factors with respective loadings of 0.354 (**leadership**), 0.424 (**personal control**) and -0.356 (**intuition**). The highest factor loading was used to categorise the statement "*I work hard to make my projects successful*" under **personal control**.

Factor one, labelled **leadership** ('*self-perceptions of ability to lead others*'), comprised six items in EFA 1, subsequently reduced to four items in EFA 2. All four items (A.10; A.19; A.7; A.15) that were used to measure the latent variable **leadership** loaded onto factor one, indicating that respondents in this study regarded it as being related to **leadership**. Two additional items, A.17 (**achievement**) and A.11 (**intuition**) loaded onto factor one, indicating that respondents also regarded these items as being related to their *self-perception of the ability to lead others*.

Factor two, labelled **achievement** ('*achievement orientation in project work*'), comprised six items in EFA 1 that were retained in EFA 2. Four of the items (A.22;

A.27; A.14; A.9) loaded onto factor two confirming that respondents regarded these items as being related to their *achievement orientation in project work*, whereas the other two items (A.17 and A.2) respectively loaded onto factor one (**leadership**) and factor three (**personal control**). Two additional items (A.21; **intuition** and A.29; **creativity**) also loaded onto factor two indicating that respondents viewed these items as part of their *achievement orientation in project work*. Item A.29, however, was allocated to the construct of **creativity** (factor four) for reasons explained earlier.

The third factor, labelled **personal control** (*'perceived personal control over career'*), had six items in EFA 1 reduced to four in EFA 2. All four the items (A.3; A.28; A.13; A.8) used to measure **personal control** loaded onto factor three confirming that respondents regarded these items as being related to their *perceived personal control over their careers*. Item A.2, classified by Athayde (2004) as **achievement**, also loaded onto factor three suggesting that respondents viewed the statement "*I work hard to make my projects successful*" as being related to **personal control**.

Factor four, labelled **creativity** (*'perceptions about creativity at school'*), comprised six items in EFA 1 also reduced to four in EFA 2. Three of the items (A.1; A.12; A.5) loaded onto factor four indicating that respondents viewed these items as being related to **creativity**, whereas the fourth item (A.29) loaded on both **achievement** (0.449) and **creativity** (0.410). Although respondents regarded this item as being more related to **achievement**, it was allocated to **creativity** as discussed earlier.

The fifth and final factor, labelled **intuition** (*'intuition in problem solving'*), comprised six items in EFA 1 reduced to five in EFA 2. Three of the items (A.25; A.16; A.30) loaded onto factor five indicating that respondents regarded these items as being related to their *intuition in problem solving*, whereas the remaining two items (A.11 and A.21) respectively loaded on **leadership** and **achievement**.

The exploratory factor analysis, together with the interpretability of the factors, provides some evidence of construct validity, thus indicating that proposition 1 ($\mathbf{P^1}$) can be accepted.

4.4.3.2 Reliability of the measuring instrument

Cronbach alpha coefficients were calculated to assess the internal consistency between the 23 [remaining] items of the measuring instrument. According to UCLA

(2009: 1), Cronbach's alpha measures how well a set of items measures a single uni-dimensional latent construct. Yu (2001: 1) describes Cronbach's coefficient alpha as a measure of "*squared correlation between observed scores and true scores*". This means that reliability is measured in terms of the ratio of true score variance to observed score variance.

Cronbach's alpha coefficients range in value from 0 to 1 and the higher the value, the more reliable the generated scale is (Santos, 1999). Bland and Altman (1997: 1) note that $\propto = 1$ if all the items making up the score are all identical and therefore perfectly correlated. On the other hand, if the items are all independent, then $\propto = 0$.

The literature study (section 2.5.5.3) earlier noted that a Cronbach alpha of 0.7 is the minimum acceptable reliability for preliminary research recommended by Nunnally in 1978 (Peterson, 1994: 381). Bland and Altman (1997: 2) regard values of 0.7 to 0.8 as satisfactory for groups, whereas UCLA (2009: 2) note that a reliability coefficient of 0.7 or higher is mostly considered "*acceptable*" in social science research.

All 1 748 participants' responses were used to determine the reliability of the extracted factors in table 4.4 *infra*, subject to software generated exclusions by list-wise deletion based on all variables in the procedure as shown in table 4.5.

Table 4.5 Cronbach's alpha scores for main constructs (*n* = 1 748)

Construct (Independent variables)	*n* (Valid)*	Number of items	Cronbach's alpha
Perceptions about creativity at school **(Creativity)**	1 723	4	.589
Self-perceptions of ability to lead others **(Leadership)**	1 724	6	.721
Intuition in problem solving **(Intuition)**	1 729	3	.318
Achievement orientation in project work **(Achievement)**	1 645	5	.627
Perceived personal control over career **(Personal control)**	1 726	5	.591

*Exclusions from list-wise deletion based on all variables in the procedure

The results in table 4.5 indicate that the measuring instrument used in this study to measure the entrepreneurial attitudes of grade 10 learners in the Sedibeng sample is deficient in terms of the minimum acceptable reliability for preliminary research. The only factor with a Cronbach alpha above the customary cut-off value of 0.70 is

leadership with a value of 0.721. The remaining factors have Cronbach alphas above 0.58, with the exception of **intuition** with a low alpha of 0.318.

On face value, it seems as if proposition 2 ($\mathbf{P^2}$) would have to be rejected. However, the Cronbach alphas shown in table 4.5 were discussed with Statistical Consultation Services of the North-West University (Potchefstroom campus). It seems that the resulting alphas are not inconsistent with the type of research described in this study. Subject to the exclusion of the factor **intuition** ('*intuition in problem solving*') with a Cronbach alpha of 0.318, it was suggested that the reliability of the measuring instrument should be accepted with Cronbach alphas ranging from 0.589 to 0.721 as shown in table 4.5. Field (2005: 688) notes that questionnaires designed to measure '*knowledge*' and '*intelligence*' should have Cronbach alphas above the customary cut-off value of 0.70, but concedes that instruments designed to measure '*attitudes*' may have lower alphas ($\propto < 0.70$) and still have acceptable levels of reliability.

The exclusion of the factor **intuition** is also supported by the findings of Athayde (2009a) where '*intuition in problem solving*' was excluded from the measure (*see* discussion in section 2.5.5.3 and figure 2.10). Based on the concession by Field (2005: 688) that questionnaires designed to measure '*attitudes*' may have Cronbach's alphas lower than 0.70, proposition 2 ($\mathbf{P^2}$) that the measuring instrument has acceptable reliability (subject to the exclusion of **intuition**) can therefore be accepted.

4.4.3.3 Relationship between the constructs

The relationship between the four remaining constructs, namely **leadership** ('*self-perceptions of ability to lead others*'), **achievement** ('*achievement orientation in project work*'), **personal control** ('*perceived personal control over career*'), and **creativity** ('*perceptions about creativity at school*'), were examined by calculating Pearson correlation coefficients (*r*) presented in table 4.6.

Factor scores for each participant were calculated as the average of all items contributing to the relevant factor. It follows that missing values for an individual were automatically replaced by the average of the other responses contributing to the relevant factor for that specific individual.

Table 4.6 Correlation matrix showing discriminant validity of sub-scales

Factors		LEAD	ACH	CONT	CREATE
Leadership (LEAD)	Pearson correlation (*r*)	1	.243**	.385**	.400**
	Significance (2-tailed)		.000	.000	.000
	n	1745	1745	1745	1745
Achievement (ACH)	Pearson correlation (*r*)	.243**	1	.502**	.397**
	Significance (2-tailed)	.000		.000	.000
	n	1745	1746	1746	1746
Personal control (CONT)	Pearson correlation (*r*)	.385**	.502**	1	.372**
	Significance (2-tailed)	.000	.000		.000
	n	1745	1746	1748	1748
Creativity (CREATE)	Pearson correlation (*r*)	.400**	.397**	.372**	1
	Significance (2-tailed)	.000	.000	.000	
	n	1745	1746	1748	1748

**Correlation is significant at the 0.01 level (2-tailed)

It is important to determine whether the effect of the relationship between two constructs is meaningful; hence the size of the effect should be measured. Field (2005: 32) notes that effect sizes are useful because it provides an objective measure of the importance of an effect. In this sense, a correlation coefficient of 0 indicates that there is no visible relationship between two constructs, whereas a value of 1 indicates a perfect relationship. The following guidelines by Cohen (1992: 155-159) were applied for the interpretation of effect sizes:

- $r = 0.10$: small effect explaining 1% of the variance
- $r = 0.30$: medium effect explaining 9% of the variance
- $r = 0.50$: large effect explaining 25% of the variance

The results in table 4.6 indicate that there are statistical significant ($p < 0.01$) correlations between all the construct combinations. Correlations between the constructs ranged from a small effect for **leadership** and **achievement** ($r = 0.243$), to medium effects for **personal control** and **creativity** ($r = 0.372$), **leadership** and **personal control** ($r = 0.385$), **achievement** and **creativity** ($r = 0.397$), **leadership** and **creativity** ($r = 0.400$), and a large effect for **achievement** and **personal control** ($r = 0.502$).

Although only two of the constructs (**achievement** and **personal control**) correlated with practical significant (large effect: $r > 0.500$) correlations, the results do show statistically significant correlations at the 0.01 level. Based on Cohen's guidelines (Cohen, 1992: 155-159) and statistical significance ($p < 0.01$), proposition 3 ($\mathbf{P^3}$) can thus be accepted.

4.4.3.4 Results of the ATE Test

This section presents the results of the ATE Test based on descriptive statistics to examine the differences between the mean scores for **leadership**, **achievement**, **personal control** and **creativity** as well as respondents' **gender**, **ethnic origin** and **exposure** to entrepreneurship at school.

Table 4.7 presents descriptive statistics of the ATE Test scores showing the valid number of entries in the dataset (n), the minimum score (1 = '*strongly disagree*'), the maximum score (7 = '*strongly agree*'), the mean score ($\bar{x}$) and the standard deviation (s).

Table 4.7 Descriptive statistics of ATE Test scores (n = 1 748)

Construct	n	Minimum score	Maximum score	$\bar{x}$	s
Leadership	1 745	1	7	5.044	1.025
Achievement	1 746	1	7	6.079	0.668
Personal control	1 748	1	7	6.335	0.695
Creativity	1 748	1	7	5.754	0.882

Table 4.7 shows that the mean score for all four constructs tends towards the positive side (7 = '*strongly agree*') of the Likert-scale employed in the measuring instrument. This finding, although based on simple numerical data, seems to support the deduction in section 4.4.2 (*see* table 4.3; figure 4.7) that learners in the Sedibeng sample appear to have positive attitudes towards entrepreneurial behaviour.

The data in table 4.7 and the number of items retained for each construct were then used to calculate the scores for each construct and the overall score for the ATE Test as shown in table 4.8 for comparison with the scores of British youth in the study by Athayde (2009a).

Table 4.8 Overall results of the ATE Test in participating schools (*n* = 1 748)

Construct	№ of Items[1]	Minimum score[2]	Maximum score[3]	Actual score[4]	ATE Test score as %
Leadership	6	6	42	30.26	72.05
Achievement	5	5	35	30.40	86.86
Personal control	5	5	35	31.68	90.51
Creativity	4	4	28	23.02	82.21
Overall Test	**20**	**20**	**140**	**115.36**	**82.40**

[1] Number of items from table 4.5 used in the calculation of Cronbach's alphas

[2] Minimum score of 1 as per the ATE Test multiplied by number of items in construct

[3] Maximum score of 7 as per the ATE Test multiplied by number of items in construct

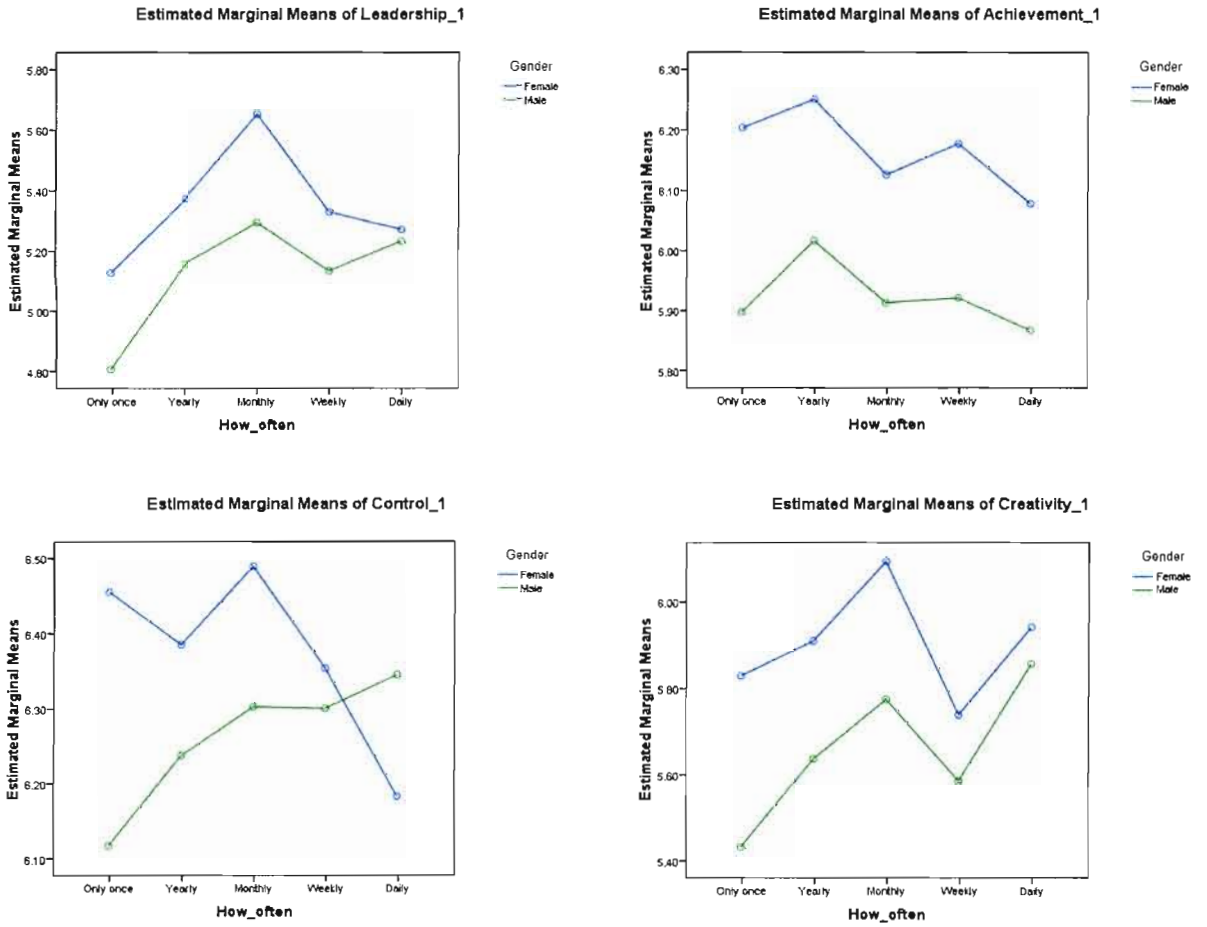
[4] Actual score as per the mean in table 4.7 multiplied by number of items in construct

It is evident from table 4.8 that the Sedibeng sample achieved high mean scores (suggesting a positive entrepreneurial attitude) for each of the constructs (ranging from 72.05% to 90.51%), as well as for the overall ATE Test with a mean score of 82.40%. This finding is, to a notable extent, in contrast with the study by Athayde (2009a: 495) where the mean scores of different demographic sub-groups ranged from 63.0% to 73.8% for participants in the YE Company Program (exposed to entrepreneurship training) and from 60.8% to 69.7% for non-participants.

The literature study earlier suggested that exposure to entrepreneurship at school should improve the attitudes of young learners towards entrepreneurial behaviour. It is therefore important to examine the difference in ATE Test scores for different levels of entrepreneurship exposure.

Analysis of descriptive statistics for the different constructs of **leadership**, **achievement**, **personal control** and **creativity** with **gender** and the **frequency of exposure** to entrepreneurship at school revealed only small differences in the mean scores ($\bar{x}$). The estimated marginal means of the constructs with gender and frequency of exposure are illustrated by means of the profile plots shown in figure 4.8 (*see* Appendix 8 for enlarged prints).

Figure 4.8 Estimated marginal means of constructs with gender and frequency of exposure to entrepreneurship at school*



*Enlarged prints presented in Appendix 8

Figure 4.8 suggests that female grade 10 learners in the Sedibeng sample consistently have superior entrepreneurial attitudes to their male counterparts for the constructs of **leadership**, **achievement**, **personal control** and **creativity**, with the only exception for **personal control** when frequency of exposure becomes a daily event. It is also evident that the mean scores ($\bar{x}$) of both genders increased for the constructs **leadership** and **creativity** as frequency of exposure to entrepreneurship increased from once-off to monthly intervals. Once the monthly threshold is passed, the graph for **leadership** slopes downward, perhaps indicating that monthly interventions for entrepreneurial leadership training will produce the best results.

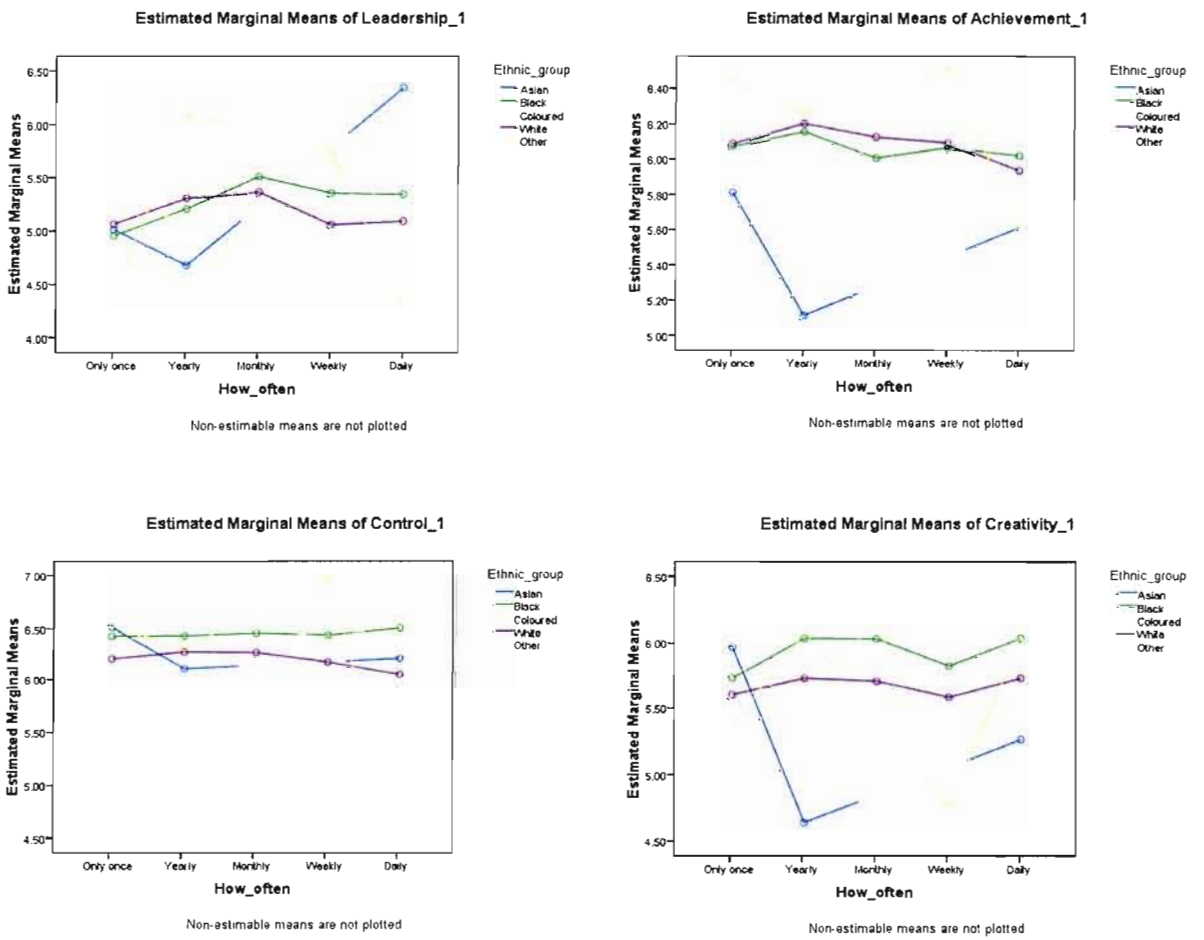
Creativity, on the other hand, shows a sharp decline in the mean scores for both genders at weekly intervals, followed by a equally sharp rise when the frequency of

exposure is increased to daily interventions. The graph for **achievement** shows similar paths for both genders, apart from a clear distinction between females and males with the former consistently achieving higher mean scores.

The data for the construct **personal control** appears to have produced opposing trends with the mean scores for male learners improving as the frequency of exposure to entrepreneurship on this dimension increases, whereas female learners' mean scores decline (trend wise) as frequency of exposure increases.

A similar procedure was employed for analysis of the descriptive statistics for the four constructs with **ethnic origin** and **frequency of exposure** to entrepreneurship at school as shown in figure 4.9 (*see* Appendix 8 for enlarged prints).

Figure 4.9 Estimated marginal means of constructs with ethnic origin and frequency of exposure to entrepreneurship at school*



*Enlarged prints presented in Appendix 8

The line charts in figure 4.9 produced erratic graphs for the minority groups (Asian, Coloured and other learners) included in the sample. This phenomenon can be attributed to these groups constituting only 5.21% of the Sedibeng sample. Hence, the discussion of the charts will focus on Black African and White learners constituting 93.93% of the sample.

