

# The enhancement of selected entrepreneurial competencies of grade 11 learners in Business Studies

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## ABSTRACT

Different researchers and governments globally have recognised the importance of entrepreneurship in economic growth and job creation. In addition, entrepreneurial activity is crucial, locally and globally. Furthermore, the Global Entrepreneurship Monitor (GEM) recognises the contribution of entrepreneurial activity to economic growth and measures it by means of the total early stage entrepreneurial activity index (TEA). Since the TEA in South Africa is very low, the need exist for an investigation into the reasons thereof.

GEM uses the entrepreneurial conditions such as entrepreneurial finance, government policies, government programmes, entrepreneurial education, research and development transfer, commercial and legal infrastructure for entrepreneurship, internal market openness and cultural and social norms to measure entrepreneurial activity. Viewing the different entrepreneurial conditions, education is recognised as one of the largest inhibitors of entrepreneurship since 2001.

In this study an investigation on education in South Africa was conducted. The goal of this study was to enhance selected entrepreneurial competencies of grade 11 learners in Business Studies. The literature study indicated that various entrepreneurship views and definitions exist. The focus of this study is on the individual characteristics of the entrepreneurs. The literature study also indicated that different terms exist to describe these individual characteristics of the entrepreneurs. For the purpose of this study the term competency was used. Thirdly the literature study also showed that various entrepreneurial competencies exist. A selection needed to be done and by using the curriculum of Business Studies, grades 10 – 12 only certain competencies were selected. The following entrepreneurial competencies are used in this study: problem solving, creativity, flexibility, risk-taking, goal orientation, planning, teamwork, communication, self-confidence and capacity to learn.

In this study a multi-method research design was used. Both quantitative and qualitative research methods were used. An intervention took place with an experimental (23 learners) and control group (24 learners). Firstly the experimental group was exposed to the intervention with the control group attending normal classes. After the completion of the intervention on the experimental group the roles were changed. The intervention of each group consisted of 24 days (28 sessions of between 35 and 43 minutes). In the quantitative research three tests were used to determine the possible enhancement of the selected entrepreneurial competencies. Both the experimental and control group were exposed to the three tests. In the qualitative research observations and interviews were used to measure the possible enhancement of the

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entrepreneurial competencies. Learners from both the experimental and control group were used in the interviews.

The results of the quantitative and qualitative research clearly show an enhancement of entrepreneurial competencies of the learners. Furthermore, the effectiveness of the proposed framework is clearly highlighted.

The use of the proposed framework will assist teachers in linking the theory (textbook) and practice (operations of the business in the simulation). In addition, the teacher can expose the learners to entrepreneurial competencies and therefore develop and enhance it. Another advantage is that this teaching approach can be included in the normal Business Studies classes without any interruption of normal school activities.

A limitation of the study is the period of the intervention. A recommendation is that the proposed strategy for the enhancement of entrepreneurial can be used through out the academic year for the enhancement of entrepreneurial competencies. This will ensure that the entrepreneurial competencies are focussed on continuously and learners are empowered in this regard.

With this study the researcher attempted to address the challenges in education in South Africa through the enhancement of entrepreneurial competencies and thus to address the low TEA.

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## UITTREKSEL

Die belangrikheid van entrepreneurskap in die ekonomiese groei en werkskepping van 'n land word wêreldwyd deur verskeie navorsers en regerings erken. Dit beteken dat entrepreneuriese aktiwiteit nasionaal sowel as wêreldwyd van belang sal wees in die vooruitgang en ontwikkeling van 'n land. Hierdie belangrike rol wat entrepreneuriese aktiwiteit speel, word ook erken en beklemtoon deur die bekende en gerespekteerde Global Entrepreneurship Monitor (GEM). GEM meet die bydrae van entrepreneuriese aktiwiteit tot ekonomiese groei met behulp van *the total entrepreneurial activity index* (TEA).

GEM bepaal TEA deur entrepreneuriese aktiwiteit te meet aan die hand van entrepreneuriese toestande soos entrepreneuriese finansiering, regeringsbeleid, regeringsprogramme, entrepreneuriese opvoeding, oordrag van navorsing en ontwikkeling, handel en wetlike infrastruktuur vir entrepreneurskap, interne openheid van markte en sosiale en kulturele norme. Deur TEA toe te pas op Suid-Afrika is daar bevind dat dit 'n land is wat 'n merkwaardige lae TEA toon, en dat *opvoeding* in Suid-Afrika een van die grootste inhibeerders van entrepreneurskap is sedert 2001.

In hierdie studie is daar ondersoek ingestel na *opvoeding* in Suid-Afrika as inhibeerder van entrepreneurskap ten einde geselekteerde entrepreneuriese *vaardighede* by graad 11 leerders in Besigheidstudies verder te ontwikkel en te verbeter. Daar is gefokus op bestaande entrepreneuriese teorieë, standpunte en definisies om die individuele eienskappe van entrepreneurs te kon beskryf. Verder is daar ook ondersoek ingestel na die verskillende tipe entrepreneuriese vaardighede wat nodig is vir suksesvolle entrepreneuriese aktiwiteit. Hieruit is die spesifieke entrepreneuriese vaardighede waarvoor graad 11 leerders behoort te beskik, aangedui. Uit hierdie verskillende vaardighede het die navorser spesifieke vaardighede geselekteer wat op 'n deurlopende basis in die skoolkurrikulum van Besigheidstudies, graad 10 - 12 voorkom, en by graad 11 leerders verder ontwikkel behoort te word. Hierdie entrepreneuriese vaardighede sluit in probleemoplossing, kreatiwiteit, aanpasbaarheid, risikoneming, doelwit oriëntasie, beplanning, groepwerk, kommunikasie, selfvertroue en vermoë om te leer.

In die studie is gebruik gemaak van 'n multimetode navorsingsontwerp. Beide kwantitatiewe en kwalitatiewe metodes is gebruik. 'n Intervensie het plaasgevind met 'n eksperimentele groep (23 leerders) en 'n kontrole groep (24 leerders). Eerstens is die eksperimentele groep onderwerp aan die intervensie met die kontrole groep wat normale klasse bygewoon het. Na die voltooiing van die intervensie van die eksperimentele groep is die rolle omgeruil. Die intervensie van elke

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groep het bestaan uit 24 dae (28 periodes van 35-43 minute). In die kwantitatiewe navorsing is drie toetse gebruik om die maandelike verbetering van entrepreneuriese vaardighede te meet. Beide die eksperimentele en kontrole groep is onderwerp aan die drie toetse. In die kwalitatiewe navorsing is waarnemings en onderhoud gebruik om die maandelike verbetering van entrepreneuriese vaardighede te bepaal en die invloed van die voorgestelde onderrig-raamwerk vas te stel. Leerders van die eksperimentele en kontrole groep is gebruik in die onderhoud.

Die resultate van die kwantitatiewe en kwalitatiewe navorsing toon 'n merkbare verbetering in die vaardighede van die leerders. Dit onderstreep ook die feit dat die voorgestelde onderrig-raamwerk funksioneel is.

Die gebruik van die voorgestelde onderrig-raamwerk stel die onderwyser in staat om die teorie (handboek) te koppel met die praktyk (bedrywigheide van die onderneming in die simulatie), met ander woorde as 'n eenheid te hanteer en sodoende word die leerder se entrepreneuriese vaardighede verbeter. Hierdie onderrig-raamwerk het ook die voordeel dat dit tydens normale Besigheidstudiesperiodes in die klaskamer ingesluit kan word sonder dat enige ontwinging van normale skoolaktiwiteite plaasvind.

'n Leemte in die studie is die periode of tydperk van die intervensie, en daarom word daar voorgestel dat die onderrig-raamwerk vir die verbetering van entrepreneuriese vaardighede gedurende die hele jaar gedoen kan word om entrepreneuriese vaardighede te verbeter. Dit sal verseker dat daar deurlopend gefokus word op die entrepreneuriese vaardigheid en sodoende ontwikkel en verbeter word.

Met hierdie studie het die navorser gepoog om die uitdaging in opvoeding in Suid Afrika die hoof te bied deur entrepreneuriese vaardighede te verbeter en sodoende die lae TEA aan te spreek.

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## LIST OF KEY TERMS

For the purpose of clarification and consistency, the key terms namely, Business Studies competency, entrepreneurship, entrepreneur, entrepreneurial, total entrepreneurial activity and grade 11 learner used in this study, are defined as follows:

- **Business Studies**

According to the National Curriculum Statement, Business Studies is structured to develop the knowledge, skills, attitudes and values which are necessary for learners to participate responsibly, productively and effectively in business activities in both the formal and informal sectors (SA, 2011:7). The subject focuses on the manner in which private and public businesses should be managed to provide goods and services which will satisfy human needs. There is also a distinctive aim at the manner in which individuals, through performing critical business roles, can participate and contribute positively to the South African and global economies (SA, 2008:7).

- **Competency**

Schroeter (2008:2) defines a competency as the actual performance of a person in a specific situation. A competency is also the ability to meet complex demands, by drawing and mobilising psychosocial resources in a particular context. It is more than only a skill or knowledge; it is a combination of knowledge and skills within a specific context that is repeated over time until it becomes internalised (OECD, 2010:4). In addition, Green (2011:12) divided a competency into three components namely skills, knowledge and attitude. Furthermore, Lackéus (2013:12) used a framework consisting of knowledge, skills and attitudes for the possible development of entrepreneurial competencies. From the above mentioned it is clear that a competency is more than a skill and also includes knowledge and attitude.

- **Entrepreneurship**

Entrepreneurship is the act of initiating, creating, building and expanding a business, building a team and gathering other resources to exploit an opportunity in the marketplace for long-term success (Van Aardt *et al.*, 2008:5). Entrepreneurship is also a process that causes changes in the economic system through innovation; an important motive is to make profits and bear the associated risk of success or failure (Nieman *et al.*, 2003:8).

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- **Entrepreneur**

The entrepreneur is a person who works creatively to establish new resources or to change old resources by searching, careful planning and using sound judgment to carry out the entrepreneurship process (Kuratko & Hodgetts, 2007:48). Entrepreneurs see opportunities, gather resources and create and grow a business to meet these needs (Nieman *et al.*, 2003:9).

- **Entrepreneurial**

The South African environment changes continuously and to be able to utilise these challenges, new technologies, systems or ways of doing things are required. The key that could unlock these challenges is entrepreneurial people. They are not satisfied with inefficiency or want to challenge the *status quo* in new and better ways to solve problems. Being entrepreneurial thus applies to the business world as well as all spheres of life (Kroon & Kroon, 2007:4). Entrepreneurial can be described as a way of thinking, reasoning and acting that is opportunity focused, holistic in approach and pursuit by an individual or team for the purpose of value creation and capture (Timmons & Spinelli, 2009:9).

- **Total early stage entrepreneurial activity (TEA)**

Entrepreneurial activity is defined by the existence of business start-ups and new businesses, therefore the level of dynamic entrepreneurial activity in a country. The Global Entrepreneurship Monitor (GEM) measures total early stage entrepreneurial activity (TEA) in a way that allows them to make cross-national as well as intra-country comparisons over time (Herrington *et al.*, 2008:10-11). GEM uses the Total Early-stage Entrepreneurial Activity (TEA) index to measure entrepreneurship. TEA indicates the existence of business start-ups and new businesses in the adult, 18 to 64 years, population. New businesses are businesses in the category up to 3,5 years (Herrington *et al.*, 2008:11).

- **Grade 11 learner**

A grade 11 learner is a person receiving secondary education and learning by gaining knowledge, comprehension, and experience through study in the second last year of high school. This learner will act in the interests of a society based on respect for democracy, equality, human dignity and social justice. Learners have to demonstrate an ability to think logically, analytically, holistically and laterally. The ability to transfer skills from familiar to unfamiliar situations is also part of the outcome of education (SA, 2003:4-5).

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Although the intervention was done on grade 11 learners the same principles apply to grade 10 – 12.

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# CHAPTER 1: INTRODUCTION AND OVERVIEW

## 1.1 INTRODUCTION

The positive impact of sustainable entrepreneurship on economies is recognised worldwide (Kuratko & Hodgetts, 2007:5). Entrepreneurship is recognised as one of the major contributors to a country's economic growth and job creation, and since there is a constant failure in South Africa to absorb the growing number of job seekers in the formal as well as in the public sector, the advantages of the proper application of entrepreneurship has drawn the attention of Government as well as the private sector over the last decade to address unemployment (Herrington *et al.*, 2010:4). In order for any country to establish policies with regard to the implementation of entrepreneurship initiatives, a thorough investigation should be undertaken into the specific entrepreneurial activities which need attention. In this regard, the establishment of the worldwide Global Entrepreneurship Monitor (GEM) study provides an effective measure of various countries' entrepreneurial activities in comparison to other countries. The GEM study is an annual global study conducted by a consortium of universities with the aim of analysing the level of entrepreneurship occurring in various countries (59 in 2010 report). The main indicator used by the GEM is called the total early stage entrepreneurial activity index (TEA), which assesses the proportion of adults between 18 and 64 years who are actively involved in starting a business or are owner-managers of a business (Orford *et al.*, 2003:13).

According to Herrington *et al.* (2010:28) and Orford *et al.* (2004:26), the results from the TEA are affected by various conditions which can either contribute to or limit the TEA. These conditions include entrepreneurial finance, entrepreneurial education, commercial and professional infrastructure, entry regulations, cultural and social norms, physical infrastructure, government programmes, government policy, and the transfer of research and development (Herrington *et al.*, 2010:28).

In the GEM report of 2010 the condition which was indicated as being the most limiting factor to entrepreneurship in South Africa, was entrepreneurship education (Herrington *et al.*, 2010:14). In addition, the 2012 report of GEM shows constraints such as a dysfunctional education system and more specific, poor education at primary and secondary level (Turton & Herrington, 2012:30). According to Herrington *et al.* (2008:49) these inhibitors also include aspects such as the method of teaching entrepreneurship, teachers' training, out-dated learning programmes, teachers' absence of practical business experience and a lack of expertise.

The focus of South Africa's entrepreneurial performance has to be on improving the country's human capital through education and skills training (Herrington *et al.*, 2008:48).

Entrepreneurship education should therefore already focus on the development or enhancement of specific entrepreneurial competencies at school level to adhere to the challenges of South Africa's entrepreneurial activities (Baron & Shane, 2005:24).

## **1.2 PROBLEM STATEMENT**

Business operations in South Africa are to a large extent hindered by an inadequately educated workforce (Herrington *et al.*, 2008:31). In addition, the shortage of skills in the country also has a major negative effect on economic growth, productivity and business efficiency. There is thus a growing need for a skilled and competent workforce in South Africa. Maas and Herrington (2006:44-48) suggest focused entrepreneurial education in schools as a solution to the skill shortages in South Africa. According to them, a paradigm shift is needed in the education system and the general entrepreneurial attitude of South Africans need to be developed if future entrepreneurial activities within the economy are to be effectively promoted.

From an analysis of the outcomes of different subjects currently presented in secondary schools in South Africa, it was derived that the subject Business Studies is best suited for the development and enhancement of school learners' entrepreneurial skills and attitude. The Business Studies curriculum also focuses on the development of learners' knowledge, skills, attitudes and values pertaining to the formal and informal South African economic sectors as well as the encouragement of the development of entrepreneurial initiatives (SA, 2003:9).

The favourability for learners to select Business Studies as a subject is highlighted by the technical reports of 2011 (SA, 2012: 48 & 57) and 2012 (SA, 2013:68). These reports state that Business Studies is one of the most favourite subjects selected by learners from grade 10 in South Africa. As table 1.1 indicates, the total number of grade 12 learners who had Business Studies as a subject in South Africa were 195 507 from the total of 511 152 grade 12 learners (38.2%). This means that more than one third of the class of 2012 had Business Studies as a subject. Business Studies as a subject can therefore play a significant role in the improvement of entrepreneurial competencies pertaining to the South African workforce.

Many school learners enter the working environment after grade 12 since they do not qualify for further studies at Higher Education Institutions (see table 1.2). For these learners a focus on entrepreneurship in school is imperative if they want to excel in the workplace or want to start their own businesses.

**Table 1.1: Number of learners registered for Business Studies in grade 12**

Year	Business Studies learners	Total learners in grade 12
2008	204 963	533 561
2009	206 553	552 073
2010	200 795	537 543
2011	187 677	496 090
2012	195 507	511 152

**Source:** SA (2012:48 & 57) & (2013:68)

Since entrepreneurial success increases when entrepreneurs are educated, the focus of this study is on the enhancement of selected competencies in school learners so that they are able to function as potential future entrepreneurs.

**Table 1.2: Number of grade 12 learners that achieved grade 12 eligible for bachelor**

Year	Number of grade 12 learners eligible for bachelor	Total grade 12 learners	% of learners eligible for bachelor
2008	107 274	533 561	20,1%
2009	109 697	552 073	19,9%
2010	126 371	537 543	23,5%
2011	120 767	496 090	24,3%
2012	136 047	511 152	26,6%

**Source:** SA (2013:51) & (2012:48)

An analysis of the research problem indicates that the following research questions need to be answered in this study:

- Research question 1: Is there a need for entrepreneurship education in South Africa?
- Research question 2: What competencies do entrepreneurs need to have?
- Research question 3: What teaching and learning strategies are needed for the enhancement of entrepreneurial competencies?
- Research question 4: Which framework is needed for the enhancement of entrepreneurial competencies of school learners?

### **1.3 OBJECTIVES OF THE STUDY**

#### **1.3.1 Goal**

The goal of the study is to enhance selected entrepreneurial competencies of secondary school learners in Business Studies in South Africa.

#### **1.3.2 Objectives**

The objectives of the study are to:

- Describe the need for entrepreneurship education.
- Identify the competencies entrepreneurs need to possess.
- Describe the teaching and learning strategies for the enhancement of entrepreneurial competencies.
- Develop a framework for the enhancement of entrepreneurial competencies for school learners.

### **1.4 RESEARCH METHODOLOGY**

The research method will consist of a literature review and an empirical study.

#### **1.4.1 Literature review**

A literature study will be conducted to investigate existing research on the topic. The reason is that it ensures no duplication of previous studies, the discovery of recent theorising of the topic, the discovery of the most widely accepted empirical findings and finding the most widely accepted definitions on the topic (Mouton, 2001:86-87).

A search for recent and previous studies on similar issues was conducted through the NEXUS Database System. A literature study on the curriculum, entrepreneurial competencies, learning and GEM reports is subsequently conducted. Literature was obtained from sources such as collections, journals, textbooks, published articles and the Internet.

#### **1.4.2 Empirical study**

The empirical study is the part of the research process that involves field work. This stage of the research can be a laboratory, a natural setting or an archive and is dictated by the research

design (Kent, 2007:11-12). In this study, the research design, method of research and limitations are discussed.

#### 1.4.2.1 Research design

In this study qualitative and quantitative methods were used to answer the research question. In this regard, several qualitative and quantitative methods were used. Linking to the quantitative part of this research, questionnaires were used to gather quantitative information. Interviews and observations were also conducted and formed part of the qualitative methods in this research.

The multi-method research design that was used in this study is the concurrent dominant status research design (QUANTITATIVE + qualitative) (Johnson & Onwuegbuzie, 2004:22). This research design is a one-phase design, which means that with an experimental research design (quantitative approach) provision is made for the collection of qualitative data (qualitative approach) (Gelo *et al.*, 2008:282; Johnson & Onwuegbuzie, 2004:22; Creswell, 2003:214). Quantitative and qualitative data collection is thus taking place at the same time and not sequential. This means that quantitative data collection is not dependent on qualitative data collection and *vice versa* (Gelo *et al.*, 2008:281-282). The collection of qualitative data is therefore embedded within a quantitative experimental design. This manner of data collection is referred to, by some researchers (Byrne & Humble, 2006:2) as the multi-method design, because quantitative and qualitative methods are used to investigate different research questions within the study and are not used to answer a research question by using both quantitative and qualitative methods.

The experimental design whereby quantitative data collection took place and where qualitative data collection will be embedded in, is a quasi-experimental non-probability control group before and after design (Leedy & Ormrod, 2005:227) (Table 1.3). On the basis of this experimental design, the participants of the study will be divided into an experimental and control group. Both the groups will be tested before and after the intervention.

**Table 1.3: The quasi-experimental non-probability control group before and after design**

Group	Pre-test	Intervention	Post-test 1	Intervention	Post-test 2
Experimental	x	X	x	_____	x
Control	x	_____	x	x	x

### **1.4.2.2 The intervention**

Intervention will be used in this study. During the intervention, the strategy for the enhancement of entrepreneurial competencies will be implemented. The intervention will first be used on the experimental group to determine whether there is a difference between the experimental and control group, because of the strategy being implemented. Hereafter, the same 'strategy' will also be implemented during a second intervention on the control group. The reason for the second intervention is (1) to expose all the participants in this study to the same intervention and (2) to determine whether the strategy has the same effect on both groups.

### **1.4.2.3 Quantitative research**

The quantitative research primarily focuses on the construction of quantitative data. The data are numerical records that are constructed by the variables and sets of values to be used before the data collection takes place (Kent, 2007:10).

#### **1.4.2.3.1 Participants**

In this study, a purposive sample was used, because the researcher selected the sample using the researcher's own experience and judgment (Kent, 2007:320). The close proximity and willingness of the teacher to participate were used to choose the school. Other reasons for selecting this school were the availability of two groups with the same culture and language and the opportunity to conduct the research within the school programme without interfering with their normal school programme. The selected school is a well-known high school in Potchefstroom in the North West Province.

A respondent is a person who responds or replies and a participant is a person who participates (Merriam-Webster's dictionary). The study used learners who would participate; therefore in this study the term participant was used. The participants who will be used are all the Grade 11 learners (n = 47) in one school in Potchefstroom who have Business Studies as a subject. They are divided into two equal groups according to the time table.

#### **1.4.2.3.2 Data collection**

The participants were tested three times in the study and they completed two questionnaires each time. The study commenced with a pre-test to be completed by both the experimental and control groups (see Table 1.4). After the pre-test the first intervention followed. Hereafter both the groups completed the first post-test. The groups switched roles; the control group executed the intervention and the experimental group continued with their normal classes. The second intervention followed and afterwards the second post-test was completed. During both

interventions the subjected group would be extracted from their teaching programme, while the other group continued with their school-based teaching programme.

#### 1.4.2.3.3 Reliability and validity

The exploratory factor analysis will be done to assure construct validity on the different items of the three tests. Cronbach's alpha coefficients were used to access the internal consistency of the measurement of instruments (Field, 2007:667).

#### 1.4.2.3.4 Data analysis

A repeated measures analysis of variance (ANOVA) with factor tests and groups was performed. The factor tests are the time factor used in the repeated measures design. Normal probability plots of the residuals were conducted in each analysis to assure that the errors were fairly normally distributed (Tabachnick & Fidell, 2001). Bonferroni post-hoc tests were done to determine pairwise differences between means of tests within each group. Cohen's d-values will be calculated to determine whether the differences will be of practical value; the LS-means and mean error sum of squares (MSE) resulting from the ANOVA table was used.

### **1.4.2.4 Qualitative research**

The qualitative part of the study will make use of research methods in the form of observations and semi-structured interviews to collect data.

#### 1.4.2.4.1 Participants

Observation will be done on participants who are part of the experimental group and the control group of the intervention process.

The participants who will be interviewed will be selected through a purposeful homogenous case sampling method (Gall *et al.*, 1997:217-218; Lincoln & Guba, 1985:177-178). This selection method will select at least ten participants, five participants from the experimental group and five from the control group.

#### 1.4.2.4.2 Data collection

In this study two data selection methods were used which included semi structured interviews as well as observations.

The researcher collected qualitative data on the basis of observation. Field notes were used to record the observations (Leedy & Ormrod, 2005:146). Qualitative data based on the observations was obtained in the following ways:

- Through the teaching advisor that observed the teaching of the researcher during the intervention according to theme categories;
- Through the researcher himself making notes of the participants' actions and reactions on an observation sheet.

Semi-structured interviews consist of fixed questions that are drawn up in advance to be asked to participants. The interview will be guided rather than dictated by the predetermined questions (Greeff, 2011:352). Therefore, the researcher can, based on the responses of the participants, expand questions to clarify certain aspects, to obtain own views and get more examples and aspects that the researcher did not think of. With this investigation the interviews were performed with ten (10) participants from both the experimental and control group on a random basis. The interviews were done by the researcher himself and were recorded by a transcription kit (electronically) for further transcriptions.

#### 1.4.2.4.3 Reliability and validity

Reliability of the observations was obtained through internal and external consistency. Internal consistency was obtained through the actual completion of the observation sheet that focusses on the same aspects of the different teaching sessions. External consistency was obtained through the involvement of the teaching advisor to observe the teaching of the researcher.

The validity of the observations in this investigation is strengthened through confidentiality, credibility and confirmability. There is confidence in the analysis and data of the researcher as an accurate representation of the social world of the participants (Neuman, 2007:294). Credibility in this study was obtained through a detailed description of the actions, assumptions and procedures of the evaluation of the researcher. Input of the participants was obtained and also confirmed the accurate description of their social world.

According to Morse *et al.* (2002:4, 5) the validity and reliability of interviews are determined through the trustworthiness thereof. To determine the trustworthiness of the data the credibility, transferability, consistency and confirmability of the data have to be described, according to Bezuidenhout (2005:170-172) and Morse *et al.* (2002:5).

#### 1.4.2.4.4 Data analysis

The data analysis of the observations was executed by both the independent teaching advisor and the researcher following the guidelines of Neuman (2007:335) as shown below:

- All the notes that were recorded on the observation sheets were consolidated to give an overview of the precise happenings during the intervention.
- Hereafter the themes that recurred were identified and described to give feedback on all the happenings during the intervention.
- The themes that were identified were organised in a logical order for reporting purposes.
- Hereafter the organised themes were reported (par. 7.4.1) as qualitative data that were obtained from the observations.

The data analysis was executed through steps that will be subsequently discussed. The transcription of recorded interviews has to be done as quickly as possible by a person with enough experience. Thereafter the transcription will be given to an independent person to verify the correctness and completeness thereof. The notes that the researcher made during the interviews will be used to improve the transcriptions and to describe it better. Thereafter the transcriptions will be independently coded and analysed by the researcher and an independent person with experience of qualitative data generation and analysis. Coding and analysis of qualitative data is a process where a part of the information (significant units) is identified and linked to concepts that are associated with the purpose of the research (Padgett, 1998:76).

#### 1.4.2.5 Triangulation

Triangulation is the use of two or more approaches in research to establish if they reach similar conclusions (Kent, 2004:255). Since both quantitative and qualitative methods will be used to answer specific research questions independently, the focus is not to triangulate between these methods. However, the conformation of data between the methods will be subsequently reported. Therefore, triangulation within the quantitative and qualitative methods is more likely to occur than triangulation between methods.

#### 1.4.3 Ethical aspects

Content was obtained from the Department of Basic Education (DBE), the principal of the school, the school governing board, the teacher, the parents and the learners involved in the study. The whole research process was monitored by the ethical committee of the North-West

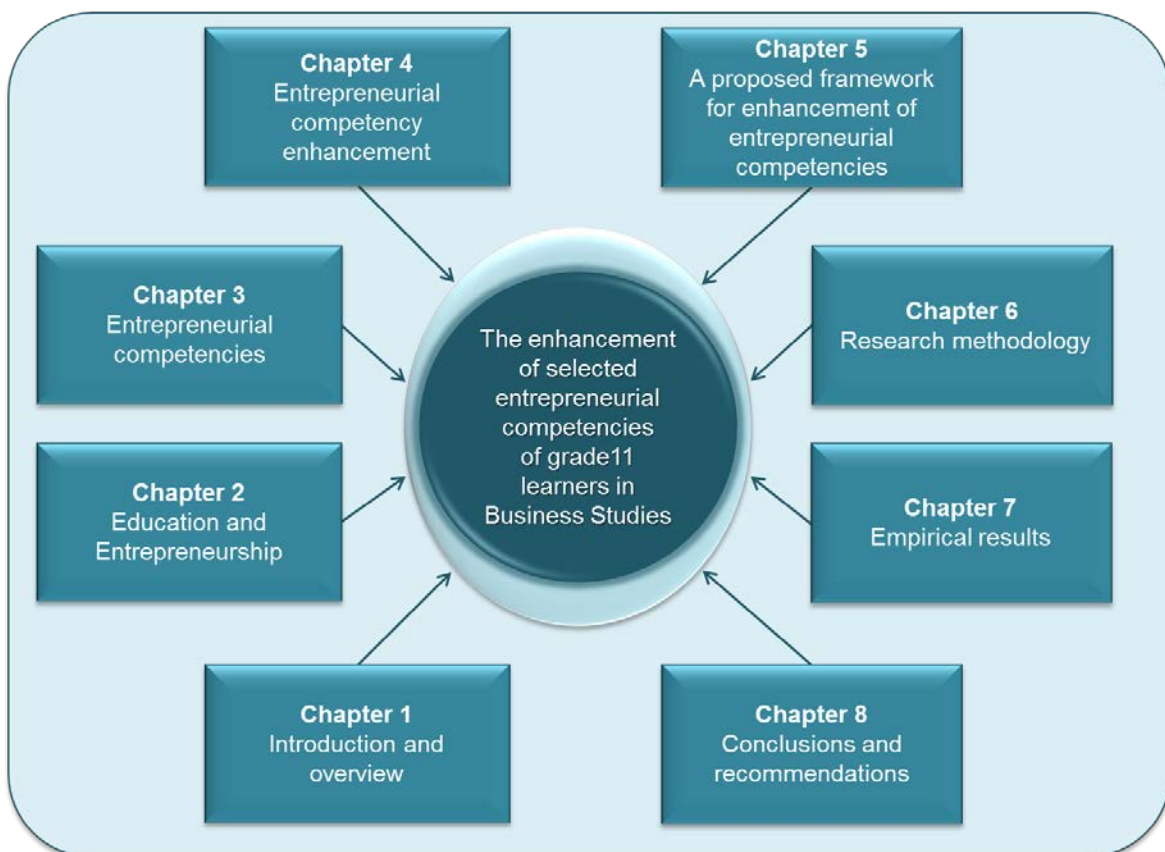
University. A further ethical issue is that intervention was done on both groups. In addition, to contribute to the ethical acceptance of the study, it was decided to expose both the experimental and control group to the intervention. The influence of the intervention on both groups for data collection was used in this study.