It is evident from figure 4.9 that Black African learners consistently achieved higher mean scores (i.e. have superior entrepreneurial attitudes) than White learners for the constructs **personal control** and **creativity** across the range of different frequencies of exposure. In the case of **leadership**, White learners had higher mean scores for once-off and annual exposure, but were surpassed by Black African learners when exposure increased to monthly, weekly and daily events. It is also evident that White learners had higher mean scores for the construct **achievement** up to the weekly exposure threshold, but that Black African learners scored higher when frequency increased to a daily basis.

The purpose of this section was to produce a visual presentation of the differences in mean scores for the four constructs of the ATE Test with the demographic variables gender, ethnic origin and frequency of exposure to entrepreneurship. At this point, it must be emphasized that the results presented in tables 4.7 and 4.8 and figures 4.8 and 4.9 do not provide any statistical evidence for the acceptance or rejection of the propositions (in particular $\mathbf{P^4}$, $\mathbf{P^5}$ and $\mathbf{P^6}$) formulated in section 4.3.4. Different measures will be employed in the following section (4.4.3.5) by comparing the mean differences between constructs for demographic variables using *t*-tests and effect sizes (*d*-values).

Although table 4.8 suggests that grade 10 learners in the Sedibeng sample achieved a higher overall mean score for the ATE Test than British learners in a similar study (Athayde, 2009a), it is acknowledged that there is no statistical evidence to conclude that such a difference indeed exists. Proposition 8 ($\mathbf{P^8}$) can therefore not be accepted.

4.4.3.5 Comparison of the mean differences between constructs

Research methodology often employs random sampling to study the properties of a population. An advantage of drawing a random sample is that it allows the study of a

population within the constraints of limited time and money (Ellis & Steyn, 2003: 51). Statistical significance tests (e.g. *t*-tests) are then used to prove that the results, such as the difference between two means, are significant. In such cases, the *p*-value is used as criterion to calculate the probability that the obtained value or larger could be obtained under the assumption that the null hypothesis (that there is no difference between the means) is true (Ellis & Steyn, 2003: 51).

Small *p*-values (e.g. smaller than 0.05) are considered sufficient evidence that the results are indeed statistically significant. However, such statistical significance does not necessarily imply that the result has practical importance as tests for significance have a tendency to yield small *p*-values as the size of data sets increase (Ellis & Steyn, 2003: 51).

In this study a random sample from a population of 74 secondary schools in the Sedibeng District registered with the DoE was initially envisaged. Due to the response rate (17 schools; 22.97%) being below expectation, a decision was made to include all schools (with the exception of one school for learners with behavioural problems) that had responded to the invitation to participate in the study. Hence, the data had to be considered a small population (sub-population of the original population) for which statistical inferences and *p*-values were not relevant (Ellis & Steyn, 2003: 51; Steyn, 2002: 10; Steyn, 2000: 1).

Ellis and Steyn (2003: 51) argue that statistical inference draws conclusions from descriptive measures that were calculated for a population from which a random sample was drawn. It follows that statistical inference is not appropriate if the sample becomes a sub-population in itself as is the case in this study (Steyn, 2002: 10).

In such cases, Ellis and Steyn (2003: 51) recommend the use of effect sizes so that *practical significance* can be understood as a large enough difference to have an effect in practice. Steyn (2002: 10) agrees that effect sizes can be a useful aid to determine whether the relationship is "*practically significant*". Although the results of the *t*-test will be shown, the findings of this study resulting from a sub-population sample type will be based on the effect sizes (*d*-values).

The differences in the means between the extracted factors, namely **leadership** ('*self-perceptions of ability to lead others*'), **achievement** ('*achievement orientation in*

project work'), **personal control** ('*perceived personal control over career*'), and **creativity** ('*perceptions about creativity at school*'), for the demographic variables **gender**, **ethnic origin**, **exposure to entrepreneurship** and **self-employed parents or guardians** were examined by *t*-tests and effect sizes (*d*-values) because the responses of grade 10 learners from the same population can be considered to be dependent.

In this case, individual respondents were matched according to some characteristic so that the variable of interest was the difference between the values rather than the values in itself (Levine, Stephan, Krehbiel & Berenson, 2008: 381). The analysis was performed at group level, where the average (mean) scores of different demographic groups were taken as data points.

The effect sizes (*d*) will be interpreted according to Cohen's guidelines (Field, 2005: 32; Ellis & Steyn, 2003: 52; Cohen, 1992: 155-159), where:

- $d = 0.2$ is a small effect;
- $d = 0.5$ is a medium effect; and
- $d = 0.8$ is a large effect.

In terms of interpretation, results with medium effects ($0.5 \leq d < 0.8$) can be regarded as *visible effects* and $d \geq 0.8$ as *practically significant* being the result of a difference causing a large effect (Field, 2005: 32; Ellis & Steyn, 2003: 52; Cohen, 1992: 155-159).

Tables 4.9 to 4.13 show the relationships between the four constructs and the demographical variables gender (table 4.9), ethnic origin (table 4.10), exposure to entrepreneurship (table 4.11) and self-employed parents or guardians (tables 4.12 and 4.13), with the mean ($\bar{x}$), standard deviation (*s*), *t*-tests (*p*-value) and effect sizes (*d*-value).

Table 4.9 indicates a statistical significant difference ($p < 0.05$) in the mean values between the perceptions of **male** and **female** grade 10 learners with regard to the constructs **leadership**, **achievement**, **personal control** and **creativity** ($p = 0.000$). Although female participants rated all four constructs more positive than their male counterparts, the differences were not practically significant as only a small effect (respectively $d = 0.19$; $d = 0.30$; $d = 0.25$ and $d = 0.25$) could be determined.

Table 4.9 Results of the difference in means between the constructs for the demographic variable 'gender'

Gender:	Male			Female			Comparison	
Construct	*n*	$\bar{x}$	*s*	*n*	$\bar{x}$	*s*	*p***	*d***
Leadership	782	4.934	1.030	945	5.134	1.014	0.000	0.19
Achievement	782	5.956	0.750	946	6.180	0.570	0.000	0.30
Personal control	783	6.237	0.706	947	6.410	0.678	0.000	0.25
Creativity	783	5.627	0.892	947	5.853	0.859	0.000	0.25

**Equal variances assumed

It follows from table 4.9 that, although the average scores of females are higher than those of males, it cannot be regarded as a practically significant difference between the perceptions of male and female grade 10 learners regarding these constructs as a measure of their entrepreneurial attitudes. Based on Cohen's guidelines (Cohen, 1992: 155-159), proposition four ($\mathbf{P^4}$) cannot be accepted.

The difference in the means between the constructs for the demographic variable **ethnic origin** between Black African and White learners (as the majority groups representing 93.93% of the sample) was also examined. Table 4.10 confirms a statistical significant difference ($p < 0.05$) in the mean values between the perceptions of Black African and White learners with regard to the constructs **personal control** ($p = 0.000$) and **creativity** ($p = 0.000$).

Table 4.10 Results of the difference in means between the constructs for the demographic variable 'ethnic origin'

Ethnic origin:	Black African			White			Comparison	
Construct	*n*	$\bar{x}$	*s*	*n*	$\bar{x}$	*s*	*p***	*d***
Leadership	972	5.030	1.058	668	5.066	0.971	0.485	0.03
Achievement	973	6.083	0.698	668	6.097	0.607	0.670	0.02
Personal control	974	6.429	0.685	668	6.208	0.670	0.000	0.32
Creativity	974	5.839	0.913	668	5.642	0.819	0.000	0.22

**Equal variances assumed

It is evident that Black African learners rated **personal control** and **creativity** more positively than White learners, but the differences between the mean values are not

practically significant as indicated by only a small effect for both **personal control** (d = 0.32) and **creativity** (d = 0.22). Proposition 5 (**P**^{5}) that there is a difference between the entrepreneurial attitudes of grade 10 learners from different ethnic groups (Black African and White) can therefore, based on the guidelines by Cohen (1992: 155-159), not be accepted.

A similar analysis was conducted to determine whether **entrepreneurship exposure** at school has had any influence on the entrepreneurial attitudes of grade 10 learners (section A.31 of the questionnaire). Table 4.11 reveals a statistical significant difference ($p < 0.05$) in the mean values between the perceptions of learners that had been exposed to entrepreneurship ('yes') and those that had not ('no') for the construct **leadership** (p = 0.000).

Table 4.11 Results of the difference in means between the constructs for the demographic variable 'exposure to entrepreneurship'

Exposure:	Yes			No			Comparison	
Construct	n	$\bar{x}$	s	n	$\bar{x}$	s	p**	d**
Leadership	918	5.142	0.978	779	4.917	1.051	0.000	0.21
Achievement	919	6.088	0.690	779	6.071	0.644	0.604	0.02
Personal control	920	6.314	0.726	779	6.348	0.664	0.307	0.05
Creativity	920	5.733	0.850	779	5.770	0.903	0.383	0.04

**Equal variances assumed

Although learners who had been exposed to entrepreneurship at school rated **leadership** higher than those who had not been exposed, the difference between the mean values is not practically significant as indicated by a small effect (d = 0.21). Based on the guidelines by Cohen (1992: 155-159), proposition 6 (**P**^{6}) cannot be accepted.

Section C.7 of the questionnaire asked respondents what their parents or guardians do during weekdays to determine whether self-employed parents or guardians have an influence on the entrepreneurial attitudes of learners. The results for male and female parents or guardians were separated and are presented in tables 4.12 and 4.13.

The difference in the means between the constructs for the demographic variable **self-employed mother or female guardian** confirms a statistical significant difference ($p < 0.05$) in the mean values between the perceptions of learners with regard to the constructs **leadership** ($p = 0.001$) and **personal control** ($p = 0.019$) shown in table 4.12. Although learners with self-employed mothers or female guardians rated **leadership** and **personal control** more positively than learners whose mothers or female guardians are not self-employed, the differences between the mean values are not practically significant as indicated by a small effect ($d = 0.25$ and $d = 0.18$ respectively).

Table 4.12 Results of the difference in means between the constructs for the demographic variable 'self-employed mothers / female guardians'

Self-employed:	Yes			No			Comparison	
Construct	*n*	$\bar{x}$	*s*	*n*	$\bar{x}$	*s*	*p***	*d***
Leadership	188	5.236	0.957	1 271	4.975	1.025	0.001	0.25
Achievement	188	6.103	0.642	1 272	6.116	0.615	0.793	0.02
Personal control	188	6.450	0.551	1 274	6.330	0.674	0.019	0.18
Creativity	188	5.814	0.860	1 274	5.745	0.862	0.305	0.08

**Equal variances assumed

The difference in the means between the constructs for the demographic variable **self-employed father or male guardian** produced no statistical significant difference ($p < 0.05$) in the mean values between the perceptions of learners with regard to any of the four constructs ($p > 0.10$ in all cases) as shown in table 4.13.

Table 4.13 Results of the difference in means between the constructs for the demographic variable 'self-employed fathers / male guardians'

Self-employed:	Yes			No			Comparison	
Construct	*n*	$\bar{x}$	*s*	*n*	$\bar{x}$	*s*	*p***	*d***
Leadership	231	5.092	0.984	1 116	4.978	0.998	0.114	0.11
Achievement	231	6.062	0.668	1 117	6.109	0.640	0.315	0.07
Personal control	231	6.352	0.605	1 119	6.322	0.684	0.541	0.04
Creativity	231	5.718	0.866	1 119	5.759	0.863	0.512	0.05

**Equal variances assumed

Based on the guidelines by Cohen (1992: 155-159), proposition 7 ($\mathbf{P^7}$) that there is a difference in the entrepreneurial attitudes of grade 10 learners with self-employed parents or guardians as opposed to learners whose parents or guardians are not self-employed with regard to the constructs **leadership**, **achievement**, **personal control** and **creativity**, can thus not be accepted.

4.5 CHAPTER SUMMARY

Chapter four discussed the gathering of data from participating schools, the statistical analysis of the data and the presentation of the results. The analysis of the data was based on sound statistical methods including descriptive statistics, validity and reliability testing, and the relationships between the extracted factors and demographic variables by means of *p*-values and effect sizes.

The demographic profile showed that the majority of the respondents (61.27%) were 16 years of age, the sample was fairly balanced in terms of gender (females 54.18%; males 44.79%), Black Africans and Whites constituted the majority of the sample (93.93%), and the predominant home languages of respondents were Southern-Sotho (32.04%) and Afrikaans (36.50%).

The highest qualification expected by respondents was a university degree (24.49%) and a higher degree (42.91%) which by virtue suggests a positive attitude towards learning. The majority of the respondents (52.63%) indicated that they had been exposed to entrepreneurship at school, but the percentages of respondents declined as frequency of participation increased. This finding suggests that entrepreneurial activity in secondary schools remains a sporadic event.

Comparison of the sample with the GEM report (Bosma *et al.*, 2009) revealed that grade 10 learners in the Sedibeng District have a positive attitude towards entrepreneurial activity with regard to seeing good opportunities in South Africa, personally knowing someone who had started a business in the past two years, having the knowledge and skills to start their own business after school and their plans to start their own businesses. In sharp contrast with factor-driven, efficiency-driven and innovation-driven economies as well as the South African sample included in the GEM report (Bosma *et al.*, 2009), grade 10 learners in the Sedibeng sample were least afraid of failure preventing them from starting a new business.

Statistical analysis of the data for **construct validity**, **reliability** of the measuring instrument and the **relationships** between the constructs produced satisfactory results to justify the acceptance of propositions 1 to 3. The proposition ($\mathbf{P}^8$) that there is a practically significant difference in the entrepreneurial attitudes of learners in the Sedibeng sample and British youth (Athayde, 2009a) could not be accepted due to a lack of statistical evidence.

Comparison of the differences in the mean values between constructs for demographic variables using *t*-tests and effect sizes (*d*-values) produced statistical significant differences ($p < 0.05$) in a number of instances, but no visible effects ($0.5 \leq d < 0.8$) or practical significance ($d \geq 0.8$) to suggest that these differences have any effect in practise.

Based on the statistical evidence presented in this chapter it is concluded that:

- the ATE Test employed in this study has acceptable levels of construct validity ($\mathbf{P}^1$), reliability ($\mathbf{P}^2$) and relationships between the constructs of leadership, achievement, personal control and creativity ($\mathbf{P}^3$) used to measure the entrepreneurial attitudes of grade 10 learners.
- there is no practical significant difference in the entrepreneurial attitudes of grade 10 learners in the Sedibeng District from the perspectives of gender ($\mathbf{P}^4$) and ethnic grouping ($\mathbf{P}^5$).
- there is no practical significant difference between the entrepreneurial attitudes of grade 10 learners in the Sedibeng District who had been exposed to entrepreneurial activity and those that had not participated in such activities ($\mathbf{P}^6$).
- there is no practical significant difference between the entrepreneurial attitudes of grade 10 learners with self-employed parents or guardians as opposed to those learners whose parents or guardians are not self-employed ($\mathbf{P}^7$).

In essence, the empirical research conducted in this study reaffirms the positive mindsets of young South Africans towards entrepreneurial activity in support of the findings of Herrington (2008) and Maas and Herrington (2007). However, it also suggests that catalytic factors (i.e. exposure to entrepreneurship and self-employed parents) which should impact positively on the attitudes of young people, have not had the desired effect in so far the Sedibeng sample is concerned.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

The preceding chapters presented an overview of the concept of entrepreneurship (chapter 2), an examination of the current status of entrepreneurship and entrepreneurial learning in South Africa (chapter 3), and the results of an empirical study on the entrepreneurial attitudes of grade 10 learners in a small geographic area in South Africa (chapter 4).

From the onset, the purpose of this study was to make practical recommendations for improved entrepreneurial learning in schools. Accordingly, this section of the study draws from earlier chapters to identify the gap between the desired and the current state of entrepreneurship education in South Africa to reach valid conclusions, and to construct practical recommendations for improved entrepreneurial learning.

5.2 GAP-ANALYSIS

The gap-analysis in table 5.1 presents the findings of this study as well as recommended best practices to distinguish between the current and desired state of entrepreneurship education in South Africa.

Table 5.1 GAP-analysis for entrepreneurship education in South Africa

Current status	Desired status
▪ Denied access to quality education for the poor	▪ Financial help available to those with the desire to learn
▪ High concentration of discouraged work seekers in the younger age groups	▪ Motivated and skilled young individuals contributing to economic growth
▪ Dependency on Government to create sufficient numbers of new jobs	▪ A new generation capable of creating jobs for themselves
▪ Poverty and unemployment, high dependency on social grants	▪ Income-earning individuals contributing to sustainable economic development
▪ Income inequality based on race/gender	▪ Income equality based on skills

Table 5.1 continued

Current status	Desired status
▪ Youth are being marginalized due to low self-esteem and confidence	▪ A young generation with confidence in their own abilities
▪ Dysfunctional community structures not supporting the youth	▪ Entrepreneurial youth building strong communities
▪ Entrepreneurial growth not supported by education and training	▪ Education nurtured as the incubator of entrepreneurial growth
▪ Lack of mathematical and professional skills among youth	▪ Practical mathematical and business skills transferred during school years
▪ Youth with a positive attitude towards entrepreneurship	▪ Positive attitudes of youth harnessed for successful entrepreneurial activity
▪ Lack of mentorships for young aspiring entrepreneurs	▪ Incentivised involvement by organised business and academic institutions
▪ Lack of resources for young aspiring entrepreneurs	▪ A national support system accessible to young entrepreneurs
▪ Government policies not conducive to entrepreneurial development	▪ Government lobbied continuously for its support and for policy changes
▪ Teaching youth what entrepreneurship is	▪ Showing youth why and how to be entrepreneurial
▪ Education focused on preparing youth to become employed	▪ Education focused on preparing youth to employ others
▪ Teachers with low morale and little enthusiasm for their subjects	▪ Motivated and energised educators sharing their knowledge with passion
▪ "Listen and take notes" education with limited feedback from learners	▪ Participative and responsive education to suit the needs of learners
▪ Mainly theoretical knowledge delivered through traditional classroom methods	▪ Theoretical and practical knowledge shared through innovative methods
▪ Curriculum developed exclusively by the Government	▪ Educators and organised business involved in curriculum development
▪ Entrepreneurship exposure at school ineffective and sporadic	▪ Entrepreneurship a central and continuous theme during school years
▪ Open window for accelerated youth entrepreneurship development	▪ Accelerated youth entrepreneurship development

It should be noted that the GAP-analysis in table 5.1 is not based on scientific evidence emanating from this study. It does, however, reflect the temper of modern times as evident from the literature study presented in chapters 2 and 3, and can therefore be considered as a '*road map*' to improve entrepreneurial learning in South African secondary schools.

5.3 CONCLUSIONS

The conclusions to follow were drawn from the literature review and the empirical research conducted in this study and are complemented by general conclusions covering the entire study.

5.3.1 Conclusions from the literature review

This study concludes that entrepreneurship, and in particular the working of the entrepreneurial mind, remains one of the least understood topics in academic research. The literature study revealed that there is neither a universally accepted definition nor an accurate theory of entrepreneurship and the entrepreneur despite its presence in the economic arena since as early as 1730.

It is therefore concluded that South Africa urgently needs successful entrepreneurs to become involved in the learning process by sharing their practical knowledge and skills and by providing quality mentoring and coaching to aspiring young entrepreneurs.

5.3.1.1 The essence of entrepreneurship

The characteristics of modern entrepreneurship have changed due to technology and the evolution of the global economy, but it is concluded that the fundamental requirement for entrepreneurial activity has not changed: it remains dependent on breaking with the past and acting outside routine, often conflicting with social norms, by introducing new and improved combinations of resources into the economic lifecycle.

The entrepreneur remains that person with unusual will and energy to break away from the *status quo* and achieve success against the odds, often in the face of multiple failures and at great personal expense. It is concluded that the realization of profit remains the overriding motivation for entrepreneurial activity.

5.3.1.2 Obstacles to youth entrepreneurship development in South Africa

Based on the findings of the GEM 2007 South African Report (Maas & Herrington, 2007) and supporting literature, it is concluded that South African youth have a positive attitude towards entrepreneurship and new business formation. Against this finding, the literature review exposed many obstacles to successful entrepreneurial activity in South Africa including high levels of bureaucracy, a shortage of skills and lack of innovation. Other challenges include unemployment, social instability, low levels of self-employment and an insufficient economic growth rate.

South Africa, in its endeavours to combat poverty and unemployment, needs urgent measures to stimulate new venture and job creation for sustainable economic growth and social stability. In order to achieve these goals, it is imperative that opportunity entrepreneurship be stimulated as a sustainable way of reducing poverty and unemployment in the country. Much can be said of the Government's efforts to redress the inequalities of the past, but based on evidence presented in this study, it is concluded that a major paradigm shift is required towards the youth of South Africa.

While current policies and legislation are aimed at achieving ethnic and gender equality in the highest echelons of organised business, the next generation of workers (and potential leaders) are finishing school just to be consumed by the unemployed component of the South African labour force. In due course, these young South Africans may become part of a statistic known as discouraged work seekers, causing further pressure on current levels of poverty and social instability.

It is concluded that the role of organised business in youth entrepreneurship development is under-estimated and under-developed. The literature review revealed that business people recognize the role they have to play, but also that the absence of youth learnerships and the lack of incentives may be the cause of poor involvement by organised business.

It is also concluded that the lack of resources in South African schools and the low morale of teachers are important factors contributing to the current low levels of entrepreneurship development. The shortfalls of the *outcomes based education* (OBE) model, which are now being acknowledged by the Government, and ongoing

wage disputes in the implementation of the *occupational specific dispensation* (OSD) program for educators, would by virtue of the tension it creates also impact negatively on the development of our youth. Based on these findings, it is concluded that public schools in South Africa, given the current challenges facing teachers and pupils alike, do not have the capacity to implement effective programs for successful entrepreneurship development without a major intervention driven from the outside.

5.3.2 Conclusions from the empirical study

The conclusions from the empirical study were drawn from the demographic composition of the Sedibeng sample, the GEM comparison and the results of the ATE Test employed in the study.

5.3.2.1 Demographic composition

Based on the results of the highest academic qualification expected by respondents (*see* figure 4.1), it is concluded that learners in the Sedibeng sample appear to overrate their future academic qualifications as evident in the majority expecting to achieve a university degree (24.49%) or a higher degree (42.91%). A positive attitude towards further learning is commendable, but failure to reach these goals will lead to frustration, which in itself, is not conducive to youth development.

The majority (52.63%) of grade 10 learners in the Sedibeng sample indicated that they have been exposed to entrepreneurial activity at school (*see* figure 4.2). This finding revealed a positive trend for youth entrepreneurship development at school, but it should be noted that the extent of these activities were not qualified and could therefore be dependent on personal perceptions of entrepreneurial activity. The frequency of entrepreneurial activity at school (*see* figure 4.3) showed that 28.09% of learners had been exposed only once with percentages of participating learners declining as the frequency of exposure increases. It is therefore concluded that exposure to entrepreneurship at school remains a sporadic event and it is presumed to have a negligible effect on youth entrepreneurship development.

It was also evident that a large number of learners in the Sedibeng sample do not know what academic qualifications their parents or guardians have. One would expect children to strive towards their parents' achievements, but not knowing what these academic achievements are could indicate that parents are not involved with

their children at this level. It is therefore concluded that a lack of communication may exist between some parents and their children, which by virtue of the importance of parent-child communication is detrimental to the development of young individuals.

A surprising finding emerged from the question on self-employment in respondents' families (*see* figure 4.6). Learners in the Sedibeng sample indicated that 3 156 family members have owned (or still own) a business, translating into a ratio of 1.8 self-employed family member for every learner in the sample. Although the level of entrepreneurship (street vendor to the owner of a large enterprise) was not tested in the measuring instrument, it is concluded that great strides can be made in youth entrepreneurship development if the entrepreneurial energy of so many self-employed family members could be harnessed effectively.

5.3.2.2 GEM comparison

The comparison of grade 10 learners' perceptions with the entrepreneurial attitudes of respondents in 43 GEM countries (Bosma *et al.*, 2009) revealed that learners are more positive than the GEM sample (including South Africa) about the existence of good opportunities, their knowledge and skills as well as plans to start their own businesses after finishing school. It was also evident that grade 10 learners are least afraid of failure preventing them from starting their own business (*see* figure 4.7).

Based on this finding, it is concluded that grade 10 learners in the Sedibeng sample have inflated expectations for their future careers (similar to the finding on their expected academic qualifications in 5.3.2.1). This finding suggests the need for a '*reality check*' by exposing school learners to the practical (and challenging) world of business and the domain of the successful (and the struggling) entrepreneur.

5.3.2.3 Outcome of the ATE Test

The statistical analysis produced some evidence of construct validity and reliability of the ATE Test employed in the 'Enterprise Attitude Questionnaire' to measure the entrepreneurial attitudes of young learners in the Sedibeng District. The results indicated that grade 10 learners rated the constructs **leadership**, **achievement**, **personal control** and **creativity** positively as evident from mean values approaching a value indicating 'strong agreement'. This finding reaffirms the earlier conclusion

that grade 10 learners in the Sedibeng District have a positive attitude towards entrepreneurial activity.

It is concluded, based on the comparison of the differences in the mean values between constructs for demographic variables, that there is no practical significant difference in the entrepreneurial attitudes of grade 10 learners from the perspectives of gender and ethnic origin. This finding may suggest that female and male learners from different ethnic groups will respond similarly to a program of entrepreneurial learning.

There are, however, two major concerns highlighted by the empirical study. Firstly, the study produced no evidence of a practical significant difference in the entrepreneurial attitudes of grade 10 learners who had been exposed to entrepreneurial activity and those that had not participated in such activities. Secondly, no practical significant difference could be determined between the entrepreneurial attitudes of learners with self-employed parents or guardians and those whose parents or guardians are not self-employed.

It is therefore concluded that catalytic factors such as exposure to entrepreneurship at school and having self-employed parents which should positively influence the attitudes of young people, have not had any practical significant effect on learners in the Sedibeng sample. This finding re-emphasizes the urgent need for tailor-made entrepreneurship training programs in secondary schools.

5.3.3 General conclusions

Having concluded in section 5.3.1.2 that public schools in South Africa do not have the capacity to implement a successful youth entrepreneurship program without an intervention driven from the outside, it would then appear as if the onus for youth entrepreneurship development is shifted to the Government and / or organised business.

In so far the Government is concerned, the *'classical stationary nature'* of the State needs to be considered. Not unlike a marine oil tanker trying to effect a u-turn in a narrow stretch of water, it could (and probably would) take many years for the South African government to implement a successful program of entrepreneurial learning in schools. Given the current situation in South Africa, it can be debated extensively

whether the window of opportunity will still be open if and when such an intervention takes place.

Furthermore, one has to consider the nature of entrepreneurship and the entrepreneur prior to assigning responsibility for the implementation of a program for youth entrepreneurship development. The literature review suggested that entrepreneurs may find it difficult to function in restrictive (bureaucratic) environments because of the need to be in control (*see* section 2.5.3.4). A [bureaucratic] program designed and implemented by the [bureaucratic] State may prove to be more harmful to youth entrepreneurship development than no program at all.

Having said this, it is not suggested that the Government should not be involved in the development of our youth. South Africa's history suggests that our Government is best influenced towards change by being lobbied by influential groups in the country. It is acknowledged that support from the Government is crucial for the success of a youth entrepreneurship development program, but suggested that the driving force for change is vested in a combined effort by all stakeholders.

Business people are often criticized for not being sufficiently involved with the young generation as part of organised business' social responsibility in South Africa. However, one should again consider the nature of the entrepreneur: a good opportunity (which does exist in this case) will only be pursued by the entrepreneur if the cost of involvement (time; money; effort) is outweighed by the perceived benefits of such involvement (incentives; exposure; recognition; access to skilled employees; means to increase profits).

In essence then, this study concludes that the window of opportunity is open for the development of young entrepreneurs by encouraging all stakeholders (learners, teachers, schools, parents, entrepreneurs, organised business and the Government) to share their experience, knowledge and resources with a new generation that can make a great contribution towards economic growth and social development in South Africa. It is, however, again emphasized that South Africa's youth is facing an entrepreneurial dilemma, thus necessitating the formulation of entrepreneurial solutions if this dilemma is to be addressed successfully.

5.4 RECOMMENDATIONS

According to legend, Confucius said "*...give a man a fish and he'll eat for a day, teach him how to fish and he'll eat for a lifetime*". For the purpose of this study, this well known proverb suggests that young South Africans should not only be taught what entrepreneurship is, but also shown how to be entrepreneurial. The goal, therefore, should be to develop and coach learners through the different levels of the pyramid of entrepreneurial learning presented in figure 3.4 to the point where they are able to be successful and self-sustaining entrepreneurs.

However, the formulation of valid recommendations in search of such a far-reaching goal remains a challenging task, moreover when considering the wide array of challenges currently facing youth entrepreneurial development in South Africa. From this perspective, the recommendations to follow are based on a two-tier approach: firstly, grassroots level recommendations that can be implemented with little resources, and secondly, a more audacious national strategy for youth entrepreneurship development in South African secondary schools.

5.4.1 Practical recommendations at grassroots level

This study has shown that young South Africans are positive about entrepreneurial opportunities and activity, but also suggested that youth entrepreneurial development is being hampered by over-inflated future expectations on the part of learners, a lack of resources and the low morale of teachers, parents and guardians that are not involved with their children, and a lack of involvement by entrepreneurs and organised business in the [entrepreneurial] development of youth.

It follows that practical recommendations are needed to provide stakeholders at the grassroots level with the means to improve the current situation. Accordingly, this section of the study provides brief recommendations to each of the stakeholders identified at the grassroots level to improve youth entrepreneurship development with due consideration for the lack of resources in this arena.

5.4.1.1 Learners

Grade 10 learners (and any other learner for that matter) are firstly urged to work towards good grades at school as successful completion of the basic education process is the foundation for a life of learning and continuous personal improvement.

Learners must understand that the journey towards entrepreneurial activity begins and ends with them: firstly, a positive attitude towards a particular behaviour begins with the individual, and secondly, there is no substitute for practical learning through failure and the persistence to try again.

Learners are therefore encouraged to embark on their entrepreneurial journey today by reading about the topic, by examining what successful entrepreneurs do, by questioning unchanged methods, and by finding ways of earning a small profit to become familiar with the motivational force underlying the elusive discipline of entrepreneurship.

Considering the number of self-employed family members indicated by learners in the Sedibeng sample, learners are urged to tap into this vast resource of knowledge and experience even if many of these family members may own one-person or small businesses and even informal enterprises. Learners can gain knowledge through informal discussions with these family members or by assisting in their businesses after school or during weekends. It can be argued that knowledge or a particular skill would have been transferred even if a learner only learns what not to do in business by keeping an eye on an active entrepreneur.

In addition, learners should be keen to become involved in any activity that may develop the knowledge, skills and experience required for successful entrepreneurial activity. This may include entrepreneurial activities at school (organising functions, selling products at a profit during breaks), public speaking competitions to develop communication skills, field trips to businesses and any other event being perceived by the learner as potentially advantageous for personal development.

The literature review suggested that entrepreneurship is a lifestyle; hence learners should embark on this lifestyle even now in an effort to gain as much as possible experiential knowledge and skills in their quest to become not only opportunity entrepreneurs, but also habitual entrepreneurs living their dreams.

5.4.1.2 Teachers and schools

The recommendations to teachers and secondary schools in the Sedibeng District should be approached with some caution. It is evident that the *outcomes based education* (OBE) model of the DoE is here to stay, or at least for some time to come;

hence public schools have no choice but to conform to the standards set by the Government. Accordingly, the recommendations presented in this section are not directed at changing OBE, but rather at adjusting the methods of teaching towards a more entrepreneurial-oriented environment.

Firstly, notwithstanding the problems experienced by schools with limited resources and teachers with low morale and high levels of stress, it should be stressed that the cultivation of an entrepreneurial learning environment begins in the classroom. Schools can contribute to entrepreneurial learning by changing the traditional "*listen and take notes*" role of learners to that of a more participative environment where current information (in addition to prescribed course material) is exchanged between teachers and learners across all subjects. Teachers would have to ensure that they remain well informed of current events and trends so as to enable a meaningful exchange with learners.

Although not possible in all instances, teachers can make a contribution by including role playing and simulations in their presentations if and when possible, followed by feedback to learners so they can adjust their approach to real-life situations. As an example, learners can be asked to prepare a short section of the prescribed learning material for presentation to the class, followed by questions and answers during which the teacher would act as a coach to direct the process. Alternatively and as another example, learners can simulate a management meeting to discuss a current event (say the global economic crisis in an economics course) from different functional perspectives. Once the meeting is concluded, the class will be allowed to pose questions to the panel and present their own views while the teacher acts as a referee and coach.

Schools can further make a contribution by formulating innovative methods to entice learners towards entrepreneurial activity. Traditional [entrepreneurial] activities at school would normally include selling beverages, fast foods and titbits during breaks or sporting events, but it is suggested that more innovative methods are required. From this perspective, principals could consider say a catered event organised by learners or a competition for the 'best business plan' adjudicated by renowned business leaders in the area. In any event, it is crucial that learners be given the opportunity to come up with the ideas for entrepreneurial events at school (therein

lies an idea: a competition for young entrepreneurs to identify entrepreneurial activities at school with the highest potential).

From another perspective, field-trips to active businesses in schools' surrounding area should also be considered. However, whereas these isolated trips are almost exclusively undertaken to large corporate organisations (e.g. Coca-Cola, SA Breweries), a different approach is suggested. Surrounding most schools are many small (but often highly entrepreneurial) businesses which would probably seize the opportunity to share their experiences with eager learners (and teachers). It is put forward that exposure of young learners to these fast-moving entrepreneurial firms would produce greater long-term benefits in so far the meaning and realities of entrepreneurial business venturing are concerned.

Finally, the presence of active entrepreneurs in learners' family surroundings can also be used to promote youth entrepreneurial development in schools. Here, learners can be asked to identify entrepreneurs among family and friends, and those with an interesting business or with a fascinating success story (or even those willing to discuss failure) can be asked to address learners during the 'life orientation' period. In this way, both learners and teachers will gain access to the exciting (and challenging) world of the entrepreneur.

The above recommendations are but a few emanating from this study. Two aspects, however, are eminent: firstly, secondary schools have an important role to play in the development of young learners' attitudinal preference for self-employment, and secondly, the effect brought about by schools must be with due consideration for the trade-off between risk and reward associated with entrepreneurial activity. Learners should not exit school with ill-conceived expectations of running a large corporation and earning a six digit income without first understanding that there will be many obstacles and hardships on the road to entrepreneurial success.

5.4.1.3 Parents and guardians

This study revealed that a significant number of learners in the Sedibeng sample do not know what the highest academic qualification of their parents or guardians are (*see* figure 4.4). This led to the earlier conclusion that some parents may not be involved with their children at the learning level.

One would expect children to strive towards their parents' [academic] achievements, but the lack of knowledge as to what these achievements are would surely remove the motivation to follow in parents' footsteps from the learning equation. It is therefore recommended that parents and guardians show a keen interest in their children's learning in a reciprocal relationship where future plans are shared and achievements celebrated.

Parents can therefore contribute towards the entrepreneurial development of their children by maintaining open channels of communication, by showing a keen interest in and participating in their children's learning and recreation activities, by sharing their (parents') career successes and failures as part of the learning process, and by encouraging children to experiment with ideas and question the way things are traditionally done.

The respondents in this study showed little interest in trade qualifications (*see* figure 4.1). This finding raised a concern for industry in South Africa already labouring under a severe shortage of qualified artisans. It is therefore recommended that parents qualified and working as artisans introduce their children to their respective professions. Successful entrepreneurs do not necessarily originate from academic or professional backgrounds, but often through the ranks of industrial firms before starting their own business in fields such as manufacturing, electrical supplies or plumbing.

In essence, the recommendation of this study to parents and guardians with young children still at school is to be there where the children are, to be involved in whatever they are doing, and to celebrate their successes with them while digesting their failures in a similar fashion.

5.4.1.4 Entrepreneurs and organised business

Figure 4.6 earlier revealed that grade 10 learners in the Sedibeng sample have a high concentration of self-employed family members (1.8 self-employed family member for every learner in the sample). Among these self-employed family members one should find necessity entrepreneurs, opportunity entrepreneurs and business leaders from small, medium and large firms.

Imagine the positive impact on learners if these family members (with a direct interest in some children in a particular school) were to approach schools to offer short, powerful presentations on their ventures to learners; or arrange field trips to their respective organisations to interact with the entrepreneur in action; or offer work-based learning opportunities after school hours or during school holidays.

Organised business, having acknowledged the role it has to play in youth entrepreneurship development (*see* section 3.3.2), can also approach schools for similar offerings based on their social responsibility. This interaction will promote networking between learners, teachers and business leaders and assist with the identification of shortfalls in basic education currently impairing the employability of learners finishing grade 12.

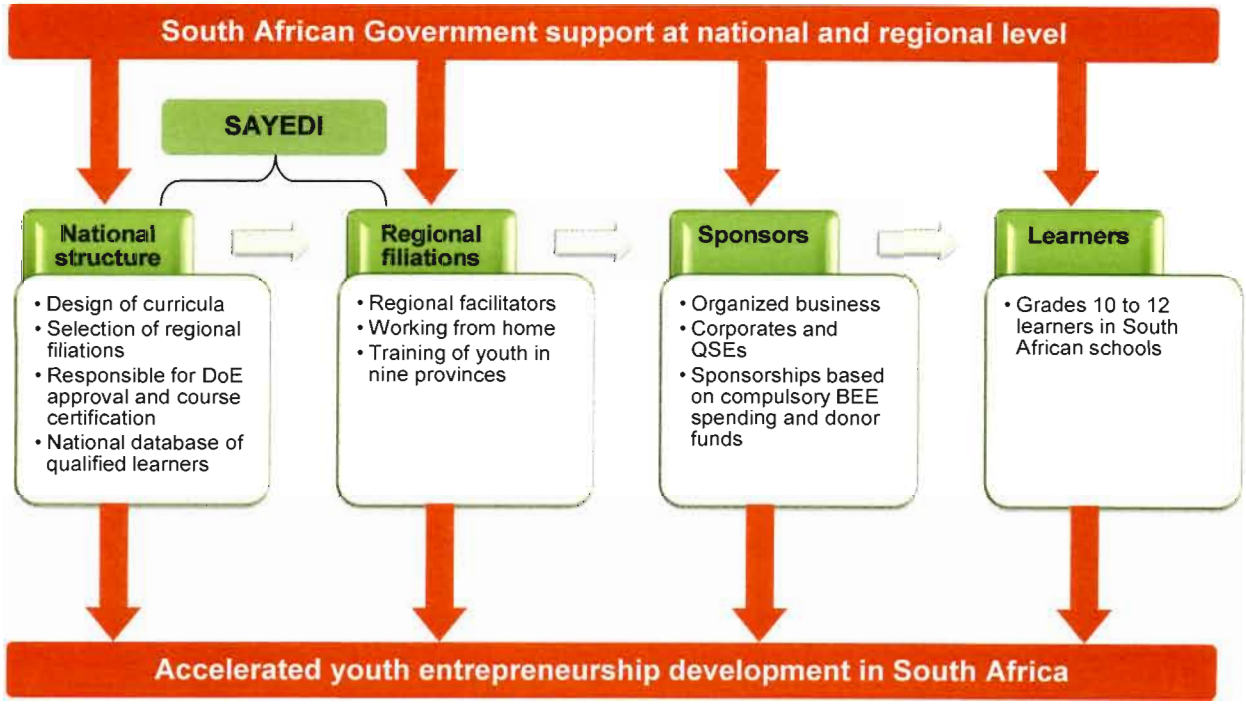
It follows that the involvement of entrepreneurs and business leaders with secondary schools will promote a win-win situation: learners will receive firsthand knowledge from different types of entrepreneurs and business leaders in different industries and with different levels of success, whereas entrepreneurs and business leaders will have the opportunity to interact with young learners (and aspiring entrepreneurs) while simultaneously shaping the future of learning in schools by highlighting the shortfalls resulting from current education methods and content.

5.4.2 A national strategy for youth entrepreneurship development

It was concluded earlier that an entrepreneurship program of value in South African schools could be implemented through an assertive effort involving all stakeholders. Such a program will require the establishment of a national initiative with regional filiations to accelerate youth entrepreneurship development and will, as with any entrepreneurial activity, require a lead entrepreneur (or a group of entrepreneurs) to rise to the challenge. The national structure will be responsible for the development of curricula and to obtain certification of courses from the Government and the Department of Education (DoE), whereas the regional filiations will facilitate training to learners in their respective areas.

The proposed model for accelerated youth entrepreneurship development in South Africa, appropriately dubbed '**SAYEDI**' ('South African Youth Entrepreneurship Development Initiative'), is presented in figure 5.1.

Figure 5.1 SAYEDI-model for youth entrepreneurship development



The successful functioning of the **SAYEDI**-model presented in figure 5.1 will be dependent on public support from the South African Government (DoE and DTi); the degree to which the national structure can obtain certification and approval of training courses and secure the participation of organised business and academic institutions; the efficiency at which regional facilitators can identify potential trainees and secure the support of sponsors; and the willingness of local businesses to provide support and funds for the training of learners.

5.4.2.1 Value proposition of SAYEDI

The formulation of **SAYEDI** was approached from the fundamental requirement that it should offer benefits to all involved stakeholders. These stakeholders were identified as grades 10 to 12 learners in South African secondary schools, academics and professionals, sponsors from organised business, the entrepreneur(s) undertaking a venture of this magnitude, and finally, South Africa as a whole from the perspectives of economic growth and social development.

The value proposition of **SAYEDI** is graphically presented in figure 5.2 clearly showing the benefits available to the stakeholders identified above.