It will not be possible to ensure the participants' anonymity in terms of the data collection. The participants were informed on the anonymity before the beginning of the empirical investigation. The participants were also assured that the data from the investigation will be treated with confidentiality.

## 1.5 CHAPTER CLASSIFICATION

In this study the chapter classification is as follows:

**Figure 1-1: Chapter classification**



In chapter 1 the background is given to the study. The problem statement, aims and objectives of the study and the research methods are discussed.

In chapter 2 the focus is on the theories of entrepreneurship, especially the theory on entrepreneurial competencies. Currently the General Entrepreneurship Monitor is investigating

activities and characteristics of individuals involved in various phases and types of entrepreneurial activity. The entrepreneurial frameworks conditions are discussed and the importance thereof to education and entrepreneurship highlighted.

In chapter 3 an analysis of the literature indicates the existence of many different entrepreneurial competencies. Coupled with the investigation of the curriculum of Business Studies to identify entrepreneurial competencies that can be enhanced, a need for the selection of competencies arises. The rest of the chapter focuses on a discussion of the chosen entrepreneurial competencies.

Chapter 4 describes how the enhancement of entrepreneurial competencies can happen. The main objective in this chapter is the creation of a framework applicable to this study. Various teaching models and frameworks were analysed to identify relevant aspects which could benefit the enhancement of entrepreneurial competencies. In this regard, seven models were identified that can be divided into teaching models, the framework for teaching and models for entrepreneurship education. The models are chosen because of the various entrepreneurship competencies that can be enhanced.

In chapter 5 the proposed teaching framework, developed based on the literature study, is discussed. Various aspects from the literature are incorporated and focus on the enhancement of entrepreneurial competencies of grade 11 learners. A detailed description of all the activities of the framework that Business Studies teachers can use is also outlined in this chapter.

In chapter 6 the research methodology that was used in this study was discussed. In this study multi-methods research was used with qualitative and quantitative methods to answer the research questions. In this regard, several qualitative and quantitative methods were used. Linking to the quantitative part of the research three tests were used to measure the entrepreneurial competencies of the learners. The quantitative data collected in this study was statistically analysed. With the qualitative part data was collected through observations and semi-structured interviews.

The results of the empirical study are discussed in chapter 7. The quantitative results from the three tests are discussed by viewing the enhancement of the different entrepreneurial competencies. The qualitative results consisting of the observations and interviews are also discussed.

This study concludes with the summary, conclusions and recommendations of the study in chapter 8. In addition, the gaps of the study are highlighted and recommendations are made for further research.

## CHAPTER 2: EDUCATION AND ENTREPRENEURSHIP

### 2.1 INTRODUCTION

On a global scale, entrepreneurship provides many benefits worldwide to societies such as economic growth and creation of jobs. In Africa the economic growth rate has averaged well above 5% in the past (The World Bank, 2013:4). However, the challenge for the continent is to maintain this economic growth (The World Bank, 2013:4). A solution for this challenge is to foster a culture of entrepreneurship in Africa and in South Africa (Gore & Fal, 2009:13).

In the economic system in South Africa entrepreneurship is one of the areas of development which is promoted extensively by Government. Apart from the various financial incentives for the development of entrepreneurial ventures by institutions such as the South African Department of Trade and Industry and the Industrial Development Corporation, almost all tertiary institutions in South Africa present some or other form of entrepreneurship course. However, since many potential entrepreneurs in an unemployed environment (unemployment rate in South Africa in 2013 was 24,7%)(Statistics South Africa, 2013) start their businesses from a need to survive, they often establish their survivalist businesses without any formal training or education in entrepreneurship. Many entrepreneurs lack basic business skills such as literacy and numeracy, which affect their ability to effectively manage a business (Foxcroft *et al.*, 2002:48). Training in entrepreneurship is therefore important for the creation of an entrepreneurial mind-set so that entrepreneurs are equipped with the right set of knowledge principles and practical skills to start and operate a business (Maas & Herrington., 2007:26). According to Orford *et al.* (2004:52) entrepreneurship education improves the skills and attitudes associated with entrepreneurship.

In this study the focus is on young people who might become entrepreneurs – thus preparing them for possible early-stage entrepreneurial activity. The total early stage entrepreneurial activity (TEA) index measures the percentage of individuals between the ages of 18 and 64 that are involved in starting a new business (Maas & Herrington, 2006:8). Education and training programmes aimed at the development of entrepreneurs therefore have to focus not only on basic literacy and numeracy skills, but also aspects of business such as communication, administration, financial management and marketing (Maas & Herrington, 2006:50). Herrington *et al.* (2008:49) further argue that programmes aimed at developing and enhancing entrepreneurs should provide business exposure and experience in the form of business visits, work integrated learning, guest speakers from practice or simulated business exposure in the form of business games. Although the current curriculum of Business Studies in grade 11 focuses on entrepreneurial aspects such as developing business plans and presenting it,

exposure to business and its operations are absent (SA, 2011:8). Teachers that focus on the development of entrepreneurial skills should be passionate and encourage exposure to business in their learners, to enable learners to integrate the theory (textbooks and other sources) and practice (functioning of a business).

In this chapter the discussion will commence with an overview of the need for entrepreneurial education in South Africa (par. 2.2) Hereafter, the conceptual framework applicable to this study will be discussed by focusing on the different schools of thought on entrepreneurship (par. 2.3.1 – par. 2.3.5), the focus of entrepreneurship in the study (par. 2.4), a framework for this study applicable to South Africa (par. 2.5), the various aspects of entrepreneurship (par. 2.6. – par. 2.10). The chapter will conclude with the situation of education and training in South Africa (par. 2.11) and the summary of the chapter (par 2.12).

## **2.2 THE NEED FOR ENTREPRENEURIAL EDUCATION IN SOUTH AFRICA**

In recent times, the role of entrepreneurs in an economy has been confirmed and re-iterated to be of great significance in accelerating the pace of growth of economic development of any country (Ogunleye *et al.*, 2013:1). Entrepreneurship is a dynamic process of vision, change, and creation, which requires an application of energy and passion towards the creation and implementation of new ideas and creative solutions (Allen, 2010:3). According to McGing, *et al.* (2010:7) entrepreneurship is a discipline, which needs to be learned and educated, either in schools or higher education institutions. Since most grade 12 graduates in South Africa [375 105 out of 511 152 grade 12 learners in 2012 (73%)] do not pursue further studies at higher education institutions (SA, 2012:51) the responsibility for entrepreneurial education should be at schools. The present curriculum for Business Studies [grade 10-12] focuses on the development of knowledge, skills and values which are necessary for productive and effective business activities in both the formal and informal sectors (SA, 2011). This curriculum also encompasses business principles, theory and practice that encourage the development of entrepreneurial initiatives, sustainable businesses and economic growth (SA, 2011:7). Regardless of these possible advantages held by this curriculum the National Diagnostic Report (SA, 2012:40) shows a remarkable low achievement of these outcomes during the period 2009 to 2012 (Table 2.1).

Table 2.1 illustrates that many additional needs still exist among learners to develop their entrepreneurial skills. In conjunction, the National Diagnostic Report (SA, 2012:40) shows that learners lack the skills to provide appropriate examples, to solve problems and link theory and practice. The opinion is held that more practical examples, case studies and more effective linking of theory and practice will provide in these needs.

**Table 2.1: Overall achievement rates in Business Studies (Grade 10-12)**

Year	Number of learners	Number achieved above 30%	Percentage achieved above 30%	Number achieved above 40%	Percentage achieved above 40%
2009	206 553	148 469	71,9 %	96 487	46,7 %
2010	200 795	142 742	71,1 %	92 259	45,9 %
2011	187 677	147 559	78,6 %	104 027	55,4 %
2012	195 507	151 237	77,4 %	103 470	52,9 %

Source: SA (2012:40)

In addition learners have to be exposed and engaged in an entrepreneurial environment. According to Antonites and Wordsworth (2009:83) action learning should be part of this learning experience. Action learning includes practical exposure to the business environment such as business trips as well as the development of entrepreneurial competencies such as problem solving, creativity and risk-taking. Since entrepreneurial success increases when entrepreneurs are educated and since many school learners enter the work environment after school and do not pursue further studies in Higher Education Institutions, this study aims to investigate those competencies which Business Studies teachers can develop in potential future entrepreneurs. From the GEM 2010 report, the inadequate teaching and learning of entrepreneurial competencies at school level arise from the inability of most teachers to teach entrepreneurship (Turton & Herrington, 2012:36). The starting point for any teaching effort aimed at the development of school learners' entrepreneurial competencies is the current curriculum for Business Studies (Grade 10-12). Since a clear link between the Business Studies Curriculum and entrepreneurial competencies already exists (see Chapter 4), this study proposes the activities and strategies teachers can use to enhance entrepreneurial competencies of secondary school learners. For learners who decide to enter the South African workforce and not attend further studies in higher education institutions, this should be good news, since the entrepreneurial skills they are supposed to master during basic education are skills they need to function effectively as entrepreneurs.

### 2.3 DIFFERENT SCHOOLS OF THOUGHT ON ENTREPRENEURSHIP

Despite the dramatic increase over the last two decades in research on entrepreneurship, the term entrepreneurship still creates differences in opinion (Davidsson, 2008:1). In addition, the definition of an entrepreneur and the boundaries of the paradigm also highlight differences in views of researchers (Nieman *et al.*, 2009:8). Current literature on entrepreneurship is characterised by a proliferation of theories, definitions and taxonomies which often conflict and overlap, resulting in confusion and disagreement among researchers and practitioners about

what precisely entrepreneurship is (Stokes *et al.*, 2010:4-5). In addition, several theories to explain the field of entrepreneurship have been put forward by researchers (Simpeh, 2011:1). According to Jackson *et al.* (2001:1) the need exists that researchers refocus on the roots of entrepreneurship and the history thereof.

According to Winata (2008:12) the historical roots of entrepreneurship can be divided into categories of schools of thought according to the country of origin. These schools are the French School of thought (par. 2.3.1), British School of thought (par. 2.3.2), German School of thought (par. 2.3.3), American School of thought (par. 2.3.4) and the Austrian School of thought (par. 2.3.5).

### **2.3.1 French School of thought**

Fillion (1997:3) depicts that the history of entrepreneurship started in the time of Richard Cantillon (1755) and Jean-Baptiste Say (1803). Cantillon, a banker and economist used the term entrepreneurship for the first time in 1732 and creates a clear conception of the entrepreneurial function (Cantillon, 1932 [1755] 56). By the same token Cantillon viewed the entrepreneur as an individual with foresight, the desire to assume risk and the initiative to attempt to make profit in an uncertain world (Jackson *et al.*, 2001:2). Equally to his interest in the economy, was his awareness of the managerial aspects of businesses, business development and business management. Corresponding, Say (1803), a professor and business person, stated that the creation of new businesses was the reason for economic development. Coupled with this, he viewed entrepreneurs as people who seek opportunities with the objective to make profit, while simultaneously understanding the risks involved (Say, 1830 [1803] 285). Furthermore, Say distinguished between the entrepreneur and capitalist and between their profits as well as associated entrepreneurs with innovation. According to Fillion (1997:3) Say is described as the father of entrepreneurship due to his laying of the foundation for the field.

### **2.3.2 British School of thought**

Unlike the French School, that used the term entrepreneurs and recognised their contribution in economics, the British School did not use the term entrepreneurship nor acknowledge the contribution thereof in the economy. As a matter of fact English and Welsh political economist Adam Smith (1723-1790) focused on capital as the major element in economic development (Winata, 2008:16). Likewise David Ricardo (1772-1823) ignored the notion of an entrepreneurial element in his writings and also emphasised the role of the capitalist. However, Jeremy Bentham (1748-1832) viewed the entrepreneur as an individual that plays an important role in economic development with its emphasis on innovation (Winata, 2008, 16-19). Although the British School touched on the role of entrepreneurship, they did not develop a clear theory

thereof. According to Pittaway and Freeman (2011:6) there are three reasons that contributed to the limited contribution of the British school and the difference to the French school:

- There is no English equivalent for the French word entrepreneur;
- The French law distinguished between ownership of capital and the ownership of business;
- The French approach was micro-economic, whereas the British macro-economic.

### **2.3.3 German School of thought**

The German School built on the work of the French School of thought (Winata, 2008:20). This group of researchers includes Johann von Thuenen (1785-1850) and H.K von Mangoldt (1824-1858). Von Thuenen distinguished between the entrepreneur and the manager of the business by viewing the entrepreneur as more engaged and more innovative in ensuring a successful business. Furthermore the entrepreneur is compensated by entrepreneurial income for the risk taken to operate the business. In addition Mangoldt distinguishes between the lower risk in producing goods to order, and a higher risk in producing goods for the general market. As a matter of fact the most popular view in the German School of entrepreneurship was developed by Joseph A. Schumpeter (1883-1950), that entails the effect of innovation on an economic system (Winata, 2008:21). According to Schumpeter (1928:380) the function of the entrepreneur is to innovate or make new combinations of production possible. He also highlights the notion that individuals who are entrepreneurial may need some special characteristics and skills.

### **2.3.4 American School of thought**

Unlike the British school's unclear theory of entrepreneurship, Amasa Walker (1799-1875) contributed to the differentiation of the roles of the entrepreneur and the capitalist. Francis A. Walker (1840-1897) supported the French School's view of managerial aspects in entrepreneurship and suggested that successful conduct of business requires skills such as leadership, organisation skills, high levels of energy and opportunity orientation (Winata, 2008:23). Equally important was the contribution of Frederick Barnard Hawley (1843-1929) with his reflection on the entrepreneur and uncertainty and his view of profit being a reward to the entrepreneur for assuming risk. Furthermore, the famous work of Frank Hyneman Knight (1885-1972) "*Risk, Uncertainty and Profit*" (1921) made a substantial contribution to the understanding of entrepreneurship. Knight distinguished between risk and uncertainty (Pittaway & Freeman, 2011:8), and stated that no profits would be made without uncertainty in the market due to the

fact that the future will be completely foreknown in the present and competition would certainly adjust to the ideal state where all costs would be equal.

### **2.3.5 Austrian School of thought**

Carl Menger (1840-1921) is known as the founder of the Austrian School of thought which focuses on the decision-making ability of the entrepreneur as a distinguishing characteristic (Andrieu, 2010:16). In addition, Ludwig von Mises (1881-1972) argued that Schumpeter had confused entrepreneurial activity with technological innovation. According to Von Mises the entrepreneur is a decision taker, with the making of decisions in terms of innovative practices being only part of the activity (Winata, 2008:25). Unlike Von Mises, Friedrich August von Hayek (1899-1992) focused on the availability of information and the capability to process information (Hayek, 1945:521- 524). Equally important is Israel Meir Kirzner's (1930- ) argument that a combination of previous mistakes, the continuous change in tastes, preferences and resources, as well as technological developments creates opportunities for entrepreneurial profit in the market (Winata, 2008:27). As a matter of fact, the ability of entrepreneurs to learn from their mistakes, together with their willingness and readiness to learn is important to be successful (Kirzner, 1997:72).

## **2.4 CHARACTERISTICS OF ENTREPRENEURS**

In the previous section (par. 2.3) the term entrepreneurship was discussed and described according to the views of the French School, the British School, the German School, the American School and the Austrian School. Although the schools of thought focus on first world countries the different elements of entrepreneurship is universal and are also applicable to the environment in Africa and South Africa. From this discussion it is apparent that some researchers have focussed on the economic function of entrepreneurship, whereby other researchers such as Winata, Knight, Hayley and Bentham have turned their attention to research on the traits or personal characteristics of entrepreneurs in an attempt to understand entrepreneurship (Philipsen, 1998:8). Research that focuses in particular on entrepreneurial characteristics can be traced back to various researchers (see table 2.2).

As indicated in table 2.2 individual characteristics of entrepreneurs as a focus is evident in entrepreneurship research. In addition one of the main areas of research of the Global Entrepreneurship Monitor (GEM) is the investigation of activities and characteristics of individuals involved in various phases and types of entrepreneurial activity (Herrington *et al.*, 2011:9).

**Table 2.2: Characteristics of entrepreneurs by selected researchers**

Researcher	Entrepreneurial competency
Cantillon (1755)	Leadership, risk-taking, taking initiative
Say (1803)	Opportunity orientation, risk-taking, innovation
Bentham (1748–1832)	Innovation
Von Thuenen (1785–1850)	Innovation, risk-taking
Von Mangoldt (1824-1850)	Risk-taking
Schumpeter (1928)	Innovative
Walker (1843-1897)	Leadership, organisation skills, high level of energy, opportunity orientation
Hawley (1907)	Uncertainty, risk-taking
Knight (1921)	Uncertainty, risk-taking
Von Mises (1949)	Decision-making
Von Hayek (1937)	Flexibility
Kirzner (1997)	Learning from mistakes

**Source:** Various authors

As a matter of fact entrepreneurial activity is an important catalyst for economic growth and development. Say (1802) stated that the creation of new businesses is the reason for economic development (Say, 1830 [1803]:285). From Bentham's viewpoint the entrepreneur is an important factor in economic development (Winata, 2008:16-19). Since its inception in 1997, GEM has developed into one of the world's leading research instruments concerned with improving the understanding of the relationships between entrepreneurship, international and national development and economic development (Turton & Herrington, 2012:12). From these arguments it is clear that the creation of new businesses play an important role in economic development. In the light of the importance of business creation, a framework for entrepreneurship and education was developed for the purpose of this study to investigate the environment of entrepreneurship.

## 2.5 A FRAMEWORK FOR ENTREPRENEURSHIP AND EDUCATION

The assessment of the entrepreneurship environment is conducted yearly with each participating GEM country, of which South Africa is part, surveyed by experts to gain insight into the entrepreneurial environment of that country (Herrington *et al.*, 2010:41). GEM also provides a comprehensive view of entrepreneurship across the globe by measuring the attitudes of populations and seeking to understand the activities and characteristics of individuals involved in various phases of entrepreneurial activity (Herrington *et al.*, 2011:9). In addition, another function of GEM is to improve the understanding of the relationship between entrepreneurial

activity and national development of a country. According to Turton and Herrington (2012:12) the objectives of GEM include:

- Tracking entrepreneurial attitudes, activity and aspirations within countries to provide annual national assessments of the entrepreneurial sector;
- Allowing for comparison of levels of entrepreneurial activity among countries;
- Determining the extent to which entrepreneurial activity influences economic growth within individual countries; identifying factors which encourage and/or hinder entrepreneurial activity; and
- Guiding the formulation of effective and targeted policies aimed at stimulating entrepreneurship within individual countries.

One of the objectives of GEM, understanding the relative impact of entrepreneurship on national economic development, has necessitated the design of “an explicit model of the relevant variables and their role in the causal processes affecting economic growth” (Reynolds *et al.*, 2005:24). This model, the GEM model, states that at national level, the framework conditions that apply to established business activity differ from those that apply to entrepreneurial activity. GEM distinguishes between two framework conditions namely national business conditions and entrepreneurial framework conditions (Turton & Herrington, 2012:13). The performance of larger established businesses is influenced by general or national business conditions such as the ability of businesses to compete effectively; start new businesses and creation of jobs (Von Broembsen *et al.*, 2005). On the other hand, entrepreneurial framework conditions influence the decisions of individuals to pursue entrepreneurial activities and are therefore applicable in this study (see table 2.3).

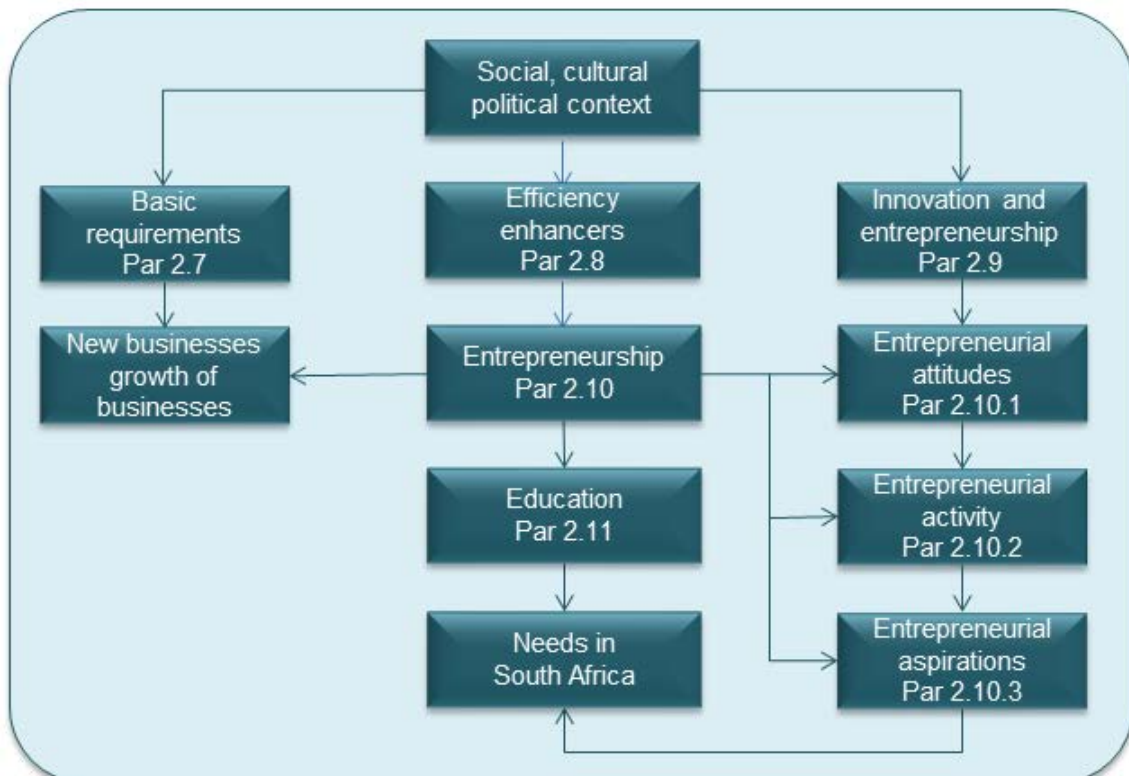
Both these sets of framework conditions are dependent on the social, political and economic context in which they exist. These contexts are influential in creating unique, general and entrepreneurial environments (Herrington *et al.*, 2010:8). In addition, two sets of conditions, namely basic requirements and efficiency enhancers have an impact on societies as well as entrepreneurial activity within societies (Herrington *et al.*, 2011:10).

**Table 2.3: Entrepreneurial process with different stages of businesses**

Stage	Type of person	Definition of stage
Before start-up	Potential entrepreneur	
Start-up	Nascent entrepreneur	First 3 months
New business	Owner-manager	After 3 months until 42 months
Established businesses	Owner-manager	Older than 42 months

**Source:** Herrington *et al.* (2010:10)

For the purpose of this study a framework of education and entrepreneurship (see figure 2.1) was developed from the GEM model. This framework is specifically applicable to the South African context since aspects such as social, cultural and political context basic requirements, efficiency enhancers, innovation and entrepreneurship, entrepreneurial attitudes, entrepreneurial activity and entrepreneurial aspirations, influence entrepreneurship in developing countries.

**Figure 2-1: Framework of education and entrepreneurship**

**Source:** Herrington *et al.* (2008:12) and Gartner (1985:698).

In figure 2.1 the relationship between various aspects pertaining to entrepreneurship is outlined. The framework shows that all aspects pertaining to education and entrepreneurship stem from a

social, cultural and political context. This context in turn affects the basic requirements for entrepreneurs to be successful, as well as the entrepreneurial efficiency enhancers. Although the social environment, culture and politics influence innovation and entrepreneurship in South Africa, the different framework conditions play an important role to ensure entrepreneurial activity and therefore creation of businesses. GEM distinguishes between two framework conditions namely national business conditions and entrepreneurial framework conditions. National business conditions influence larger established businesses in terms of competition and effectiveness, while entrepreneurial framework conditions (see par. 2.9) are defined as the necessary resources, incentives, markets and supporting institutions to the development and growth of new business (Bosma *et al.*, 2009:40).

## **2.6 SOCIAL, CULTURAL AND POLITICAL CONTEXT OF ENTREPRENEURSHIP**

Both the national and the entrepreneurial framework conditions are dependent on the social, political and economic context in which they exist. These contexts are influential in creating unique business and entrepreneurial environments (Herrington *et al.*, 2010:10). Therefore, the social, cultural and political context in South Africa plays an important role in entrepreneurship. Deakins and Freel (2003:228) state that social changes may provide opportunities through changing attitudes or through creation of new markets in ageing population structures. According to Herrington *et al.* (2011:30-31) cultural factors such as attitude towards risk, failure and entrepreneurship as career choice can influence the attitude towards entrepreneurship. In addition, a lack of role-models such as successful entrepreneurs and abilities such as low self-confidence, personality and aversion to risk-taking also hinder the development of new businesses.

## **2.7 BASIC REQUIREMENTS OF ENTREPRENEURSHIP**

As mentioned in par. 2.5 basic requirements and efficiency enhancers (par. 2.8) are two sets of conditions that have an impact on societies as well as entrepreneurial activity within societies. Basic requirements of entrepreneurship are viewed as basic foundation-level conditions and provide the national infrastructure and institutional context (Stokes *et al.*, 2010:76-77). According to the World Economic Forum the basic requirements are the underlying fundamental conditions required for a well-functioning business environment (Turton & Herrington, 2012:23). In order for entrepreneurship to be developed, the basic requirements that need to be adhered to, according to the revised GEM model, include institutions, infrastructure, macroeconomic stability and primary education. Herrington *et al.* (2008:10) argue that each of these requirements is essential for entrepreneurial activity, since it provides a framework for possible entrepreneurial activity.

### **2.7.1 Institutions**

The institutional environment is determined by the legal and administrative framework within which individuals, businesses and governments interact to generate wealth (Schwab, 2013:4). In addition, the role of institutions goes beyond the legal framework and government attitudes towards markets and freedoms and the efficiency of its operations are also very important. Attitudes such as corruption, inability to provide appropriate services for the business sector and political dependence of the judicial system slow the process of economic development and have a huge impact on entrepreneurship (Schwab, 2013:4). Although the public institutions play a definitive role in economic development, private institutions are also a very aggressive element in the process of creation of wealth. For Maas & Herrington, (2007:45) the proximity of universities and other tertiary institutions can improve entrepreneurship if there is viable transference of entrepreneurial knowledge to potential entrepreneurs. In this regard they also state that the responsibility also falls on entrepreneurs to assist with the transference of valuable entrepreneurial knowledge and experience to novice and inexperienced entrepreneurs (Maas & Herrington, 2007:45). In South Africa entrepreneurs in rural areas are more likely to experience the lack of entrepreneurial knowledge, because of inaccessibility and a lack of networking as well as poor school facilities and proximity to the nearest schools and competent teachers. In this regard, Herrington *et al.* (2008:51) argue that the successful empowerment of these entrepreneurs in rural areas would likely be achieved with more satellite institutions catering for their entrepreneurial needs.

### **2.7.2 Infrastructure**

Infrastructure can be divided into three layers: basic infrastructure, physical infrastructure and intangible infrastructure. Basic infrastructure includes water supply, energy, maintained roads and communication capabilities. In South Africa 60% of funding for infrastructure is allocated to electricity projects (The World Bank, 2013:74). On the other hand physical infrastructure refers to roads, airports, seaports and education for support of special industries while intangible infrastructure includes information communication and information technology (Samli, 2011:3). The use of internet in South Africa is ranked 95<sup>th</sup> out of 144 countries and therefore inhibits entrepreneurs in terms of effective use of technology (The World Bank, 2013:75). Since entrepreneurs need to use infrastructure effectively to serve their market (Maas & Herrington, 2006:52), the availability of land, facilities, supporting services, geographical transfer and accessibility of transportation need to be considered (Cronje *et al.*, 2004:117). These aspects will be required by entrepreneurs to produce products and deliver services. Logistics is the management of the flow of products and resources from the source of production to the marketplace and has a major effect on the success of the entrepreneur (Allen, 2010:282-283).

Entrepreneurs are also dependant on transport for the delivery of raw material, power for the manufacturing of products and on communication for advertising their products. The challenge in South Africa and even in Africa is the state of the roads. In South Africa, the problems with rail transport have resulted in an overuse of road transport (The World Bank, 2013:75). In addition, 80% of the road network is unpaved and 78% of the road network is older than the 20 years for which it was originally designed (The World Bank, 2013:82). The development of infrastructure is a necessary prerequisite for economic development through the expansion of markets and creation of an improved quality of life (Samli, 2011:5). In addition, the development of infrastructure is a proactive guide for the economic and business progress of a country and therefore has an impact on entrepreneurship and economic welfare.

### **2.7.3 Macro-economic stability**

Macro-economic factors are factors which affect the performance and structure of a whole national or regional economy. These factors include indicators such as gross domestic product (GDP), prices indices, interest rates and unemployment rates (Stokes *et al.*, 2010:71). A stable macro-economic environment is an important condition for the start-up of businesses (Herrington *et al.*, 2011:10). According to Gerry *et al.* (2008:4) macroeconomic stability is one of the main determinants of economic growth. In addition, good institutions (par. 2.7.1) are conducive to macroeconomic stability and therefore have a positive impact on economic growth and an environment for entrepreneurship. The stability of the macroeconomic environment is important for business and important for the total competitiveness of a country (Schwab, 2013:5).