Figure 5.2 Value proposition of the model

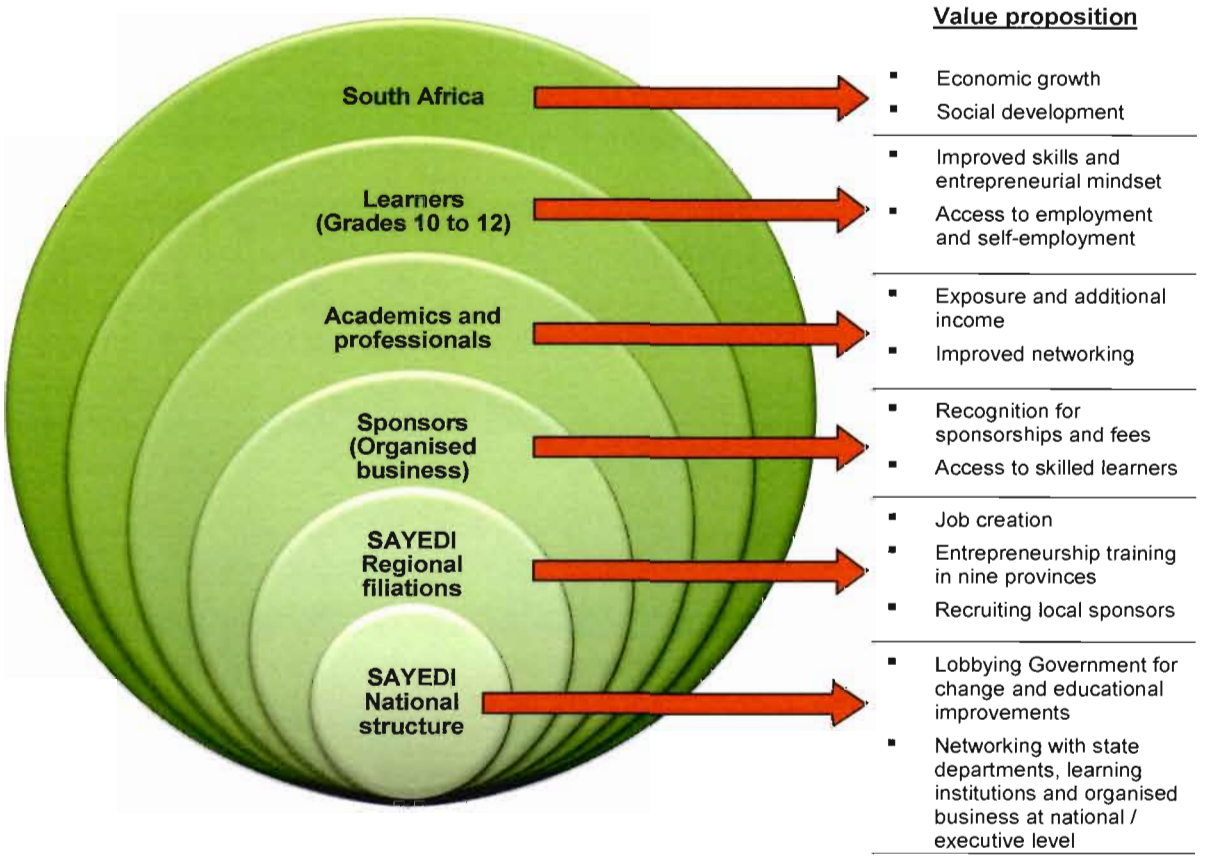


Figure 5.2 shows the potential for value-adding on several levels. Foremost, South Africa in general will benefit from a new generation of entrepreneurially oriented youths, in turn promoting economic growth and social development. Secondly, grades 10 to 12 learners will gain access to entrepreneurship training during school years (but outside school hours) to improve their employability, and in particular, the skills required for self-employment. At the third level, academics and professionals will be contracted (part-time) for the design and presentation of training courses, in turn providing them with additional income, valuable exposure and the opportunity for improved networking.

Fourthly, sponsors from organised business should receive recognition for their spending on course fees and donations. It should be borne in mind that school learners from all ethnic backgrounds in South Africa are facing similar challenges in terms of future employment. For this reason, **SAYEDI** will not favour any particular population group in South Africa, apart from exercising care to ensure that enrolment

in training programs is representative of the ethnic composition of the country. Sponsors will have access to the organisation's interactive website to monitor the progress of trainees, to read more about upcoming events and to view detailed profiles of qualified learners for future employment or bursaries for tertiary studies.

Fifthly, the regional facilitators are envisaged as qualified and experienced individuals facilitating training in the nine provinces of South Africa. Initially operating from their homes with access to the national electronic database, these facilitators will be responsible for the recruitment of local sponsors, the selection of suitable candidates from surrounding schools, arranging suitable training venues (i.e. school or community halls), as well as all the necessary arrangements for the training of local learners. At this level, the regional facilitators will contribute towards youth entrepreneurship development, creating career-paths for themselves as well as improved networking between local businesses.

Finally, the national provider will be responsible for lobbying the Government for change and educational improvements, as well as high level networking with state departments, learning institutions and organised business. It is suggested that an advisory council is included in the national structure with representation by the Government, educators and business leaders to ensure that the activities of the organisation remains focused on the development of youth entrepreneurs in a cooperative and coordinated way.

It is expected that the responsibilities of the national structure of **SAYEDI** will extend beyond the point of youth entrepreneurial training. In this sense, providing that sufficient funding can be secured, young entrepreneurs should have access to limited capital and mentoring facilities to assist them through the period of early-stage entrepreneurial activity (TEA) up to the point where their new businesses mature (*see* figure 3.2).

5.4.2.2 Design of curricula

The literature review provided extensive recommendations for successful youth entrepreneurship development. In essence, the conclusion by Long (1983: 47) that entrepreneurship training should include training on uncertainty and risk, complementary managerial competencies and an understanding of creative

opportunism seems to provide a good fit. This approach is supported by Isaacs *et al.* (2007: 625) suggesting the need for business related skills, improved knowledge and understanding of business as well as learning to be enterprising. In any event, learners need to be prepared for the immense challenges and hardships associated with starting and building entrepreneurial firms. In essence, their inflated expectations of [easily] attaining advanced academic qualifications and starting successful firms need to be 'deflated' in line with the realities of running a business in South Africa.

Of critical importance for successful youth entrepreneurship development is a healthy balance between concept (theoretical knowledge) and practice (practical know-how). Whereas theoretical training may focus on aspects such as small business management skills, the identification of viable business ideas, the compilation of business plans and methods to approach banks for financing, the practical side may include role playing, management simulations and focused feedback. Other practical topics may include exposure to market activities, projects and resource management.

It is also evident that young South Africans have a lack of mathematical skills, thus providing justification for the inclusion of business numeracy in an entrepreneurship program of value. In support of Henry *et al.* (2005b: 165), learners need to be taught the science of entrepreneurship while simultaneously stimulating their attitudes towards the art of entrepreneurship (i.e. attitudinal and motivational aspects of entrepreneurship).

Furthermore, it is envisaged that an entrepreneurship program of value will include the transfer of both functional and interpersonal skills including judicious levels of training on perseverance, maintaining a positive attitude and changing learners' perceptions regarding failure.

However, the importance of a cooperative approach to youth entrepreneurship development cannot be over-emphasized: the success of even the best training program will depend on the inclusion of the Government (for accreditation and recognition), educators (for their academic knowledge) and organised business (for funding and to provide the much needed input on practical skills currently lacking in the business environment).

5.4.2.3 Funding

The initial capital investment for the minimum required infrastructure will, as for any new venture, be the responsibility of the founding entrepreneur(s). Considering the purpose of the organisation and its value-adding potential, negotiations with the Government for seeding capital should not be excluded. In addition, large corporations may also provide capital to obtain a stake in the organisation and secure representation on the advisory council.

Once the organisation has been established and accredited by the Government (DTi and DoE), the main income stream will be derived from sponsorships and donor funds supplied by sponsoring companies. A three-tier approach is envisaged for the acquisition of funds: firstly, obtaining funding from medium and large companies (annual turnover exceeding R 35 million) and Qualifying Small Enterprises (QSEs; annual turnover between R 5 million and R 35 million) based on their compulsory spending towards Broad Based Black Economic Empowerment (BBBEE); secondly, acquiring funds from any company or institution willing to participate in the initiative; and thirdly, seeking financial assistance from the global community.

On the first approach, the Codes of Good Practice of the Broad Based BEE Act (Act Number 53 of 2003) require that qualifying companies contribute a percentage of their net profits after taxes to enterprise and socio-economic development as shown in table 5.2 (Department of Trade and Industry, 2007).

Table 5.2 BEE spending on enterprise and socio-economic development

Element	Medium to large companies (Generic scorecard)	Qualifying small enterprises (QSE scorecard)
Enterprise development	3% of Net Profit after tax	2% of Net Profit after tax
Socio-economic development	1% of Net Profit after tax	1% of Net Profit after tax

Source: Department of Trade and Industry (2007: 17, 18)

If one considers that small companies contribute approximately 35% of South Africa's gross domestic product (Department of Trade and Industry, 2007: 7), it follows that a major source of funding is available for the advancement of youth entrepreneurship in the elements of enterprise and socio-economic development.

The problem is that BBBEE spending is reserved exclusively for the so-called previously disadvantaged groups in South Africa, thus specifically excluding young white South Africans that have to compete for bursaries or employment against the constraints of affirmative action. Here, the second and third tiers for the acquisition of funding play a crucial role. The second tier will focus on acquiring voluntary sponsorships and donations from companies not necessarily insisting on BBBEE recognition; hence the persuasive power and ingenuity of the founding entrepreneur(s) will be the deciding factors to sell the value proposition of **SAYEDI** to potential sponsors and obtain the much needed funding.

The third tier focused on securing funding from the global community may prove to be a more challenging, but not impossible task. South Africa has always been in the global spotlight as the economic powerhouse of the African continent. Given the value proposition of **SAYEDI** and the contribution it can make to social development and the advancement of South Africa's competitiveness in the global economy, it stands to reason that international donors would consider **SAYEDI** as a value-adding beneficiary based on the following visionary goals:

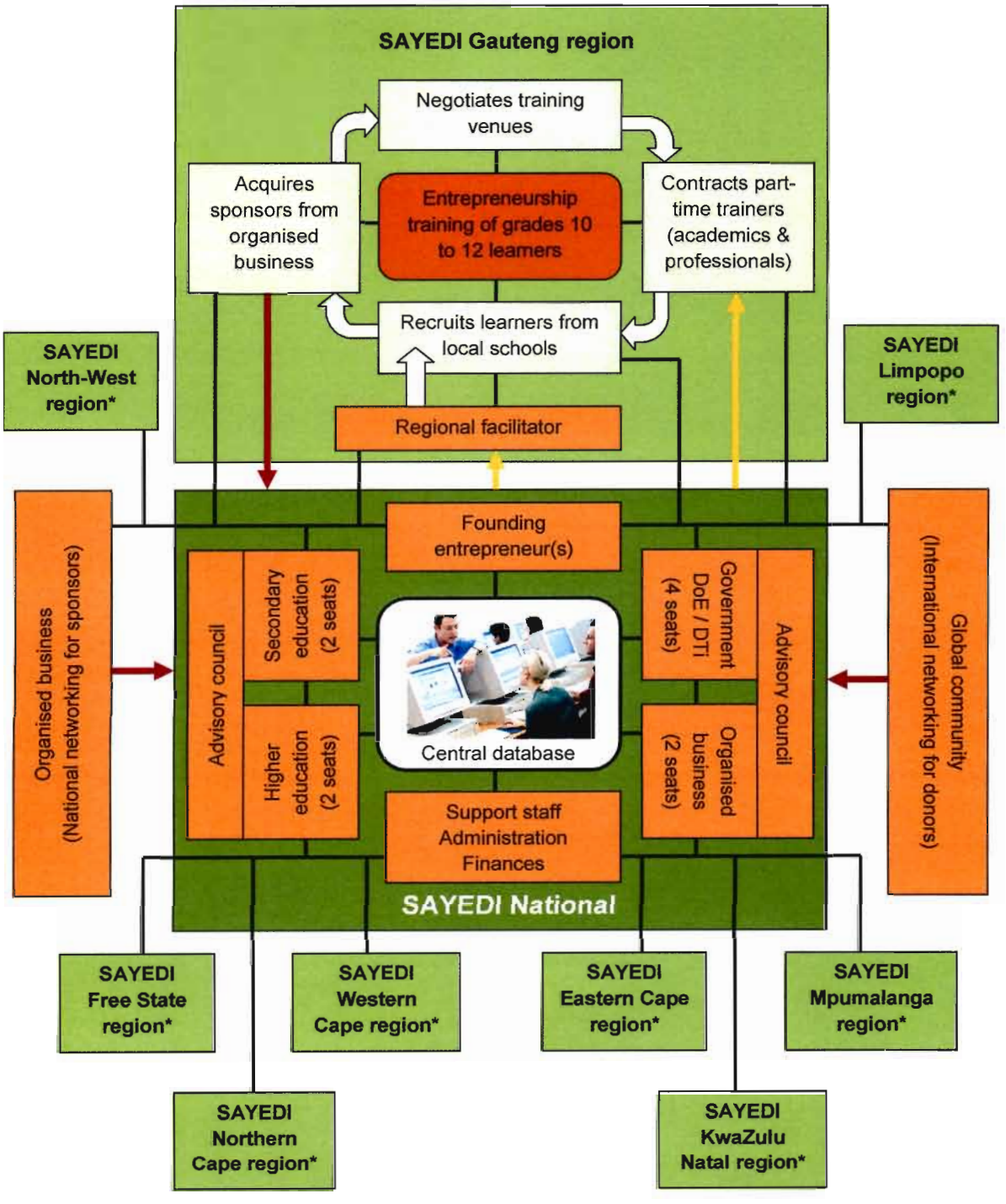
- Entrepreneurial training of grades 10 to 12 learners in South African secondary schools to promote their employability and inclination towards self-employment.
- A national database to monitor the progress of learners in training, to keep track of trained learners and to develop a supply-stream of young entrepreneurs.
- A national support system aimed at providing assistance and high quality mentoring to aspiring young entrepreneurs.
- Access to limited capital to assist young entrepreneurs through early-stage entrepreneurial activity to the point where their entrepreneurial ventures reach maturity.

5.4.2.4 Organisational structure of SAYEDI

SAYEDI is envisaged as a lean, entrepreneur-driven, network-based organisation focused on the value-adding training of youth entrepreneurs, a modest (but effective) infrastructure and the conservation of cash.

The proposed operating framework of the organisation is illustrated in the organisational structure presented in figure 5.3.

Figure 5.3 Proposed organisational structure of SAYEDI



Key:

Flow of information and connectivity through the central database

Inflow of sponsorship fees and donor funds

Outflow of service fees to regional facilitators and service providers

SAYEDI regions* Expanded structure of each region is similar to the Gauteng region

Figure 5.3 shows that the operations of **SAYEDI** will revolve around the strength of the national structure with its central database for the management of information, the initiative of the founding entrepreneur(s), the backing from support staff and the contributions of the advisory council including representation from the Government, organised business as well as secondary and higher education.

Prior to launching the initiative, sufficient time should be allocated to negotiations with the South African Government, organised business in South Africa and the international community to determine the viability of the model and support for financing in the form of sponsorships and donations. Once the viability of the model is proven and commitments for financing have been secured, the national structure may be launched as shown in figure 5.3 (*see* **SAYEDI** National).

An initiation period should follow for the establishment of the required infrastructure and the advisory council; the identification of suitable academics and professionals to develop course curricula; the development of training programs; the identification of suitably qualified and available regional facilitators; and to obtain the necessary approvals and certification from the Government. Once the national structure is fully operational and recognized by the Government, the focus can then shift to the development of **SAYEDI** regional facilitators for training to commence.

It is expected that regions will be developed successively, starting with the Gauteng region as the economic powerhouse of South Africa, followed by the next region where the potential for a successful launch is greatest at the given time. However, care should be exercised to ensure that a particular region is fully operational and sustainable prior to launching the next to maintain the highest levels of service delivery.

The selection of dependable regional facilitators is crucial for the success of the organisation. These facilitators will, with the direct involvement of the founding entrepreneur(s) and the support of the national structure, be responsible for the entire process as shown in figure 5.3 (*see* **SAYEDI** Gauteng region). In addition, facilitators will initially work from home to curb costs until such time as the region's performance can justify office space and the appointment of an administrative assistant. It is therefore imperative that these individuals are highly motivated self-starters and appropriately qualified.

It is suggested that all financial aspects be centralized within the national structure as indicated by the red and yellow arrows in figure 5.3. In so doing, the administrative burden is removed from the regional facilitators so they can focus on the core business of providing entrepreneurship training, while simultaneously ensuring that incoming sponsorships and donations are allocated correctly and that facilitators and service providers receive their remuneration when due.

The information management system (central database) should form the core of the organisation. The use of information technology will enable real-time communication between all the stakeholders as well as ease of delivering training material and business documentation to distant locations. The black lines in figure 5.3 shows high levels of connectivity between the stakeholders, even providing participating schools and learners with access to certain areas within the database.

Finally, it should be acknowledged that the proposed organisational structure of **SAYEDI** may change if and when the initiative is launched. However, the proposed structure offers many benefits from the perspectives of integrated cooperation, the empowerment of regional facilitators and ease of expansion in different regions. It may therefore prove to be the optimum structure for an initiative of this magnitude.

5.5 ACHIEVEMENT OF OBJECTIVES

This section critically measures the success of this study against the research objectives formulated in section 1.4.

5.5.1 Primary objective

The primary objective of this study was to evaluate the entrepreneurial attitudes of grade 10 learners in secondary schools in the Sedibeng Municipal District (Gauteng Province) registered with the DoE, and to compile recommendations for improved entrepreneurial learning for grades 10 to 12 learners in the FET band.

The attainment of the primary objective was dependent upon realizing the secondary objectives listed below.

5.5.2 Secondary objectives

The secondary objectives formulated in section 1.4.2 had to be realized for the attainment of the primary objective and included the following:

- To examine the early theories of entrepreneurship to identify the underlying components of the discipline.
- To examine the entrepreneurial process, perspectives on the entrepreneur and entrepreneurial attitude to determine what an entrepreneur is.
- To examine the current status of entrepreneurship in South Africa for the identification of shortfalls.
- To examine best practices for entrepreneurship education as a platform for the compilation of recommendations.
- To identify a valid instrument for the measurement of entrepreneurial attitudes in the demographic area of the study.
- To collect data from participating schools in the demographic area for statistical analysis.
- To draw valid conclusions on the entrepreneurial attitudes of grade 10 learners in the demographic area.
- To make practical recommendations for improved entrepreneurial learning in schools in the demographic area of this study.

The first objective, namely to examine the early theories of entrepreneurship to identify the underlying components of the discipline, was achieved by examining the evolution of the definition of entrepreneurship in section 2.2 and an overview of the theories of entrepreneurship in section 2.3. The study succeeded in identifying the realization of profit as the underlying component of entrepreneurial activity.

The second objective to examine the entrepreneurial process, perspectives on the entrepreneur and entrepreneurial attitude to determine what an entrepreneur is, was achieved in section 2.4 where modern perspectives on entrepreneurship was discussed, and in section 2.5 covering different perspectives on the entrepreneur including both the trait and attitude-approaches to entrepreneurship research.

The third objective was to examine the current status of entrepreneurship in South Africa for the identification of shortfalls. This objective was achieved in chapter 3, and

in particular, in section 3.2 where factors such as unemployment and poverty as well as entrepreneurial activity in South Africa emanating from the GEM 2007 South African Report (Maas & Herrington, 2007) were discussed.

Chapter 3 also addressed the fourth objective to examine best practices for entrepreneurship education as a platform for the compilation of recommendations. Section 3.3 on entrepreneurship education provided both a global perspective (section 3.3.1) and a South African perspective (section 3.3.2), complemented by important recommendations from various scholars for improved entrepreneurship education in South Africa (table 3.8).

The fifth objective, namely to identify a valid instrument for the measurement of entrepreneurial attitudes in the demographic area of this study, was achieved in chapter 2. The identification of a valid instrument originated from the criticism on trait-approaches to entrepreneurship research in section 2.5.4, further developing from the examination of attitude-approaches to entrepreneurship research in section 2.5.5 including discussions on the EAO scale of Robinson *et al.* (1991), the EOR scale of McCline *et al.* (2000) and the ATE Test of Athayde (2009a; 2009b; 2004). The literature review confirmed that the ATE Test had been developed for use with young learners, and in addition, had acceptable levels of reliability and validity for employment in this study.

The sixth objective was to collect data from participating schools in the demographic area of this study for statistical analysis. This objective was achieved in an empirical study over a two week period in July and August 2009 during which 16 secondary schools in the Sedibeng District participated in the study resulting in the completion of 1 748 statistically serviceable questionnaires. The statistical analysis of the data, results and discussion were presented in chapter 4.

Following from the statistical analysis of the data and discussion of the results in chapter 4, the seventh objective to draw valid conclusions on the entrepreneurial attitudes of grade 10 learners in the Sedibeng District was achieved in section 5.3.2 of this chapter. These conclusions were drawn from the demographic composition of the sample, the GEM comparison and the results of the ATE Test. Whereas the conclusions for the demographic characteristics and the GEM comparison were based on simple descriptive statistics, the conclusions drawn from the results of the

ATE Test were based on sufficient statistical evidence to conclude that the measuring instrument has acceptable construct validity (section 4.4.3.1), reliability (section 4.4.3.2) and relationships between the constructs (section 4.4.3.3).

The eighth and final objective was to make practical recommendations for improved entrepreneurial learning in schools in the demographic area of this study. This objective was achieved in section 5.4.1 of this chapter where practical recommendations were made to all stakeholders at the grassroots level including learners, teachers and schools, parents and guardians, and finally, entrepreneurs and organised business.

Based on the achievement of all the secondary objectives and the expanded recommendation in section 5.4.2 for a national strategy for youth entrepreneurship development in secondary schools in South Africa, it is concluded that the primary objective of this study was achieved.

5.6 SUGGESTIONS FOR FURTHER RESEARCH

The suggestions for further research emanating from this study are threefold. Firstly, the South African government, and in particular the Departments of Education and Trade and Industry, should be engaged to investigate the support and potential for funding of the initiative described in the preceding sections. This suggestion for further research also applies to the remaining two tiers of proposed funding including the willingness of organised business to act as sponsors in the absence of BBBEE recognition but in a controlled and organised environment, as well as for the potential of acquiring donations from the international community.