The macro-economic environment of South Africa in 2011 was not conducive for entrepreneurship with low rankings in the Competitiveness report of 2013 (The World Bank, 2013:88). According to this report South Africa is ranked 105<sup>th</sup> of 144 countries in terms of the government budget balance. This balance indicates the financial impact of general government activity on the economy (The World Bank, 2013:113 & 189). Other aspects include inflation (ranked 76<sup>th</sup> out of 144), gross national savings (87<sup>th</sup> out of 144) and government debt (68<sup>th</sup> out of 144).

### **2.7.4 Primary education**

The provision of basic levels of primary education provides a framework for possible entrepreneurial activity. Since basic primary education provides the opportunity for attaining first levels of reading and writing it forms the basis for further learning of skills. These basic skills acquisition might improve the ability of learners and future changes for job growth and business creation (Stokes *et al.*, 2010:76). The lack of basic education can become a constraint on

business development with businesses finding it difficult to produce more sophisticated products with existing human resources (Schwab, 2013:5). In addition, primary schools need to ensure that economics and financial literacy are part of the curriculum in each grade to ensure that learners attain necessary skills needed for their development (Foxcroft *et al.*, 2002:48). In South Africa learners only start with Economic Management Science (EMS) in grade 7 (SA, 2011:7-9). Although education is the driver for an entrepreneurial society in terms of basic management and entrepreneurial skills (Driver *et al.*, 2001:57), the effective integration of entrepreneurship and new business creation are still absent in primary education (Maas & Herrington, 2007:39). In addition, the ability of education at all levels (pre-primary, primary, secondary, and tertiary) to produce persons that have skills such as creativity, innovation and managerial skills can have a positive effect. This will result in the blossoming of new businesses and effective management of existing businesses that are essential to entrepreneurial activity.

## **2.8 EFFICIENCY ENHANCERS OF ENTREPRENEURSHIP**

As mentioned in par. 2.5 efficiency enhancers and basic requirements (par. 2.7) are two sets of conditions that have an impact on societies as well as entrepreneurial activity within societies. Efficiency enhancers are defined as a set of factors which enhance or constrain the level of efficiency in economic markets (Stokes *et al.*, 2010:77). The efficiency enhancers of entrepreneurship according to the revised GEM model (Herrington *et al.*, 2008:10) include higher education, goods market efficiency, labour market efficiency, financial market sophistication, technological readiness and market size.

### **2.8.1 Higher education**

The situation in secondary education in South Africa is that schools are unable to provide adequate attention to entrepreneurship and new business creation due to the fact that entrepreneurship can only be learned through experience (Cope, 2005:373-397). This experience entails a process where the learner develops a business and performs the functions of a business (Driver *et al.*, 2001:40). According to experts interviewed in the GEM study, the lack of self-confidence, initiative and creative thinking are some of the weaknesses of learners in primary and secondary education in South Africa. Quality higher education is crucial for economies that want to move up the value chain beyond simple production processes and products. Since the environment changes globally, the demand for well-educated workers have increased dramatically and therefore higher education become essential for entrepreneurial activity (Schwab, 2013:5). Although, the productivity increased from 7.6% in 2012 to 7.9% in the first quarter of 2013 in South Africa, it is still very low due to labour unrest and an incompetent workforce (Leshoro, 2013:1).

### **2.8.2 Goods market efficiency**

Countries with efficient goods markets have the ability to produce the right mix of products and services within their particular supply-and-demand conditions coupled with the fact that these goods can be effectively traded in the economy (Schwab, 2013:6). Healthy domestic and foreign market competition is important for market efficiency and business productivity by ensuring that the most efficient businesses, producing goods demanded by the market, are those that thrive. In addition, the best possible environment for the exchange of goods and effective business activity demand the minimum intervention of government through taxes and other hindering regulations. According to Kuratko and Hodgetts (2007:295), the market profile, the current customers, the potential customers, outside factors and legal changes affect the goods market efficiency positively. Furthermore, customer orientation and buyer sophistication have a big impact on goods market efficiency. Since customers may be more demanding, it forces businesses to be more innovative and customer-orientated, thus force the discipline necessary for efficiency to be achieved in the market (Schwab, 2013:6).

### **2.8.3 Labour market efficiency**

The efficiency and flexibility of the labour markets are important for ensuring that workers are allocated to their most effective use in the economy and provided with incentives to give their best in their jobs (Schwab, 2013:6). An efficient labour market has the ability to shift workers from one economic activity to another rapidly and at a low cost and to allow for wage fluctuations without social disruption (Almeida & Carneiro, 2009:28-46). More characteristics of efficient labour markets are the existence of a clear relationship between worker incentives and the efforts to promote meritocracy at the workplace and the provision of equity in the business environment between women and men (Schwab, 2013:6). According to Dlabay *et al.*, (2009:36) the labour markets contribute in the economic activity in two ways. On the one side the labour activities create the need for products and services while on the other side the wages labour spent create a demand for the needed products and services.

The Competitiveness Report of Africa (The World Bank, 2013:189) measures labour market efficiency on aspects such as cooperation in labour-employer relations, flexibility of wage determination, hiring and firing practices and pay and productivity. According to the Competitiveness Report the abovementioned aspects in South Africa are some of the worst rated among 144 countries with ratings such cooperation in labour-employer relations (144<sup>th</sup>), flexibility of wage determination (140<sup>th</sup>), hiring and firing practices (143<sup>th</sup>) and pay and productivity (134<sup>th</sup>). The labour market efficiency in South Africa is definitely a big inhibitor of entrepreneurship.

### **2.8.4 Financial market sophistication**

An efficient financial sector allocates the resources saved by the people of a country as well as those entering the economy from abroad, to their most productive uses. Resources are channelled to entrepreneurial or investment projects with the highest expected returns (Schwab, 2013:6). In addition, a thorough and proper assessment of risk is a key ingredient of an efficient financial market (Spinelli & Adams, 2012:454). Economies require sophisticated financial markets that can provide capital available for private-sector investment from sources such as loans from a sound banking sector, well-regulated securities exchanges and other financial products. It is crucial that the banking sector is trustworthy and transparent for financial markets need appropriate regulation to protect investors and other parties in the economy at large. According to Spinelli and Adams (2012:454) businesses need financial resources to be able to start-up, continue and expand their operations. In the curriculum of Business Studies the grade 10 and 11 learners have to draw up a business plan (SA, 2011:10-11).

### **2.8.5 Technological readiness**

As a result of the globalised world, technology is increasingly essential for businesses to compete, expand and prosper. Technological readiness measures the ability with which an economy adopts existing technologies to enhance the productivity of its industries, with specific emphasis on its capacity to fully leverage information and communication technologies in daily activities and production processes for increased efficiency and enabling innovation for competitiveness (Schwab, 2013:6). Therefore, readiness to use technology in the operation of a business will increase wealth and create competitive advantage (Thompson & Martin, 2010:87). In South Africa 21% of the population use the internet (The World Bank, 2013:189). In addition, the influence of the digital divide, also plays an important role. The digital divide is defined as the social stratification due to unequal ability to access or use of information and communication technologies (Andreasson, 2012:3). According to the Economist Intelligence Unit Report the digital divide is enhanced through economic benefits, social inclusion and the need for speed. However the areas such as access to information and communication technologies (ICT), competition of ICT, enhancing ICT skills and stimulation of local content of can bridge the digital divide between countries (Andreasson, 2012:3,4). In addition, the reduction of uncertainty on new technology through information can assist the entrepreneur and ensure the effective functioning of the business (Deakins & Freel, 2003:234). Furthermore, businesses need to have access to advanced products and blueprints and the ability to absorb and use them (Schwab, 2013:6).

### **2.8.6 Market size**

The size of the market affects productivity since large markets allow businesses to exploit economies of scale (Schwab, 2013:6). Economies of scale refer to the savings that a business achieves due to increased volume and the following assists to achieve economy of scale: a high level of mechanisation and a better coordination of production functions (Pearce & Robinson, 2005:100). The producing of a large scale of products can assure cost savings. Otherwise the business with the ability to distinguish their product as a superior brand can ask a higher price and do not need economies of scale (Rwigema & Venter, 2004:204). In the era of globalisation the previous challenge of available markets constrained by national borders has changed into markets available internationally and the benefit of growth due to the openness of trade (Schwab, 2013:6). Furthermore, the influence of emerging markets provides new opportunities for entrepreneurs in countries abroad (Alon & Rottig, 2013:487).

## **2.9 INNOVATION AND ENTREPRENEURSHIP**

Innovation and entrepreneurship refer to entrepreneurial framework conditions that influence the decisions of individuals to pursue entrepreneurial activities. According to Herrington *et al.* (2008:10) these entrepreneurial framework conditions include entrepreneurial finance, government policies, government programmes, entrepreneurial education, research and development transfer, commercial and legal infrastructure for entrepreneurship, internal market openness and cultural and social norms. The capacity for innovation in South Africa is ranked 41<sup>st</sup> out of 144 countries in the global competitiveness index (The World Bank, 2013:189).

### **2.9.1 Entrepreneurial finance**

Entrepreneurial finance is defined as financial support of financial institutions (Fuller-Love *et al.*, 2006:299). Financial support is the availability and accessibility of financial resources for potential, new and growing businesses (Foxcroft *et al.*, 2002:49). These financial resources include equity and debt. According to Stokes *et al.* (2010:350-351) equity is money invested in a business in return for a share in the ownership of the business, while debt is money that is borrowed with the intent to pay it back. Most entrepreneurs will prefer debt over equity due to the fact that they dislike giving away part of ownership of a business. Financial support in South Africa has been one of the three biggest constraints of entrepreneurship over a number of years. However, according to the Africa Competitiveness Report of 2013, availability of financial services in South Africa is ranked second out of 144 countries in the global competitiveness index. In addition, financing through local equity markets is ranked third out of 144 countries (The World Bank, 2013:189). The abovementioned indicates that enough financial support is available to entrepreneurs in South Africa (2001-2010) (Herrington *et al.*, 2008:48). In 2011 the

situation was unchanged with financial support again a key constraint of entrepreneurship. In addition, financial support to entrepreneurs needs to be improved by providing more finance and more holistic financial support which includes deepening entrepreneurs' understanding of finance and deepening financiers' understanding of entrepreneurship (Herrington *et al.*, 2008:48). The soundness of banks in South Africa is ranked second out of 144 countries according to the global competitiveness index (The World Bank, 2013:189). However, venture capital availability is ranked 30<sup>th</sup> and ease to access loans 37<sup>th</sup> out of 144 countries. This indicates that funding is relatively available.

### **2.9.2 Government policies**

Government policies such as taxes and regulations can either discourage or encourage new and growing businesses (Turton & Herrington, 2012:24). Public policies can support entrepreneurship through recognizing entrepreneurship as a relevant economic issue. The reduction of taxes and regulations that encourage the operations of new and growing businesses can assist entrepreneurial activity (Herrington *et al.*, 2011:40). It is important that governments support entrepreneurship due to the fact that entrepreneurship is a source of potential benefit for a society as a whole. The creation of businesses will generate jobs and enhance economic growth (Stokes *et al.*, 2010:350-351). The role of the government can be positive by creating an environment that is conducive for entrepreneurship. However, the role of the government can also influence entrepreneurship negatively through aspects such as the administrative burden of tax, labour and other legislation. Small businesses do not have the ability and funds to afford people that can handle the administrative duties properly (Orford *et al.*, 2004:52-53). The South African government's effort to support entrepreneurship was not effective and policies have merely transferred wealth from one minority group to another (Gore & Fal, 2009:13). In addition, aspects such as restrictive labour laws, limited tax incentives and unnecessary regulatory burdens have also limited entrepreneurial activity (Turton & Herrington, 2012:51).

### **2.9.3 Government entrepreneurship programme**

Government programmes entail the presence and efficiency of direct programmes to assist new and growing businesses at national, regional and municipal level of government (Foxcroft *et al.*, 2002:52). Effective government programmes will address aspects such as careful description of the needs of entrepreneurs, specific objectives of each programme and the skills required to implement chosen programmes (Maas & Herrington, 2006:49). Additionally, government programmes have to be known to businesses. According to Maas & Herrington, (2006:12) the implementation of a central integrated organisation such as the Small Enterprise Development

Agency (SEDA) can encourage entrepreneurial activity. In addition, partnerships such as the First National Bank Endeavour, private participations such as the Rupert family and academic institutions such as the Gordon Institute of Business Science contribute to programmes that foster entrepreneurship. Furthermore, the South African government has recognised the contribution of entrepreneurship and has formed partnerships with First National Bank and other mentioned institutions to enable, grow and accelerate entrepreneurship (Gore & Fal, 2009:6).

#### **2.9.4 Entrepreneurship education**

The reform to outcomes based education in the South African school system since 1998 led to the implementation of a new school subject, Business Studies. Although Business Studies aimed to enhance the business knowledge and skills of school learners this subject still lacks an entrepreneurial focus. In addition, entrepreneurship is only a part of the curriculum of Business Studies and therefore learners are not always aware of the existence thereof (SA, 2011:7-9). However, an improved focus on more application of effective entrepreneurship teaching, the use of more practical examples and appropriate case studies in classes can improve competencies such as problem solving and creativity. The ability to address the need for skills development in entrepreneurship and the challenge in South Africa is to provide enough opportunities for development of skills (Foxcroft *et al.*, 2002:35).

#### **2.9.5 Research and development transfer**

Research and development transfer refers to the extent that national research and development leads to new commercial opportunities and the availability thereof for new and growing businesses (Foxcroft *et al.*, 2002:54). Additionally, the transfer of research and development to the community will have a positive influence on business creation. However, South Africa's spending on research and development is low and raises questions about the effectiveness of state incentives to advance private sector investment. The latest national survey shows South Africa had spent just 0.87% of gross domestic product (GDP) on research and development in 2009-10, down from 0.92% in 2008-09 and 0.93% in 2007-08 (Kahn, 2013:1).

Equally important, is the role that Universities can play in the transfer of research in South Africa. A suggestion is that a link must be created between universities, other institutions concerned with business and policies at growing the economy. It is recommended that exploitation and commercialisation of ideas that originated from tertiary institutions should be utilised through usage of journals in classes (Turton & Herrington, 2012:77). However, the inability of most teachers to teach entrepreneurship and the cost of these journals can hinder the effective transfer of this knowledge to learners.

### **2.9.6 Commercial and legal infrastructure for entrepreneurship**

Commercial and legal infrastructure refers to the presence of commercial, accounting and legal services and institutions that allow or promote the emergence and existence of new and growing businesses (Herrington *et al.*, 2011:28). Incubators can advise, support and be very useful to entrepreneurs in the process of creating and establishing a business (Allen, 2010:264). Recommendations to improve the commercial and legal infrastructure for entrepreneurship include provision of better institutional arrangements to assist existing, new and growing businesses and improve access to affordable and excellent supply chains (Herrington *et al.*, 2010:49).

### **2.9.7 Internal market openness**

Internal market openness consists of two components, market dynamics and market openness (Herrington *et al.*, 2011:40). While market dynamics refer to the level of change in markets annually, the market openness shows the extent to which new businesses are free to enter existing markets. However, barriers of entry, rivalry among existing competitors, pressure from substitute products, bargaining power of buyers, bargaining power of suppliers and parallel competition are part of entry regulation (Porter, 1980:33). Although entrepreneurs experience many hurdles and barriers when entering a market, such as economies of scale, investment requirements, cost disadvantages, independent of scale and access to distribution channels (Pearce & Robinson, 2005:92), it is suggested by Allen (1999:35) that creativity is one way to overcome these barriers. In addition, De Jong (2011:8) emphasises that these barriers generate opportunities for creative entrepreneurs.

### **2.9.8 Physical infrastructure for entrepreneurship**

Physical infrastructure is defined as the accessibility of available resources such as communication, utilities, transportation and land (Herrington *et al.*, 2010:28). In addition, a condition is that the price of these resources is affordable to all new, small or growing businesses (Turton & Herrington, 2012:24). Furthermore, recommendations to improve access to physical infrastructure include the creation of accessible and comprehensive public transport systems and the reduction of time to set up and establish business operations through improvement of utilities (Herrington *et al.*, 2010:49). In South Africa nearly ten million people do not have access to transport and therefore limit any entrepreneurial activity. In addition, the lack of mobility causes that no exposure to new concepts and ideas and possible opportunities take place. Furthermore, an entrepreneur needs transport to effectively perform business operations (Gore & Fal, 2009:12).

### **2.9.9 Cultural and social norms**

Culture refers to both a business culture and a personal culture. Business culture refers to the ability to feel for the world of business and new ideas while personal culture refers to seek formal work rather than create one's own (Maas & Herrington, 2006:12). In addition, cultural and social norms are defined as the extent to which existing social and cultural norms encourage or discourage the actions of individuals that can lead to new or better methods of conducting business (Herrington *et al.*, 2010:28). These actions can also lead to economic activities with the possibility of greater dispersion in personal wealth and income (Herrington *et al.*, 2011:40). Furthermore, recommendations to encourage entrepreneurial activity include the following: advertising of success stories of local heroes and development of government programmes to encourage self-reliance (Herrington *et al.*, 2010:49). All these actions will have a positive impact on entrepreneurial activity together with proper preparation of the learner to learn the ropes, as it were.

### **2.10 ENTREPRENEURSHIP**

The revised GEM model (figure 2.1) acknowledges entrepreneurial attitudes, activity and aspiration as dynamic interactive components of national entrepreneurial environments (Herrington *et al.*, 2008:10).

#### **2.10.1 Entrepreneurship attitude**

Entrepreneurship attitude is influenced by perceived opportunities and perceived capabilities (Turton & Herrington, 2012:25). Perceived opportunities are the perception of what a person believes can be done to earn a profit and to discover something. Perceived capabilities refer to the percentage of individuals who believe they have the necessary skills, knowledge, resilience and experience to start a new business. According to Gore and Fal (2009:13) South Africa has to foster its own culture of entrepreneurship and provides structures for entrepreneurial education and skills support. Furthermore, entrepreneurship can also be included in science related fields of study.

#### **2.10.2 Total early-stage Entrepreneurial activity**

GEM views entrepreneurship as a process and acknowledges the role of individuals in new business creation in the measurement of national entrepreneurship levels (Turton & Herrington, 2012:12). Since its inception, GEM has used the Total Early-stage Entrepreneurial Activity (TEA) index as the principal measure of entrepreneurial activity in participating countries (Herrington *et al.*, 2011:9). TEA is based on the proportion of adults between 18 and 64 years

who are actively involved in starting a business or are owner-managers of a business (Orford *et al.*, 2003:13). The TEA index in South Africa was 7,8% in 2008. In 2009 the TEA of South Africa declined to 5,9%, in 2010 it increased to 8,9% and in 2011 it escalated to 9,1% (Herrington *et al.*, 2011:18) and declined to 7,3% in 2012 (Turton & Herrington, 2012:7). Table 2.3 provides South Africa's TEA position in comparison to other participating countries in the periods 2001 to 2011 and the TEA rate of South Africa.

**Table 2.4: South Africa's TEA ranking**

Year	Position	TEA rate
2001	14 <sup>th</sup> of 28	Not indicated
2002	20 <sup>th</sup> of 37	6,3%
2003	22 <sup>nd</sup> of 31	4,3%
2004	20 <sup>th</sup> of 34	5,4%
2005	25 <sup>th</sup> of 35	5,2%
2006	30 <sup>th</sup> of 42	5,3%
2007	Not indicated	Not indicated
2008	23 <sup>th</sup> of 43	7,8%
2009	35 <sup>th</sup> of 54	5,9%
2010	27 <sup>th</sup> of 59	8,9%
2011	29 <sup>th</sup> of 54	9.1%
2012	Not indicated	7,3%

**Source:** Maas & Herrington (2006:17), Herrington *et al.* (2008:4), Herrington *et al.* (2011:18) and Turton & Herrington (2012:7).

### 2.10.3 Entrepreneurial aspirations

According to GEM (Herrington *et al.*, 2008:10) entrepreneurial aspirations refer to economic growth, innovation and social value creation. Entrepreneurship contributes to economic growth and job creation (Baron & Shane, 2005:6-7). According to Tucker (2000:40) economic growth is the ability of an economy to produce higher levels of output. The economic growth rate is measured by the creation of products and services in a certain period of time, usually a year. The entrepreneur has to be aware of the fluctuations in the economic growth rate because it determines the expenditure of consumers (Cronje *et al.*, 2004:105-107). In addition, the entrepreneur must have a willingness to challenge normality and a strong belief that he can offer beneficial products and services to customers (Gore & Fal, 2009:7).

Innovation is defined as the process by which entrepreneurs convert opportunities into marketable ideas (Kuratko & Hodgetts, 2007:731). Entrepreneurs are continuously looking for

new opportunities and therefore, they are part of the innovation process (Allen, 2010:5). In addition, innovation is at the heart of entrepreneurship process (Spinelli & Adams, 2012:14). However, innovation is not part of the curriculum of Business Studies in grade 10-12 (SA, 2011:9-11).

The role of the social entrepreneur in South Africa needs to receive more attention. Improvement in a society or community depends heavily on these entrepreneurs. The social entrepreneur wants to make a positive contribution to the community through an improvement of living standards and is not interested in making profit. In addition, the media can take actions to promote social entrepreneurs and the role they play in their communities by giving their efforts more media coverage (Foxcroft *et al.*, 2002:50).

## 2.11 EDUCATION IN SOUTH AFRICA

A need exists for dramatic improvements to the education system for the improvement of the human capital base for entrepreneurship. One of the areas where the environment for entrepreneurship in South Africa appears significantly worse than that in other developing countries is in the potential for entrepreneurship within the population (Turton & Herrington, 2012:28). It seems highly likely that this is strongly related to weaknesses in the South African basic education system. And, although South Africa's school system does not appear to be worse at promoting entrepreneurship than those in other developing countries (Herrington *et al.*, 2011:15), there is strong evidence that our schools are underperforming in areas such as comprehension, mathematics and science (138<sup>th</sup> out of 142 in 2011). In addition, the situation in 2012, with the ranking of quality in mathematics and science education (143<sup>th</sup> out of 144), deteriorating even further (Turton & Herrington, 2012:29). GEM annually ranks the framework conditions in terms of order of importance. Table 2.5 provides the relative position of education as an important problem that hinders entrepreneurship in South Africa.

**Table 2.5: The relative position of education in South Africa**

Year	Report on framework conditions in South Africa in the GEM Reports
2001	The four most important problems that hinder entrepreneurship: Education Cultural and social norms Financial support Government policy (Driver <i>et al.</i> , 2001:4)

Year	Report on framework conditions in South Africa in the GEM Reports
2002	The most restricting factors of entrepreneurship: Education Financial support Cultural and social norms Government policy (Foxcroft <i>et al.</i> , 2002:46)
2003	Most frequently mentioned weaknesses that hinder entrepreneurship: Education Financial support Cultural and social norms (Orford <i>et al.</i> , 2003:17)
2004	The most times mentioned factor by experts that hinder entrepreneurship: Education Financial support Government policies (Orford <i>et al.</i> , 2004:27)
2005	Three inhibitors of entrepreneurship: Government policy Finance Education (Von Broembsen <i>et al.</i> , 2005:11)
2006	Factors that limit entrepreneurship: Education Finance Government policies (Maas & Herrington, 2006:12)
2007	Education is listed as one of the important factors that limit entrepreneurship (Maas & Herrington, 2007:39 & 42)
2008	Constraints of entrepreneurship: Financial support Education Government policies (Herrington <i>et al.</i> , 2008:31)
2009	Key aspects that can stimulate entrepreneurship: Financial support Education Government policies (Ashton, 2010:18-19)
2010	Key aspects that constrains entrepreneurship: Education Government policies Financial support (Herrington <i>et al.</i> , 2010:31)
2011	Factors that foster entrepreneurial activity: Government policies Government programmes Education (Herrington <i>et al.</i> , 2011:46)
2012	Factors that influence the potential entrepreneurs Market dynamics Research and development Education (Turton & Herrington, 2012:27-29)

**Source:** Various authors

From the above it is clear that entrepreneurship in education is a major limiting factor towards fostering entrepreneurship and thus job creation and new business formation.

## 2.12 SUMMARY

Education in entrepreneurship is important for the creation of an entrepreneurial mind-set and providing people with the knowledge and skills to start their own business. The design of an entrepreneurship curriculum that focuses on skills such as language, starting an own business, presenting skills, creativity and leadership will have a positive influence on entrepreneurship education. In addition, specific qualifications on business creation and case studies based on opportunity-orientated ideas and businesses will also enhance entrepreneurial education. For learners who decide to enter the South African workforce and not attend further studies in higher education institutions, this should be good news, since the entrepreneurial skills they are supposed to master during basic education are skills they need to function effectively as entrepreneurs.

Equally important, is the origin of entrepreneurship and a need exists that researchers refocus on the roots of entrepreneurship and the history thereof. However, research that focuses in particular on entrepreneurial characteristics can be traced back to various researchers. The investigation of activities and characteristics of individuals involved in various phases and types of entrepreneurial activity is the starting point of the Global Entrepreneurship Monitor (GEM). GEM views entrepreneurship as a process and acknowledges the role of individuals in new business creation in the measurement of national entrepreneurship levels. Since its inception, GEM has used the Total Early-stage Entrepreneurial Activity (TEA) index as the principal measure of entrepreneurial activity in participating countries. TEA is based on the proportion of adults between 18 and 64 years who are actively involved in starting a business or are owner-managers of a business. The TEA in South Africa is relatively low and is confirmation of a low entrepreneurial activity.

The social, cultural and political context in South Africa plays an important role in entrepreneurship and can provide opportunities through changing attitudes or through creation of new markets in ageing population structures. However, cultural factors such as attitude towards risk, failure and entrepreneurship as career choice influence entrepreneurship. In addition, a lack of role models in entrepreneurship and a low self-confidence in entrepreneurial ability also hinder the development of new starters of businesses. Entrepreneurs prefer a stable political climate that ensures maximum productivity and effective functioning of the businesses and enough security.

In order for entrepreneurship to be developed, the basic requirements that need to be adhered to, according to the GEM model, include institutions, infrastructure, macroeconomic stability and primary education. Each of these requirements is essential for entrepreneurial activity, since it

provides a framework for possible entrepreneurial activity. Although social, cultural and politics influence innovation and entrepreneurship in South Africa, the different framework conditions also play an important role. Entrepreneurial framework conditions are defined as the necessary resources, incentives, markets and supporting institutions to the development and growth of new business. GEM distinguishes between two framework conditions namely national business conditions and entrepreneurial framework conditions. Both these framework conditions are dependent on the social, political and economic context in which they exist. The entrepreneurial framework conditions include entrepreneurial finance, government policies, government programmes, entrepreneurial education, research and development transfer, commercial and legal infrastructure for entrepreneurship, internal market openness and cultural and social norms.

From the abovementioned entrepreneurial framework conditions education is mentioned most as the biggest obstacle for entrepreneurship. In the period 2001 to 2012 education was ranked in the top three inhibitors of entrepreneurial activity. A need exists for dramatic improvements to the education system for the improvement of the human capital base for entrepreneurship. One of the areas where the environment for entrepreneurship in South Africa appears significantly worse than that in other developing countries is in the potential for entrepreneurship within the population. It seems highly likely that this is strongly related to weaknesses in South Africa's education system. And, although South Africa's school system does not appear to be worse at promoting entrepreneurship than those in other developing countries, there is strong evidence that our schools are underperforming in areas like comprehension, mathematics and science. In addition, the situation in 2012, with the ranking of quality in mathematics and science education (144<sup>th</sup> out of 145), deteriorates even further. The South African government set a goal to establish South Africa as an entrepreneurial nation and through a partnership with FNB Commercial banking enable, grow and accelerate entrepreneurship.

## **CHAPTER 3: ENTREPRENEURIAL COMPETENCIES**

### **3.1 INTRODUCTION**

In chapter 2 various views on the term entrepreneurship was highlighted. Current literature on entrepreneurship is characterised by a proliferation of theories, definitions and taxonomies which often conflict and overlap, resulting in confusion and disagreement among researchers and practitioners about the precise meaning of entrepreneurship (Allen, 2010:3). The various viewpoints and different theories on entrepreneurship were discussed and thereafter the Global Entrepreneurship Monitor (GEM) was identified as the most proper theory to meet the aim of the current study. According to this theory, a framework for entrepreneurship and education was designed that will meet the entrepreneurial needs of grade 10-12 learners in South African schools.

This chapter will focus on the different entrepreneurial competencies adopted in the study. The chapter commences with terms used by various authors to describe the unique features of entrepreneurs. These different concepts will firstly be discussed in general and then analysed. The chapter will conclude with the explanation of why only certain competencies were selected for the purpose of this study.

### **3.2 DIFFERENT CONCEPTS OF THE ENTREPRENEUR**

Various views on the concept entrepreneur and the traits of entrepreneurs exist, which have an enormous impact on the current understanding of the entrepreneur and entrepreneurial qualities (Spinelli & Adams, 2012:35; Kuratko & Hodgetts, 2007:119). New characteristics pertaining to entrepreneurs are continuously added to the growing knowledge of entrepreneurship (Kuratko & Hodgetts, 2007:119).