Secondly, it is suggested that existing entrepreneurship training programs such as the 'Young Enterprise Scheme' (YES) in New Zealand, the 'Young Enterprise Company Program' (YE) in the United Kingdom, the 'Young Achievement Australia' (YAA) enterprise program, and the 'Junior Achievement' model and 'school-to-work' strategy in America be examined for purposes of benchmarking. The identification of best practices and key success factors can then be used as a platform for the design and implementation of a youth entrepreneurship development program of value in South Africa.

Thirdly, a national study to determine the effect of different entrepreneurship training programs on the South African youth is recommended. In this sense, different pre- and post-test control-group designs should be used to expose young learners to different training programs to determine which approach and course content provide the best fit and results for the South African environment.

It is suggested that this study may be used for the first recommendation, i.e. to engage the Government, organised business and the international community to determine the potential support for the model of accelerated youth entrepreneurship development. In regards to the second and third recommendations, a separate study is suggested (perhaps a post-graduate study in youth entrepreneurship) which may be approached in accordance with the following timeline:

- *Year one*: Examination of global youth entrepreneurship programs in schools to identify best practices and key success factors.
- *Year two*: Development of different entrepreneurial training programs for young learners.
- *Year three*: Empirical study employing the different training programs developed in year two involving pre- and post-test control-group designs for random samples drawn from the population of secondary schools in South Africa.
- *Year four*: Statistical analysis of the empirical results to determine the best approach for youth entrepreneurship development in secondary schools.

5.7 CHAPTER SUMMARY

Chapter 5 focused on the gap between the current state and the desired state of entrepreneurial learning in secondary schools in South Africa, and presented the conclusions and recommendations originating from the study. The gap-analysis suggested wide-ranging differences between the current and desired state of entrepreneurial learning, thus re-emphasizing the urgent need for interventions directed at stimulating new venture and job creation in South Africa.

It was evident that the basic requirements for successful entrepreneurial activity as foreseen by the founding fathers (such as Joseph Schumpeter) are still relevant in the modern society, but that a major paradigm shift towards the development of youth is needed.

This study concluded that South African youth have a positive attitude towards entrepreneurship and the formation of new businesses, but also emphasized that these positive attitudes need to be harnessed for successful youth entrepreneurship development. This finding was supported by statistical evidence showing that there is no practical significant difference in the entrepreneurial attitudes of young learners from the perspectives of exposure to entrepreneurship at school and having self-employed parents or guardians.

Accordingly, practical recommendations were made to the stakeholders of secondary schools in the Sedibeng District for improved entrepreneurial learning with due consideration for their lack of resources. In view of the primary objective of this study, a national strategy for accelerated youth entrepreneurship development was presented based on the fundamental requirement that it should produce benefits to all involved stakeholders and promote a cooperative approach between the Government, educators and organised business. It was suggested that an entrepreneurship training program of value would have to be driven by entrepreneurs with the involvement of organised business to ensure that an entrepreneurial solution be implemented for an entrepreneurial problem.

Notwithstanding the additions of this study to the body of knowledge on the entrepreneurial attitudes of the South African youth, it was recommended that further research is required to determine the appropriate method and course content for the development of young entrepreneurs in South Africa.

BIBLIOGRAPHY

ABDALLA, I.A.H. 1997. Construct and concurrent validity of three Protestant work ethic measures in an Arabian Gulf society. *Journal of Managerial Psychology*, 12(4): 251-260.

ACS, Z.J. & AUDRETSCH, D.B. 2005. Handbook of entrepreneurship research. An interdisciplinary survey and introduction. Boston, MA: Kluwer.

AJZEN, I. 1991. The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*, 50(2): 179-211.

ALI, A.J., FALCONE, T. & AZIM, A.A. 1995. Work ethic in the USA and Canada. *Journal of Management Development*, 14(6): 26-34.

ALLINSON, C.W., CHELL, E. & HAYES, J. 2000. Intuition and entrepreneurial behaviour. *European Journal of Work and Organizational Psychology*, 9(1): 31-43.

ANTHONY, C. 2008. State must rethink SME policies. *Business Day (National)*: 16, 30 Jun. http://www.gemconsortium.org/document.aspx?id=779. Date of access: 6 Mar. 2009.

ATHAYDE, R. 2004. Attitudes to enterprise test code. London: Small Business Research Centre, Kingston University. (Available from the author at r.athayde@ kingston.ac.uk) (E-mail to: A. Steenekamp (andre@arcspray.co.za) 13 May 2009).

ATHAYDE, R. 2009a. Measuring enterprise potential in young people. *Entrepreneurship Theory and Practice*, 33(2): 481-500.

ATHAYDE, R. 2009b. Briefing paper on ATE test. London: Small Business Research Centre, Kingston University. (Available from the author at r.athayde@ kingston.ac.uk) (E-mail to A. Steenekamp (andre@arcspray.co.za) 13 May 2009).

BAUMOL, W.J. 1968. Entrepreneurship in economic theory. *American Economic Review*, 58(2): 64-71.

BAWUAH, K., BUAME, S. & HINSON, R. 2006. Reflections on entrepreneurship education in African tertiary institutions. *Acta Commercii,* 6: 1-9.

BIRDTHISTLE, N., HYNES, B. & FLEMING, P. 2007. Enterprise education programmes in secondary schools in Ireland: a multi-stakeholder perspective. *Education and Training*, 49(4): 265-276.

BJERKE, B. 2007. Understanding entrepreneurship. Cheltenham, UK: Edward Elgar.

BLAND, J.M. & ALTMAN, D.G. 1997. Statistics notes: Cronbach's alpha. *BMJ* 1997; 314: 572. http://www.bmj.com/cgi/content/full/314/7080/572 Date of access: 4 Sep. 2009.

BOSMA, N., ACS, Z. J., AUTIO, E., CODURAS, A. & LEVIE, J. 2009. Global Entrepreneurship Monitor, 2008 executive report. http://www.gemconsortium.org Date of access: 6 Mar. 2009.

BURGER, L.L. 2002. Entrepreneurial attitudes of grade 12 learners: an exploratory study. Stellenbosch: University of Stellenbosch. (Unpublished MBA mini-dissertation).

BURGER, L., MAHADEA, D. & O'NEILL, C. 2004. Perceptions of entrepreneurship as a career option in South Africa: an exploratory study among grade 12 learners. *South African Journal of Economic and Management Sciences,* 7(2): 187-205.

BURGER, L., O'NEILL, C. & MAHADEA, D. 2005. The impact of previous knowledge and experience on the entrepreneurial attitudes of grade 12 learners. *South African Journal of Education,* 25(2): 89-94.

BURGER, R. & YU, D. 2006. Wage trends in post-apartheid South Africa: constructing an earnings series from household data. *Labour Market Frontiers*: 1-8, Oct.

BUYS, P. & HAVENGA, K. 2006. Entrepreneurial functionality of new venture creation learners. *SA Journal of Human Resource Management*, 4(3): 36-43.

CAIRD, S. 2009. General Enterprising Tendency V2 Test GET 2. http://get2 test.net/test/index.htm Date of access: 25 Feb. 2009.

CAIRD, S. 1991. Testing enterprising tendency in occupational groups. *British Journal of Management*, 2(4): 177-186.

CASSON, M., YEUNG, B., BASU, A. & WADESON, N. 2006. The Oxford handbook of entrepreneurship. New York, NY: Oxford University Press.

CLEMENS, J. 2005. Joseph Schumpeter's place in history. *Fraser Forum*: 31-32, Mar. http://www.fraserinstitute.org/Commerce.Web/product_files/Mar05ffschumpeter.pdf Date of access: 28 Feb. 2009.

CO, M.J. & MITCHELL, B. 2006. Entrepreneurship education in South Africa: a nationwide survey. *Education & Training,* 48(5): 348-359.

COHEN, J. 1992. A power primer. *Psychological Bulletin*, 112(1): 155-159.

COLDWELL, D. & HERBST, F. 2004. Business research. Cape Town: Juta.

CROMIE, S. 2000. Assessing entrepreneurial inclinations: some approaches and empirical evidence. *European Journal of Work and Organizational Psychology*, 9(1): 7-30.

CROMIE, S. & JOHNS, S. 1983. Irish entrepreneurs: some personal characteristics. *Journal of Occupational Behaviour*, 4(4): 317-324.

DAVIDSSON, P. 2006. Nascent entrepreneurship. Boston, MA: Now Publishers.

DAVIES, T.A. 2001. Entrepreneurship development in South Africa: redefining the role of tertiary institutions in a reconfigured higher education system. *South African Journal of Higher Education,* 15(1): 32-39.

DEO, S. 2005. Challenges for small business entrepreneurs: a study in the Waikato region of New Zealand. http://www.sbaer.uca.edu/research/icsb/2005/056.pdf Date of access: 2 Jun. 2009.

DEPARTMENT of Trade and Industry *see* SOUTH AFRICA. Department of Trade and Industry.

DICKSON, P.H., SOLOMON, G.T. & WEAVER, K.M. 2008. Entrepreneurial selection and success: does education matter? *Journal of Small Business and Enterprise Development*, 15(2): 239-258.

DOUGLAS, E.J. & SHEPHERD, D.A. 2002. Self-employment as a career choice: attitudes, entrepreneurial intentions and utility maximization. *Entrepreneurship Theory and Practice*, 26(3): 81-90.

DPRU (Development Policy Research Unit, School of Economics, University of Cape Town). 2008. Poverty and the 'second economy' in South Africa: an attempt to clarify applicable concepts and quantify the extent of relevant challenges. (DPRU Policy Brief series, PB08-20) http://www.commerce.uct.ac.za/Research_Units/DPRU/PBriefsPDF/PDFs/PolicyBrief08-20.pdf Date of access: 13 May 2009.

EBNER, A. 2006. Schumpeterian entrepreneurship revisited: historical specificity and the phases of capitalist development. *Journal of the History of Economic Thought*, 28(3): 315-332.

ELENURM, T., ENNULO, J. & LAAR, J. 2007. Structures of motivation and entrepreneurial orientation in students as the basis for differentiated approaches in developing human resources for future business initiatives. *EBS Review*, 23(2): 50-61.

ELLIS, S.M. & STEYN, H.S. 2003. Practical significance (effect sizes) versus or in combination with statistical significance (p-values). *Management Dynamics*, 12(4): 51-53.

FIELD, A. 2005. Discovering statistics using SPSS. London: Sage.

FIET, J.O. 2001. The theoretical side of teaching entrepreneurship. *Journal of Business Venturing*, 16(1): 1-24.

FíNEZ, F.J. 2008. Three steps methodology to measure an individual's personal competencies for entrepreneurship towards a "particular" business idea. *Journal of Technology, Management and Innovation,* 3(1): 99-107.

FRANK, H., KORUNKA, C., LUEGER, M. & MUGLER, J. 2005. Entrepreneurial orientation and education in Austrian secondary schools: status quo and recommendations. *Journal of Small Business and Enterprise Development*, 12(2): 259-273.

FRANK, M.W. 1998. Schumpeter on entrepreneurs and innovation: a reappraisal. *Journal of the History of Economic Thought*, 20(4): 505-516.

FREUND, A. & CARMELI, A. 2003. An empirical assessment: reconstructed models for five universal forms of work commitment. *Journal of Managerial Psychology*, 18(7): 708-725.

FRYE, I. 2006. Poverty and unemployment in South Africa. http://www.naledi.org.za/images/pub/Poverty_and_unemployment_in_South_Africa20Feb_2006.pdf Date of access: 17 Nov. 2008.

FUCHS, K., WERNER, A. & WALLAU, F. 2008. Entrepreneurship education in Germany and Sweden: what role do different school systems play? *Journal of Small Business and Enterprise Development*, 15(2): 365-381.

GARTNER, W.B. 1989. "Who is an entrepreneur?" is the wrong question. *Entrepreneurship Theory and Practice*, 13(4): 47-68.

GEM (Global Entrepreneurship Monitor). 2004. Country expert interview questionnaire. (*In* Wong, P-K., Lee, L., Ho, Y-P., Wong, F. Global entrepreneurship monitor: 2004 Singapore report. http://unpan1.un.org/intradoc/groups/public/documents/APCITY/UNPAN023976.pdf. p. 77-83). Date of access: 3 August 2009.

GILAD, B. & LEVINE, P. 1986. A behavioural model of entrepreneurial supply. *Journal of Small Business Management*, 24(4): 45-53.

GIRD, A. & BAGRAIM, J.J. 2008. The theory of planned behaviour as predictor of entrepreneurial intent amongst final-year university students. *South African Journal of Psychology*, 38(4): 711-724.

GOSS, D. 2005. Schumpeter's legacy? Interaction and emotions in the sociology of entrepreneurship. *Entrepreneurship Theory and Practice*, 29(2): 205-218.

GREENBERG, J. 1978. Equity, equality, and the Protestant ethic: allocating rewards following fair and unfair competition. *Journal of Experimental Social Psychology*, 14(2): 217-226.

HAIR, J.F. (Jr.), MONEY, A.H., SAMOUEL, P. & PAGE, M. 2007. Research methods for business. West Sussex, UK: Wiley.

HAMIDI, D.Y., WENNBERG, K. & BERGLUND, H. 2008. Creativity in entrepreneurship education. *Journal of Small Business and Enterprise Development*, 15(2): 304-320.

HÉBERT, R.F. & LINK, A.N. 1989. In search of the meaning of entrepreneurship. *Small Business Economics*, 1(1): 39-49.

HENRY, C., HILL, F. & LEITCH, C. 2005a. Entrepreneurship education and training: can entrepreneurship be taught? Part I. *Education and Training*, 47(2): 98-111.

HENRY, C., HILL, F. & LEITCH, C. 2005b. Entrepreneurship education and training: can entrepreneurship be taught? Part II. *Education and Training*, 47(3): 158-169.

HERRINGTON, M. 2008. Youth entrepreneurship is improving. http://www.gem consortium.org/document.aspx?id=806 Date of access: 6 Mar. 2009.

HERRINGTON, M. 2009a. Positive signs. http://www.gemconsortium.org/document .aspx?id=871 Date of access: 6 Mar. 2009.

HERRINGTON, M. 2009b. Access to finance is still a big problem. http://www. gemconsortium.org/document.aspx?id=870. Date of access: 6 Mar. 2009.

HILL, N. 2007 [1937]. Think & grow rich. Columbia, MD: Marketplace Books.

HISRICH, R.D. & BRUSH, C. 1986. Characteristics of the minority entrepreneur. *Journal of Small Business Management*, 24(4): 1-8.

HISRICH, R.D. & PETERS, M.P. 1998. Entrepreneurship. 4th ed. Boston, MA: McGraw-Hill.

HORN, G. 2006. Educational solutions to improve the employability of senior high school learners. *South African Journal of Education*, 26(1): 113-128.

HOSPERS, G. 2005. Joseph Schumpeter and his legacy in innovation studies. *Knowledge, Technology & Policy*, 18(3): 20-37.

HOWORTH, C., TEMPEST, S. & COUPLAND, C. 2005. Rethinking entrepreneurship methodology and definitions of the entrepreneur. *Journal of Small Business and Enterprise Development*, 12(1): 24-40.

HSRC (Human Sciences Research Council). 2004. Poverty in South Africa. (Fact sheet, no. 1). http://www.sarpn.org.za/documents/d0000990/P1096-Fact_Sheet_No_1_Poverty.pdf Date of access: 12 May 2009.

IMD 2008. IMD world competitiveness yearbook 2008. http://www.imd.ch/research/publications/wcy/upload/scoreboard.pdf Date of access: 6 Mar. 2009.

IMD 2009. IMD world competitiveness yearbook 2009. http://www.imd.ch/research/publications/wcy/upload/scoreboard.pdf Date of access: 5 August 2009.

ISAACS, E., VISSER, K., FRIEDRICH, C. & BRIJLAL, P. 2007. Entrepreneurship education and training at the Further Education and Training (FET) level in South Africa. *South African Journal of Education,* 27(4): 613-629.

JAKEE, K. & SPONG, H. 2003. Praxeology, entrepreneurship and the market process: a review of Kirzner's contribution. *Journal of the History of Economic Thought*, 25(4): 461-486.

JOHNSTON, K.A., ANDERSEN, B.K., DAVIDGE-PITTS, J. & OSTENSEN-SAUNDERS, M. 2009. Identifying student potential for ICT entrepreneurship using Myers-Briggs personality type indicators. *Journal of Information Technology Education*, 8: 29-43.

KARLOF, B. & LOEVINGSSON, F. 2005. The A-Z of management concepts and models. London, UK: Thorogood.

KIRKWOOD, J.J. 2009. Motivational factors in a push-pull theory of entrepreneurship. *Gender in management: an international journal*, 24(5): 346-364.

KOH, H.C. 1996. Testing hypotheses of entrepreneurial characteristics: a study of Hong Kong MBA students. *Journal of Managerial Psychology*, 11(3): 12-25.

KROON, J., DE KLERK, S. & DIPPENAAR, A. 2003. Developing the next generation of potential entrepreneurs: co-operation between schools and businesses? *South African Journal of Education,* 23(4): 319-322.

KRUEGER, N. 1993. The impact of prior entrepreneurial exposure on perceptions of new venture feasibility and desirability. *Entrepreneurship Theory and Practice*, 18(1): 5-21.

KRUEGER, N.F. (Jr.) & BRAZEAL, D.V. 1994. Entrepreneurial potential and potential entrepreneurs. *Entrepreneurship Theory and Practice*, 18(3): 91-104.

KURATKO, D.F. & HODGETTS, R.M. 1998. Entrepreneurship: a contemporary approach. 4th ed. Orlando, FL: Harcourt.

KURATKO, D.F. & WELSCH, H.P. 2001. Strategic entrepreneurial growth. Orlando, FL: Harcourt.

LEATT, A. 2006. Income poverty in South Africa. http://www.ci.org.za/depts/ci/pubs/pdf/general/gauge2006/gauge2006_incomepoverty.pdf Date of access: 13 May 2009.

LEVINE, D.M., STEPHAN, D.F., KREHBIEL, T.C. & BERENSON, M.L. 2008. Statistics for managers using Microsoft® Excel. 5th ed. Upper Saddle River, NJ: Pearson Education.

LEWIS, K. 2005. The best of intentions: future plans of Young Enterprise Scheme participants. *Education and Training*, 47(7): 470-483.

LITTUNEN, H. 2000. Entrepreneurship and the characteristics of the entrepreneurial personality. *International Journal of Entrepreneurial Behaviour and Research*, 6(6): 295-309.

LONG, W. 1983. The meaning of entrepreneurship. *American Journal of Small Business*, 8(2): 47-56.

LONGENECKER, J.G., MOORE, C.W., PETTY, J.W. & PALICH, L.E. 2006. Small business management: an entrepreneurial emphasis. Mason, OH: South-Western.

LüTHJE, C. & FRANKE, N. 2003. The 'making' of an entrepreneur: testing a model of entrepreneurial intent among engineering students at MIT. *R & D management,* 33(2): 135-147.

MAAS, G. & HERRINGTON, M. 2007. Global Entrepreneurship Monitor South African report 2007. http://www.gemconsortium.org/document.aspx?id=765 Date of access: 6 Mar. 2008.

MACDONALD, R. 1965. Schumpeter and Max Weber – central visions and social theories. *Quarterly Journal of Economics*, 79(3): 373-396.

McCLINE, R.L., BHAT, S. & BAJ, P. 2000. Opportunity recognition: an exploratory investigation of a component of the entrepreneurial process in the context of the health care industry. *Entrepreneurship Theory and Practice*, 25(2): 81-94.

McDANIEL, B.A. 2000. A survey on entrepreneurship and innovation. *Social Science Journal*, 37(2): 277-284.

McFARLING, B. 2000. Schumpeter's entrepreneurs and Commons' sovereign authority. *Journal of Economic Issues,* 34(3): 707-721.

McGRATH, R.G. & MacMILLAN, I. 2000. The entrepreneurial mindset: strategies for continuously creating opportunity in an age of uncertainty. Boston, MA: Harvard Business School Press.

MOEN, J.A., RAHMAN, I.H.A., SALLEH, M.F.M. & IBRAHIM, R. 2004. A study on entrepreneurial attitudes among youths in Malaysia: case study: Institute Kemahiran Belia Negara, Malaysia. *Journal of American Academy of Business, Cambridge*, 4(1/2): 192-197, Mar.

MPAFA, D. 2008. Youth positive about being entrepreneurs. http://www.gem consortium.org/document.aspx?id=778 Date of access: 6 Mar. 2009.

MUDRACK, P.E. 1999. Time structure and purpose, type A behaviour, and the Protestant work ethic. *Journal of Organizational Behaviour*, 20(2): 145-158.

NIEMAN, G., HOUGH, J. & NIEUWENHUIZEN, C. 2003. Entrepreneurship: a South African perspective. Pretoria: Van Schaik.

NIEMAN, G. & NIEUWENHUIZEN, C. 2009. Entrepreneurship: a South African perspective. 2nd ed. Pretoria: Van Schaik.

NIEUWENHUIZEN, C. & GROENEWALD, D. 2008. Entrepreneurs' learning preferences: a guide for entrepreneurship education. *Acta Commercii*, 8: 128-144.

NORTH, E. 2002. A decade of entrepreneurship education in South Africa. *South African Journal of Education,* 22(1): 24-27.

OAKSHOTT, L. 2006. Essential quantitative methods for business, management and finance. 3rd ed. New York, NY: Palgrave Macmillan.

PELLISSIER, R. 2007. Business research made easy. Cape Town: Juta.

PETERMAN, N.E. & KENNEDY, J. 2003. Enterprise education: influencing students' perceptions of entrepreneurship. *Entrepreneurship Theory and Practice*, 28(2): 129-144.

PETERSON, R.A. 1994. A meta-analysis of Cronbach's coefficient alpha. *Journal of Consumer Research*, 21(2): 381-391.

PORTER, G. 2005. A "career" work ethic versus just a job. *Journal of European Industrial Training*, 29(4): 336-352.

RAICHAUDHURI, A. 2005. Issues in entrepreneurship education. *Decision*, 32(2): 73-84.

RIPSAS, S. 1998. Towards an interdisciplinary theory of entrepreneurship. *Small Business Economics*, 10(2): 103-115.

ROBINSON, P.B., STIMPSON, D.V., HUEFNER, J.C. & HUNT, H.K. 1991. An attitude approach to the prediction of entrepreneurship. *Entrepreneurship Theory and Practice*, 15(4): 13-31.

ROWLEY, J. 2003. Designing student feedback questionnaires. *Quality Assurance in Education*, 11(3): 142-149.

SANTOS, J.R.A. 1999. Cronbach's Alpha: a tool for assessing the reliability of scales. *Journal of Extension*, 37(2): 1-4. http://www.joe.org/joe/1999april/tt3.php Date of access: 4 Sep. 2009.

SCARBOROUGH, N.M., WILSON, D.L. & ZIMMERER, T.W. 2009. Effective small business management: an entrepreneurial approach. 9th ed. Upper Saddle River, NJ: Pearson Education.

SCHUMPETER, J.A. 1934. The theory of economic development. London, UK: Oxford University Press.

SCHUMPETER, J.A. 1939. Business cycles: a theoretical, historical, and statistical analysis of the capitalist process. Volume I. New York, NY: McGraw-Hill.

SCHUMPETER, J.A. 1951. Essays of J.A. Schumpeter. Cambridge, UK: Addison-Wesley.

SEDIBENG (Sedibeng District Municipality, South Africa). 2008. Sedibeng annual report 2007-2008. http://www.sedibeng.gov.za/keydocuments.html Date of access: 10 May 2009.

SEKARAN, U. 2000. Research methods for business: a skill-building approach. 3rd ed. New York, NY: Wiley.

SEKARAN, U. 2006. Research methods for business: a skill building approach. 4th ed. New York, NY: Wiley.

SOUTH AFRICA. Department of Trade and Industry. 2007. Background to, intention and application of the codes of good practice. http://www.thedti.gov.za/bee/Inside.pdf Date of access: 24 Aug. 2009.

SPSS, Inc. 2008. SPSS ® 16.0 for Windows, Release 16, Copyright © by SPSS Inc., Chicago, IL: SPSS.

STATSOFT, Inc. 2008. Statistica (Data Analysis Software System). Release 8. http://www.statsoft.com.

STATS SA (Statistics South Africa). 2007. Labour force survey September 2007. (Statistical release, P0210). http://www.statssa.gov.za/publications/P0210/P0210September2007.pdf Date of access: 17 Nov. 2008.

STATS SA (Statistics South Africa). 2008a. General household survey 2007. (Statistical release, P0318). http://www.statssa.gov.za/publications/P0318/P0318July2007.pdf Date of access: 20 May 2009.

STATS SA (Statistics South Africa). 2008b. Income and expenditure of households 2005/2006: analysis of results. http://www.statssa.gov.za/publications/Report-01-00-01/Report-01-00-012005.pdf Date of access: 20 May 2009.

STEYN, H.S. (Jr.) 2000. Practical significance of the difference in means. *Journal of Industrial Psychology*, 26(3): 1-3.

STEYN, H.S. (Jr.) 2002. Practically significant relationships between two variables. *SA Journal of Industrial Psychology*, 28(3): 10-15.

TEIXEIRA, P.N. 2006. Markets in higher education: can we still learn from economics' founding fathers? (Research & occasional paper series, CSHE.4.06). http://cshe.berkeley.edu/publications/docs/ROP.Teixeira.4.06.pdf Date of access: 28 May 2009.

THOMPSON, E.R. 2009. Individual entrepreneurial intent: construct clarification and development of an internationally reliable metric. *Entrepreneurship Theory and Practice*, 33(1): 669-694.

TIMMONS, J.A. & SPINELLI, S. 2007. New venture creation: entrepreneurship for the 21st century. 7th ed. New York, NY: McGraw-Hill.

UCLA (University of California). 2009. SPSS FAQ: What does Cronbach's alpha mean? *UCLA Academic Technology Services.* http://www.ats.ucla.edu/stat/Spss/faq/alpha.html Date of access: 4 Sep. 2009.

URBAN, B., VAN VUUREN, J.J. & OWEN, R.H. 2008. Antecedents to entrepreneurial intentions: testing for measurement invariance for cultural values, attitudes and self-efficacy beliefs across ethnic groups. *SA Journal for Human Resource Management*, 6(1): 1-9.

VAN WYK, R. & BOSHOFF, A.B. 2004. Entrepreneurial attitudes: a distinction between two professional groups. *South African Journal of Business Management*, 35(2): 33-38.

VAN WYK, R., BOSHOFF, A.B. & BESTER, C.L. 2003. Entrepreneurial attitudes: what are their sources? *South African Journal of Economic and Management Sciences*, 6(1): 1-24.

WELMAN, J.C. & KRUGER, S.J. 2001. Research methodology. 2nd ed. Cape Town: Oxford University Press.

WILLAX, P. 2003. A true entrepreneur doesn't have to start a business. *Business First*, 27 Jun. http://louisville.bizjournals.com/louisville/stories/2003/06/30/smallb5.html Date of access: 1 Mar. 2009.

WILLIAMS, E.E. & NAPIER, H.A. 2004. Essentials of entrepreneurship: a practical approach. http://www.entrepreneurialprocess.com/history.htm Date of access: 28 Feb. 2009.

WING YAN MAN, T. & WAI MUI YU, C. 2007. Social interaction and adolescent's learning in enterprise education: an empirical study. *Education and Training*, 49(8/9): 620-633.

YU, C.H. 2001. An introduction to computing and interpreting Cronbach Coefficient Alpha in SAS. (Statistics, Data Analysis, and Data Mining; Paper 246-26). http://www2.sas.com/proceedings/sugi26/p246-26.pdf Date of access: 4 Sep. 2009.

APPENDIX 1

INVITATION TO PARTICIPATE IN THE STUDY

André G. Steenekamp

P.O. Box 264569 Three Rivers 1935 • Office Tel: (016) 362-0005/6 • Mobile: 083 227 4927 • E-Mail: andre@arcspray.co.za

August 1, 2008

The Principal

Secondary Schools in the Vaal Triangle

Dear Sir / Madam,

RE: RESEARCH ON GRADE 10 LEARNERS

I am currently a phase II MBA student at the Potchefstroom Business School, North-West University. As part of the curriculum we will submit a dissertation on a pressing topic in our third year. After thorough consideration of many different challenges in our country, I am contemplating a study on the latent entrepreneurial capabilities of learners in South African schools.

The Global Entrepreneurship Monitor report (GEM 2007) indicates that entrepreneurial activities are slowly on the increase in SA, but suggests that entrepreneurial development must be fast tracked to include young learners if we want to create an entrepreneurial society conducive to job creation. It is also evident that many young entrepreneurs are involved in survivalist enterprises (necessity entrepreneurs) due to their personal circumstances and the high levels of poverty in our country. To the contrary, true entrepreneurial enterprises must be opportunity based to ensure growth and future sustainability. It is of critical importance

that young South Africans be developed to ensure that future entrepreneurs will make a real contribution towards new venture and job creation as well as sustainable efforts to address poverty in our country.

The aim of my study is to research and evaluate the latent entrepreneurial capabilities of learners in all schools in the Vaal Triangle registered with the DoE (Department of Education), and in particular Grade 10 students. The focus on Grade 10 students originates from the belief that these learners have adjusted to the secondary learning environment and that they have a period of three years to develop their skills prior to entering the tertiary learning - or employment environment.

However, a study of this magnitude cannot be conducted without the support of schools in the research area. The purpose of this letter is therefore to determine the support from schools for the research project to be conducted in 2009. An empirical study is envisaged during which students will have to complete a questionnaire which would take no longer than 30 minutes.

Without the assistance of our schools in the research area it would be impossible to conduct the planned research. I therefore kindly request that you complete the attached questionnaire (1 page) to enable the Potchefstroom Business School to validate my research proposal. ***I have enclosed a postage paid envelope for return of the questionnaire.***

I trust that the value of this research topic for our learners and the future development of our country will receive your kind consideration.

Thank you in advance for your kind cooperation.

Yours truly,

_____

ANDRÉ STEENEKAMP

QUESTIONNAIRE

Research on the Entrepreneurial capabilities of Grade 10 learners in SA Schools (Vaal Triangle)

Name of School:

_____

_____

Physical Address:

_____

_____

Postal Address:

_____

_____

Responsible Person: _____

Position: _____

Telephone Number: _____

Fax Number: _____

Cell Number: _____

E-Mail: _____

Agreement to participate in Empirical Study (2009):

	Yes, we agree to participate in the study.
	No, we do not wish to participate in the study

* Please mark the applicable box with 'X'

Expected number of Grade 10 learners for 2009:	

Questionnaire completed by:

Name: _____

Position: _____

Contact Number: _____

Date: _____

Thank you for completing and returning this questionnaire!

APPENDIX 2

POPULATION AND SAMPLE OF SCHOOLS

No.	Institution	Location	Responsible Person & Tel. No.	Expected learners	No. of respons
1	Assemblies of God				
2	Beverley Hills Secondary School				
3	Boikgethelo Secondary School				
4	Botebo-Tsebo Secondary School				
5	Broadlands School - Greenacres	Meyerton	Mrs. A.S. O`Raw (016) 362-4747	14	13
6	Destinata School				
7	Die Ankerskool				
8	Dinokaneng Secondary School				
9	ED Mashabane Secondary School				
10	El Shaddai School	Vanderbijlpark	Mr. J. Redelinghuys (016) 986-2470	90	100
11	Emmanuel Private School	Vanderbijlpark	Mrs. E. Honiball (016) 932-1889	3	1
12	Esokwazi Secondary School				
13	Fundalwazi Secondary School				
14	General Smuts High School	Vereeniging	Mr. R. Bartie (016) 421-4130	280	284
15	Hatfield Christelike Skool				
16	Henley High & Preparatory School	Henley-on-Klip	Ms. J. Dickinson (016) 366-0678	10	7
17	Hoër Tegniese Skool Vereeniging				
18	Hoër Volkskool Heidelberg				
19	Hoërskool Carel De Wet				
20	Hoërskool Dr Malan	Meyerton	Miss S. Guelpa (016) 362-0610	240	172
21	Hoërskool Drie Riviere				
22	Hoërskool Driehoek	Vanderbijlpark	Mnr. D. Schlechter (016) 932-1103	180	177
23	Hoërskool Emmasdal	School for learners with behavioural problems – excluded from study			
24	Hoërskool JW Luckhoff				
25	Hoërskool Overvaal	Falcon Ridge	Mr. H. Knoetze (016) 429-1792	130	107
26	Hoërskool Suiderlig	Vanderbijlpark	Miss S. van Rooyen (016) 933-9615	170	193
27	Hoërskool Transvalia	Vanderbijlpark	Mr. C. Scheuer (016) 932-1155	250	213
28	Hoërskool Vanderbijlpark				
29	Hoërskool Vereeniging				
30	Isizwe-Setjhaba Secondary School				
31	Jet Nteo Secondary School				
32	Jordan Secondary School	Evaton	Mr. Mphuti (016) 597-0303	150	102
33	Katleho-Impumelele Secondary				
34	Kgokare Secondary School				

35	Kgoro Ta Thuto Secondary School				
36	Khanya-Lesedi Secondary School				
37	Khutlo-Tharo Secondary School				
38	Krugerlaanskool				
39	Lekoa Shandu Secondary School				
40	Leshata Secondary School				
41	Life Ministries Christian School				
42	Mahareng Secondary School	Boipatong	Mr. A. Letlhake (016) 988-2756	286	167
43	Maxeke Secondary School				
44	Meyerton Secondary School				
45	Mohaladitoe Secondary School				
46	Mohloli Secondary School				
47	Mopholosi Secondary School				
48	Moqhaka Secondary School				
49	Moshate Secondary School				
50	Nyeleti Secondary School				
51	Poelano Secondary School				
52	Qedelizwe Secondary School				
53	Ratanda Secondary School				
54	Residensia Secondary School				
55	Riverside High School				
56	Roshnee Islamic School				
57	Roshnee Secondary School	Roshnee	Mr. H. Moosa (016) 556-1222	80	63
58	Rutasetjhaba Secondary School				
59	Sebokeng Technical High School				
60	Sehopotso Secondary School				
61	Setjhaba-Sohle Secondary School				
62	Sizanani Thusanang School				
63	Springfield Secondary School				
64	Suncrest High School				
65	Tandukwazi Secondary School				
66	The Net of Christ Christian School	Henley-on-Klip	Ms. C. Schade 083 244 0034	8	5
67	The Vaal High School	Vanderbijlpark	Ms. M. Fouché (016) 931-1448	200	143
68	Three Rivers Christian Academy	Vereeniging	Ms. U. Niekerk (016) 423-1149	8	9
69	Thuto Lore Secondary School				
70	Thuto-Tiro Comprehensive				
71	Tokelo Secondary School				
72	Tshepo-Themba Secondary School				
73	Tsolo Secondary School				
74	Word of Life Christian School				
			TOTAL:	**2 099**	**1 756***

* 8 Incomplete questionnaires were removed from the dataset (n = 1 748).

APPENDIX 3

APPROVAL FOR INCORPORATION OF ATE TEST

SMALL BUSINESS RESEARCH CENTRE
Director
Professor Robert A Blackburn BA MA PhD

KINGSTON UNIVERSITY
KINGSTON HILL
Kingston upon Thames
Surrey KT2 7LB
Telephone 020 8547 2000
Direct Line 020 8547 7047
Facsimile 020 8547 7048
Website http://business.kingston.ac.uk/sbrc

13 May 2009

Potchefstroom North-West University Campus
11 Hoffman Street
Potchefstroom
2531

For the Attention of Andre Steenekamp

Dear Sir,

We refer to the e-mail request to use our Attitudes Towards Enterprise Test (ATE Test), developed by Rosemary Athayde, a Senior Researcher in the Small Business Research Centre at Kingston University. I confirm our approval for you to use the test for your MBA research, subject to the following terms and conditions:

1. Your agreement and acknowledgment that the Intellectual Property Rights belong to the Small Business Research Centre (SBRC) at Kingston University
2. Your agreement to share your dataset/s with the SBRC .
3. Your agreement that you will not go public with any results from the test until we have confirmed receipt of your signed acceptance of these terms and conditions.

In order to confirm your acceptance of the above terms and conditions we would request you sign, date and return one copy of this letter to the above address. We wish you every success with your studies and look forward to a mutually beneficial relationship.

Yours faithfully
For and on Behalf of The SBRC

Professor Robert Blackburn
Director
SBRC

Robert Blackburn 13/05/2009

I confirm acceptance of the terms and conditions as detailed in your letter above

For Andre Steenekamp Date

Steenekamp 13/05/2009

APPENDIX 4

ATTITUDE TOWARD ENTERPRISE TEST (ATE Test)

Attitudes Toward Enterprise Test

(ATE Test)

(Original received from Kingston University)

KINGSTON UNIVERSITY

Enterprise Questionnaire

Your effort in completing this questionnaire is greatly appreciated. AS THIS PAPER DOES NOT HAVE YOUR NAME ON IT, NONE OF THE ANSWERS CAN BE TRACED BACK TO YOU. So, we hope you can be both serious and honest.

- *Some of the questions ask you to draw a circle round an option. You may be asked to tick a box. This may mean ticking just one box per question, or ticking one box in a line of options*
- **Please answer all the questions.**

Please indicate how much you agree or disagree with the following statements by circling one number in each line.

Strongly disagree = 1.....strongly agree = 7

1 **I believe a good imagination helps you do well at school.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

2 **I work hard to make my projects successful.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

3 **I think my future career success is largely up to me.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

4 **My friends would say I am a follower rather than a leader.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

5 **I like lessons that really stretch my imagination.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

6 **If you don't know all the facts about a problem then there is no way you can find the answer.**

1 2 3 4 5 6 7
strongly disagree……..……..strongly agree

7 **I'm good at motivating my classmates.**

1 2 3 4 5 6 7
strongly disagree……..……..strongly agree

8 **I have a lot of faith in my own ability to succeed in my future career.**

1 2 3 4 5 6 7
strongly disagree……..……..strongly agree

9 **It is important to finish off a project as well as you can.**

1 2 3 4 5 6 7
strongly disagree……..……..strongly agree

10 **I am good at getting people to work well together.**

1 2 3 4 5 6 7
strongly disagree……..……..strongly agree

11 **I trust my own instinct when solving problems in class.**

1 2 3 4 5 6 7
strongly disagree……..……..strongly agree

12 **I think I show a lot of imagination in my schoolwork.**

1 2 3 4 5 6 7
strongly disagree……..……..strongly agree

13 **It is important to plan my future career.**

1 2 3 4 5 6 7
strongly disagree……..……..strongly agree

14 **It doesn't matter if my project work is no good.**

1 2 3 4 5 6 7
strongly disagree……..……..strongly agree

15 **I believe I can persuade my classmates to agree on a plan.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

16 **Making mistakes is a good way of finding out how to solve a problem.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

17 **I am proud of my project work this year.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

18 **I dislike Teachers who are always coming up with new ideas.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

19 **I take responsibility for organising people in group work.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

20 **I am worried that I will not make a success of my future working life.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

21 **I'll keep trying out different solutions to a problem rather than give up.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

22 **Working hard on projects is well worth the effort.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

23 **Other people will get the best jobs.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

24 **I don't enjoy lessons where it is up to pupils to come up with ideas.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

25 **If I don't know the answer to a problem, then I'll have a guess.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

26 **I don't like being the centre of attention in class.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

27 **It feels good when a school project works out well.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

28 **I have as much chance as anyone else of getting a good job in the future.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

29 **I enjoy lessons where the Teacher tries out different ways of teaching.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

30 **Instinct helps me work out solutions to problems we are set.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

31. Have you ever taken part in a Young Enterprise Company Programme?	YES	NO

PART TWO

2.1

Name of your school		
Which Year are you in?		
Gender *(please circle)*	Female	Male

2.2 Please indicate your ethnic group by ticking one of the following boxes.

Mixed (White and Black African)		Black or Black British – African	
Mixed (White and Black Caribbean)		Black or Black British – Other	
Mixed (any other mixed background)		Chinese	
Mixed White and Asian		White (British)	
Asian or Asian British – Indian		White (Irish)	
Asian or Asian British – Pakistani		White (other)	
Asian or Asian British - Bangladeshi		Any Other	
Asian or Asian British – Other		Not known	
Black or Black British Caribbean			

2.3 *What type of work do your parents or guardians do?*

	Mother or Female Guardian (please tick one box)	*Father or Male Guardian (please tick one box)*
Full-time home-maker (does not do any paid work)		
In part-time employment		
In full-time employment		
Unemployed		
Self-employed or runs own business		
Don't know		

2.4 *Please tell us what your Parents or Guardians do for a living? (Even if they are unemployed at the moment, please tell us what kind of work they normally do).*

	Please write in boxes:
Mother or Female Guardian	
Father or Male Guardian	

2.5 What is the highest type of qualification you expect to achieve?

Type of Course	*Please tick one box*
Vocational course (e.g. nursery nurse, plumbing, arts foundation)	
GCSE	
GNVQ	
AS Level	
A Level	
University Degree	
Higher degree	
Other type of course *Please tell us what type*	

2.6 How likely is it that you will do any of the following things when you leave school?
(Please circle one number in each line)

	Very Unlikely						**Very likely**
Leave school and get a job straight away.	1	2	3	4	5	6	7
Join a work-based training scheme	1	2	3	4	5	6	7
Start my business							
Be unemployed.	1	2	3	4	5	6	7
Be a full-time homemaker	1	2	3	4	5	6	7
Go to University	1	2	3	4	5	6	7
Go to College	1	2	3	4	5	6	7
Other (please tell us what)	1	2	3	4	5	6	7

2.7 What are you likely to be doing when you are 21? (Please circle one number in each line)

	Very Unlikely						**Very likely**
Working in a large organisation	1	2	3	4	5	6	7
Working in a small business	1	2	3	4	5	6	7
Have my own business	1	2	3	4	5	6	7
Working in a profession (lawyer, solicitor doctor, teacher etc.)	1	2	3	4	5	6	7
Be unemployed.	1	2	3	4	5	6	7
Other *please specify:*	1	2	3	4	5	6	7

2.8 ***Has anyone in your family ever owned a business?***

	Please tick all boxes that apply
Mother or female guardian	
Father or male guardian	
Grandmother	
Grandfather	
Aunt or Uncle	
Sister or Brother	
Cousin	
Other (please say who.....	

2.9 What is the highest educational qualification that your parents or guardians have?

Type of Course	*Mother or Female Guardian Please tick one box*	*Father or Male Guardian Please tick one box*
Vocational course (e.g. nursery nurse, plumbing, arts foundation)		
'O' Level		
'A' Level		
University Degree		
Higher Degree (e.g. Masters or PhD)		
Professional Qualifications (e.g. Lawyer, Doctor)		
Other type of course *Please tell us what type*		
Don't know		

THIS QUESTIONNAIRE IS NOW COMPLETE! THANK YOU VERY MUCH FOR ALL YOUR ANSWERS

APPENDIX 5

CODING OF ATE TEST

CODING OF ATE TEST RECEIVED FROM KINGSTON UNIVERSITY

Attitudes to Enterprise Test Code © Rosemary Athayde 2004
Small Business Research Centre, Kingston University, London, UK

ATTITUDES TO ENTERPRISE TEST **02/09/2006**

CODING PROCEDURES AND CALCULATION OF RESULTS

The ATE Test comprises 5 constructs:

1. Attitudes towards creativity (beliefs about the importance of creativity and personal assessment of creativity, i.e. 'how creative am I'?).
2. Attitudes to personal control over future career (internal i.e. I am in control; or external i.e. others are in control).
3. Attitudes towards achievement in project work (seeing things through, taking pride in project work).
4. Attitudes towards using intuition in problem solving (preferring informality to formality; coping with uncertainty, being prepared to take risks in problem-solving).
5. Attitudes to leading others: fellow students and friends (bringing people together, achieving consensus, persuading others).