Researchers such as Baron and Shane (2009), Dlabay *et al.* (2009), Hornaday (1971), Kuratko (2009), Kuratko and Hodgetts (2007), and Van Aardt *et al.* (2008), prefer to use the concept characteristics or key characteristics to explain the qualities of entrepreneurs. Daft (2008) as well as Stokes *et al.* (2010) uses personal traits or traits, while other researchers prefer to use the concepts building blocks (Rabbior *et al.*, 1996), individual variables (Gartner, 1985:702), skills (Antonites, 2003:62), success factors (Nieman *et al.*, 2003:14-19), attributes (Spinelli & Adams, 2012:38) and even behaviour (Venter *et al.*, 2008:51). In spite of all these various concepts it is the concept of competency that is most used to describe the qualities of entrepreneurs. A summary of the different concepts is indicated in table 3.1.

**Table 3.1: Summary of concepts used by different authors**

Concept	Author
Characteristic	Hornaday (1971:141-153)
Characteristic	Kuratko and Hodgetts (2007:119)
Characteristic	Kuratko (2009:30)
Characteristic	Dlabay, Burrow and Kleindl (2009:128)
Characteristic	Baron and Shane (2005:24)
Variable	Gartner (1985:702)
Building block	Rabbior, Lang, Cranson and Smith (1996:5-6)
Success factor	Nieman, Hough and Nieuwenhuizen (2003:14-19)
Attribute	Spinelli and Adams (2012:38)
Attribute	Van Aardt, Van Aardt, Bezuidenhout and Mumba (2008:264)
Attribute	Farrington, Venter and Neethling (2012:17)
Trait	Stokes, Wilson and Mador (2010:44-47)
Trait	Oosterbreek, Van Praag and Ijsselstein (2008:6)
Trait	Daft (2008:183-184)
Behaviour	Venter, Urban and Rwigema (2008:51)
Skill	Antonites (2003:62)
Skill	Oosterbreek, Van Praag and Ijsselstein (2008:6)
Competencies	Izquierdo, Deschoolmeester and Salazar (2005:7)
Competencies	Bautista, Barlis and Nazario (2007:2)
Competencies	Wu (2009:282)
Competencies	Nicklaus (2011:61)
Competencies	Man, Lau and Chan (2002:123-142)
Competencies	Inyang and Enuoh (2009:66-69)
Competencies	Sethi and Saxena (2012:2-3)
Competencies	Dixon, Meier, Brown and Custer (2005:32-33)
Competencies	Katz and Green (2011:60-63)

**Source:** Different authors

### 3.2.1 The concept skill

A skill is the ability to perform various tasks satisfactorily and may involve physical dexterity, mental ability, or both (Black *et al.*, 2012). In addition, Green (2011:5) views a skill as a personal quality that consists of key factors such as productive (using of a skill is productive of value), expandable (skills are enhanced by training and development) and social (skills are socially determined). Furthermore, skill is defined in a narrow sense as whether a person can do a task

or set of tasks (National Research Council, 2010:32). Green (2011:13) adds that a skill is the ability to do something. In this study the focus is on entrepreneurial skills. According to Antonites (2003:62) entrepreneurial skills such as creativity, innovation, risk propensity and opportunity identification exist. In addition, Antonites (2003:21) also recognised business skills such as general management, marketing, legal, operational, human resource, communication and business plan skills. Furthermore, Oosterbreek *et al.* (2008:7) identified entrepreneurial skills such as market awareness, creativity and flexibility.

### **3.2.2 The concept competency**

Schroeter (2008:2) defines a competency as the actual performance of a person in a specific situation. A competency is also the ability to meet complex demands, by drawing and mobilising psychosocial resources in a particular context. It is more than only a skill or knowledge; it is a combination of knowledge and skills within a specific context that is repeated over time until it becomes internalised (OECD, 2010:4). In addition, Green (2011:12) divided a competency into three components namely skills, knowledge and attitude. Furthermore, Lackeus (2013:12) used a framework consisting of knowledge, skills and attitudes for the possible development of entrepreneurial competencies. From the above mentioned it is clear that a competency is more than a skill and also includes knowledge and attitude.

In literature various entrepreneurial competencies exist and in the following paragraphs entrepreneurial competencies will be discussed by viewing different research studies internationally. Izquierdo *et al.* (2005:7) identified seven relevant entrepreneurial competencies from a list of 19 in studies in Ecuador to identify the most relevant entrepreneurial competencies of learners and entrepreneurs. These competencies include identifying business opportunities, evaluating business opportunities, decision-making, networking, identifying and solving problems, oral communication abilities and innovative thinking. In addition, a study done in the Philippines on students in selected business schools, measured 11 entrepreneurial competencies (Bautista *et al.*, 2007:2). This study focused on the level of entrepreneurial competency. Some of these competencies include opportunity seeking, persistence, systematic planning and monitoring. Nicklaus (2011:61) grouped entrepreneurial competencies in different parts such as general entrepreneurial competencies, social entrepreneurial competencies and functional entrepreneurial competencies. This classification includes general entrepreneurial competencies such as innovation, flexibility, learning ability and communication while social entrepreneurial competencies include teamwork, leadership and networking. Some of the functional entrepreneurial competencies are commercial management, technology management, financial management, strategic management and organisational management. However, the different entrepreneurial competencies are grouped into six competency areas

according to different literature studies (Man *et al.*, 2002:123-142). This grouping includes opportunity competencies, relationship competencies, conceptual competencies, organising competencies, strategic competencies and commitment competencies. In addition, Venkatapathy and Pretheeba (2012:142) view entrepreneurial competencies such as initiative, opportunity seeking, persistence, a high quality of work, commitment to work contact, systematic planning, persuasion, self-confidence and assertiveness as important competencies to start up a business.

According to Inyang and Enouh (2009:66-69) entrepreneurial competencies play an important role in the different business functions in Nigeria while Sethi and Saxena (2012:2-3) indicate that the Development Institute of India also focus on the development thereof. Furthermore, a study in Jamaica was performed to identify 66 entrepreneurial competency items by cluster category (Dixon *et al.*, 2005:32-33). These categories include leadership, communication, perceptions of trustworthiness, planning and organising, basic business skills, problem solving, personal traits and creativity. According to Katz and Green (2011:60-63) a successful entrepreneur needs to have the following competencies: key business functions, industry specific knowledge, resource competencies, determination competencies and opportunity competencies.

Since the terms competency include aspects such as skill, knowledge and attitude the term competency will be used in this study.

### **3.3 SELECTED ENTREPRENEURIAL COMPETENCIES**

Entrepreneurial competencies are, according to Man *et al.* (2002:235-254), divided into opportunity, relationship, conceptual, organising, strategic and commitment competencies. However, Onstenk (2003:74-89) views the communication competency of the entrepreneur as the most relevant competency. According to Marques and Albuquerque (2012:58) the list of competencies entrepreneurs should possess is extensive and researchers do not seem to agree on specific lists of competencies. However, from an analysis of the various entrepreneurial competencies available in literature, some entrepreneurial competencies are highlighted more by researchers. These highlighted competencies also correspond with the entrepreneurial competencies focused in the curriculum of Business Studies (grades 10-12) in South African schools (see table 3.2). Therefore, since this study aims to enhance the entrepreneurial competencies of school learners, only selected competencies will be focused on in this study, which include problem solving (par. 3.3.1), creativity (par. 3.3.2), flexibility (par. 3.3.3), risk-taking (par. 3.3.4), goal orientation (par. 3.3.5), planning (par. 3.3.6), teamwork (par.

3.3.7), communication (par. 3.3.8), self-confidence (par. 3.3.9), and capacity to learn (par. 3.3.10).

**Table 3.2: Comparison of learning outcomes and entrepreneurial competencies**

Learning outcome	Description of learning outcome	Entrepreneurial competencies
Business environments	Investigating ways in which business can adapt to challenges in the macro environment	Flexibility
Business environments	Analysing and explaining the challenges of the market environment	Capacity to learn Risk-taking
Business environments	Examining the links between tertiary, secondary and primary businesses.	Capacity to learn
Business Ventures	Identifying entrepreneurial qualities for business practice and assessing an identified business against risk-taking, perseverance, management	Risk-taking Planning
Business Ventures	Transform a business plan into an action plan	Goal orientation
Business Ventures	Initiating and setting up a business venture to generate income, basing this on an action plan and acquiring funding.	Planning
Business Ventures	Presenting and supporting business information with tables, graphs, diagrams and illustrations.	Self-confidence Capacity to learn
Business Roles	Acquiring problem-solving skills in a business context.	Problem solving
Business Roles	Working with others to solve problems and generate ideas.	Creativity Problem solving Teamwork
Business Roles	Acquiring creative thinking skills and exploring conventional versus non-conventional solutions	Creativity
Business Roles	Understanding theories of change management.	Risk-taking
Business Roles	Acquiring skills on team dynamics.	Teamwork
Business Operations	Analysing marketing activities	Planning
Business Operations	Examining foreign marketing and the production function	Planning

Source: SA (2003)

### 3.3.1 Problem solving

According to Daft and Marcic (2014:15) problem solving is the process of taking corrective action to meet objectives and achieve desired results. In addition, the understanding of the problem is an important part of the problem solving (Reeff, 1999:48). According to Boddy & Paton (2011:197) a problem is defined as a gap between an existing and desired state of affairs. In addition, Daft and Marcic (2014:15) add that a problem is a gap between actual and desired performance. Furthermore, Treffinger *et al.* (2008:390) define problems more broadly as questions for inquiry.

Kirkley (2003:8) distinguishes between three types of problems and refer to them as well-structured, moderately structured and ill-structured problems. In addition, these types of problems play an important part in education and in the problem-solving process.

- Well-structured problems are defined as problems that always use the same step-by-step solution and that the solution strategy is usually predictable. This type of problem has all the information as part of the problem statement. Examples of these types of problems are balancing a cheque book and solving a crossword puzzle.
- Moderate structured problems are problems that require different strategies and adaptations to fit in a particular context and needed information have to be gathered. Examples of these problems are designing a spreadsheet and planning a sales call.
- Ill-structured problems are problems with vague and unclear goals. In this instance the solution is not well defined or predictable and needed information has to be gathered. Examples of ill-structured problems are the designing of a bridge or creating a new computer program.

In the business world various problems exist and entrepreneurs are continuously confronted by difficult situations and tasks and therefore need to solve problems regularly (Kuratko & Hodgetts, 2007:121). It is therefore important that problems and opportunities require solutions because the way these are approached determines success or failure. According to Rwigema and Venter (2004:62) a business will be faced with problems and opportunities at every stage of the entrepreneurial process and therefore the competency problem-solving has to be developed and enhanced.

During the teaching of problem-solving the teacher focuses, according to Tull (2012:1-2) and Crebert *et al.* (2011:10-11), on a process with different steps that have to be executed by the learners and these are the following:

**Step 1:** Identify the problem and describe the problem without focussing on consequences or implications of the problem.

**Step 2:** Define and analyse the problem. A broad search and gathering of the relevant information is essential for identifying the correct problem to solve. In addition a clear description of the problem in terms of its cause and possible impact is needed. According to Crebert *et al.* (2011:11) a focussed problem statement is needed for proper research of the problem.

**Step 3:** Generate possible solutions. In this step solutions have to be created. It is important to create many possible solutions and without evaluating its feasibility. The function of this phase is to generate solutions from different angles and perspectives.

**Step 4:** Choose the best solution. The evaluation of solutions in terms of its feasibility, advantages and disadvantages will assist in choosing the best alternative.

**Step 5:** Implement the chosen solution. In this final step the chosen solution has to be implemented. If the solution does not completely address the problem, the previous steps can be repeated to address areas of concern or that need improvement.

During the teaching of problem-solving the teacher, according to Crebert *et al.* (2011:9), needs to inform learners on a clear identification, definition and discussion of the problem before focussing on a possible solution. The problem has to be carefully evaluated without bias and aspects such as uncertainty, ambiguity and doubt have to be addressed. According to Tull (2012:1-2) teachers have to promote the creation of as many as possible ideas without focussing on the feasibility. In addition the use of different opinions in a group can also contribute to enough solutions (Crebert *et al.*, 2011:9). Tull (2012:1) emphasises the fact that the correct method of solving problems will ensure an effective learning experience and reduce stress and anxiety. According to Crebert *et al.* (2011:9) problem solving tasks with visible real-world value for the learner will ensure the development thereof. In addition, problems that are achievable, challenging and have a clear structure will also assist the development thereof. Furthermore effective problems will assist the learner to become aware of using other skills.

For learners to effectively demonstrate the competency of problem solving they have to be able to:

- recognise problems
- analyse problems

- generate possible solutions
- choose the best solution
- implement the best solution (Toohey, 1999:38)

### **3.3.2 Creativity**

Creativity is the generation and creation of new and useful ideas in any domain (Amabile, 1996:1). According to Boddy and Paton (2011:16) creativity is the ability to link ideas in a specific way or to make unusual associations between ideas. Griffin (2014:266) views creativity as the ability to create new ideas or to use existing ideas in new ways. According to Robbins *et al.* (2013:110) creativity is ideas that are different from previous ones and are also appropriate to a problem or opportunity. In addition, creativity can also be defined as an ability to come up with new and different viewpoints on a subject (Proctor, 2010:3). Furthermore, creativity plays an important role in entrepreneurship and is essential in the design and development of new products and services (Ruppert, 2010:1). To conclude, creativity is the producing of a product by an individual or group with the interaction of aptitude, process and environment (Plucker *et al.*, 2004:90).

As indicated, process plays an important role in creativity and several processes exist. According to Lussier (2012:100-101) the creative process consists of three stages namely preparation (stage 1), incubation and illumination (stage 2) and evaluation (stage 3). However, Griffin (2014:267-268) sees the creativity process as four stages namely preparation (stage 1), incubation (stage 2), insight (stage 3) and verification (stage 4). In addition, Proctor (2010:75-76) mentions the creative problem solving process consisting of six steps. These steps include the following: objective finding, fact finding, problem finding, idea finding, solution finding and acceptance finding. Equally important is the divergent thinking process of Guilford consisting of four aspects namely fluency, flexibility, elaboration and originality (Proctor, 2010:18). According to Rabanos and Torres (2012:1148) the use of fluency, flexibility, elaboration and originality (the divergent thinking processes of Guilford) will have a positive influence on the development of creativity.

The development of the creativity competency of school learners is a challenging issue in teaching and learning. According to Adams (2005:14-15) the classroom practices in formal education do not focus enough on promoting creativity and even sometimes inhibits it. Kelley and Kelley (2012:2) mention that the conventional education systems hinder the development of attitudes and motives necessary for the development of creativity. However, several theorists such as Adams (2005), Amabile (1998), Nickerson (1998) and Sternberg (1996) provide

suggestions for modifying educational programmes in order to address the abovementioned shortcoming. Sternberg (1996) lists 25 steps to promote creativity in the classroom. In addition, Adams (2005:17) also suggests the use of problem-based learning to enhance creativity. Problem-based learning proves effective for creativity and a broad range of thinking skills. According to Rabanos and Torres (2012:1153) creative skills can be developed through the use of relevant activities and appropriate methodology. According to Timmons and Spinelli (2009:53) creativity can actually be acquired through learning and subsequently developed. Earlier assumptions underlined the fact that creativity was an exclusively inherited capacity and strongly genetic. The fact that creativity can be learned holds important implications for entrepreneurs who need to be creative in their thinking on new products or services. In South Africa various organisations offer workshops to learners to stimulate creativity among learners in the formal learning environment (Farrington *et al.*, 2012:28). These authors also emphasise the importance of educational institutions to foster an environment where entrepreneurial competencies such as creativity can be developed and enhanced.

Some of the criteria that can assist the teacher to develop creativity include the following: identification and elimination of the barriers of creative thinking; the creation of a positive attitude towards exploring and expressing creative potential; the production of creative products through creative processes; encouraging the use of the divergent thinking process and the consideration of the individual characteristic of each learner. The learners can use role-models and explore various environments (Adams, 2006:17). In addition, creativity can be practised in different environments (Kelley & Kelley, 2012:2).

Some of the aspects that Rabbior *et al.* (1996:19) identify to develop and enhance creativity of learners are the ability to:

- think in new ways
- generate various ideas
- believe in their ability to be creative
- break with old habits and routine
- explore new and relevant information.

### **3.3.3 Flexibility**

As a component of creativity, flexibility is the ability to create a diverse mix of ideas (Proctor, 2010:18). In addition, flexibility is to handle changing or multiple circumstances (Farrington *et*

*al.*, 2012:22). According to Wu (2009:282) flexibility is the ability to effectively adapt to a variety of situations. Likewise Boddy and Paton (2011:40) views flexibility as the ability to cope with rapid change. According to Spinelli and Adams (2012:41) flexibility is the ability to change goals depending on market and other changing circumstances. Furthermore, flexible thinking includes provision for changes in ideas, different viewpoints, alternative plans, differing approaches and various perspectives of a situation (Victor & Vidal, 2009:419). Baron and Shane (2005:24) emphasise that flexibility is also the ability to transfer knowledge from one circumstance to another and use previous knowledge and apply that knowledge to evolving conditions, problems, challenges and opportunities.

Flexible performance depends on individual differences, in terms of personality and cognitive ability, skills gained from education and experience and an environment that require flexible performance (Muller-Hanson *et al.*, 2010:5-7). The development of flexibility can be hindered by barriers (Burns & Freeman, 2010:11-12). In the first place the fact that humans resist change hinders the development of flexibility. In addition, a resistance to work also has a negative influence on flexibility. However, strategies such as advanced flexible learning, recognition of flexible performance and suitable methods for developing flexibility will enhance flexibility.

For learners to effectively demonstrate the competency of flexibility they have to be able to:

- manage multiple tasks;
- adapt to changing requirements of a given task;
- function in a group;
- function individually (Careers Service, 2012).

#### **3.3.4 Goal orientation**

A goal is a target or end result that someone wants to achieve (Bateman & Snell, 2013:130). According to Cassidy and Kreitner (2011:320) a goal is a desired future state for an activity and goal setting is the process where objectives, deadlines and quality standards are used to improve individual or group performance. In addition, goals are the end towards which effort is directed and goal orientation is the reason why a person engages in a specific task (Was, 2006:531). Previously, Van de Walle (2001:163) distinguished between learning goal orientation and performance goal orientation. Learning goal orientation is defined as a preference to develop a person's competence through acquiring new skills and mastering new situations, while performance goal orientation is defined as a preference to demonstrate and validate a

person's competence through seeking favourable judgements. In this study the focus is on learning goal orientation and focussing on the improvement of the ability.

To understand goal orientation the criteria of goals is discussed. According to Boddy (2012:119-120), Williams (2013:109) and Boddy and Paton (2011:183-184) the SMART acronym provide criteria that can be used to assess a set of goals. These criteria are specific, measurable, attainable/believable, realistic/achievable and time bound (De Janasz *et al.*, 2012:55). Goals are specific when they set specific targets and describe particular outcomes that have to be reached (Bateman & Snell, 2013:131). According to Boddy and Paton (2011:183) it is important that a goal is defined precisely enough to measure its progress, quantitatively or qualitatively. A goal should be challenging but not too difficult or unrealistic and the reward as part of a good goal will give meaning and will assist to ensure commitment. Likewise, goals that are time bound specify a date for completion and will assist employees in knowing when to deliver results (Bateman & Snell, 2013:130). The development of goal orientation will be discussed.

The following aspects can assist the teacher in developing learning goal orientation: the task, authority, recognition, grouping, evaluation and time (Kaplan & Maehr, 2007:159). The design task has to be personally meaningful to the learner and the learner decides on the means and strategies for engaging in the task. In addition, recognition is given to the learner for actions such as taking risks, being creative and learning from mistakes. The use of groups to assist in learning and lending support is also necessary. The evaluation of creativity, progress and learning of skills is done privately and each learner work at his/her own pace.

Some of the requirements that Van de Walle (2001:168) identifies for increasing learning goal orientation is the ability of the learners to:

- show a proactive, problem-solving response to setbacks
- be creative and open to new ideas
- adapt to new environments
- process feedback
- set clear achievable goals.

### **3.3.5 Risk-taking**

Risk is the situation that exists when the probability of success is less than 100% and failures can happen (Bateman & Snell, 2013:88). In addition, risk is a concept that attempts to quantify

future uncertainty (Stokes *et al.*, 2010:226). Whereas, risk-taking is the ability to take moderated, calculated risks with the provision of a reasonable chance for success (Farrington *et al.*, 2012:22). Risk-taking is the characteristic that describes the extent to which a person takes risks. Furthermore, risk propensity is the degree to which persons are willing to take chances and perform risky decisions Robbins *et al.* (2013:253) and Griffin (2014:256). According to Lussier (2012:287) risk propensity lies on a continuum from persons that take risks to persons that avoid risks.

However, Nieman *et al.* (2003:15) view entrepreneurs as people that take calculated risks because they do not want to gamble and risk losing control. In addition, successful entrepreneurs are not gamblers but take calculated risks (Spinelli & Adams, 2012:41). Baron and Shane (2005:24) support the fact that entrepreneurs take risk in a very calculated and careful manner.

According to Rabbior *et al.* (1996:20-21) the preparation of entrepreneurs is crucial and will help to analyse the viability of the new business and make a reasonable calculation of its chances for success. Lambing and Kuehl (2003:27) support this by stating that entrepreneurs try to define their risks early in the process and minimise them to the extent possible. They also see risk differently because of their knowledge of the industry.

The development and enhancement of risk-taking competencies of school learners is a challenging issue in teaching and learning. According to Niesr (2010:21) there are barriers to risk-taking activities involving learners. In the first place risk-taking is seen as a negative activity and something that has to be avoided. Secondly, the pressure on achievement in schools and a lack of time of teaching inhibit risk-taking activities in education. In addition, it is necessary that risk-taking is part of subjects across the curriculum. However, a supportive environment can help learners to cope with failure (Newman & Blackburn, 2002). This environment can be created by involvement of adults such as teachers and trainers. Furthermore, the right balance between under and over involvement of adults in risk-taking activities is needed. Equally important, is the learning experience for learners through trial and error.

For learners to effectively demonstrate the competency of risk-taking they have to be able to:

- understand risk in positive and negative terms
- manage risk
- take risks
- understand financial risk (Niesr, 2010:168)

### 3.3.6 Planning

Planning is the task of setting goals, a description of how to achieve the goals, the implementing of the plan and evaluating the results (Boddy, 2012:112). According to Smith (2011:89) planning involves anticipating the future requirements and challenges of a business. He continues that planning also involves sequencing future resources and actions to minimise delays in operations of the business. Farrington *et al.* (2012:22) conclude that planning is the action to have goals, plans and the determination to follow through.

The advantage of effective planning is that it clarifies direction, motivates people, uses resources efficiently and increases control (Boddy & Paton, 2011:171). In addition, Williams (2013:135) views the benefits of planning as intensified effort, persistence, direction and the creation of task strategies. Furthermore, the intensified effort refers to the greater effort put in by managers and workers when they follow a plan. Likewise planning leads to persistence because planning encourages persistence, even when there is a small chance of success in the short-term. Planning also directs managers and workers and assists them to perform activities that can help them to accomplish their goals. Another benefit of planning is the development of task strategies with the advantage that it encourages workers to think of better ways to perform their jobs (Williams, 2013:136-137).

Different plans can be used such as strategic, tactical and operational plans. A strategic plan is a plan that includes decisions on the allocation of resources and steps necessary to reach strategic goals while the tactical plan is developed to implement specific parts of the strategic plan. The operational plan focuses on the execution of the tactical plan (Griffin, 2014:68). The entrepreneur needs to plan within an environmental context and develop plans according to it. In addition, the entrepreneur also needs to understand the environment and its influences on the business. If the entrepreneur understands the environment and its influences the mission can be developed. From the mission various plans, goals and objectives can be developed (Griffin, 2014:66).

The learners have to demonstrate the competency of planning through the ability to:

- identify objectives
- prioritise tasks
- work to deadlines
- set clearly defined steps

- develop a contingency plan
- draw up a work schedule (Careers Service, 2012)

### **3.3.7 Teamwork**

For the purpose of this study a clear distinction is made between a group and a team. According to De Janasz *et al.* (2012:217) a group is a collection of people working together but are not necessarily working together towards the same goal. However, a team consists of three or more individuals who are serious working together to achieve a common objective. A group will become a team when the members demonstrate a commitment to each other and to the end goal (De Janasz *et al.*, 2012:216). In addition, a team can be defined as a number of members with shared leadership who perform interdependent work with individual and group accountability, evaluation and rewards (Lussier, 2012:433). Jones and George (2013:345) view a team as a group of members that function intensely with one another to achieve a certain common objective. Furthermore, Boddy and Paton (2011:515) emphasises that a team is deliberately created by management to execute certain tasks to help achieving business goals.

According to Boddy and Paton (2011:516) different types of teams exist in a business and are the following: top management teams, task forces, professional support groups, performing groups, human service teams, customer service teams and production teams. Bateman and Snell (2013:506-507) add the following types of teams: project and development teams, parallel teams, transnational teams, virtual teams and traditional work groups. In addition, De Janasz *et al.* (2012:217-218) mention cross-functional teams, self-managed teams and process improvement teams. An excellent entrepreneurial team consists of an entrepreneurial leader that learns and teaches; is resilient and deals with adversity, has integrity, dependability and honesty and creates or builds entrepreneurial culture and business. The quality team has enough and relevant experience; motivation to achieve; commitment, determination and persistence; tolerance of risk, ambiguity and uncertainty; creativity, team locus of control, flexibility, opportunity obsession, courage and communication (Spinelli & Adams, 2012:98).

Advantages of teams, according to Williams (2012:291-292) are the following: increasing customer satisfaction, improvement of service quality, increase speed and efficiency during the designing and manufacturing of products, increased job satisfaction, the view of problems from a multiple perspective due to the different knowledge, skills, abilities and experience of the team members. Another advantage, according to Bateman and Snell (2013:514) is the social facilitation effect, the effect when a person works harder when in a team. Furthermore, De Janasz *et al.* (2012:219) view the following advantages of teams as the following: increased creativity, problem-solving and innovation; higher quality decisions, improved processes, global

competitiveness and increased quality. However, the disadvantages of teams, according to Williams (2012:292-294) are an initial high turnover and social loafing. Social loafing, according to Bateman and Snell (2013:514) is when a person feels that his/her contribution in a team is not important and then working less hard and being less productive in a team. Smith (2011:122) adds that time and effort to create a team is a major disadvantage. The abovementioned show that teamwork plays an important role in a business, therefore the development of teams and teamwork needs attention.

The development of a team consists of five steps including formation, storming, norming, performing and adjourning (De Janasz *et al.*, 2012:223-225). During the formation phase the members will engage in behaviour such as defining the initial assignment and describe the broad objectives of the assignment or project. In the storming stage aspects such as leadership, work style and differences will be sorted out. The norming phase will consist of achievement of unity through constructive criticism and harmony. During the fourth stage, performing, the team will function effectively and the focus will shift to obtaining the team objectives. In the adjourning stage after completion of the task the team will disband or begin with a new assignment. The effective functioning of a team also needs attention.

Some of the guidelines for effective team functioning are the following and can assist the teacher: the correct handling of conflict; focussing on process and content, active participation of all members, establishing of guidelines and expectations of the team, positive and open communication; monitoring of team progress, effective use of feedback, support to each team member and the enough direction of the work of the group (Allen, 2010:144-147).

For the learners to effectively demonstrate the competency of teamwork, the learners have to be able to:

- contribute ideas
- support other members of the team
- take a share of the responsibility
- mediate between team members
- understand their role in the team (Careers Service, 2012)

### 3.3.8 Communication

Communication is a process of exchanging thought, messages or information from one person to another through an appropriate channel (De Janasz *et al.*, 2012:127, 143). According to Nieman and Bennett (2006:267) communication is the transfer of information between individuals or groups to attempt to create understanding, influence behaviour and achieve specific objectives. Boddy and Paton (2011:485) adds that communication is the transfer of information through written or spoken words, symbols and actions with the objective of common understanding. In addition, two ways of communication exist, one-way communication and two-way communication. One-way communication occurs when information flows only in one direction while two-way communication is when information flows in two directions with feedback part of the process (Bateman & Snell, 2013:532-533).

A communication channel is the medium of communication between a sender and a receiver (Boddy and Paton, 2011:491). The sender should give enough consideration in selecting the right channel when a message is encoded. The different message channels are the following: oral communication, nonverbal communication and written communication (Lussier, 2012:367). Oral communication is face-to-face conversations, group discussions and telephone calls in which the spoken word is used to transfer meaning (Griffin, 2014:350). Other examples of oral communication, according to Lussier (2012:367) are meetings, presentations and voice mail messages. Furthermore, social media include media channels such as social networks, social blogs, multimedia sharing, micro blogs, review sites and discussion forums (Edelman, 2010:6).

Jones and George (2013:417) differentiate between verbal and nonverbal communication. These authors also view verbal communication as the encoding of messages into words, written or spoken, while nonverbal communication as the encoding of messages through facial expressions, body language and styles of dress. In addition, Lussier (2012:367) views vocal quality, gestures, posture, posters and pictures as other examples of nonverbal communication. Furthermore, written communication entails memorandums, letters, reports and notes in which the written word is used to transfer meaning (Griffin, 2014:351). According to Bateman and Snell (2013:536) e-mails and computer files are written communication. Lussier (2012:367) adds faxes, bulletin boards, posters in words and newsletters as examples of written communication. In addition, cell phones are playing an important part in communication with South African youth one of the highest users of mobile technology on the continent with 72% of 15-to-24 year olds having a cell phone (UNICEF, 2012:3).