ITEMS IN TEST CONTRUCTS

All items are coded on a 1-7 scale from 1= strongly disagree to 7= strongly agree

Perceptions about creativity at school.
Q1 I believe a good imagination helps you do well at school.
Q12 I think I show a lot of imagination in my schoolwork
Q5 I like lessons that really stretch my imagination.
Q29 I enjoy lessons where the teacher tries out different ways of teaching.
Q18 I dislike teachers who are always coming up with 'new ideas'. **Reverse scores**
Q24 I don't enjoy lessons where it is up to pupils to come up with ideas. **Reverse scores.**

Maximum score = 42 Minimum = 6

Self-perceptions of ability to lead others
Q15 I believe I can persuade my classmates to agree on a plan.
Q4 My friends would say I am a follower rather than a leader. **Reverse score**
Q10 I am good at getting people to work well together.
Q26 I don't like being the centre of attention in class. **Reverse score**
Q19 I take responsibility for organising people in group work.
Q7 I'm good at motivating my classmates.

Maximum score = 42 minimum = 6

Intuition in problem solving.
Q6 If you don't know all the facts about a problem then there is no way you can find the answer. **Reverse score**
Q16 Making mistakes are a good way of finding out how to solve a problem.
Q30 Instinct helps me work out solutions to problems we are set.
Q11 I trust my own instinct when solving problems in class.
Q25 If I don't know the answer to a problem then I'll have a guess.
Q21 I'll keep trying out different solutions to a problem rather than give up.

Maximum score = 42 minimum score = 6

Achievement orientation in project work.
Q2 I work hard to make my projects successful.
Q27 It feels good when a project works out well in class.
Q14 It doesn't matter if my project work is no good. **Reverse score**
Q9 It's important to finish off a project as well as you can.
Q17 I am proud of my project work this year.
Q22 Working hard on projects is well worth the effort.

Maximum score = 42 minimum score = 6

Perceived personal control over career.
Q23 Other people will get the best jobs. **Reverse scores.**
Q3 I think my future career success is largely up to me.
Q8 I have a lot of faith in my ability to succeed in my future career.
Q13 It is important to plan my future career.
Q20 I am worried that I will not make a success of my future working life. **Reverse scores.**
Q28 I have as much chance as anyone else of getting a good job in future.

Maximum score = 42 minimum score =6

CALCULATION OF RESULTS

To obtain a score for each construct sum the 6 item scores for that construct, remembering to reverse the scores on items as indicated. To obtain an overall ATE Test score sum the total scores for each construct (maximum score = 210 minimum score = 30).

If the Protestant Work Ethic Test is incorporated this needs to be coded separately. (please see appendix i)

APPENDIX i

Protestant Work Ethic Test – for concurrent validity of ATE Test

Work Involvement

Work involvement is defined as "the extent to which a person wants to be engaged in work" (i.e. paid employment). The scale comprises six items. There is a seven-point agree-disagree response dimension (same as the ATE Test).

Items:

1. Even if I won a great deal of money on the lottery I would continue to work. (***'pools' changed to lottery)***
2. Having a job is very important to me.
3. I would hate to live off benefits (***changed from*** 'I should hate to be on the dole.)
4. I would soon get very bored if I had no work to do.
5. The most important things that happen to me involve work.
6. If unemployment benefit was really high I would still prefer to work.

All items are positive therefore maximum score for each item is 7 and minimum is 1. Total possible score for construct is 42 and minimum is 6.

Sources:

Warr, P. B., Cook,, J. and Wall, T. D. (1979) Scales for the measurement of some work attitudes and aspects of psychological well-being. *Journal of Occupational Psychology* 52, 129-148

Cook, J. D. Hepworth , S.J., Wall, T. D. and Warr, P. B. (1981) *The Experience of Work: A Compendium and Review of 249 Measures and their Use.* Academic Press.

APPENDIX 6

ENTERPRISE ATTITUDE QUESTIONNAIRE

ENTERPRISE ATTITUDE QUESTIONNAIRE

SCHOOL LEARNERS (ENGLISH VERSION)

HOUDING OOR ONDERNEMERSKAP VRAELYS

SKOOLLEERDERS (AFRIKAANSE WEERGAWE)

POTCHEFSTROOM
BUSINESS SCHOOL

Code Number: 01 /

ENGLISH [01] AFRIKAANS [02]

ENTERPRISE ATTITUDE QUESTIONNAIRE

SCHOOL LEARNERS (ENGLISH VERSION)

Developed by:

Rosemary Athayde (Kingston University, UK)

Stephan van der Merwe (NWU)

André Steenekamp

Contact details:

André Steenekamp

Tel.: (016) 362-0005/6 (o/h) ▪ Cell: 083 227 4927 ▪ E-mail: andre@arcspray.co.za

Study leader:

Dr. Stephan van der Merwe (NWU)

E-mail: stephan.vandermerwe@nwu.ac.za

NORTH-WEST UNIVERSITY
YUNIBESITI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT

ENTERPRISE ATTITUDE QUESTIONNAIRE

Unemployment and poverty are major concerns in South Africa. As a young South African you will be entering the labour market or tertiary education in 2012. It is important that we understand your current feelings and your plans for the future. This questionnaire is designed to collect information on how you feel about the creation of new business and entrepreneurial activity. We hope that you will find the questionnaire both interesting and stimulating.

GENERAL INSTRUCTIONS

1. **This questionnaire should be completed by Grade 10 learners only.**
2. As your name does not appear on the questionnaire your answers cannot be traced back to you. We therefore ask that you answer each question honestly and seriously.
3. This is not an exam or a test. Please relax and enjoy the exercise.
4. **Please answer all the questions.**
5. Follow the instructions given at each question or section.
6. The numbers in brackets, e.g. [01], are only for the analysis of the questionnaire.
7. Please complete the questionnaire with a **black pen**.
8. This questionnaire can be completed in less than 30 minutes.

You may now start completing the questionnaire

SECTION A: ATTITUDE TOWARDS ENTERPRISE TEST (ATE Test)

KINGSTON UNIVERSITY

Please indicate how much you agree or disagree with the following statements by <u>circling</u> one number in each line using the following scale:

Strongly disagree = 1.....strongly agree = 7

A.1 I believe a good imagination helps you do well at school.

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.2 I work hard to make my projects successful.

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.3 **I think my future career success is largely up to me.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.4 **My friends would say I am a follower rather than a leader.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.5 **I like lessons that really stretch my imagination.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.6 **If you don't know all the facts about a problem then there is no way you can find the answer.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.7 **I'm good at motivating my classmates.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.8 **I have a lot of faith in my own ability to succeed in my future career.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.9 **It is important to finish off a project as well as you can.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.10 **I am good at getting people to work well together.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.11 **I trust my own instinct when solving problems in class.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.12 **I think I show a lot of imagination in my schoolwork.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.13 It is important to plan my future career.

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.14 It doesn't matter if my project work is no good.

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.15 I believe I can persuade my classmates to agree on a plan.

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.16 Making mistakes is a good way of finding out how to solve a problem.

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.17 I am proud of my project work this year.

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.18 I dislike Teachers who are always coming up with new ideas.

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.19 I take responsibility for organising people in group work.

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.20 I am worried that I will not make a success of my future working life.

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.21 I'll keep trying out different solutions to a problem rather than give up.

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.22 Working hard on projects is well worth the effort.

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.23 **Other people will get the best jobs.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.24 **I don't enjoy lessons where it is up to pupils to come up with ideas.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.25 **If I don't know the answer to a problem, then I'll have a guess.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.26 **I don't like being the centre of attention in class.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.27 **It feels good when a school project works out well.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.28 **I have as much chance as anyone else of getting a good job in the future.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.29 **I enjoy lessons where the Teacher tries out different ways of teaching.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

A.30 **Instinct helps me work out solutions to problems we are set.**

1 2 3 4 5 6 7
strongly disagree.....strongly agree

Please answer the following question by marking 'yes' or 'no' with 'X'

A.31 **Have you ever taken part in any activity at school with the word 'entrepreneur' included in the name of the activity?** (e.g. competition for young entrepreneurs, entrepreneur's day, youth entrepreneurship program, entrepreneurial training course, field trip for entrepreneurs)
This also includes Entrepreneurship as a subject in school!

NO [01]	YES [02]

Please answer the following 2 questions if you answered 'yes' to Question A.31

A.32 Please explain briefly what you did during this activity:

A.33 How often did you participate in this activity? (Please mark one box with 'X')

ONLY ONCE [01]	YEARLY [02]	MONTHLY [03]	WEEKLY [04]	DAILY [05]

SECTION B: GEM COMPARISON

	Please indicate whether you agree or disagree with the following statements by marking the appropriate box with 'X'	AGREE	DISAGREE
B.1	There are good opportunities in South Africa to start my own business		
B.2	When I finish school I will not start my own business because I am afraid of failure		
B.3	I personally know someone who started a business in the past two years		
B.4	I have the knowledge and skills to start my own business when I finish school		
B.5	I plan to start my own business as soon as I finish school		
B.6	I think entrepreneurship is a desirable career choice (I would like to do it)		
B.7	The media in South Africa (TV / radio / newspapers) provides enough attention to entrepreneurship		
		[01]	[02]

SECTION C: DEMOGRAPHICAL INFORMATION

Please answer the following questions. Mark choices with a clear 'X'

C.1 The name of your school:

C.2 Your age:

13 [01]	14 [02]	15 [03]	16 [04]	17 [05]	18 [06]	19 [07]	20 [08]

C.3 Your gender:

Female [01]	Male [02]

C.4 What is your home language (the language you speak at home with your family)?

Afrikaans [01]	English [02]	N.Sotho [03]	S.Sotho [04]	Tswana [05]	Xhosa [06]	Zulu [07]	Other (please specify) ..... [08]

C.5 Which language is used mostly by teachers in the classroom?

Afrikaans [01]	English [02]	N.Sotho [03]	S.Sotho [04]	Tswana [05]	Xhosa [06]	Zulu [07]	Other (please specify) ..... [08]

C.6 Please mark your ethnic group (for statistical purposes only).

Asian [01]	Black [02]	Coloured [03]	White [04]	Other (please specify) ..... [05]

C.7 What do your parents or guardians do during weekdays?

	Mother or Female Guardian *(mark one box with X)*	Father or Male Guardian *(mark one box with X)*
At home by own choice (does not get paid for any work)	[01]	[07]
Has a job, but only part time (works some days a week)	[02]	[08]
Has a full-time job (works five or more days a week)	[03]	[09]
Unemployed (cannot find a job)	[04]	[10]
Self-employed or runs own business	[05]	[11]
I don't know	[06]	[12]

C.8 What type of job do your parents or guardians do? (If they are currently unemployed, tell us what work they did before)

Mother or Female Guardian:	
Father or Male Guardian:	

C.9 What is the highest qualification you expect to achieve one day?

Type of Qualification	*Mark one box with X*
School *(please specify what grade):*	[01]
Trade (e.g. Fitter and Turner / Welder / Electrician / Plumber)	[02]
Diploma	[03]
University Degree	[04]
Higher Degree (e.g. Honours / Masters / Doctorate)	[05]
Other type of course *(please specify):*	[06]

Please indicate how likely you will be doing any of the following by circling one number in each line using the following scale:

I really don't think so = 1.....I really think so = 7

C.10 How likely is it that you will be doing the following when you leave school?

	Really No						Really Yes
C.10.1 Leave school and get a job straight away	1	2	3	4	5	6	7
C.10.2 Get a job and receive training while working	1	2	3	4	5	6	7
C.10.3 Start my own business	1	2	3	4	5	6	7
C.10.4 Be unemployed	1	2	3	4	5	6	7
C.10.5 Stay at home and do household chores	1	2	3	4	5	6	7
C.10.6 Study at university	1	2	3	4	5	6	7
C.10.7 Study at college	1	2	3	4	5	6	7
C.10.8 Other *(please specify):*	1	2	3	4	5	6	7

C.11 How likely is it that you will be doing the following when you are 21 years old?

	Really No						Really Yes
C.11.1 Working in a large company	1	2	3	4	5	6	7
C.11.2 Working in a small company	1	2	3	4	5	6	7
C.11.3 Have my own business	1	2	3	4	5	6	7
C.11.4 Professional (e.g. lawyer / doctor / teacher)	1	2	3	4	5	6	7
C.11.5 Be unemployed	1	2	3	4	5	6	7
C.11.6 Study at university or college	1	2	3	4	5	6	7
C.11.7 Other *(please specify):*	1	2	3	4	5	6	7

Please answer the following by marking the boxes that apply with 'X'

C.12 Has anyone in your family ever owned a business?

	Please mark all boxes that apply with 'X'
Mother or female guardian	[01]
Father or male guardian	[02]
Grandmother	[03]
Grandfather	[04]
Aunt or Uncle	[05]
Sister or Brother	[06]
Cousin	[07]
Other *(please say who)*.....	[08]

C.13 What is the highest qualification your parents or guardians achieved?

Type of Course	Mother or Female Guardian *(mark one box with X)*	Father or Male Guardian *(mark one box with X)*
School *(please specify what Grade):*	[01]	[09]
Trade (e.g. Fitter and Turner / Welder / Plumber)	[02]	[10]
Diploma	[03]	[11]
University Degree	[04]	[12]
Higher Degree (e.g. Honours / Masters / Doctorate)	[05]	[13]
Professional Qualification (e.g. lawyer / doctor / teacher)	[06]	[14]
Other type of course *(please specify):*	[07]	[15]
I don't know	[08]	[16]

END OF QUESTIONNAIRE

PLEASE MAKE SURE THAT YOU HAVE ANSWERED ALL THE QUESTIONS

THANK YOU FOR YOUR PARTICIPATION IN THIS STUDY

POTCHEFSTROOM NWU BUSINESS SCHOOL

Kodenommer: 02 /

ENGLISH [01] AFRIKAANS [02]

HOUDING OOR ONDERNEMERSKAP VRAELYS

SKOOLLEERDERS (AFRIKAANSE WEERGAWE)

Ontwikkel deur:

Rosemary Athayde (Kingston Universiteit, Engeland)

Stephan van der Merwe (NWU)

André Steenekamp

Die 'Small Business Research Centre' (SBRC) te Kingston Universiteit, Engeland [Tel. 020 8547 2000] het **Intellektuele Eiendomsreg** op die 'Attitude Toward Enterprise Test' (ATE Toets).

Kontakbesonderhede:

André Steenekamp

Tel.: (016) 362-0005/6 (k/u) ▪ Sel: 083 227 4927 ▪ E-pos: andre@arcspray.co.za

Studieleier:

Dr. Stephan van der Merwe (NWU)

E-pos: stephan.vandermerwe@nwu.ac.za

NORTH-WEST UNIVERSITY
YUNIBESITI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT

HOUDING OOR ONDERNEMERSKAP VRAELYS

Werkloosheid en armoede is 'n groot bekommernis in Suid-Afrika. As 'n jong Suid-Afrikaner gaan jy in 2012 deel word van die arbeidsmark of tersiêre opleiding. Dit is vir ons belangrik om jou huidige gevoelens oor en planne vir die toekoms te verstaan. Hierdie vraelys is ontwerp om inligting in te samel oor jou gevoelens oor die skep van nuwe besighede en entrepreneursaktiwiteite. Ons hoop dat jy die vraelys interessant en stimulerend sal vind.

ALGEMENE INSTRUKSIES

1. **Hierdie vraelys moet slegs deur Graad 10-leerders voltooi word.**
2. Aangesien jou naam nie op die vraelys verskyn nie, kan jou antwoorde nie na jou teruggespoor word nie. Daarom vra ons dat jy elke vraag eerlik en ernstig sal antwoord.
3. Hierdie is nie 'n eksamen of 'n toets nie. Ontspan en geniet die oefening.
4. **Beantwoord asseblief al die vrae.**
5. Volg die instruksies wat by elke vraag of afdeling verskaf word.
6. Die nommers in hakies, bv. [01], is slegs vir die ontleding van die vraelys.
7. Gebruik asseblief 'n **swart pen** om die vraelys te voltooi.
8. Hierdie vraelys kan in minder as 30 minute voltooi word.

Jy mag nou met die vraelys begin

AFDELING A: 'ATTITUDE TOWARD ENTERPRISE TEST' (ATE Toets)

KINGSTON UNIVERSITY

Dui asseblief aan tot watter mate jy saamstem of verskil met die volgende stellings deur een nommer in elke lyn te <u>omsirkel</u> volgens die skaal hieronder:

Stem glad nie saam nie = 1.....stem volkome saam = 7

A.1 Ek glo dat goeie verbeelding 'n mens help om goed te presteer op skool.

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.2 Ek werk hard om my projekte suksesvol te maak.

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.3 Ek dink die sukses van my toekomstige beroep hang grotendeels van myself af.

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.4 My vriende sou sê ek is 'n volgeling eerder as 'n leier.

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.5 Ek hou van onderrig wat regtig my verbeelding aangryp.

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.6 As 'n mens nie al die feite oor 'n probleem ken nie, is daar geen manier waarop jy die antwoord kan kry nie.

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.7 Ek is 'n goeie motiveerder vir my klasmaats.

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.8 Ek het baie vertroue in my eie vermoë om 'n sukses van my toekomstige beroep te maak.

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.9 Dit is belangrik om 'n projek na die beste van jou vermoë te voltooi.

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.10 Ek slaag goed daarin om mense sover te kry om goed saam te werk.

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.11 Ek vertrou op my eie instink wanneer probleme in die klas opgelos moet word.

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.12 Ek dink ek openbaar baie verbeelding in my skoolwerk.

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.13 Dit is belangrik om my toekomstige loopbaan te beplan.

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.14 Dit maak nie saak as my projekwerk swak is nie.

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.15 Ek glo ek kan my klasmaats oorreed om saam te stem met 'n plan.

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.16 Die maak van foute is 'n goeie manier om uit te vind hoe om 'n probleem op te los.

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.17 Ek is trots op my projekwerk hierdie jaar.

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.18 Ek hou nie van onderwysers wat altyd met nuwe idees vorendag kom nie.

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.19 Ek neem verantwoordelikheid vir die organisering van mense in groepwerk.

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.20 Ek is bekommerd dat ek nie 'n sukses van my toekomstige beroepslewe sal maak nie.

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.21 Ek sal eerder verskillende oplossings vir 'n probleem probeer as om op te gee.

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.22 Dit is die moeite werd om hard aan projekte te werk.

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.23 **Ander mense sal die beste werk kry.**

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.24 **Ek geniet nie onderrig waar leerlinge met idees vorendag moet kom nie.**

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.25 **Ek sal raai as ek nie die antwoord op 'n probleem ken nie.**

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.26 **Ek hou nie daarvan om die middelpunt van aandag in die klas te wees nie.**

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.27 **Dit voel goed wanneer 'n skoolprojek goed uitwerk.**

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.28 **Ek het dieselfde kans as enigiemand anders om in die toekoms 'n goeie werk te kry.**

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.29 **Ek geniet klasse waar onderwysers verskillende onderrigmetodes probeer.**

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

A.30 **Instink help my om oplossings te vind vir probleme wat vir ons gegee word.**

1 2 3 4 5 6 7
stem glad nie saam nie.....stem volkome saam

Beantwoord asb. die volgende vraag deur 'Ja' of 'Nee' met 'X' te merk

A.31 **Het jy al ooit deelgeneem aan enige aktiwiteit by die skool met die woord 'entrepreneur' in die naam van die aktiwiteit,** bv. kompetisie vir jong entrepreneurs, entrepreneursdag, jeugentrepreneurskapprogram, entrepreneursopleidingskursus, uitstappie vir entrepreneurs?
Dit sluit ook Entrepreneurskap as 'n vak op skool in!

NEE [01]	JA [02]

Beantwoord asb. die volgende 2 vrae as jy 'ja' geantwoord het op Vraag A.31

A.32 Verduidelik asb. kortliks wat jy tydens hierdie aktiwiteit gedoen het:

A.33 Hoe gereeld het jy aan hierdie aktiwiteit deelgeneem? (Merk asb. een blokkie met 'X')

NET 1 KEER [01]	JAARLIKS [02]	MAANDELIKS [03]	WEEKLIKS [04]	DAAGLIKS [05]

AFDELING B: GEM VERGELYKING

Dui asseblief aan of jy saamstem of verskil met die volgende stellings deur die gepaste blokkie met 'X' te merk		STEM SAAM	VERSKIL
B.1	Daar is goeie geleenthede in Suid-Afrika om my eie besigheid te begin		
B.2	Ek sal nie na skool my eie besigheid begin nie omdat ek bang is vir mislukking		
B.3	Ek ken persoonlik iemand wat in die laaste twee jaar 'n besigheid begin het		
B.4	Ek beskik oor die kennis en vaardighede om na skool my eie besigheid te begin		
B.5	Ek beplan om my eie besigheid te begin sodra ek klaar is met skool		
B.6	Ek dink entrepreneurskap is 'n gewenste beroepskeuse (Ek sal dit graag wil doen)		
B.7	Die media in Suid-Afrika (TV / radio / koerante) gee genoeg aandag aan entrepreneurskap		
		[01]	[02]

AFDELING C: DEMOGRAFIESE INLIGTING

Beantwoord asb. die volgende vrae. Merk keuses met 'n duidelike 'X'

C.1 Die naam van jou skool:

C.2 Jou Ouderdom:

13 [01]	14 [02]	15 [03]	16 [04]	17 [05]	18 [06]	19 [07]	20 [08]

C.3 Jou geslag:

Vroulik [01]	Manlik [02]

C.4 Wat is jou huistaal (die taal wat jy tuis met jou gesin praat)?

Afrikaans [01]	Engels [02]	N.Sotho [03]	S.Sotho [04]	Tswana [05]	Xhosa [06]	Zulu [07]	Ander (spesifiseer asb) ..... [08]

C.5 Watter taal word die meeste deur onderwysers in die klas gebruik?

Afrikaans [01]	Engels [02]	N.Sotho [03]	S.Sotho [04]	Tswana [05]	Xhosa [06]	Zulu [07]	Ander (spesifiseer asb) ..... [08]

C.6 Merk asseblief jou etniese afkoms (slegs vir statistiese gebruik).

Asiër [01]	Swart [02]	Bruin [03]	Wit [04]	Ander (spesifiseer asb) ..... [05]

C.7 Wat doen jou ouers of voogde gedurende weeksdae?

	Moeder of Vroulike Voog *(merk 1 blokkie met 'X')*	Vader of Manlike Voog *(merk 1 blokkie met 'X')*
Verkies om tuis te bly (doen geen betaalde werk nie)	[01]	[07]
Werk slegs deeltyds (werk sommige dae per week)	[02]	[08]
Werk voltyds (werk vyf of meer dae per week)	[03]	[09]
Werkloos (kan nie werk kry nie)	[04]	[10]
In eie diens of bedryf eie besigheid	[05]	[11]
Ek weet nie	[06]	[12]

C.8 Watter tipe werk doen jou ouers of voogde? (Indien hulle tans werkloos is, vertel ons wat hulle voorheen gedoen het)

Moeder of Vroulike Voog:	
Vader of Manlike Voog:	

C.9 Wat is die hoogste kwalifikasie wat jy verwag om eendag te verwerf?

Tipe Kwalifikasie	*Merk 1 blokkie met 'X'*
Skool *(spesifiseer asb. watter graad):*	[01]
Ambag (bv. Passer en Draaier / Sweiser / Elektrisiën / Loodgieter)	[02]
Diploma	[03]
Graad op Universiteit	[04]
Hoër Graad op Universiteit (bv. Honneurs- / Meesters- / Doktersgraad)	[05]
Ander tipe kursus *(spesifiseer asseblief)*:	[06]

Dui asseblief aan hoe waarskynlik jy enige van die volgende sal doen deur een nommer in elke reël te <u>omsirkel</u> volgens die volgende skaal:

Ek dink beslis nie so nie = 1.....Ek dink beslis so = 7

C.10 Hoe waarskynlik sal jy die volgende doen wanneer jy skool verlaat?

	Beslis Nie						Beslis Wel
C.10.1 Verlaat skool en kry dadelik werk	1	2	3	4	5	6	7
C.10.2 Kry werk en ontvang indiensopleiding	1	2	3	4	5	6	7
C.10.3 Begin my eie besigheid	1	2	3	4	5	6	7
C.10.4 Sal werkloos wees	1	2	3	4	5	6	7
C.10.5 Bly tuis en doen huishoudelike take	1	2	3	4	5	6	7
C.10.6 Studeer aan 'n universiteit	1	2	3	4	5	6	7
C.10.7 Studeer aan 'n kollege	1	2	3	4	5	6	7
C.10.8 Ander *(spesifiseer asb.)*:	1	2	3	4	5	6	7

C.11 Hoe waarskynlik is dit dat jy die volgende sal doen wanneer jy 21 jaar oud is?

		Beslis Nie						Beslis Wel
C.11.1	Werk by 'n groot maatskappy	1	2	3	4	5	6	7
C.11.2	Werk by 'n klein besigheid	1	2	3	4	5	6	7
C.11.3	Besit my eie besigheid	1	2	3	4	5	6	7
C.11.4	Professioneel (bv. prokureur / dokter / onderwyser)	1	2	3	4	5	6	7
C.11.5	Sal werkloos wees	1	2	3	4	5	6	7
C.11.6	Studeer aan 'n universiteit of kollege	1	2	3	4	5	6	7
C.11.7	Ander *(spesifiseer asb.):*	1	2	3	4	5	6	7

Beantwoord asb. die volgende vrae deur die toepaslike blokkies met 'X' te merk

C.12 Het enigiemand in jou familie al ooit 'n besigheid besit?

	Merk asseblief al die toepaslike blokkies met 'X'
Moeder of vroulike voog	[01]
Vader of manlike voog	[02]
Ouma	[03]
Oupa	[04]
Tante of Oom	[05]
Suster of Broer	[06]
Niggie of Nefie	[07]
Ander *(noem asb. wie):*	[08]

C.13 Wat is die hoogste kwalifikasie wat jou ouers of voogde bereik het?

Tipe Kursus	Moeder of Vroulike Voog *(merk 1 blokkie met 'X')*	Vader of Manlike Voog *(merk 1 blokkie met 'X')*
Skool *(spesifiseer asb. watter graad):*	[01]	[09]
Ambag (bv. Passer en Draaier / Sweiser / Loodgieter)	[02]	[10]
Diploma	[03]	[11]
Universiteitsgraad	[04]	[12]
Hoër Graad (bv. Honneurs- / Meesters- / Doktersgraad)	[05]	[13]
Professionele Kwalifikasie (bv. prokureur / dokter / onderwyser)	[06]	[14]
Ander tipe kursus *(spesifiseer asb.):*	[07]	[15]
Ek weet nie	[08]	[16]

EINDE VAN DIE VRAELYS

MAAK ASSEBLIEF SEKER DAT JY AL DIE VRAE BEANTWOORD HET

BAIE DANKIE VIR JOU DEELNAME AAN HIERDIE STUDIE

APPENDIX 7

CERTIFICATION OF QUESTIONNAIRE TRANSLATION

CTrans

CENTRE FOR TRANSLATION AND PROFESSIONAL LANGUAGE SERVICES

School of Languages / Skool vir Tale
Vaal Triangle Campus / Vaaldriehoekkampus
North-West University / Noordwes-Universiteit

Contact Information / Kontakbesonderhede:
Tell / Tel: 016 910 3485
Fax / Faks: 016 910 3463
E-mail / E-pos: marileigh.pienaar@nwu.ac.za

16 July 2009

To whom it may concern,

This letter serves to confirm that the questionnaires, "Houding oor ondernemerskap vraelys" and "Enterprise attitude questionnaire", has been language edited by CTrans, the language practice office of the School of Languages and service provider at the North-West University (Vaal Triangle Campus). This means that the language has been checked for spelling, grammar and sentence construction, and that the Afrikaans document is a true translation of the original English. The mentioned documents were edited and compared by a SATI Accredited Professional Translator and Editor (membership number: 1000219). The questionnaires are to be used for research purposes by Mr. André Stenekamp, under the supervision of Dr. Stephen van der Merwe, at the North-West University (Potchefstroom Business School).

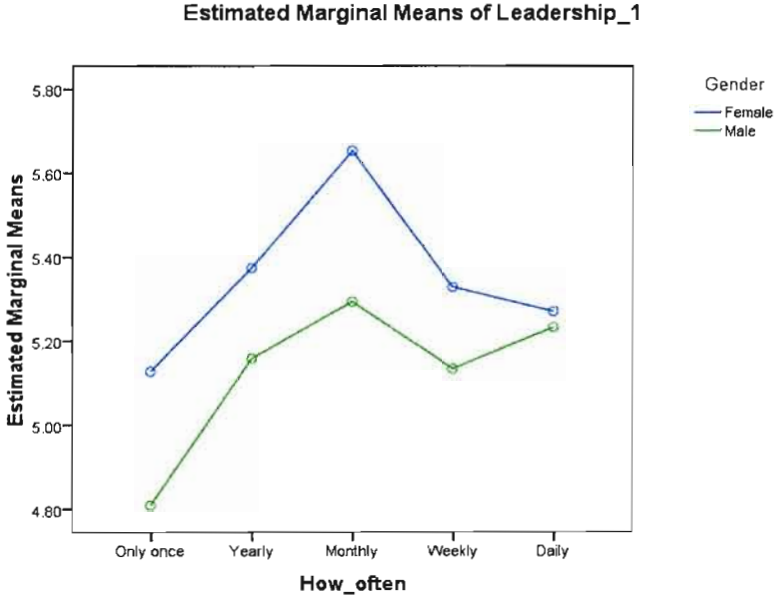
Sincerely

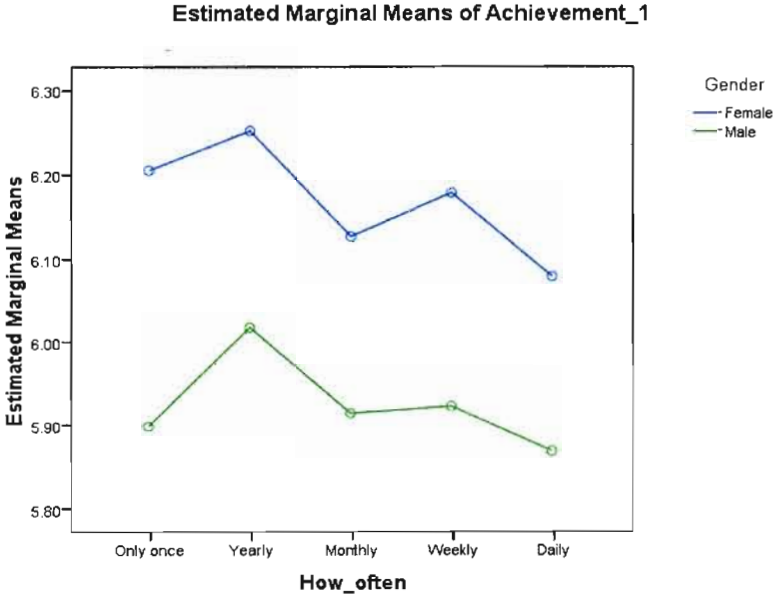
M Pienaar
Manager: CTrans

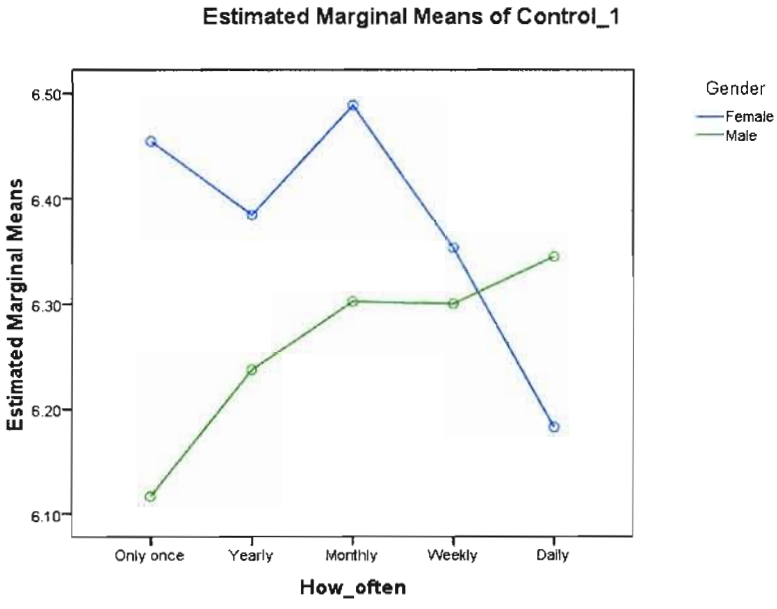
APPENDIX 8

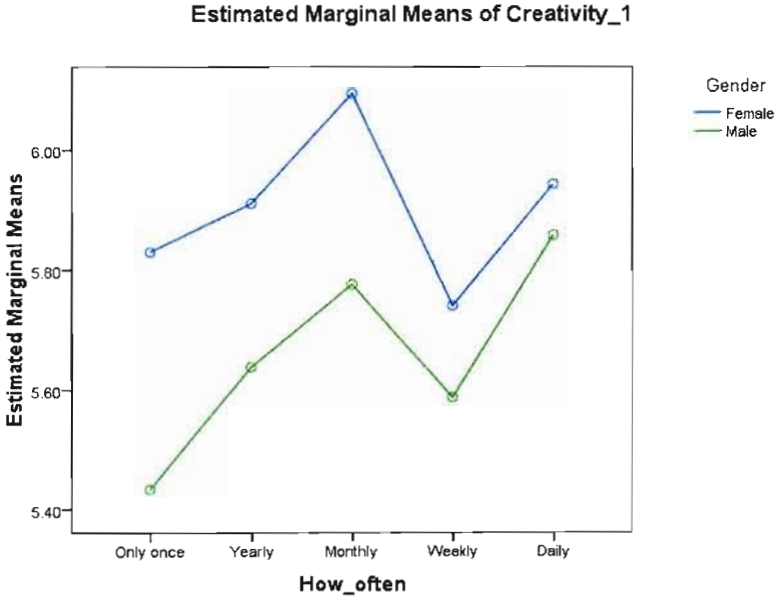
ESTIMATED MARGINAL MEANS OF CONSTRUCTS WITH DEMOGRAPHIC VARIABLES

8.1 Estimated marginal means of constructs with gender and frequency of exposure to entrepreneurship at school (figure 4.8)

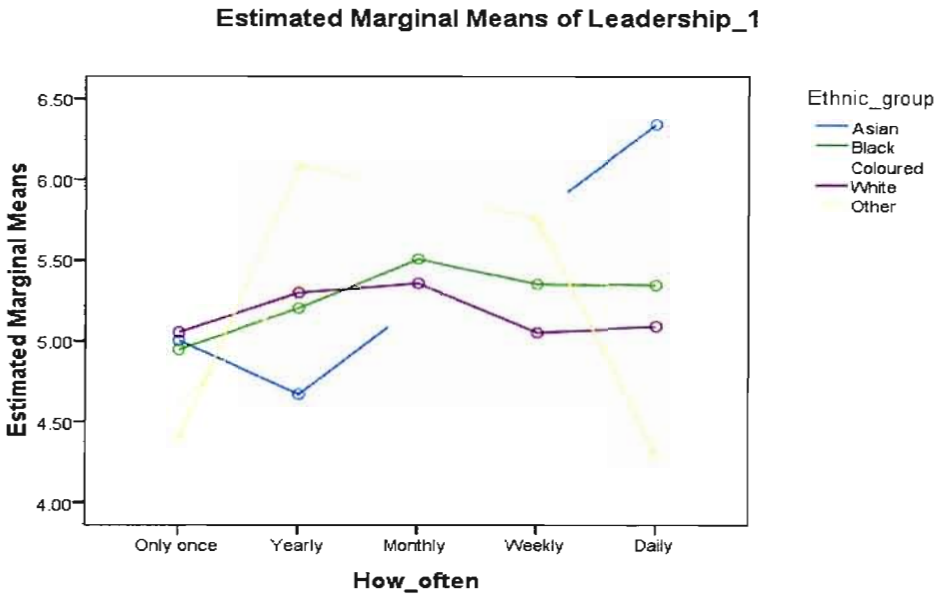




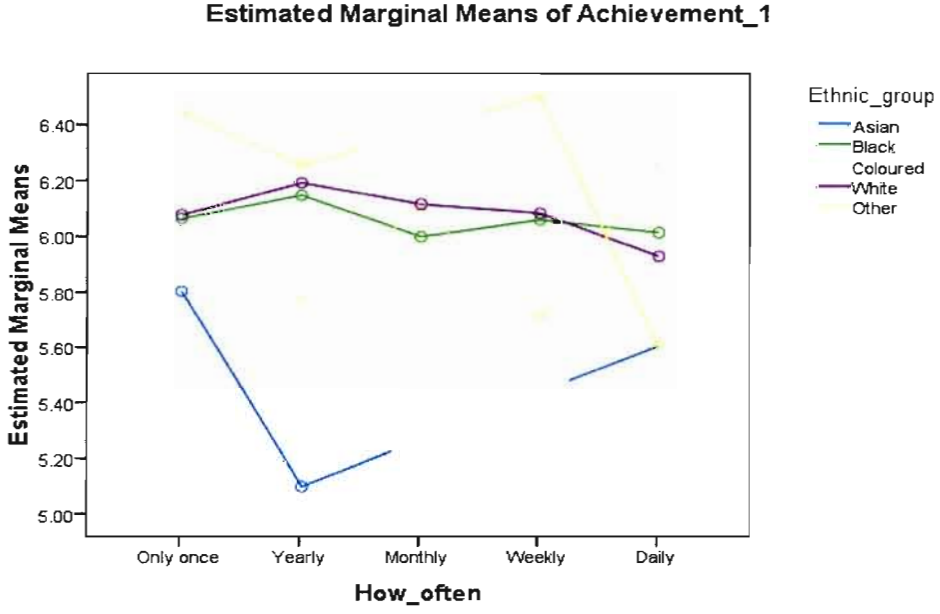

Estimated Marginal Means of Control_1
Estimated Marginal Means
6.50
6.40
6.30
6.20
6.10
Only once
Yearly
Monthly
Weekly
Daily
How_often
Gender
Female
Male


Estimated Marginal Means of Creativity_1
Estimated Marginal Means
6.00
5.80
5.60
5.40
Only once
Yearly
Monthly
Weekly
Daily
How_often
Gender
Female
Male

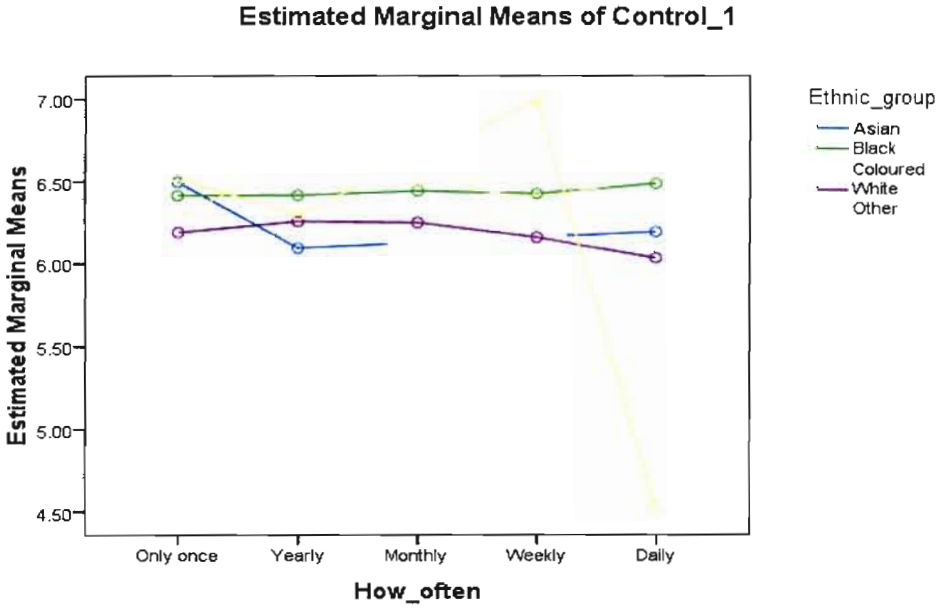
8.2 Estimated marginal means of constructs with ethnic origin and frequency of exposure to entrepreneurship at school (figure 4.9)



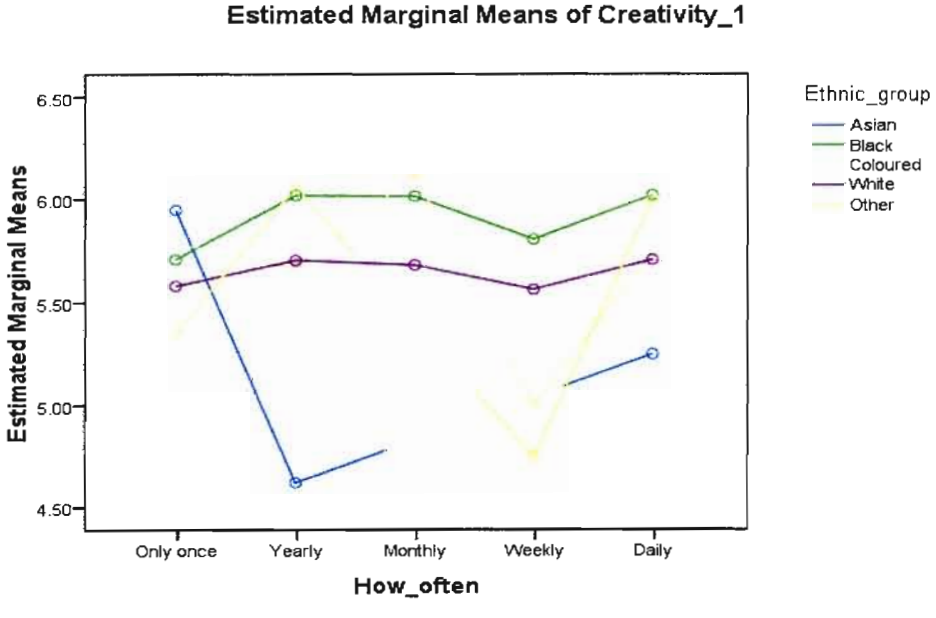
Non-estimable means are not plotted



Non-estimable means are not plotted



Non-estimable means are not plotted



Non-estimable means are not plotted