The basic communication process consists of the sender, encoding of the message, medium of the passage, decoding of the message, the receiver, feedback and noise (Cassidy & Kreitner,

2011:203). Authors like Griffin (2014:350), Williams (2014:446) also include transmission of communication channels and meaning between decoding and encoding as part of the communication process. This process starts when the sender thinks of a message that he or she wants to transfer to another person (Williams, 2014:446). The following step is encoding where the internal thought of the receiver has to be translated into a language or code that the receiver of the message probably will understand (Cassidy & Kreitner, 2011:203). The next step in the communication process is where the message, that has been encoded, is transmitted through the appropriate channel. After the receiver received the message, it is decoded back into a format that has meaning for the receiver. In most of the cases the meaning of the message produces a response and the cycle continues when a new message is sent through the same steps to the original sender (Griffin, 2014:349). Noise is one factor that has a major influence on the effectiveness of communication. In addition, noise is defined as any interference that either obscures or changes a message. Furthermore, noise can also be any signals that interrupt the effectiveness of a message (Smith, 2011:287). According to Williams (2012:447) noise can be created through the following: an unsure message from the sender, unclear encoded message, wrong communication channel, unclear decoded message or inexperience and lack of time of receiver to understand the message.

The teacher can, through the use of brainstorming, determine if the learners can define communication and through role-play identify the components of communication. In addition, the teacher can use discussion, demonstration and role-play to determine if learners understand effective communication. Furthermore, the learners can demonstrate their communication ability as an entrepreneurial competency through:

- presenting information in different formats
- motivating and encourage others
- relating to a wide range of people
- effective listening
- giving and accepting criticism
- negotiating (Careers Service, 2012)

### **3.3.9 Self-confidence**

Self-confidence is how people perceive themselves and their potential (Rabbior *et al.*, 1996:9-10). According to Williams (2013:553) self-confidence is the belief that a person has in his/her

abilities. In addition, self-confidence is the assurance that people have in their own ideas, judgements and capabilities (Daft & Marcic, 2014:47). Kuratko and Hodgetts (2007:123) also view self-confidence as the commitment to go through with their actions despite setbacks and difficulties.

According to Niesr (2010:13) a person's self-confidence can increase through participation in risk-taking activities. In addition, self-confidence of a person can also increase with an in-depth knowledge of market and industry through effective investigation (Lambing & Kuehl, 2007:19). According to Venter *et al.* (2008:57) entrepreneurs link their self-confidence with optimism and believe in their own competencies and in the likelihood of success. Furthermore, entrepreneurs are confident in their abilities and believe they have the ability to accomplish whatever they set out to do (Baron & Shane, 2005:24).

For the learners to effectively demonstrate the competency of self-confidence, the learners have to be able to:

- assess their own capabilities
- take risks
- handle feedback
- reflect on what was learnt
- develop decision-making skills (Careers Service, 2012)

### **3.3.10 Capacity to learn**

Capacity to learn is an important entrepreneurial competency and consists of willingness to learn, readiness to learn, learning from mistakes and learning from failure (Rabbior *et al.*, 1996:16). In addition, according to Rabbior *et al.* (1996:16) entrepreneurship is a constant learning experience. Learning from failure is the ability to overcome setbacks and view it as a learning experience (Farrington *et al.*, 2012:22). Similarly, learning from failures is a trail-and-error process through setbacks and disappointments (Kuratko & Hodgetts, 2007:121). Additionally, Lambing and Kuehl (2003:26) state that every mistake or failure is a new learning experience and an important part of the future of the entrepreneur. Furthermore, Niesr (2013:13) views failure as a learning experience and not a mistake. According to Kuratko and Hodgetts (2004:119) the tolerance for failure is also part of the entrepreneur's learning experience. According to Spinelli and Adams (2012:41) entrepreneurs are not afraid of failing because of their positive attitude towards it. Many entrepreneurs learn more from early mistakes

than from their early success. Persons become successful entrepreneurs through trial-and-error nature and to learn from serious setbacks and disappointments (Timmons & Spinelli, 2009:53).

Willingness and readiness to learn implies having the desire to expand personal knowledge and improve the level of expertise (Farrington *et al.*, 2012:22). According to Rabbior *et al.* (1996:16) it is important for someone who wishes to be an entrepreneur to demonstrate a willingness to learn about entrepreneurship. Entrepreneurs are quick learners and they have a strong desire to know what they are doing and where to improve their performance. Likewise, entrepreneurs accept the fact that they can do things better. According to Wickham (2004:151) they are eager to learn and are aware of their skills and limitations and are receptive to a chance to improve their skills and develop new ones. In addition entrepreneurs need to have knowledge relevant to the specific area in which they are planning to start a business. Relevant knowledge is necessary to understand the true nature of an entrepreneurial opportunity, the nature of existing and potential competition, the potential problem and the requirements of a possible business plan (Stokes *et al.*, 2010:164).

The learners have to demonstrate the capacity to learn through their ability to:

- learn from mistakes
- learn from team members
- take a share of the responsibility
- handle feedback
- understand their role in the team (Careers Service, 2012)

### **3.4 SUMMARY**

Current literature on entrepreneurship is characterised by a proliferation of theories, definitions and taxonomies which often conflict and overlap, resulting in confusion and disagreement among researchers and practitioners about what precisely entrepreneurship is. In addition, various concepts that describe the qualities of the entrepreneur are evident in literature. These concepts include characteristics or key characteristics, personal traits or traits, building blocks, individual variables, skills, success factors, attributes and even behaviour. In spite of all these various concepts it is the concept of competency that is most used to describe the qualities of the entrepreneur. A competency is the ability to meet complex demands, by drawing and mobilising psychosocial resources in a particular context. In addition, it is more than only a skill or knowledge; it is a combination of knowledge and skills within a specific context that is

repeated over time until it becomes internalised. Therefore, in this study the term competency will be used.

In this investigation the focus is on selected entrepreneurial competencies of grade 11 learners in Business Studies. An analysis of the literature indicates the existence of many different entrepreneurial competencies. Coupled with the investigation of the curriculum of Business Studies to identify entrepreneurial competencies that can be developed, a need for the selection of competencies arises. The selected entrepreneurial competencies used in this study are: problem solving, creativity, flexibility, risk-taking, goal orientation, planning, teamwork, communication, self-confidence and capacity to learn. Another focus of this investigation is the development and enhancement of the chosen entrepreneurial competencies.

Problem-solving is the process of taking corrective action to meet objectives and achieve desired results. Creativity is the ability to link ideas in a specific way or to make unusual associations between ideas. Flexibility is the ability to handle changing or multiple circumstances. Goal setting is the process where objectives, deadlines and quality standards are used to improve individual or group performance. Risk-taking is the ability to take moderated, calculated risks with the provision of a reasonable chance for success. Planning is the task of setting goals, a description of how to achieve the goals, the implementing of the plan and evaluating the results. For the purpose of this study a clear distinction will be made between a group and a team. A group is a collection of people working together but are not necessarily working together towards the same goal. However, a team consists of three or more individuals who are serious working together to achieve a common objective. Communication is a process of exchanging thought, messages or information from one person to another through an appropriate channel. Self-confidence is how people perceive themselves and their potential. In addition, self-confidence is the assurance that people have in their own ideas, judgements and capabilities. Capacity to learn is an important entrepreneurial competency and consists of willingness to learn, readiness to learn, learning from mistakes and learning from failure.

In the following chapter the enhancement of these entrepreneurial competencies through a teaching framework will be discussed.

## CHAPTER 4 ENTREPRENEURIAL COMPETENCY ENHANCEMENT

### 4.1 INTRODUCTION

As indicated in table 2.4 the relative position of education in South Africa it is noted that education is one of three most mentioned problems in South Africa as identified by country experts in the period 2001 to 2012. An inadequate educated workforce can hinder effective business operations which could lead to major obstacles for economic growth, productivity and business efficiency (Herrington *et al.*, 2008:31). From a study conducted in Malaysia in 2004 involving 312 companies, 77.6% of the respondents were of the view that even university graduates lack the required entrepreneurial competencies to function effectively in the workplace (Ng *et al.*, 2009:307). In another study in Britain in 2009 and 2010 employers reported that despite the yearly increase in applicants, they found disappointingly thin pickings; especially entrepreneurial skills pertaining to business awareness and problem solving (Lowden *et al.*, 2011:1). Evidently South Africa has the same dilemma when it was announced that the most common entrepreneurial competencies needed from newly appointed employees are the ability to think critically and reason analytically. South African employers do not have anything positive to say about newly appointed employees, since they have problems integrating data and cannot apply the complex problem-solving skills that are required in the workplace (Masoka & Selesho, 2014:132). According to Foxcroft *et al.* (2002:48) and Maas and Herrington (2006:44-48) it is the responsibility of South African schools and teachers to facilitate the acquisition of entrepreneurial skills and competencies, since most South African school learners enter the work environment immediately after completing grade 12.

After the implementation of outcomes based education (OBE) in the late 1990s in South Africa, the focus of teaching and learning shifted from a traditional teacher based approach to a more learner based approach where learners were encouraged to develop their critical and creative thinking skills (SA, 1997). However, more than a decade later OBE was replaced by a new curriculum aimed at less administrative tasks for teachers, fewer assessment for learners and changes in the calculation of year marks (SA, 2011a). Although the new curriculum in South African schools, also known as the National Curriculum Statement Grades R-12, does not focus on OBE as a teaching methodology, one specific attribute which was brought forward from the previous OBE curriculum is the development of specific skills pertaining to selected entrepreneurial skills (par. 3.5) (Department of Basic Education, 2011b). For learners who decide to enter the South African workforce and not attend further studies in higher education institutions, this should be good news, since the entrepreneurial skills they are supposed to

master during basic education are skills employers expect from newly appointed employees in the working environment.

From an analysis of the outcomes of different subjects currently presented in secondary schools in South Africa, it was derived that the subject Business Studies is best suited for the enhancement of school learners' entrepreneurial skills and attitude and will subsequently be the focus subject for this research study. The main reasons for identifying Business Studies is the curriculum's focus on the development and enhancement of learners' knowledge, skills, attitudes and values pertaining to the formal and informal South African economic sectors as well as the encouragement of the development of entrepreneurial initiatives (SA, 2003:9).

The discussion in this chapter will commence with a broad overview of the subject Business Studies. Thereafter the teaching challenges pertaining to Business Studies will be highlighted.

## **4.2 BUSINESS STUDIES**

The Business Studies National Curriculum Statement for grades 10-12 (NCS) is the framework for teaching and learning Business Studies and has a distinct focus on the enhancement of learners' entrepreneurial competencies. By following the NCS as a guide in this research, it is possible to integrate the proposed framework for the enhancement of entrepreneurial competencies in the development of school learners (chapter 5).

According to the NCS, Business Studies is structured to develop the knowledge, skills, attitudes and values which are necessary for learners to participate responsibly, productively and effectively in business activities in both the formal and informal sectors (SA, 2008:7). The subject focuses on the manner in which private and public businesses should be managed to provide goods and services which will satisfy human needs. There is also a distinctive aim at the manner in which individuals, through performing critical business roles, can participate and contribute positively to the South African and global economies (SA, 2008:7).

By contributing to the development of learners' knowledge, competencies and values, the Business Studies NCS set the foundation for initiating informal and formal business. From the aim of the NCS as well as the indication that more than a third of all grade 12 learners in South Africa enrolled for Business Studies examinations from 2008-2012 (see table 4.1), Business Studies is seen as the school subject best suited for the enhancement of learners' business and entrepreneurial competencies if they decide to enrol for further business-based studies at a higher education level or enter the labour market.

**Table 4.1: Total learners that attended Business Studies 2008 - 2012**

Year	Total learners that wrote examination in grade 12	Learners that wrote Business Studies in grade 12	Percentage that wrote Business Studies in grade 12
2008	533 561	204 963	38,4%
2009	552 073	206 553	37,4%
2010	537 543	200 795	37,3%
2011	496 090	187 677	37,8%
2012	511 152	195 507	38,2%

**Source:** SA (2012:14, 57) and SA (2013:45, 63)

#### 4.2.1 Business studies as secondary school subject

According to the NCS (SA, 2003:10) learners are expected to master the same four learning outcomes in each grade from grade 10-12, which include business environments, business ventures, business roles and business operations. The first outcome focuses on the impact of changing and challenging environments on business practice in all sectors and competencies such as flexibility (adapt to challenges) and opportunity orientation (SA, 2003:24-25). The second outcome focuses on the identification and research of viable business opportunities and competencies such as risk-taking, planning (good management) and perseverance (SA, 2003:26). The third outcome focuses on the demonstration and application of contemporary knowledge and skills to fulfil a variety of business roles and competencies such as problem solving, creativity and working in groups (SA, 2003:28-29). The fourth outcome focuses on the demonstration and application of a range of management skills and specialized knowledge to perform successful business operations and competencies such as planning and communication (SA, 2003:30-31).

Although Gore and Fal (2009:7) claim that the formal (primary and secondary education) educational structure in South Africa does not focus on the development of entrepreneurial skills and competencies, the outcomes outlined in the NCS clearly show evidence of a focus on entrepreneurial competencies as indicated in this research (par. 3.3). From the summary of an analysis of the Business Studies outcomes (see Appendix A) shown in table 4.2, it is evident that the NCS expects teachers to focus on the enhancement of entrepreneurial competencies in teaching and learning. In table 4.2 the link between the learning outcomes and the selected entrepreneurial competencies applicable to this study (par. 3.3) are indicated.

**Table 4.2: Entrepreneurial competencies evident in the Business Studies learning outcomes (LO)**

Selected Entrepreneurial competency	LO 1	LO2	LO3	LO4
Problem solving			X	
Creativity			X	
Flexibility	X		X	
Goal orientation		X		
Risk-taking		X		
Planning	X	X		X
Teamwork			X	
Communication				X
Self-confidence			X	
Capacity to learn			X	
Communication				X

**Source:** SA, (2003:24-31)

Although all the selected entrepreneurial competencies focused on this research study are reflected in the Business Studies outcomes, learners are still to a large extent unable to demonstrate entrepreneurial competencies. This is not because of an ill-defined NCS, but rather the quality of teaching and learning in the classroom. According to Herrington *et al.* (2010:32) South Africa's poor ranking (125<sup>th</sup> out of 139) in 2010 in terms of quality of education hinders entrepreneurial activity and the acquisition of entrepreneurial competencies. In addition, in 2011 and 2012 inadequate education is again mentioned as a major factor in constraining entrepreneurial activity. From the GEM 2010 report, the inadequate teaching and learning of entrepreneurial competencies at school arise from the inability of most teachers to teach entrepreneurship (Turton & Herrington., 2012:36). In this regard this study focuses on the development of a teaching framework which enables teachers currently focussing and those who did not focus before on the enhancement of school learners' entrepreneurial competencies in the classroom.

### 4.3 TEACHING STRATEGIES

Continuously confusion exists between the terms teaching strategies and learning activities. Teaching strategies refer to structures, systems, methods, techniques, procedures and processes that a teacher uses during instruction. Learning activities refer to the teacher-guided instructional tasks or assignments for learners (Link & Bly, 2010:164). According to the Australian National Training Authority (2004:722) a learning strategy is a documented

framework to guide and structure the learning requirements and the teacher, delivery and assessment arrangements of an education qualification. In addition, Oxford (1990) defines learning strategies as specific action taken by the learner to make learning easier, faster and more enjoyable. Weinstan and Mayer (1986) view learning strategies as behaviours and thoughts that a learner engages in during learning. Furthermore, Nisbet and Shucksmith (1986) simplify this by seeing learning strategies as the process that underlie performance on thinking tasks.

In this study the focus is on the enhancement of entrepreneurial competencies within the context of Business Studies as school subject. A combination of a teacher-centered approach and student centered approach is the most effective for the enhancement of business and entrepreneurial competencies (Liu *et al.* 2006). The teacher-centered approach aims for the transferring of knowledge in the form of lecturing and demonstrating (Brown, 1998:5). The student-centered approach include strategies such as group discussions (cooperative learning), simulation games (business simulation), debates (active learning), field visits (experiential learning) and problem-based learning (Brown, 1998:49).

Although various teaching strategies exist in literature, some are more prone to the enhancement of entrepreneurial competencies. The strategies identified for the purpose of this study can be used independently or in combination with each other and include deductive teaching (par. 4.3.1), inductive teaching (par. 4.3.2), experiential learning (par. 4.3.3), active learning (par. 4.3.4), cooperative learning (par. 4.3.5) and simulative learning (par. 4.3.6).

#### **4.3.1 The deductive teaching strategy**

In the deductive teaching strategy, also known as rule-driven or top-down strategy, the teacher introduces and explains concepts and rules relating to these concepts. After this the teacher gives the learners the opportunity to practice these new concepts (Stern, 1992). The deductive teaching strategy is also known as the old perspective (Prince & Fielder, 2006:123), traditional perspective, teacher-centered or pre-taught strategy. A deductive teaching strategy according to Prince and Fielder (2006:123) begins with a presentation of basic principles in lectures and proceeding to the repetition of the lecture content by the learners. This notion coincides with Esler and Sciortino's (1988:3) idea that learners learn when there is a visible change in their behaviour. Nieuwoudt and Potgieter (2009:4) emphasize that deductive teaching is based on the assumption that knowledge transfer is possible through one person (the teacher) to another person (the learner); therefore the teacher is mainly responsible for the process of learning.

### **4.3.2 The inductive teaching strategy**

The inductive teaching strategy is also known as the alternative perspective, the new perspective or student-centered strategy (Prince & Felder, 2006:123). An inductive teaching strategy is according to Wheldall and Merrett (1984:1) teaching that is concerned with assisting learners with acquisition of new skills and to gain knowledge. Additionally, the teacher has to recognise the influence of the attitude and mind-set of the learner. According to Eggen and Kauchak (2001:158) the inductive teaching strategy is “a straightforward but powerful strategy designed to assist learners in acquiring a deep and thorough understanding of the topics they are studying”. These authors elaborate that teachers “will need to present information that illustrates the topics and then guide the learners as they search for relationships in the information”. Prince and Felder (2006:123) argue that inductive methods are consistently found to be more effective for achieving a broad range of learning outcomes. Inductive teaching methods include problem-based learning, inquiry learning, project-based learning and discovery learning (Prince & Felder, 2006:124). These methods are all learner centred, meaning that they impose more responsibility on learners for their own learning. Van den Berg (2004:49) further states that application of theoretical knowledge is needed by learners in the inductive teaching strategy.

### **4.3.3 Experiential learning**

The model of experiential learning by Kolb (1984) states that learning is a process where concepts are derived from experience. In addition, Kolb (1984) views that experiential learning happens whenever an experience or event occurs in a classroom and is transformed through internal reflection on the event. Various authors which include Choueke and Armstrong (1998), Cope (2003), Politis (2005), Rae and Carswell (2001), Ulrich and Cole (1997), Bosma *et al.* (2002) and Rae (1999) state that experiential learning will take place when learners learn through experience of the entrepreneurial process. According to Itin (1999:91-98) experiential learning is defined as the process of learning from direct experience. Bynum and Porter (2005:21) support this by stating that learning of entrepreneurship transpires through experience of entrepreneurial competencies. Merriam, Caffarella and Baumgartner (2007) further argue that experiential learning is the process of learning through interaction with a specific environment. In addition, experiential learning also occurs when learners go on-site to visit a business and to become more familiar with the inside operations thereof (Hytti & Gorman, 2004). According to Fiet (2001:1-24) experiential learning may be more conducive to teaching entrepreneurship. Maritz (2010:17-26) notions that opportunities will provide learner stimulation and active participation. Furthermore, Cope (2005:373-397) views experiential learning as being a cumulative process in which knowledge and competencies are accumulated during previous

experiences and experiments with learning during the entrepreneurial process. Therefore, according to the abovementioned experiential learning can positively contribute to the development and enhancement of entrepreneurial competencies. The interaction with the environment and experience thereof will assist learners in their goal to enhance their entrepreneurial competencies.

An important aspect is the advantage of acquisition of competencies through experiential learning and can be used to help learners experience and learn from failure. In addition, managerial competencies can be learned through the actions and experiences of the participating learners (Maritz *et al.*, 2010:88). Pittaway and Cope (2007:479-510) further emphasise that experiential learning will stimulate entrepreneurial learning and that teachers limit methods such as essays, examinations and case studies. In addition, Honig (2004:264) states that relevant pedagogical methods have to focus on applied, hands-on activities that result in experiential learning, as opposed to the teaching of general principles. Likewise, Solomon *et al.* (1994:350) insist on a move from traditional methods towards experiential learning and evaluation methods. These authors emphasise that experiential learning is essential for entrepreneurship learning and teaching because learners need to increase their horizons and perceptions of entrepreneurship.

#### **4.3.4 Active learning**

Active learning is defined as any instructional method that engages learners in the learning process. Another important aspect is that activities have to be introduced into the classroom (Prince, 2004:1). In addition, active learning is the process where learners take responsibility for their own learning, they use their own methods to study ideas, solving problems and applying what they learn (Silberman, 1996). Glasgow (1996) expands on this by defining active learning as a method of deciding how and what to know and the ability to do it. In addition, Modell and Michael (1993) see an active learning environment as one in which learners individually are encouraged to engage in the process of building their own ideas from the information they acquire. Bonwell and Eison (1991) also view active learning as activities involving learners in doing activities and thinking about what they are doing. Continuous assistance and feedback will assist learners and through their own thinking and doing learning will take place. Learning-by-doing is recognised as the main action by which learners learn entrepreneurial competencies (Cope & Watts, 2000; Raffo *et al.*, 2000a; Ulrich & Cole, 1987). Man and Lau (2000) further underline the importance that learners learn through actual practices and situations during their visits at businesses performing various business tasks.

### 4.3.5 Cooperative learning

Cooperative learning is defined as small groups of learners working actively together as a team solving problems, completing tasks or accomplishing a common goal (Zakaria & Iksan, 2007:36-37). Panitz (1996) argue cooperative learning as a set of processes designed to assist learners in accomplishing a certain task. Hall (2006:9) support this by viewing cooperative learning as a process in which small teams, each with learners of different levels of ability, use a variety of learning activities to improve their understanding of a topic or subject. Bruffee (1993) sees cooperative learning as a systematic strategy that encourages small groups of learners to work together for the achievement of a goal. In addition, there are according to Smith (1996:72) different ways to implement cooperative learning in class rooms. One of the ways is informal cooperative learning groups and can last from a few minutes to a one class period.

Attle and Baker (2007:77) state that learners have to work or play in a competitive business-like environment, therefore cooperate and compete in structured learning activities. Morgan (2003:42) elaborates by stating that cooperative learning is based on theories of cognitive development and behavioural learning. According to Adeyemo (2009:62) both the learner and teacher will benefit from cooperative learning. The use of cooperative learning strategies in the development and enhancement of entrepreneurial competencies can be very effective (Okebukola, 1984:8). In addition, continuous support and feedback in a structured cooperative learning environment can also assist the effective development of entrepreneurial competencies. Furthermore, entrepreneurial competencies such as teamwork and communication will benefit from cooperative learning.

In literature various researchers argue about the formation of groups to ensure cooperative learning (Pate-Clevenger *et al.*, 2008:39; Hollingsworth *et al.*, 2007:47; Cloete, 2005:59). Willis (2007:8) and Cloete (2005:59) have the view that groups that exist of two to five learners produce better results than groups with more than five learners. The benefits of smaller groups include effective participation in conversations and discussions and reduction of learners that only observe. Pate-Clevenger *et al.* (2008:39) and Hollingsworth *et al.* (2007:47) argue that the heterogeneity of the group (in terms of culture, cognitive skills and abilities) also needs attention. They also have the view that heterogenic groups produce better learning results than homogenic groups because of the different views and perspectives that can be shared. The teacher has to allocate the groups and not the learners themselves according to Pate-Clevenger *et al.* (2008:39) and Hollingsworth *et al.* (2007:47). This method assures that the groups exist of heterogenic learners (in terms of culture and cognitive skills and abilities).

### 4.3.6 Simulative learning

Simulative learning is a relative new concept in the teaching and learning environment and researchers use different concepts to refer to simulative learning, such as simulations, games, and simulation-games (Hays, 2005:9). Since business studies is the focus of this research study, in this study the concept business simulations are used to refer to simulative learning. In a business studies teaching and learning environment business simulations focus on the development of business related skills.

Teachers aiming their teaching and learning on the development of business skills with the use of business simulations need to be thoroughly educated in the execution of simulations. According to Lundahl *et al.* (2010:46-59) simulations are the best teaching strategy for the development of entrepreneurial competencies. These simulations need to focus on real life situations where learners are encouraged to solve problems, work together and communicate. In addition, Fuchs *et al.* (2008:365-381) also emphasise that simulations encourage learners to develop their entrepreneurial competencies.

A simulation is a method for implementing a model over time. In addition, a simulation uses the rules and data that are used to represent some portion of reality for a specific purpose (Department of Defense, 1997:138 & 160). In addition, Teach (1990:94) states that lessons learned from participating in simulations should reflect reality.

Simulations are used in various subject terrains and in Business Studies simulative learning will be referred to as business simulations. Business simulations require the continuous solving of problems that occur in a highly dynamic business related situation (Teach, 1990:93). In addition, a simulation has to be believable and continuously adaptable to ensure that the participants stay motivated. Furthermore, an effective simulation will also ensure that participants obtain maximum learning (Honig, 2004:265). According to Van der Aalst (2013:3) advantages of business simulation include aspects such as flexibility of simulations, simulations can provide answers to a wide range of questions, simulation stimulates creativity and simulation is easy to understand. In addition, Clayton and Gizelis (2012:6) mention the development of competencies such as planning and communication through the use of simulations. Smith and Boyer (1996:690) argue that simulations increase the depth of learning through the possible creation of complex and dynamic processes in the classroom. Hensley (1993:64-68) has the view that learner engagement is an important benefit of simulations. In this instance simulations promote greater participation in the wider learning process, even among learners outside of the classroom. However, disadvantages of simulations are that it can be time consuming, difficulty to determine reliability of simulation results and not sufficient provision of proof.

## **4.4 ASSESSMENT**

Assessment is defined according to the Department of Education (2003:33) as “a process of collecting and interpreting evidence in order to determine the learner’s progress in learning and to make a judgement about a learner’s performance”. Assessment according to various researchers (Chapman & King, 2005:xx; Mariotti & Homan, 2005:1; Schwartz & Webb, 2002:2; Spady, 1994:189) has to, beside the evaluation of the performance of learners, also possess formative value. McTighe and O’Connor (2005:11-12) describe the formative value associated with assessment as formative assessment and describe this assessment as “assessment for learning” either than “assessment of learning”. Formative assessment is the continuous constructive feedback given to learners on their progress (McTighe & O’Connor, 2005:11-12). It is thus the feedback that is associated with formative assessment thus distinguishes it from summative feedback. According to McTighe and O’Connor (2005:11-12) no feedback is given to learners with summative assessment, but a complete view of a learner’s progress on a given time is created such as the end of a quarter or year and include tests and examinations.

In this study the focus is on the enhancement of entrepreneurial competencies. The measuring of these competencies is important for defining their competency levels. Teachers therefore need to be knowledgeable in the methods of assessment (par. 4.4.1), self-assessment (par. 4.4.1.1), peer-assessment (par. 4.4.2.1), group assessment (par. 4.4.2.3) and assessment instruments.

### **4.4.1 Methods of assessment**

Miller (2002:8) distinguishes between three methods of assessment namely self-assessment, peer-assessment and group assessment. Matlay and Carey (2010:697-698) state that self-assessment, peer-assessment and solving of real-life scenarios in groups preferable in entrepreneurship education. Likewise, Schiller (2004:376) sees group presentations, peer-assessment and teamwork as effective entrepreneurship education assessment methods.

#### **4.4.1.1 Self-assessment**

Rolheiser and Ross (2000:33-36) define self-assessment as learners judging the quality of their work, based on evidence and criteria for the purpose of doing better work in the future. In addition self-assessment is the ability of learners to judge their own performance, and make decisions about their abilities (Noonen & Duncan, 2005:2). Montgomery (2000:5) agrees by viewing self-assessment as an appraisal by learners of their own work or learning processes. Self-assessment contribute to learning because of the fact that learners take ownership of the learning they undertake and they do not view assessment as process done to them, but a

participative process in which they are involved (Olivier, 2002:31). Self- assessment is linked to the development of entrepreneurial competencies such as creativity, problem solving, decision-making and risk-taking (Black & William, 1998:8).

Learners and teachers can use self-assessment to enhance learning through:

- Increasing learners' involvement in the learning process
- Increasing social interaction and trust in other learners
- Facilitation of individual feedback
- Focus of learners on the process and not the product (Johnson, 2004:33-41)

#### **4.4.1.2 Peer-assessment**

Peer-assessment according to Noonan and Duncan (2005:2) involves the learners' assessment of the performance or success of other learners. Peer-assessment is also a strategy involving learners' decisions about others' work that would usually occur when learners work together on collaborative projects or learning activities. Learners get the opportunity to share their experiences with one another in peer-assessment (Olivier, 2002:31). Peer-assessment contributes to learning because learners take ownership of the learning they undertake and they do not view assessment as process done to them, but a participative process in which they are involved (Olivier, 2002:31). Peer- and self-assessment provide a new perspective on the extent to which assessment is influencing teachers' classroom assessment practices since it assists both the teacher and learner in the process of learning (Johnson, 2004:33-41).

According to Miller (2011:11) the rationale for peer-assessment can be the following:

- It encourages the ownership of learners of their personal learning
- Motivates and encourages active participation of learners
- Assessment become a shared activity between the learners and teacher
- Promoting an effective interaction of ideas
- Stimulates directed and effective learning
- Developing of transferable personal skills

In this study the rotation group work method (see par. 5.4) is used and peer-assessment play an important role in this method. The different groups assessed the answers of the other groups and allocated a fee for consulting the other groups. The quantity of corrections on the assignment of the other groups determined the fee.

#### **4.4.1.3 Group assessment**

There are various methods for assessing aspects of group work, including a shared group mark or individual marks based on the product alone, or on a combination of product, group and individual effort (Group Work and Group Assessment Guidelines, 2004:17). Group assessment is used in Business Studies and Entrepreneurship (Olivier, 2002:44).

According to the Group Work and Group Assessment Guidelines (2004:20-22) the following guidelines apply to the assessment of group work:

- Identify the purpose of the project and how group work will help to achieve the stated learning outcomes
- Ensure that the marking practices encourage and reinforce effective group work
- Give a written explanation of requirements for the assignment
- The learning objectives of the task and process in the assignment have to be clearly defined
- Combine the teacher and learner in the development of the evaluation criteria
- The use of workshops to give further clarifying requirements preferably also in writing
- Give learners practice in the skills of group work
- Develop a process for providing the group with detailed feedback.

#### **4.4.2 Assessment instruments**

Assessment instruments are instruments such as examinations and tests which can be used in a formative or summative manner to measure the performances of learners (Weeden *et al.*, 2002:9-12). In addition, Earl and Katz (2006:17) mention assessment instruments such as questioning, observation, homework tasks, learning conversations, presentations, quizzes, tests, examinations, rich assessment tasks, computer-based assignments, simulations, projects, checklists, portfolios, presentations, report cards and learning newspapers.

A nationwide survey in South Africa on entrepreneurship education indicates that some of the major assessment methods used in entrepreneurship education are tests, examination, business plans and case studies (Jesselyn & Mitchell, 2005:8). In addition, the syllabuses for secondary school of Business Studies in Hong Kong indicates assessment methods such as objective tests, structured questions, comprehension exercises, writing in the form of essays and reports, case studies, projects and observations (Department of Education, Hong Kong, 1998:22).

Group work as assessment instrument can be used to assess the entrepreneurial competencies such as problem solving and communication.

#### **4.5 RUBRICS**

According to Nagy and Scott (2000:41) rubrics are among the most common methods for learner assessment. In addition, rubrics are important assessment methods in entrepreneurship education (May & Tidwell, 2007:4). Since the assessment of entrepreneurial competencies focuses on the assessment of more than one competency and more than one answer needed from a question Boden and Gray (2007:118-119) suggest that rubrics are needed to mark this answers.

An assessment rubric is a structure whereby the memorandum for the mark of entrepreneurial competencies is developed. According to Montgomery en Wiley (2004:57) rubrics make use of *“clearly specified evaluation criteria and proficiency levels that measure achievement of those criteria”*. Rubrics are usually presented as a tabulated framework consisting of a mark scale (linked with the level of performance) and a description of the performance standard (linked to the criteria) (Montgomery & Wiley, 2004:57): *“... they consist of a hierarchy of standards with benchmarks that describe the range of acceptable performances in each code band”* (Department of Basic Education, 2003:38). A teacher that wants to develop a rubric to mark problem solving needs to know the criteria that the learner need to fulfil. As an example the Department of Basic Education (2007:41-46) proposes a rubric (table 4.3) that can be used to assess the assignments of students that had to be completed in the *“Advanced Certificate in Education”* (ACE). This rubric consists of 6 (six) criteria and 5 (five) levels of mastering.

Facione and Facione (1994:1-3) view that marks allocated to learners will determine what type of competency (for example, minimal mastering to excellent mastering) is shown in terms of each criteria of the learner. If a student according to the assessment rubric and the discretion of the lecturer show an excellent ability to think critical, a mark of 5 (five) will be allocated. If a student cannot demonstrate any critical thinking ability, a mark of 1 (one) will be allocated. According to Lantz (2004:45) it is not necessary to give marks to the performance of learners

but teachers can use assessment rubrics to give only feedback to learners on their levels of mastering.

**Table 4.3: Example of a rubric**

Criteria	Levels of mastering				
	1 Minimal mastering	2 Under average mastering	3 Acceptable mastering	4 Above average mastering	5 Excellent mastering
<b>Critical thoughts</b>	Unacceptable level of mastering	Poor mastering. Do not conform to the minimum requirements	Conform to expectations Still insufficient in terms of certain aspects	Perform above the minimum expectation	Performance is excellent and above expectation
<b>Communication of ideas</b>	Unacceptable level of mastering	Poor mastering. Do not conform to the minimum requirements	Conform to expectations Still insufficient in terms of certain aspects	Perform above the minimum expectation	Performance is excellent and above expectation
<b>Use of knowledge</b>	Unacceptable level of mastering	Poor mastering. Do not conform to the minimum requirements	Conform to expectations Still insufficient in terms of certain aspects	Perform above the minimum expectation	Performance is excellent and above expectation
<b>Reflection</b>	Unacceptable level of mastering	Poor mastering. Do not conform to the minimum requirements	Conform to expectations Still insufficient in terms of certain aspects	Perform above the minimum expectation	Performance is excellent and above expectation
<b>Application</b>	Unacceptable level of mastering	Poor mastering. Do not conform to the minimum requirements	Conform to expectations Still insufficient in terms of certain aspects	Perform above the minimum expectation	Performance is excellent and above expectation

**Source:** (Department of Basic Education, 2007:41-46)

In this instance Lantz (2004:45) proposes that instead of giving marks, the marks in the assessment rubric can be replaced by descriptions of the levels of mastering. Thus can a score

of 1 to 5, for example, be replaced by terms such as minimum, under average, acceptable, above average and excellent mastering. According to Lantz (2004:46) and Zimmaro (2004:2) the use of assessment rubrics are useful instruments to value the quality of work of learners, however, it is time consuming.

#### **4.6 REFLECTION**

Hancock (1998:37-40) reviewed various definitions on reflection. These definitions include characteristics such as capability of developing new knowledge; is consciousness raising, helps turn experience into learning, raises self-awareness, develops intellectual skills, traditional ways of thinking, is creative and can be both an adult and experiential learning technique. Critical reflection is a deliberate process when the person takes time, within the course of their work, to focus on their performances and think carefully about the thinking that led to particular actions, what happened and what they are learning from the experience, in order to predict their actions in future (King, 2002:2). According to Correia and Bleicher (2008:41) reflection assists learners in making stronger connections between theoretical perspectives and practice. The authors view reflection as a skill that can assist people in making sense of their learning experience. According to Rodgers (2002:230) feedback and reflection is important to the learning process of learners since it assists learners to assess their progress in terms of achieving outcomes. Rodgers (2002:235) describes a four-phase reflective cycle that can be used in the development of teachers and assist them with the teaching process. The cycle consists of the following phases: presence in experience, description of experience, analysis of experience and experimental. The first phase of the reflective cycle focuses on the teacher's ability to be present. This presence means the ability to pay attention and to invest in the present moment with full awareness and concentration (Tremmel, 1993:433). According to Rodgers (2002:234) effective reflection depends on the awareness of the learning of learners. The next phase, the description of experience consists of the differentiation and naming of an experience's various and complex elements, so that it can be investigated from as many different perspectives as possible (Rodgers, 2002:237). The function of this phase is to use collaboration to investigate many details and alternatives to prevent the limitation thereof by the sum of a person's own perceptions. In the third phase it is necessary for teachers to analyse their teaching practice and the learning gain of their learners, which should be continuous and based on entrepreneurial theories (Rodgers, 2002:249). The fourth phase experimental refers to the experience of the learner and can be used in future.

## 4.7 DEVELOPING A TEACHING FRAMEWORK

Before the development of a framework for the enhancing of entrepreneurial competencies will be discussed, the development of a teaching framework will receive attention. Although teaching frameworks differ in terms of content and structure the development thereof, according to Sharma en Chandra (2003:435-436), the assumption has to be that (1) a suitable learning environment has to be created, (2) interaction between the teacher and learner has to happen and (3) that suitable and effective learning strategies and techniques have to be used. Sharma en Chandra (2003:435-436) have the view that each teaching framework determines its own structure based on its purpose. Moore (2006) and Borich (2000:229) state that the relationship between the teachers and learners in the learning process also determines the type of structure of a teaching framework. According to Moore (2006) and Borich (2000:229) this relationship determines whether the teaching framework is a direct, shared or indirect teaching framework. Direct teaching frameworks, also known as up to bottom teaching frameworks, are frameworks where the teacher has a central role, controls the learning process and where the learners are dependent on the teacher to learn (Moore, 2006; Borich, 2000:229). On the other hand indirect teaching frameworks, also known as bottom-up teaching frameworks (Moore, 2006), the learner has a central role through an active involvement in their own learning, self-regulated learning and to take control of their own learning (Moore, 2006; Borich, 2000:229). Shared teaching frameworks, also referred to as social teaching frameworks, are frameworks that resort between direct and indirect teaching frameworks and incorporate aspects of both (Moore, 2006). In addition, shared teaching models encourage the involvement of the teacher in the learning process and enable the learners to learn in a self-regulated manner. Furthermore, shared teaching frameworks give shared control to the teacher and learner in the learning process (Moore, 2006; Borich, 2000:229).

For teachers aiming at the enhancement of learners' entrepreneurial competencies they need to adopt specific teaching strategies. By focusing on traditional teaching methods alone, such as lecturing, teachers will not be able to ensure the development of learners' entrepreneurial competencies (Hegarty, 2006:322-335). Therefore, it is imperative for teachers to employ teaching strategies and methods specifically aimed at the development and enhancement of entrepreneurial competencies. According to McEwan (2006:65) and Botha (2000:91) teaching models refer to a simplified description of the processes and activities of teachers during a class session in or outside the classroom such as in another learning environment. Traditional educational models are characterized by a top-down strategy with the direct dissemination of knowledge with the learners mostly being passive recipients of this knowledge. However, the modern educational models are characterized by a bottom-up strategy. In contrast with the traditional educational model, the learners are active participants (Hagquist & Starrin,

1997:227). For the enhancement of entrepreneurial competencies a combination of pedagogical methods is effective in entrepreneurship learning. Furthermore, the combination of the traditional and modern educational model is preferable for entrepreneurship learning.

#### **4.7.1 The characteristics of a teaching framework**

Besides the type of teaching framework used, Loucks-Horsley and Matsumoto (1999) propose that a teaching framework has to consist of four variables: content, process, structure and context. Loucks-Horsley and Matsumoto (1999) have the view that these four variables have to form the basis of any teaching framework. The approach of Loucks-Horsley and Matsumoto (1999) join Guskey and Sparks (1996) that group the variables of a teaching framework under content, process and context. Guskey and Sparks (1996) do not distinguish between process and structure, but include structure as part of the process.

##### **4.7.1.1 Content**

Loucks-Horsley and Matsumoto (1999) describe the content of teaching frameworks as the development of (1) knowledge and competencies of the subject terrain, (2) knowledge on the way the learners learn the subject and (3) teaching strategies. According to Loucks-Horsley and Matsumoto (1999) a combination of these three aspects should enable teachers to teach their subject effectively. The knowledge of the method that learners use to learn the subject is, according to Loucks-Horsley and Matsumoto (1999), the most important aspect of content due to the fact that this aspect enables teachers to:

- learn the content of the subject,
- know whether they learn and how they learn and
- learn methods how to teach the subject.

##### **4.7.1.2 Process**

Process refers to how the content has to be presented by the teacher and learned by the learners. This includes the method how the teacher plans, organises, executes and controls the activities (Guskey & Sparks, 1996). According to Loucks-Horsley and Matsumoto (1999) there are certain characteristics of the process that create learning opportunities for the teacher. These characteristics focus on learner centred teaching, the development and enhancement of the knowledge and competencies of learners, the methods how assessment is done and to obtain evidence of the achievement of learning outcomes of learners. In addition, these characteristics create the basis for the development of challenging learning experiences

(Loucks-Horsley & Matsumoto, 1999). Challenging learning experiences are situations where the equilibrium between teachers' existing beliefs and practices on the one hand and their experience with subject matter, learning, and teaching on the other is disturbed (Loucks-Horsley & Matsumoto, 1999).

#### **4.7.1.3 Structure**

The structure of teaching frameworks according to Loucks-Horsley and Matsumoto (1999) consists of the format, the approach and duration of the teaching and learning process. The format is, according to Loucks-Horsley and Matsumoto (1999), the way of delivery that includes contact sessions, e-learning and distance learning. The prerequisite in terms of the format of the teaching and learning process is that it has to present the opportunity for obtaining of new knowledge and competencies. In addition, it has to be implemented sustainably over a long period (Loucks-Horsley & Matsumoto, 1999). The approach of the teaching and learning process implies the paradigm whereby teaching and learning take place; for example, constructivism or behaviourism. The approach also determines the teaching strategies that are used to promote learning. Loucks-Horsley and Matsumoto (1999) state that teaching strategies that are identified to support the approach have to be used in a combination in a learning opportunity and not fragmented in different learning opportunities. This idea of Loucks-Horsley and Matsumoto (1999) of the combination of teaching strategies is also supported by Zhang (2003:101). Zhang (2003:101) has the view that triangulation between teaching strategies can address gaps in certain strategies and improve the learning process.

#### **4.7.1.4 Context**

The context of teaching frameworks describes according to Loucks-Horsley and Matsumoto (1999) the conditions where under the content has to be learned. Context of the teaching and learning process refer to who, where, when and why thereof. Activities for the promotion of the learning of learners in the context of the teaching framework have to be developed (Loucks-Horsley & Matsumoto, 1999). According to Sharma and Chandra (2003:437-438) activities have to be directed to the specific goal whereby the teaching framework was developed. If the teaching framework consists of various phases, the achievement of capabilities in each phase have to function in the context of the overhead teaching framework (who, where, when and why) (Sharma & Chandra, 2003:437).

### **4.8 A FRAMEWORK FOR THE TEACHING OF ENTREPRENEURIAL COMPETENCIES**

Although many teaching models and frameworks that focus on the development of entrepreneurial skills exist in literature, none focuses specifically on the development of

entrepreneurial competencies in grade 11 Business Studies School learners. The development of such a framework should therefore focus on planning and preparation, the classroom environment, instruction and professional responsibilities (par. 4.8.3).

Since entrepreneurship has a strong practical component (par. 2.1 & 2.2), the teaching of entrepreneurial competencies has an impact on entrepreneurship development and enhancement (Turton & Herrington *et al.*, 2012:36). According to the Learning Program Guidelines (LPG) teaching of Business Studies, including entrepreneurship should focus on linking the outside world to the activities in the classroom. This will create opportunities for practical experience and the development of business-related skills and values (SA, 2008:8). Business Studies provides opportunities for learners to consider numerous challenges within the enabling South African policy framework. Although skills such as decision-making, problem solving, creative thinking, systems thinking and effective communication in a competitive and constantly changing environment are critical to Business Studies (SA, 2003:10), these skills are not evident in current learners' performance (SA, 2012:40).

In creating a framework applicable to this study, various teaching models and frameworks were analysed to identify relevant aspects which could benefit the proposed framework for the development of entrepreneurial competencies. In this regard, seven models were identified that can be divided into teaching models (par. 4.8.1) and models for entrepreneurship education (par. 4.8.2). The above models are chosen because of the various entrepreneurship competencies that can be enhanced. In these models competencies like creativity, innovation, problem solving, self-confidence, risk tolerance and management will be enhanced.

#### **4.8.1 Teaching models**

The GLOOTT-model (par. 4.8.1.1) and CRTA-model (par. 4.8.1.2) are used in this study because of the fact that it consists of characteristics that can assist in enhancing entrepreneurial competencies.

##### **4.8.1.1 The GLOOTT-model**

The GLOOTT-model was developed by Tan *et al.* (2006:139-153) to enhance the thinking competencies of school learners in a computer based environment. In addition, the GLOOTT-model was used to design and build a technology-supported learning environment (Chuen *et al.*, 2009:702). According to Tan *et al.* (2006:144) the reference to the GLOOTT model originated from the learning environment in the framework namely generative learning object organiser and thinking task. The GLOOTT-model incorporates the learning object design,

generative learning, the essential components of higher order thinking and a technology-supported learning environment (Tan *et al.*, 2006:144).

The GLOOTT-model consists of two parts namely generative learning object organiser (GLOO) and thinking tasks (TT). The model emphasises the development of analysing and evaluation competencies. These competencies are also important to enhance entrepreneurial competencies and to prepare learners to be effective knowledge-workers (Tan *et al.*, 2006:146). The purpose of the GLOOTT-model is to make provision for the learners to participate in their own learning by participating in the development of activities to enhance their entrepreneurial competencies in a computer based learning environment (Tan *et al.*, 2006:147). Tan *et al.* (2006:147) view that the focus on the development of entrepreneurial competencies need proper planning, *“for a true learning experience to occur”* and since *“some structure and discipline are needed to provide goal oriented opportunities that allow and help learners to be creative in their learning”*.

According to the GLOOTT-model the learning objectives play a major role in the way learners enhance their entrepreneurial competencies. The learning objectives or outcomes direct the learning process in terms of the proposed knowledge and competencies that have to be learned (Tan *et al.*, 2006:147).

The GLOOTT-model focuses also on the *practice* and assessment of the learning process. The practice part of the GLOOTT-model refers to scenario's (problem solving) that the learners have to create in a computer based environment that is also useful in practice. During the creation of this scenario Tan *et al.* (2006:148) show that the learners use their entrepreneurial competencies. Through this the learners receive the opportunity to show what they have learned. During assessment the learners have to do exercises to measure their entrepreneurial competencies and where they receive feedback that they can use to reflect on their learning.

#### **4.8.1.2 CRTA MODEL**

Since higher order thinking skills are needed for the selected entrepreneurial competencies in this study the CRTA model is used (Kassem, 2001:26-35). In addition, learners have to be exposed and engaged to an entrepreneurial environment (See par. 2.2); therefore, the steps in this model will be essential for the enhancement of entrepreneurial competencies. The CRTA model (Kassem, 2001:26-35) is a teaching model with four steps that was developed with the objective to develop higher order cognitive skills of primary school learners in Georgia (USA). Although this model was tested on primary school learners, the steps provide a structure which can be made applicable in secondary and tertiary education. In addition, a revised CRTA model was developed and is applicable for learners at all grade levels. The four steps consist of the

first alphabetic letter of each step namely “*Create the right climate*”, “*Reflect about thinking skills and Revise instructional objectives*”, “*Teach thinking skills*” and “*Assess critical thinking for real-life use.*”

#### 4.8.1.2.1 Step 1: “Create the right climate”

The first step of the CRTA model focuses on the attitude of the learners and motivation. In this step the learners are encouraged “*to develop an open-minded attitude and a willingness to change*” (Kassem, 2001:29). The right climate according to the developers of the CRTA model has to do with the creation of a “*non-threatening environment, positive attitudes, and a commitment of the time and resources needed to implement a sound plan*” (Kassem, 2001:29).

#### 4.8.1.2.2 Step 2: “Reflect about thinking skills and Revise instructional objectives”

With the “*reflect about thinking skills*”-part the teachers are encouraged to become aware of their own entrepreneurial competencies before they teach it and develop the entrepreneurial competencies of the learners. With the “*revising instructional objectives*” the CRTA model proposes that teachers use the taxonomy of Bloom to determine the educational objectives and the development of entrepreneurial competencies.

#### 4.8.1.2.3 Step 3: “Teach thinking skills”

In the third step of the CRTA model the focus is on *instruction, scaffolding, and practice of the thinking skills, strategies and dispositions*” (Kassem, 2001:31).The developers of the CRTA model also propose that the focus shifts from content based lessons to the development of “*thinking skills, and strategies; and then naming, defining, modelling, practicing and assessing the targeted thinking skills*” (Kassem, 2001:32).

#### 4.8.1.2.4 Step 4: “Assess critical thinking for real-life use”

The fourth and last step of the CRTA model emphasises the importance of assessment of higher order cognitive competencies and also entrepreneurial competencies. The CRTA model also emphasises the importance of feedback; “*without appropriate feedback, learning is unlikely to occur*” (Kassem, 2001:32). According to the CRTA model the most important aspect of assessment is to determine what to assess in terms of the learning objectives, “*what learners should know or be able to do as a result of instruction*” (Kassem, 2001:32). The CRTA model proposes that teachers have to use more than one assessment method to assess entrepreneurial competencies.

## 4.8.2 Models for entrepreneurship education

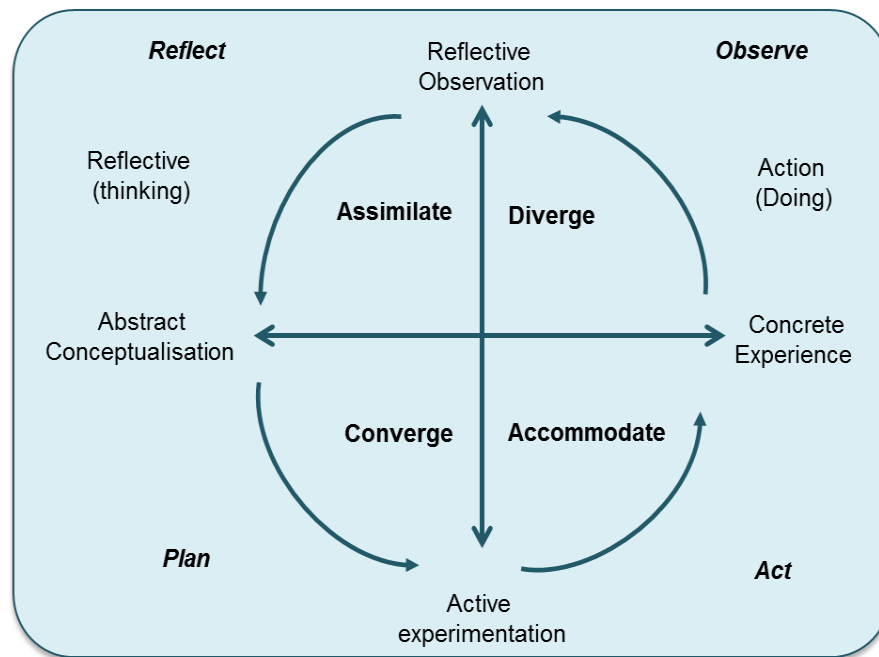
Teaching models exist for entrepreneurship education (see table 4.4) and the following will be used in this study: the experiential learning model of Kolb (par. 4.8.2.1.), the practical entrepreneurship teaching engagement model (par. 4.8.2.2) and the CO-OP model for entrepreneurship (par. 4.8.2.3).

**Table 4.4: Different entrepreneurial teaching models**

Teaching model	Different phases of model
Experiential learning model of Kolb (par. 4.8.2.1)	Concrete experience Reflective observation Abstract conceptualisation Active experimentation
Practical entrepreneurship teaching engagement (PETE) model (par. 4.8.2.2)	Belonging Challenging Competition Connecting Signal Sustainable
Co-op model for entrepreneurship (par. 4.8.2.3)	Creating a knowledge base Teaching theory of the inventive problem solving techniques Guiding learners in creating their own ideas Helping learners to start up business

### 4.8.2.1 Experiential learning model of Kolb

The learning model of Kolb (see figure 4.1) distinguishes between the theory of learning and the theory of teaching. Firstly, the theory of learning is from the viewpoint of the learner and describes the nature of the learning process. In the second place the theory of teaching refers to the viewpoint of the teacher and how the teaching tasks are planned and organised (Dede, 2009:153). The learning model of Kolb consists of the following phases: the first phase, concrete experience, the second phase, reflective observation, the third phase, abstract conceptualisation and the fourth phase, active experimentation (Kamucho, 2011:4). In the first phase, concrete experience, the emotional response takes place while the action is felt or sensed (Dede, 2009:156).

**Figure 4-1: Experiential Learning Model**

**Source:** (Kolb, 1984)

These responses are personal and therefore allows for better recognition when remembering what occurred. The second phase, reflective observation, allows the individual to learn from watching others involved in the experience and reflecting on what is happening. In addition, the learner also listens and observes before making any decisions (Dede, 2009:156). An emotional response interconnects with the third phase, abstract conceptualisation, which allows the individual to grasp what they are thinking, experiencing, watching, and feeling during the experience. Their emotional responses from the first phase affect and interlink with what they would learn from the situation and accommodate the individual to an action (Kamuche, 2011:4). The second phase interconnects with the fourth phase, active experimentation through the concept of applying your observation and doing it themselves. This connection of observing and doing involves the responses generated from emotional feelings and thinking during the process (Kamuche, 2011:4). Each phase connects simultaneously, affecting the response and behaviour of the individual during the transition of phases. Joining the responses between the transition of phases create entrepreneurial discipline as individuals learn through first and second encounters (Kamuche, 2011:4-5).

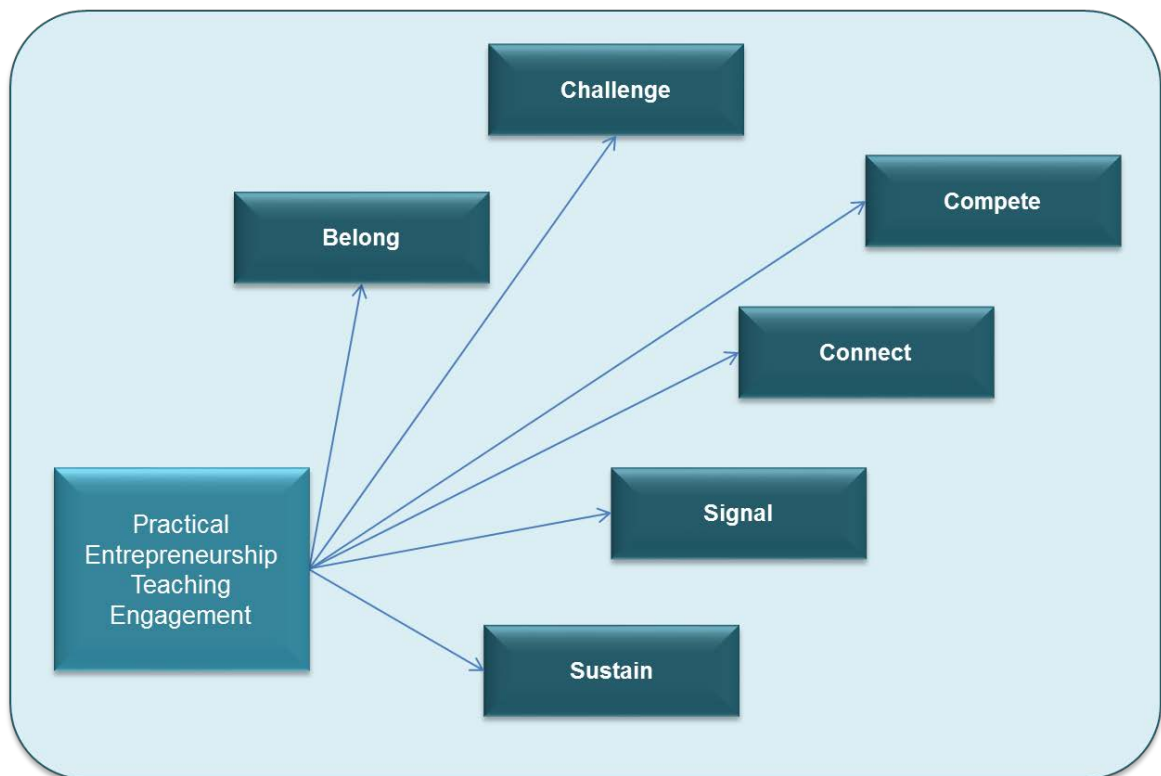
This learning model was also used in a study to develop the competencies of young people in Europe, especially in Belgium and Ireland. This project started in the United States of America in the eighties (Marques & Albuquerque, 2012:55). In addition, Bucha (2009:99) used role-

playing and simulation to develop and enhance the skills and competencies of young people in Europe.

#### 4.8.2.2 Practical entrepreneurship teaching engagement (PETE) Model

The Practical Entrepreneurship Teaching Engagement (PETE) model (see figure 4.3) identifies critical aspects needed for an effective action learning program. This model is used in Japan, New Zealand, South Korea, Singapore and China. In addition, the main goal of the PETE model is to explain that the presence of certain factors can improve the effectiveness of action learning (Mueller *et al.*, 2005). The PETE model consists of the following: belonging, challenging, competition, connecting, signal and sustainable (Mueller *et al.*, 2005). Belonging refers to the creation of a committed and motivated sub-group of students with a special group of membership in a type of business is needed.

**Figure 4-2: PETE Model**



**Source:** Adapted from Mueller *et al.* (2005)

In the challenging part the students have to do practical work outside the classrooms and require significant personal commitment to achieve acceptable outcomes. A real-life competition in front of senior corporate executives of world class or well-known businesses is needed for the competition part of the model. Connecting in the model refers to the connection of students to

the corporate environment through involvement of both parties in the engagement process. There has to be an effect among other universities, academic mentors and students for the signal to realise in the model. This refers to the efficiency of the action learning in the model. The last aspect of the PETE model refers to sustainability and views the benefits of the model to various parties such as the community, the corporate environment and the students.

The PETE model is also used to validate an action-learning based entrepreneurship training program in several countries in Asia (Mueller *et al.*, 2010:1). This program is highly regarded among top-level executives of large global businesses and these executives make significant time commitments to participate in coaching young people skills in entrepreneurship. These measures are assisting to structure practically relevant entrepreneurship education and therefore are important in this study.

#### **4.8.2.3 CO-OP model for entrepreneurship**

This model has university at one side, academic guidance and support, and companies, entrepreneurs, teaching and mentoring, forming an experience-based teaching environment on the other side and it is labelled the CO-OP model (Yener, 2011:3). This model consists of the phases such as creating a knowledge base in learners to improve innovation and creativity, teaching theory of the inventive problem solving techniques, learners in creating their own ideas and helping learners to start up business (Yener, 2011:4). Firstly, the learner has to take entrepreneurial courses to help them to understand entrepreneurship and all its challenges. It is preferable that learners attend lectures and seminars of different sectors of entrepreneurship to enhance their view thereof (Yener, 2011:5). Learners that have the understanding of entrepreneurship and an entrepreneurial mind-set have to develop ideas on new businesses. Transforming ideas to a successful business requires dealing with problems such as manufacturing, marketing and so on. Complex problems can arise from manufacturing and marketing and therefore learners have to learn problem solving techniques in order to solve these problems (Yener, 2011:5). In the core of this model an existing business will be chosen. This chosen business will function as the guidance and mentoring body to assist the learner through the process of creating and developing new ideas. After this the learner has to define his/her innovative idea in a business plan with the assistance of the entrepreneur in the chosen business (Yener, 2011:6). The process of mentoring starts with filling the gaps and lasts until the learner converts the idea into a viable business start-up. Mentors will follow the entrepreneur until he or she gets to a certain level of acceleration (Yener, 2011:7&8). In this model the practical experience of the learner can assist him in the enhancement of entrepreneurial competencies.

According to Yener (2011:10) the CO-OP model is one of the most effective approaches in terms of linking universities and large businesses in Europe. In addition, businesses that are part of this CO-OP model also have the potential to enhance the entrepreneurial competencies of students, leading and guiding them to product creation. Although this model is used to enhance entrepreneurial competencies of studies in university this can also be applicable to learners in secondary schools. The possible cooperation between schools and large businesses can assist in the enhancement of entrepreneurship and education thereof.

### 4.8.3 A Framework for teaching

In 1996, Danielson (1996:3-4) created a framework for teaching aimed at determining the aspects of teachers practices which most highly correlates with the levels of student progress (Danielson, 2013:4). This framework was updated in 2007 and again in 2009 after an analysis of 23 000 captured lessons in the United States of America.

Although the framework developed by Danielson (2013:9) did not specifically focus on the enhancement of entrepreneurial competencies, the competencies focused on in the framework correlates to a large extent on the selected entrepreneurial competencies identified for the purpose on this study. This framework by Danielson is therefore seen as an important contribution to this study which focuses on the enhancement of entrepreneurial competencies. Danielson (2013:9) suggests in his framework that teachers should focus on four domains when preparing for the development of competencies. These domains include planning and preparation (par. 4.8.3.1), the classroom environment (par. 4.8.3.2), instruction (par. 4.8.3.3) and professional responsibilities (par. 4.8.3.4).

**Table 4.5: A framework for teaching**

Domain	Components
<b>Planning and preparation</b>	demonstrating knowledge of content and pedagogy demonstrating knowledge of learners selecting instructional goals demonstrating knowledge of resources designing coherent instruction assessing learning
<b>The classroom environment</b>	creating an environment of respect and rapport establish a culture for learning managing classroom procedures managing classroom procedures managing learner behaviour organising physical space

Domain	Components
<b>Instruction</b>	communicating clearly and accurately using questioning and discussion techniques engaging learners in learning providing feedback to learners demonstrating flexibility and responsiveness.
<b>Professional responsibilities</b>	reflecting on teaching, maintaining accurate records, communicating with families, contributing to the school and district, growing and developing professionally showing professionalism.

**Source:** Danielson (1996:3-4)

#### 4.8.3.1 Planning and preparation

The planning and preparation of the learning environment as well as learning opportunity is the fundamental basis from where the learners' knowledge and skill are developed in a focused manner. The components that form part of this domain encompass the teachers' abilities to demonstrate knowledge of the content (subject matter) and pedagogy, knowledge of nature of the learners, their ability to select instructional goals as well their knowledge of available teaching resources. Teachers therefore need to be subject experts as well as experts in pedagogy. They should also be knowledgeable about the characteristics of the learners in terms of age groups, learning styles, as well as the learners' skills, knowledge, interests and cultural heritage. The selection of instructional goals is some of the most important aspects in any teaching and learning environment. Teachers should be able to realise the developmental needs of the learners as well as the methods to be used to empower learners with the relevant values, clarity and balance.

#### 4.8.3.2 The classroom environment

The classroom environment is the environment where learners learn. According to Miller and Cunningham (2011:1) the classroom environment can be any learning interface such as the physical classroom, simulation, the internet environment, library, or other environment. Notwithstanding the nature of the learning environment, Danielson (1996:3-4) proclaims that such an environment should promote mutual respect and rapport, establish a culture for learning and provide guidelines for classroom procedures and learner behaviour. The creation of an environment of respect and rapport refers to the interaction between the teacher and the learners and between the learners themselves. The establishment of a culture for learning focuses on the importance of content, the learners' pride in their outputs and expectations for

learning and achievement. The guidelines for classroom procedures should include the procedures for managing instructional groups, materials and supplies as well as the performance of non-instructional duties. The learners' behaviour should also be managed in terms of expectations, the monitoring of their behaviour and the response of learner misbehaviour (Danielson, 1996:3-4).

#### **4.8.3.3 Instruction**

Instruction is the method in which knowledge is transferred from one person to another one. According to Burgstahler (2012:1-2) instruction is the way in which knowledge is presented by the instructor to be usable to learners. Effective instruction firstly consists of clear and accurate communication. According to Danielson (2011:28) clear and accurate communication are established through clear expectations for learning, directions for activities, explanations of content and efficient use of oral and written language. In the second place the usage of questioning and discussion techniques refer to the quality of questions, the different discussion techniques and the participation of the learners (Danielson, 2011:31). Thirdly the engagement of learners in learning consists of activities or assignments, the grouping of learners and the structure and pacing of tasks (Danielson, 2011:34). In addition, the fourth aspect of effective instruction is the use of assessment and the provision of feedback to the learners (Danielson, 2011:36). Furthermore, the last aspect entails the ability to be flexible and responsive through lesson adjustment, response to learners and persistence (Danielson, 2011:40).

#### **4.8.3.4 Professional responsibilities**

The domain professional responsibilities refers to the wide range of the responsibilities of the teacher outside the classroom such as reflecting on teaching, maintaining accurate records, communicating with families, contributing to the school and district, growing and developing professionally and showing professionalism (Danielson, 1996:4). Firstly, reflecting on teaching refers to accuracy of the teacher in terms of the instruction event, the planning and implementation thereof (Danielson, 2011:42). In addition, the maintaining of accurate records refers to learners' completion of assignments, the progress of learners in learning and non-instruction records (Danielson, 2011:44). In the third aspect communicating with families includes information on the instructional program, information on individual learners and engagement of families in the instructional program (Danielson, 2011:46). Fourthly, the relationship between the teacher and external factors such as colleagues and projects in the community make an impact on the quality of instruction (Danielson, 2011:48). Another aspect of professional responsibilities of the teacher entails the growing and development of professional behaviour such as continuous improvement of pedagogical and information technology skills

(Danielson, 2011:50). The showing of professionalism refers to integrity, ethical aspects and the service of the teacher towards the learners (Danielson, 2011:52).

#### **4.9 PROPOSED FRAMEWORK FOR THIS STUDY**

In this study the framework for teaching (par. 4.8.3) forms the basis for the enhancement of entrepreneurial competencies of grade 11 learners in Business Studies. The four domains of this framework consist of planning and preparation, classroom environment, instruction and professional responsibilities. A thorough investigation into the different domains indicates that the planning and preparation can also be described as a situation analysis, the classroom environment as a formation, the instruction as an execution and the professional responsibilities as an assessment of the whole process.

In this study the proposed framework consists of the situation analysis, the formation, the execution and the assessment phases. Each of the models described in this chapter makes a contribution to the proposed framework. The GLOTT model (par. 4.8.1.1) focuses on scenarios and problem solving, the CRTA model (par. 4.8.1.2) on creating the right environment for entrepreneurial learning, the learning model of Kolb (par. 4.8.2.1) on learning from experience and the PETE model (par. 4.8.2.2) on challenging activities and competition between participants. In addition, the CO-OP model (par. 4.8.2.3) for entrepreneurship focuses on techniques for problem solving, the creation of ideas and assisting learners to start their own business. All these components from the different models are incorporated in the proposed framework in this study.

#### **4.10 SUMMARY**

It is the responsibility of South African schools and teachers to facilitate the acquisition of entrepreneurial skills and competencies, since most South African school learners enter the work environment immediately after completing grade 12. The Business Studies National Curriculum Statement for grades 10-12 is the framework for teaching and learning Business Studies and has a distinct focus on the development of learners' entrepreneurial competencies. By following the National Curriculum Statement as a guide in this research, it is possible to integrate the proposed framework for the development of entrepreneurial competencies in the development of school learners. Although many teaching models and frameworks that focus on the development of entrepreneurial skills exist in literature, none focuses specifically on the development of entrepreneurial competencies in grade 11 Business Studies School Learners. The development of such a framework should therefore focus on planning and preparation, the classroom environment, instruction and professional responsibilities.

Since entrepreneurship has a strong practical component, the teaching of entrepreneurial competencies does have an impact on entrepreneurship development. The Learning Program Guidelines for teaching of Business Studies, including entrepreneurship should focus on linking the outside world to the activities in the classroom. This will create opportunities for practical experience and the development of business-related skills and values. Business Studies provides opportunities for learners to consider numerous challenges within the enabling South African policy framework. Although skills such as decision-making, problem solving, creative thinking, systems thinking and effective communication in a competitive and constantly changing environment are critical to Business Studies, these skills are not enhanced enough.

In creating a framework applicable to this study, various teaching models and frameworks were analysed to identify relevant aspects which could benefit the proposed framework for the development of entrepreneurial competencies. In this regard, seven models were identified that can be divided into teaching models and models for entrepreneurship education. The above models were chosen because of the various entrepreneurship competencies that can be enhanced. In these models competencies like creativity, innovation, problem solving, self-confidence, risk tolerance and management will be enhanced.

In this study the focus is on the development of entrepreneurial competencies within the context of Business Studies as school subject. A combination of a teacher-centered approach and student centered approach are the most effective for the enhancement of business and entrepreneurial competencies. The teacher-centered approach aims for the transferring of knowledge in the form of lecturing and demonstrating. The student-centered approach include strategies such as group discussions (cooperative learning), simulation games (business simulation), debates (active learning), field visits (experiential learning) and problem-based learning.

In the next chapter a proposed teaching framework for the enhancement of entrepreneurial competencies in grade 11 learners will be discussed. This framework aims to assist teachers in the creation of a learning environment that is conducive for the enhancement of entrepreneurial competencies.

# **CHAPTER 5: A PROPOSED TEACHING FRAMEWORK FOR THE ENHANCEMENT OF SCHOOL LEARNERS' ENTREPRENEURIAL COMPETENCIES**

## **5.1 INTRODUCTION**

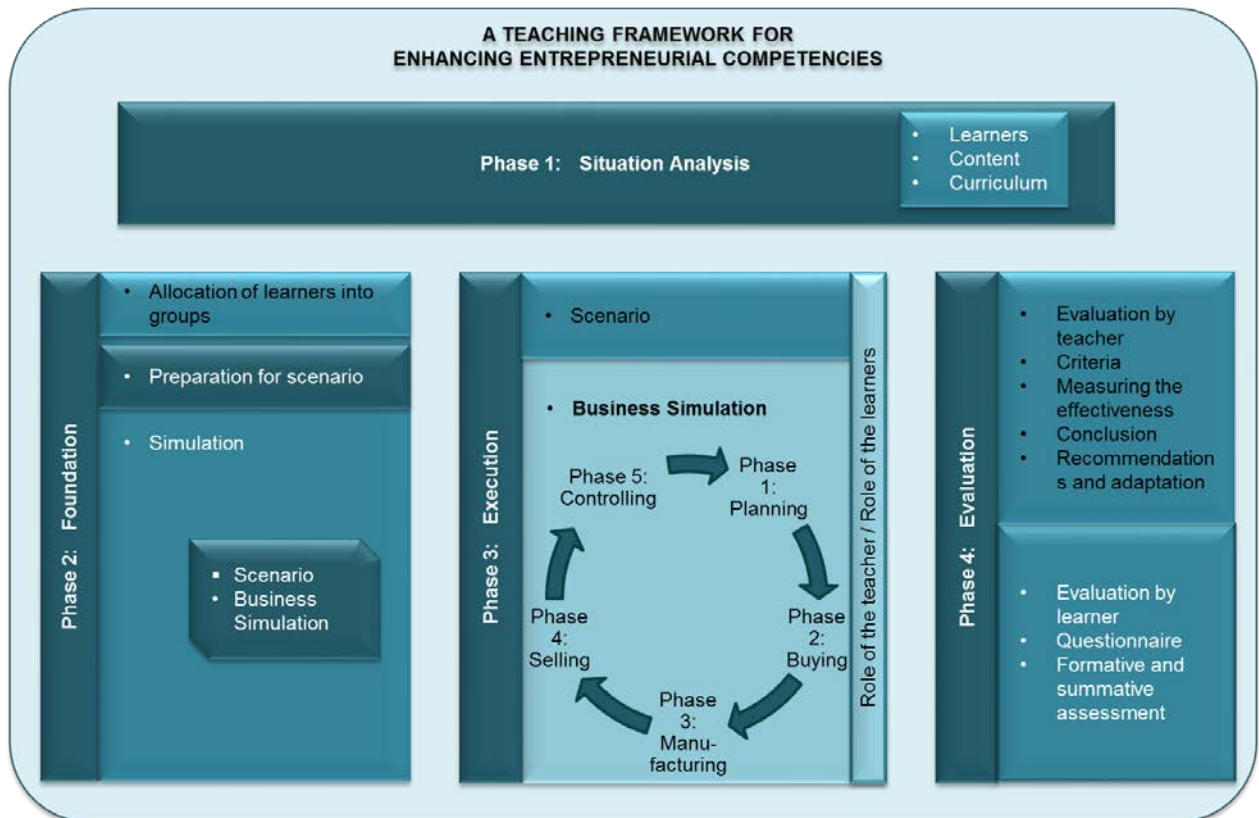
The importance of the enhancement of entrepreneurial competencies of learners in secondary schools is confirmed in the previous chapters. Teachers in secondary schools have to create learning experiences that assist learners to develop and enhance entrepreneurial competencies. In this chapter a graphic representation of a proposed teaching framework for the enhancement of entrepreneurial competencies is outlined. This framework aims to assist teachers in the creation of a learning environment where learners are able to develop and improve their entrepreneurial competencies. Although the research population for this study was grade 11 learners, the framework can be applied to learners from grade 10 to 12. The discussion of the teaching framework in this chapter will commence with the generation of the teaching framework where after the various phases of the framework will be discussed.

## **5.2 THE PROPOSED TEACHING FRAMEWORK**

The teaching framework shown in figure 5.1 is a foundation for the enhancement of entrepreneurial competencies of learners from grade 10 to 12. The framework is based on the approach of the Framework for Teaching by Danielson (2013:5) (par. 4.8.3). This framework consists of four domains namely planning and preparation, classroom environment, instruction and professional responsibilities. A synthesis of the variables of the domains of the framework of Danielson with the GLOTT (par. 4.8.1.1) and CRTA model (par. 4.8.1.2) as well as the learning model of Kolb (par. 4.8.2.1), the practical entrepreneurship teaching engagement model (par. 4.8.2.2) and the CO-OP model for entrepreneurship (par. 4.8.2.3) form the basis of the teaching theoretical framework applicable to this study. The synthesis was performed by first analysing the variables of the aforementioned frameworks and models see (par. 4.9). Hereafter the corresponding core elements were grouped. Certain core elements, due to its distinctiveness, could not be grouped with other identified core elements. Based on the research objectives, the applicable elements were incorporated into the proposed framework. The result of the analysis is the teaching framework in figure 5.1 that consists of four phases which include the situation analysis, foundation phase, execution phase and evaluation phase.

In this study the framework in figure 5.1 was applied in conjunction with the National Curriculum Statement (Grade 11) with the aim of developing and enhancing entrepreneurial competencies of secondary school learners in Business Studies.

**Figure 5-1: A teaching framework for enhancement of entrepreneurial competencies**

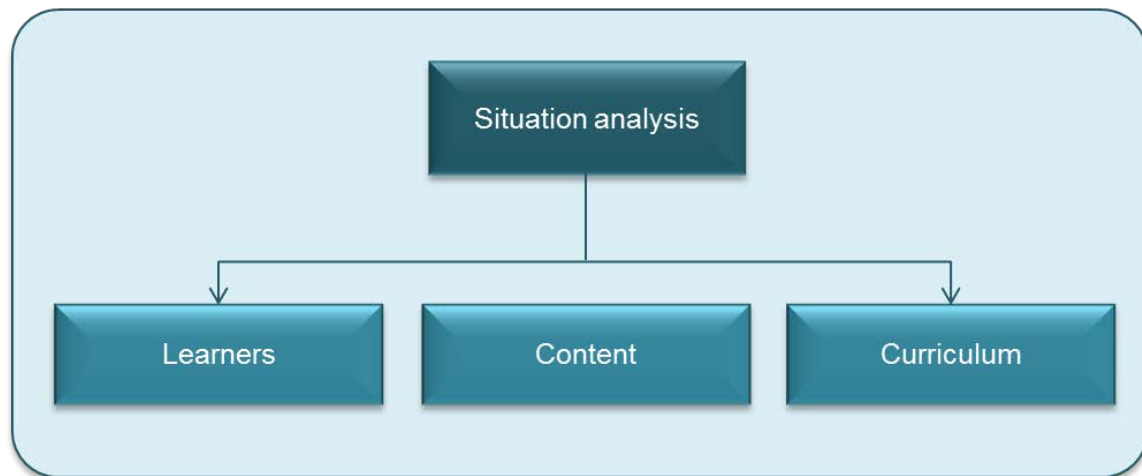


Although the components of the teaching framework are presented separately in the figure, it forms a unit in a way that all components influence and direct the other components. All the components form part of the teaching and learning process for the enhancement of entrepreneurial competencies. When applying the proposed teaching framework, teachers in Business Studies need to commence with a thorough situation analysis (par. 5.3). Here after the focus shifts to the foundation phase which consist of the preparation for the scenario and the business simulation. The next phase is the execution phase and consists of the scenario (contextualisation) and the business simulation. The last phase of the framework is the evaluation of the framework. The teacher plays the role of facilitator and creates a learning environment where learners are encouraged to enhance their entrepreneurial competencies. The main role of the learner is to participate in the scenario and simulation and enhance their entrepreneurial competencies in the context of the portfolios allocated to them.

### 5.3 PHASE 1: SITUATION ANALYSIS

The first phase of the proposed framework is the situation analysis.

**Figure 5-2: Situation analysis**



A situation analysis is not a simple step and can take time to perform. Various authors (Wimmer *et al.*, 2010:23; Geysler, 2004:148-149; Prideaux, 2003:269; Harden, 2001:13; Kachelhoffer *et al.*, 1991: 7-8) have the view that a situation analysis is not only the first step in the development and execution of a teaching framework, but also a continuous process to make constant adaptations. Geysler (2004:148-149) states that a situation analysis consists of a needs analysis and evaluation of all variables that can influence teaching, such as year level, development level and prior knowledge of the learners, teaching strategies and assessment. With the proposed teaching framework the situation analysis includes the collection of as much as possible information on the teaching of entrepreneurial competencies with specific reference to learners, content and curriculum (see figure 5.2). The situation analysis thus forms a critical starting point for the execution of the teaching framework.

### **5.3.1 Learners**

With the collection of information on the learners the focus is on three variables which include (1) the grade of the learners, (2) their entrepreneurial competency level and (3) their prior knowledge (figure 5.2). The entrepreneurial competency level of the learner can be determined by a diagnostic test. This test can also indicate the prior knowledge of the learner. In addition, the curriculum determines the prior knowledge of entrepreneurial competencies of the learners.

### **5.3.2 Content**

The content refers to the National Curriculum Statement (NCS) and the textbook the teacher uses as the content prescribed by the NCS. The teacher has to use the chosen textbook according to the guidelines of the NCS. In addition, other sources such as magazines, newspapers and the internet can be used to enrich the content. A thorough evaluation of the

abovementioned will assist the teacher to identify possible weaknesses and strengths of the textbook. In addition, this investigation will also ensure that the scenarios used in this framework will address the goals of the NCS.

### **5.3.3 Curriculum**

The curriculum according to NCS is the guideline for teachers. The learning outcomes are clearly stated in the NCS. In the NCS critical and developmental outcomes are outlined. In order to operationalise the critical and developmental outcomes, it is based on the learning outcomes and assessment standards outlined in the NCS. The learning outcomes and assessment standards aim to develop the business knowledge and skills of learners by expecting them to achieve specified minimum standards of knowledge and skills at each grade as well as high level, but achievable standards (See appendix A).

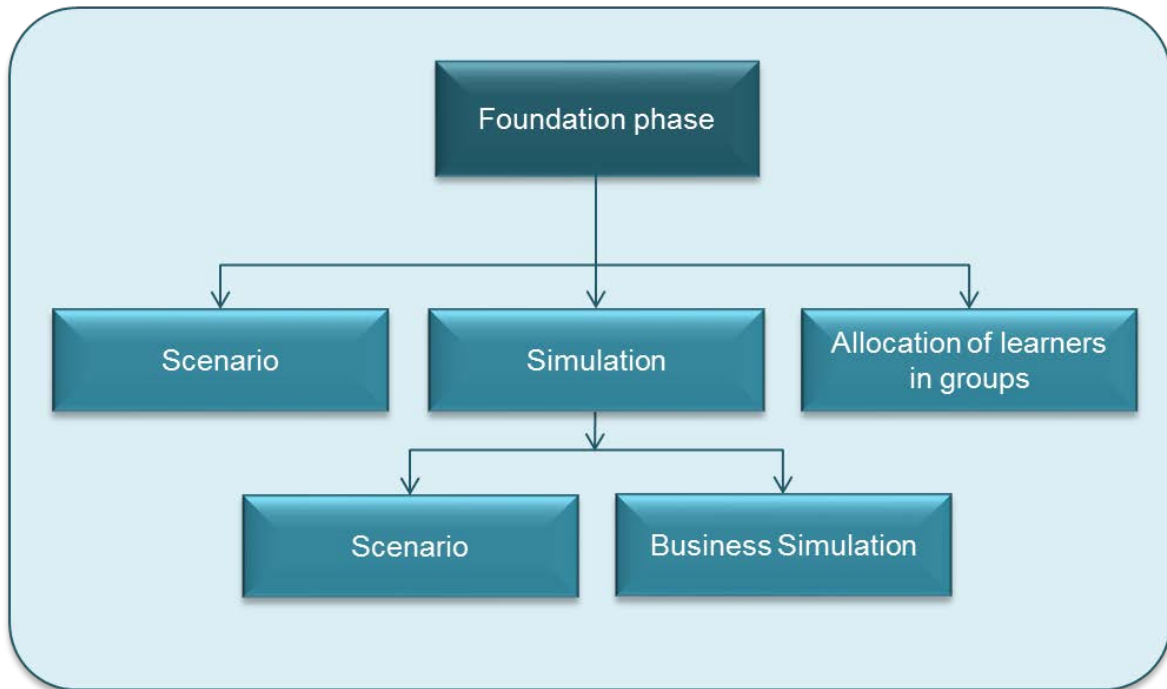
Although NCS is replaced by Curriculum and Assessment Policy Statements (CAPS), CAPS is not a new curriculum, but an amendment to NCS (Pinnock, 2011). The implementation of CAPS started in 2012 with the foundation Phase (Grades R-3) and Grade 10 (FET), in 2013 with the Intermediate Phase (Grade 4-6) and Grade 11 (FET) and concluded in 2014 with The Senior Phase (Grade 7-9) and Grade 12 FET. Due to the fact that the empirical study was conducted in 2012, NCS was used.

## **5.4 PHASE 2: FOUNDATION PHASE**

The foundation phase consists of the preparation of the teacher and includes the allocation of learners into groups (par. 5.4.1) as well as preparation for the simulation.

The simulation consists of two sections, which include a scenario (par. 5.4.2) and the business simulation (par. 5.4.3). After the learners are divided into groups, they participate in a scenario aimed at developing and assessing their general business knowledge and competencies. The scenario also provides context and prepares the learners for the more comprehensive business simulation. The scenario consists of a case study with problems that the learners need to solve in a specific manner to assess their basic entrepreneurial competencies. After the completion of the scenario, the learners participate in the business simulation, which focuses more comprehensively on the enhancement of their entrepreneurial competencies.

**Figure 5-3: Foundation phase**



#### **5.4.1 Allocation of learners into groups**

The activities in class will be performed in groups. Depending on the size of the class the learners will be divided into groups of 5 to 6 learners per group and the teacher has to divide the learners into the different groups. The teacher can use an alphabetical mark sheet to divide the learners into different groups (see par. 4.3.5). In addition, the teacher can ensure the ratio between boys and girls in each group is the same. Each business consists of business functions such as the chief executive officer, financial manager, marketing manager, administrative manager and human resource manager (see par. 5.4.2). The different groups are meant to compete with each other. It is recommended that after each cycle (par. 5.4.2) the positions of the learners in the business should be rotated.

#### **5.4.2 The preparation for the scenario**

The first part of the simulation is the completion of the scenario. The teacher has to prepare the scenario aimed at enhancing the entrepreneurial competencies of secondary school learners. The scenario provides context for the business simulation and includes (1) a case study consisting of two to three paragraphs, (2) a business context for problem solving, and (3) a specific problem solving process. The case studies included in the scenarios can be existing case studies (from textbooks or the internet) or self-developed by the teachers. The scenario has to include a situation where a problem has to be identified and solved (using the specific

outcome and entrepreneurial competency to determine the type of scenario). In order to assess the scenario a rubric must be used and can entail the steps of the problem solving process (See par. 3.3.1). An example of a scenario is shown in par. 5.4.2.1. Although the process for solving problems during the completion of the scenario does not need specific preparation, the teacher needs to be familiar with the execution thereof. The process for problem solving, referred to in this study as the rotation group work method, is described in detail by the role of teacher (par. 5.5.1.1) and role of the learners (par. 5.5.1.2).

#### **5.4.2.1 Example of a scenario**

JKL Manufacturers is a business in Parys in the Free State with Len as owner. JKL Manufacturers is a highly successful business that manufactures products for mines. During the past three months, however, JKL Manufacturers has experienced a drastic decrease in the production and sales of their products. Complaints were received from clients pertaining to the poor quality of the products and service.

The employees of the business are often late for work and also take a great deal of leave, while some even stay away from work without valid reasons. The employees' attitudes are negative and the productivity in the business is very low. There is also a great deal of conflict among the employees as well as between the employees and management.

Management are the sole decision-makers, and they do not listen to any ideas from the employees and information distribution is poor. Management do not give employees the authority to perform some tasks on their behalf. Bonuses are also only allocated annually to certain employees. The criteria according to which management determines who will receive bonuses is also very vague.

Len contacts you to advise him about the following:

- (i) What problems would you say should Len address? Motivate thoroughly why you consider each to be a problem (problem solving).
- (ii) You present the problems you identified in question 1 to Len. He asks you which problem you consider to be the biggest problem and why you think so (problem solving).
- (iii) Describe the problem (*the one you chose in question 2*) you consider the greatest to Len (problem solving).
- (iv) Len is completely in the dark and asks you the following:

- Suggest several solutions to the problem (creativity),
  - Explain why you are suggesting each solution, (creativity) and
  - What will the implications and consequences of the chosen solution be (flexibility, risk-taking)?
- (v) Len asks you to provide him with the solution that you consider to be the best. Motivate your answer to Len (flexibility, risk-taking).
- (vi) Provide Len with an exposition of how you will implement the solution (execute it) (flexibility, planning).

### **5.4.3 The preparation for the business simulation**

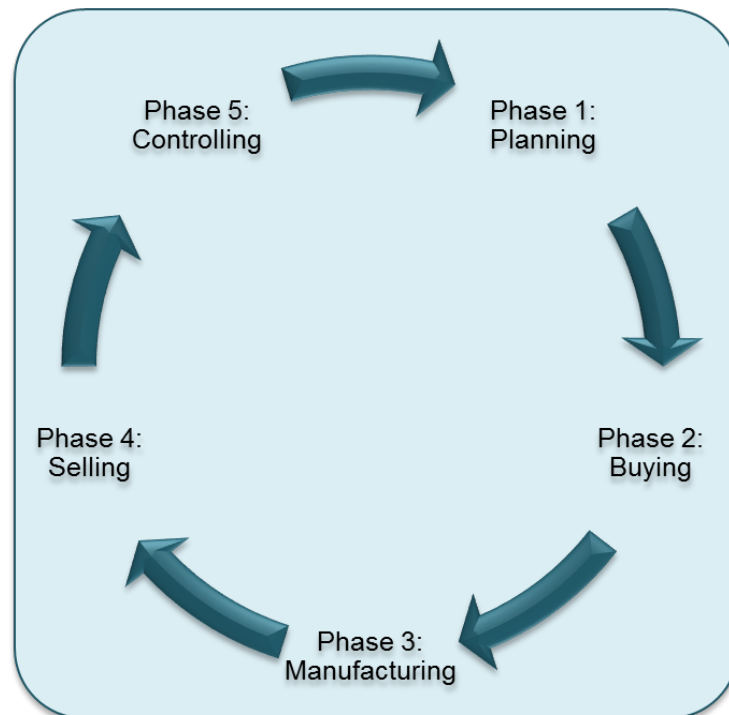
The business simulation is a comprehensive strategy aimed at enhancing the learners' entrepreneurial competencies. The learners are competing in different groups acting as businesses. The business simulation is a cyclical process and consists of cycles. Each cycle uses the same process and includes five phases (see figure 5.4). These five phases are planning, buying, manufacturing, selling and controlling, and are also used in the execution phase (par. 5.5.2.1 – 5.5.2.5).

The cycles consists of activities associated with the functioning of the business such as the operations, buying of raw materials, manufacturing of products, selling of products and controlling. During the preparation for executing the cycles, each group (business) needs to have a business file in which they must file all documentation such as notes, solutions to problems as well as specifics regarding the execution of the business simulation role play.

To be filed in the business file, the teacher will also provide the following: all the needed documents are listed in the appendixes.

- A form that includes a space for the name, vision and mission of the business (appendix B).
- A form that includes a space for each functional position in the business which include the chief executive officer, financial manager, marketing manager, administrative manager and human resource manager (appendix C).

**Figure 5-4: Phases of business simulation**



- Duty sheets (appendix D).
- The rules and regulations of the simulation (appendix E).
- An agenda and minutes for each meeting on the planning of each cycle that include goals for the cycle, possible risks, contingency plans for the possible risks, the results of the cycle and possible action (appendix F).
- Financial statements for each cycle (budget, income statement, cash balance) (appendix G).
- Playing money to the amount of at least R6000 for each business. The playing money should consist of R5, R10, R20, R50 and R100 notes.
- Material for manufacturing of products. The easiest method is to use white paper, pairs of scissors and pencils.
- Playing cards that describes different risks, which will be drawn by the businesses during the execution of the business simulation (appendix H).
- Writing paper for report writing by the businesses.

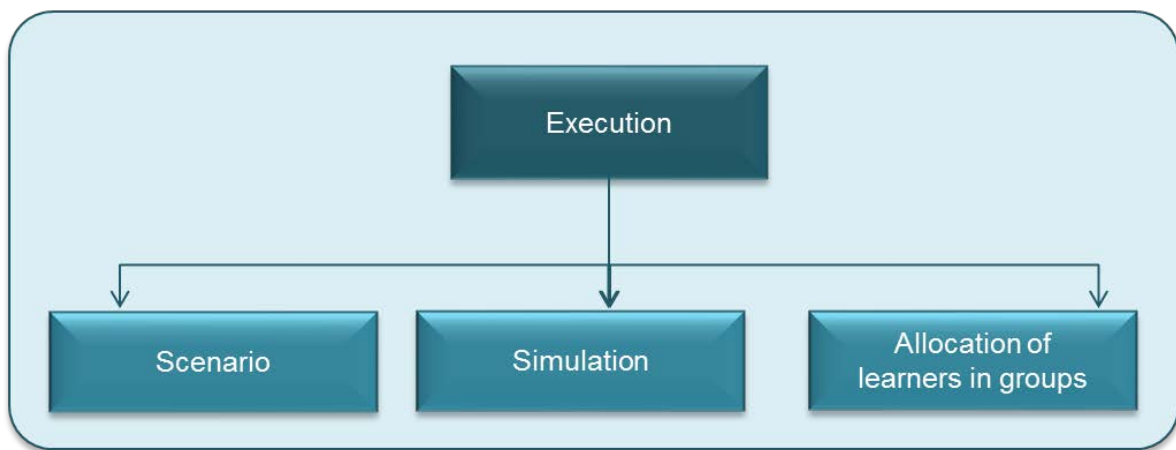
## 5.5 PHASE 3: EXECUTION

The third phase of the teaching framework is the execution phase. During the execution the simulation is taking place. The simulation consists of the scenario (par. 5.5.1) and the business simulation (par. 5.5.2).

### 5.5.1 Scenario

The first part of the simulation is the completion of the scenario. Each group has to complete the case study that includes questions they have to answer. The roles of the teacher (par. 5.5.1.1) and learners (par. 5.5.1.2) in the scenario are now discussed.

**Figure 5-5: Execution**



#### 5.5.1.1 Role of the teacher

The teacher ensures that each group completes the questions of the scenario. The teacher provides black pens to each group. A suggestion is that each step has to be done by a different colour of pen. During the first step the teacher moves between the groups and listens to the conversations and reasoning of the learners. The teacher asks questions that force the participants to be aware of what they do, why they do it and how to do it.

After the completion of the scenario, step 2 will take place. During this step the evaluation of the answers of the scenario will take place. The teacher decides how the groups have to rotate their answers and provides a red pen to each group. In addition, the teacher observes the functioning of the groups and also checks the billing of the learners.

In step 3 of the process creation takes place. The teacher observes and decides how the groups have to rotate their answers. In addition, the teacher provides a green pen to each group. The teacher monitors the billing of each group. In step 4 the review of the adapted

edition of the solutions takes place. The teacher wants the groups to review their original solutions of the activity according to the recommendations (step 2) and adjustments (step 3).

#### **5.5.1.2 Role of the learners**

The completion of the scenario by the learners follows three steps. In step 1 the learners have to complete the scenario. Each group receives the same scenario that they have to complete. They have to write down the answers of the scenario in black. When each group is finished, they give the answer to another group. In step 2, evaluation of the groups has to review the solution of the group they received. They have to review the solution of the group and compare it with their own solution (developed in step 1). Based on their review the participants have to make recommendations on the solution in front of them. They have to write it down in red. Each group now gives the solutions that they received with the recommendations they made to the next group. The group also include a bill for the consultation they have done. The amount depends on the quantity of work done. In the next step, creation, each group now have a solution of one group and recommendations of another group. The groups now have to adapt the solution (attempt in step 1) with the recommendations (attempt in step 2). They have to write it down in green. After this step each group gives the solutions (step 1), the recommendations (step 2) and adapted edition (step 3) to the group that has originally completed the activity. The group also includes a bill for the consultation they have done. The amount depends on the quantity of work done. At this stage each group has completed an activity that has been reviewed by a second group and adapted by a third group. Each group now receives the adapted edition of the solutions of their original activity. Each group can also review their solution according to the solutions of the other groups that they have evaluated. Based on the review of their solutions and the recommendations and adjustments of the other groups, each group can confront this if they do not agree. If a group accepts the adjustments they have to motivate why they accept the adjustments.

#### **5.5.2 Business simulation**

The second part of the execution phase is the business simulation where the different groups are competing against each other to determine which business generates the most profit. This phase consists of planning (par. 5.5.2.1), buying (par. 5.5.2.2) manufacturing (par. 5.5.2.3), selling (par. 5.5.2.4) and controlling (par. 5.5.2.5).

##### **5.5.2.1 Planning**

During the planning aspects the name, vision and mission of the business receives attention. In addition, each group has to do proper planning (see par. 5.5.1.2). During this stage the teacher

and the learners have specific roles which will be subsequently discussed; role of the teacher (par. 5.5.2.1.1) and learners (par. 5.5.2.1.2).

#### 5.5.2.1.1 Role of teacher

After the completion of the scenario the teacher gives feedback to the learners. The teacher also uses applicable outcomes, revises the functioning of a business and discusses the guidelines of the business simulation. The teacher divides the learners into groups, which are referred to as businesses from this point forward. The teacher evaluates the presentation on the name, mission and vision of each business and gives feedback.

After completion of the presentations, the teacher gives play money to each business [R 450 – Teacher can decide on amount]. Although the groups receive money they have to manage their finance, the teacher has to encourage the learners to look for opportunities to generate other income. In addition, the teacher gives a file to each group that includes all their needs (see par. 5.4.2). The teacher also acts as insurance broker and insurance packets are available to the groups.

#### 5.5.2.1.2 Role of learner

Firstly each group will have to choose a name, vision and mission for their business. In addition, each group has to allocate the different business functions and each member has to perform a duty. In this business simulation, these duties include a chief executive officer, financial manager, marketing manager, administrative manager and human resource manager (See table 5.1). The group has to present their name, vision, mission and different duties to the teacher in a short presentation.

**Table 5.1: Responsibility of each duty**

Duty	Responsibility
Chief executive officer	Manage the activities in the business: Planning, organising, leading and controlling
Financial manager	Perform the financial activities such as completing financial statements
Marketing manager	Marketing of the products of the business
Administrative manager	Updating the file and filing all consultations, activities, and more
Human Resource manager	Taking of roll call and completing the attendance register

After the presentation, each group has to meet and do planning for the cycle and it is the responsibility of the chief executive officer. At the start of each cycle the group has to meet, In addition, the group has to identify opportunities and use their creativity to exploit it. An agenda for each meeting has to be provided for the planning of each cycle that includes goals for the cycle, possible risks, contingency plans for the possible risks, the results of the cycle and possible action. The minutes of the meeting have to be processed in the file. During the planning the financial manager has to draw up a budget for each cycle. The financial manager has to budget for the following:

- Personal expenses [R30 per cycle]
- Savings [R10 – R30 per cycle]
- Purchasing of raw material.

At the end of the cycle the financial manager has to calculate the cash balance and compare it to the cash they have in the business. In addition, the business has to spend money for personal expenses in each cycle. During start-up each group receives an amount of money [In this instance R450]. There is an insurance broker and insurance packets are available.

After the planning of each group, each group is confronted with risks. Examples of different risks are shown in table 5.2. In the operations phase each group has to draw four cards [different colours]. In addition, the groups have to discuss the implications of each risk they had drawn. Example [If the group has drawn a red card and has insurance, there will be no influence on the group.

**Table 5.2: Cards that present different risks**

Colour	Characteristic	Influence on business
Red	Risks like theft, fires, and others	If group has insurance, no influence
Green	Possible discount on purchases / sales	Influence on profit
Yellow	Possible shortages of stock	Influence on profit
Pink	Personal expenses	Influence on cash balance

### 5.5.2.2 Buying

During this stage the buying of raw materials takes place. Depending on their planning the groups buy raw materials. Each white paper is one unit raw material. During this stage the

teacher and the learners have specific roles which will be subsequently discussed, role of the teacher (par. 5.5.2.2.1) and learners (par. 5.5.2.2.2).

#### 5.5.2.2.1 Role of teacher

The teacher is the wholesaler who sells raw material [clean white paper] to the group. The teacher must not assist the learners in deciding how many units they should buy, how to calculate the amount due or encourage them to negotiate a better price. The teacher has to create a business with an applicable name, for example, Jan Wholesaler. In addition, the teacher determines the market price per unit.

#### 5.5.2.2.2 Role of learner

The purchase manager of the group has the responsibility to buy raw material from the wholesaler and negotiate a lower price. The planning of the group will assist in the decision of how many units to buy. The purchase manager buys the units and pays the amount due to the wholesaler. In addition, the group has to calculate the correct amount.

### 5.5.2.3 Manufacturing

After the buying of the raw material the manufacturing of the products take place. The rule is that they can manufacture one unit from each raw material they had bought. During this stage the teacher and the learners have specific roles which will be subsequently discussed: role of the teacher (par. 5.5.2.3.1) and learners (par. 5.5.2.3.2).

#### 5.5.2.3.1 Role of teacher

The teacher is observing the manufacturing process. The teacher asks questions on the production or manufacturing of new products and checks if the products align with the mission of the business. In addition, the teacher has to make sure that each group understands that they can manufacture one product for each raw material unit bought [If a group bought three raw material units they can manufacture three products].

#### 5.5.2.3.2 Role of learner

The learners have to manufacture a product in class that fit with their name, vision and mission. Each group has to create a product using the raw material they bought. The groups can use pairs of scissors, pencils and other stationery to manufacture a product.

#### **5.5.2.4 Selling**

After the completion of the manufacturing the selling of the products is taking place. During this stage the teacher and the learners have specific roles which will be subsequently discussed: role of the teacher (par. 5.5.2.4.1) and learners (par. 5.5.2.4.2).

##### **5.5.2.4.1 Role of teacher**

The teacher has to create a business with an applicable name, for example, Annie's Shop. In addition, the teacher sets the market price. The teacher is the buyer that buys the products from each group. The teacher uses criteria such as marketing of the product, possible feasibility, presentation of product and negotiation skills to determine the final selling price of the product.

##### **5.5.2.4.2 Role of learner**

The financial and marketing manager has the responsibility to sell the products for the group. The learners are encouraged to be creative in the production of their products. The marketing of the product is important to negotiate a good selling price.

#### **5.5.2.5 Controlling**

At the end of each cycle the controlling of the cycle takes place. The whole cycle is evaluated and aspects such as financial position, achievement of goals, correctness of the file, performance and more get attention. In this stage the teacher and the learners have specific roles which will be subsequently discussed: role of the teacher (par. 5.5.2.5.1) and learners (par. 5.5.2.5.2).

##### **5.5.2.5.1 Role of teacher**

The teacher is only observing the self and peer-assessment of the cycle. The presentation is assessed by the teacher and feedback is also given to the learners.

##### **5.5.2.5.2 Role of learner**

In the last step of the simulation each group is assessed on their performance in the cycle; for example, the calculation of their cash balance. The assessment includes self-assessment (performance of the group), peer-assessment (visit by another group) and assessment by the teacher (a presentation).

**(i) Performance of the group**

The performance of the group is through self-assessment and they assess:

- The income statement for the cycle
- The cash balance
- The actual cash in the business
- The comparison of the budget with the actual receipts and payments
- The achievement or not of their goal for the cycle

**(ii) Visiting of another group**

Each group has to nominate two members that have to visit another group and perform the activities such as checking if all the financial aspects are correct and if the file is completed.

Two members perform the visit to the other group. The rest of the group will perform activities such as defending their file and correcting the mistakes. The learners are measuring the performance of other groups through peer-assessment.

**(iii) Presentation**

Each group has to make a short presentation to present what they have learned in the cycle and recommendations to improve it. The learners have to make a presentation and each member has to make a contribution.

**5.5.3 Linking teaching strategy, activities and learner performance**

It is important for teachers to realise the influence of their teaching strategy on the development and enhancement of specific competencies. In Table 5.3 the link between the teaching strategy, the activities and learner performance is indicated to enable teachers to focus on specific activities and learner performances for mastering the competencies.

The evaluation of the simulation can be done by the teacher or the learners (See figure 5.6).

**Table 5.3: Proposed activities**

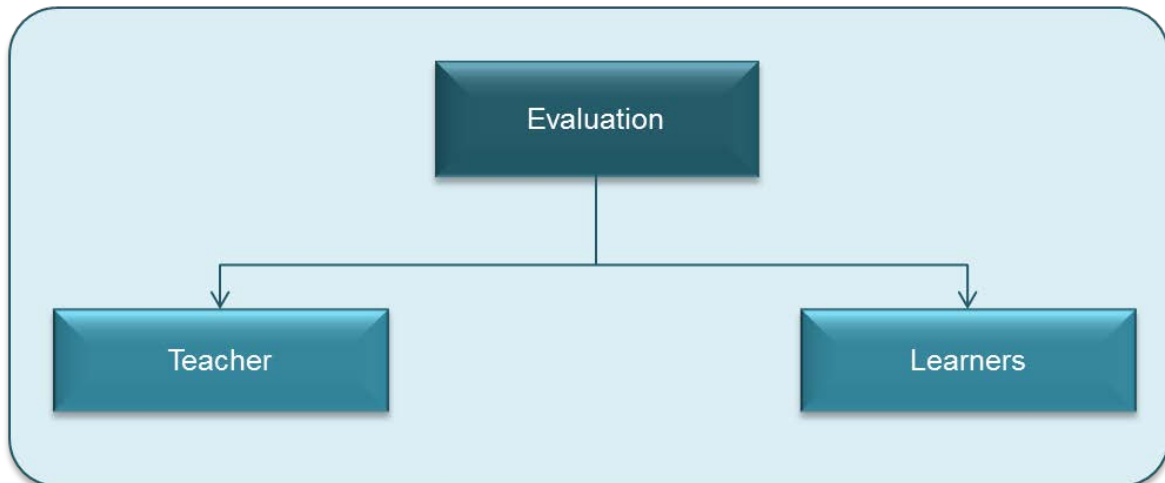
Competencies	Teaching strategy	Activities	Learner performance
<b>Problem solving</b>	Active learning Cooperative learning Business simulation	The completion of the scenario	The answer of each business is evaluated with a mark (money)
<b>Creativity</b>	Cooperative learning Business simulation	Each business has to develop a product	The amount that business receives for product (money)
<b>Flexibility</b>	Cooperative learning Business simulation	The learners have to draw cards (possible risks) in each cycle and have to adjust their planning accordingly	The business will be assessed through the profit or loss they produce in a cycle
<b>Goal orientation</b>	Cooperative learning Business simulation	The learners have to set goals for each cycle	The performance of the group in terms of the profit they make
<b>Risk-taking</b>	Cooperative learning Business simulation	The learners have to draw cards (possible risks) in each cycle	The business will be assessed through the profit or loss they produce in a cycle
<b>Planning (Budgets)</b>	Cooperative learning Business simulation	The learners have to draw up a budget	The budget will be assessed
<b>Group work</b>	Cooperative learning Business simulation	The learners have to cooperate in their businesses	The business performance will be assessed
<b>Communication</b>	Active learning Cooperative learning	The learners have to communicate in the group and with the teacher	Presentation skills of learners will be assessed
<b>Self-confidence</b>	Cooperative learning Business simulation	The learners have to negotiate a selling price	The amount of the selling price
<b>Learn from mistakes</b>	Cooperative learning Business simulation	The learners will learn from mistakes during the operations of the business	The performance of the business

The evaluation of the process can consist of three aspects namely observation, written evaluations and oral evaluations. It is important to evaluate the framework to determine if the framework was effective. In addition, the evaluation can also assist in improving the framework.

## 5.6 PHASE 4: EVALUATION OF PROCESS

The last phase of the framework is the evaluation of the process.

**Figure 5-6: Evaluation**



### 5.6.1 Evaluation by the teacher

The evaluation by the teacher consists of the criteria, measuring the effectiveness of the process, making conclusions and lastly making recommendations and adaptations to the process.

#### 5.6.1.1 Criteria

The teacher needs to determine the criteria for evaluation. These criteria include all the aspects focused on in the teaching strategy as well as the objective for implementing the strategy, such as the entrepreneurial competencies, level of learning, content, teaching strategy.

#### 5.6.1.2 Measuring the effectiveness of the process

Based on the criteria identified the teacher determines whether the learners performed sufficiently. Learners are then scored according to the criteria to determine whether the process was effective. The benchmark for effectiveness is the manner in which the learners perform in the business simulation. The observations through the business simulation are also important to measure the effectiveness of the process.

### **5.6.1.3 Conclusion**

The teacher needs to conclude whether the process was sufficient for the development of the learners' competencies and identify any limitations or gaps in the learning process.

### **5.6.1.4 Recommendations and adaptation**

The teacher needs to adapt the process to ensure the sufficient development of the learners' competencies, based on the gaps identified during the measuring of the criteria.

## **5.6.2 Evaluation of the learners**

The teacher uses questionnaires (par. 5.6.2.1) and formative and summative assessment (par. 5.6.2.2) of the learners to evaluate the process. In addition, the evaluation of the learners also includes conversations between the teacher and learners on the different aspects of the simulation.

### **5.6.2.1 Questionnaire**

The learners provide insight into their experience of the teaching and learning process through the completion of a questionnaire. The questionnaire consists of questions based on the business simulation such as uncertainties the learners had in terms of the functioning of their businesses in the business simulation. In addition, a part of the questionnaire is open questions and the learners can make remarks on the functionality of the business simulation. Furthermore, the learners continuously give feedback on a white paper on the effectiveness of the process and they are encouraged to make recommendations.

### **5.6.2.2 Formative and summative assessment**

Based on their performance during these assessments the teacher identifies limitations in the process and implements specific procedures to rectify the limitations. After this phase the focus will shift back to the situation analysis. All the recommendations and limitations will assist in improving the whole process and therefore an improved situation analysis.

## **5.7 SUMMARY**

Since the importance of the development and enhancement of entrepreneurial competencies of Grade 11 learners in secondary schools is highlighted, teachers in secondary schools have to create learning experiences that assist learners to develop and enhance these competencies. In this chapter a description of a proposed teaching framework for the development of entrepreneurial competencies was outlined. This framework aims to assist teachers in the

creation of a learning environment where learners are able to develop their entrepreneurial competencies. The teaching framework in this chapter was commenced with the development of the teaching framework where after the various phases of the framework was discussed.

In this study the framework was applied in conjunction with the National Curriculum Statement (Grade 11) with the aim of developing entrepreneurial competencies of secondary school learners in Business Studies. The teaching framework consists of four phases which include the situation analysis, foundation phase, execution phase and evaluation phase. When applying the proposed teaching framework, teachers in Business Studies need to commence with a thorough situation analysis. Hereafter the focus shifts to the foundation phase which consists of the preparation for the scenario and simulation. The next phase is the execution phase and consists of the scenario and the simulation. The last phase of the framework is the evaluation of the framework. The teacher plays the role of facilitator and creates a learning environment where learners are encouraged to enhance their entrepreneurial competencies. The main role of the learner is to participate in the scenario and simulation and develop their entrepreneurial competencies in the context of the portfolios allocated to them.

In the next chapter the research methodology will be discussed that was used to test the proposed teaching framework for the enhancement of entrepreneurial competencies of grade 11 learners.

## CHAPTER 6: RESEARCH METHODOLOGY

### 6.1 INTRODUCTION

In this chapter the research methodology and processes used to achieve the objectives of this study is examined. This study consists of a literature study and an empirical investigation to solve a specific problem as mentioned in Chapter 1. The inability of secondary school learners to enhance their entrepreneurial competencies has encouraged the researcher to investigate this problem and develop a teaching framework to enhance selected entrepreneurial competencies of grade 10-12 learners in Business Studies (see chapter 5).

Niaz's (2008:300) research method will be used determined by the problem that had to be solved. The research objectives determined if quantitative, qualitative or a mixed method would be used (Kent, 2007:251). To address the challenge to enhance selected entrepreneurial competencies both quantitative and qualitative research methods were used to determine the effect of the proposed framework. According to Delport and Fouche (2011:436) the use of more than one research method can improve the validity and quality of an investigation because of the fact that the methods supplement each other. The nature of the investigation on the different entrepreneurial competencies also obliged the researcher to use more than one method.

Researchers argue that the use of one or more research methods may be effective because of the fact that the use of both can identify and solve the investigated problem (Marshall & Rossman, 1995:81). According to various authors (Bergman, 2008; Creswell & Plano, 2007; Hansen *et al.*, 2005; Johnson & Onwuegbuzie, 2004; Teddlie & Tashakkori, 2009) mixed-methods research provides strengths that address the weaknesses of both quantitative and qualitative research and therefore it can provide more effective inferences. Mixed-methods research also provides more comprehensive evidence for investigating a research problem than either quantitative or qualitative research by itself.

To be able to solve the problem question of the empirical component, the objectives are developed to investigate the problem from various angles to improve the quality of the study (Maree, 2007:261). The objective which guides this part of the study is to find the effects of the teaching framework for enhancing entrepreneurial competencies.

Quantitative research methods were used to determine statistically the following:

- Whether the respondents showed any enhancement through the exposure of the teaching framework by measuring the entrepreneurial competencies through case studies (pre-test 1, post-test 1 and post-test 2).

Qualitative research methods were used to collect data on the effect of the teaching framework in terms of the learners' experience of the framework they were exposed to (Reitzma, 2006:130; Denzin & Lincoln, 2003:297; Kent, 2007:70; Patton, 1990:37, 69).

The data collection by using qualitative research methods was done to:

- describe the role of the teacher in executing the teaching framework;
- determine the experience of the learners in terms of the teaching framework;
- determine the possible enhancement of entrepreneurial competencies;
- determine if the enhancement of entrepreneurial competencies is important to the learners;
- determine if the practical exposure will assist the learners with understanding the content.

In this chapter a detailed explanation is given of the research methodology and research methods (par. 6.2) used in this investigation and the participants used in the study (par. 6.3). A distinction between the different collection methods and analysis methods of data of quantitative (par. 6.4) and qualitative research methods (par. 6.5) will be described. Triangulation (par. 6.6), procedures of the empirical investigation (par. 6.7) and ethical aspects (par. 6.8) will be subsequently discussed.

## **6.2 RESEARCH METHODOLOGY**

Although quantitative and qualitative research approaches differ in various important aspects, Dreyer (1998:23) warns that: "Whether one conducts quantitative or qualitative research, one has to be both insider and outsider, engaged participant and detached observer." The abovementioned notion means that quantitative and qualitative research approaches do not need to necessarily be exclusive. The one method can complement the other. Both quantitative and qualitative approaches have its strengths and weaknesses and therefore a mixture of both can have a positive effect on the outcome of the research (Kent, 2007:251).

Some researchers prefer a combination of quantitative and qualitative research methods which is referred to as mixed-methods research (Bergman, 2008:1; Strydom, 2003:116-121). Mixed-methods research as a method focuses on collecting, analysing and mixing both quantitative and qualitative data in a single investigation, therefore use of both approaches in combination give a better understanding of a research problem (Delpont & Fouche, 2011:435). This means that the researcher collected both numeric and text information.

With this investigation the data collection was systematic, controlled and empirically performed - through the use of multi-methods research. Multi-methods research is a variation of mixed-methods research. Where mixed-methods uses one method (either quantitative or qualitative data) to infuse the other, multi-methods research uses quantitative and qualitative methods independent of each other to answer specific research questions (Onwuegbuzie *et al.*, 2009:14; Maree, 2007:261).

### **6.2.1 Quantitative and qualitative research**

Quantitative research is a positivistic research paradigm that promotes the status of experiential research and the quantitative forms of analysis synonymous thereto (Cohen *et al.*, 2003:8-12; Creswell, 1998:79; Doll, 1996:243-253). On the other hand qualitative research is based in the post-positivism and developed in reaction to quantitative research as an alternative view over the correct nature of behavioural scientific research (Creswell, 1998:79; Doll, 1996:243-253). In the post-positivism research paradigm the researcher has the opportunity to use more subjective measures to gather information and while the sample size might be small, the measuring instrument can be created by the researcher (De Vos *et al.*, 2011:7).

From an estimotological viewpoint quantitative research implies "*how much of an entity there is*" (Gelo *et al.*, 2008:267) and qualitative research "*describing the constituent properties of an entity*" (Gelo *et al.*, 2008:267). This means that quantitative research is used to answer questions about relationships among measured variables with the goal of explaining, predicting and controlling phenomena with the intent to establish, confirm or validate relationships and to develop generalisations (Leedy & Ormrod, 2005:94-97). In addition, quantitative research is done through empirical assessment that involves analytical approaches and numerical measurement (Zikmund & Babin, 2013:99). However, qualitative research is used to answer questions about the nature of phenomena with the goal to describe and understand the phenomena (Leedy & Ormrod, 2005:94-97). Furthermore, qualitative research involves the collection, analysis and interpretation of data by observing what people do and say (Burns & Bush, 2010:202).

According to Maree (2007:80-81) one of the major differences between quantitative and qualitative research is the testing of hypotheses in quantitative research while qualitative research rather focuses on the clarification of the phenomenon. In addition, quantitative research is variable-centred and qualitative research is case-centred (Kent, 2007:250). Beside the abovementioned differences between quantitative and qualitative research, the approaches also differ in terms of methodology assumptions (par. 6.2.3) and research methods (par. 6.2.5).

## 6.2.2 Methodology assumptions

Both quantitative and qualitative approaches view different methodologies that contribute to the argument (par. 6.1) between quantitative and qualitative researchers. According to Gelo *et al.* (2008:270) methodology is viewed as the rules, principles and formal circumstances that ground scientific investigations and direct the knowledge of the feature of the investigation to be broadened and organised. Methodologies more specifically refer to relationships that exist between the observations, theory, hypotheses and research methods of the researcher (Gelo *et al.*, 2008:270).

**Table 6.1: Characteristics of quantitative and qualitative methodologies**

Quantitative approaches	Qualitative approaches
Nomography Extensive Generalising	Ideography Intensive Individualisation
Descriptive Forecasting Generalising	Concept forming Interpretation Contextualisation
Deductive Theory driven Hypotheses testing Confirming (re-testing)	Inductive Data driven Hypotheses generation Investigative
Experimental Between group designs Within group designs Quasi-Experimental Correlational Explanatory Prediction Survey Cross-Sectional Longitudinal	Grounded Theory Systematic Emerging Constructivist Ethnographic Realistic Critical Case Study Narrative research Biography Phenomenology Case study

Quantitative approaches	Qualitative approaches
Validity (internal validity) Statistical conclusion validity Construct validity Causal validity	Validity Reliability Consistency Confirmative

Quantitative approaches	Qualitative approaches
Generalisation External validity	Generalisation Transferability

**Source:** (Gelo *et al.*, 2008:271)

### 6.2.3 Research design

Quantitative, qualitative (table 6.1) and mixed-methods research approaches make use of specific research designs. A research design is a basic framework or action plan for a study (Iacobucci & Churchill, 2010:58). In addition, a research design is a unique combination of different research elements that form a structure for proposed research (Kent, 2007:253) and link the research methodology of a research approach to the research methods thereof (par. 6.2.5) (Gelo *et al.*, 2008:272). Research designs are therefore used to find credible and legitimate answers on research questions (Johnson & Onwuegbuzie, 2004:21-22).

In this study both qualitative and quantitative methods were used to answer the research question. Linking to the quantitative part of this research, three case studies (three tests) will be used. Interviews and observations will also be conducted and will form part of the qualitative methods in this research.

The multi-method research design that was used in this study is the concurrent dominant status research design (QUANTITATIVE + qualitative) (Johnson & Onwuegbuzie, 2004:22). This research design is a one-phase design, which means that with an experimental research design (quantitative approach) provision is made for the collection of qualitative data (qualitative approach) (Gelo *et al.*, 2008:282; Johnson & Onwuegbuzie, 2004:22; Creswell, 2003:214). Quantitative and qualitative data collection is thus taking place at the same time and not sequentially. This means that quantitative data collection is not dependent on qualitative data collection and *vice versa* (Gelo *et al.*, 2008:281-282). The collection of qualitative data is therefore embedded within a quantitative experimental design.

The experimental design whereby quantitative data collection will take place and where qualitative data collection will be embedded in, is a quasi-experimental non-probability control group before and after design (Leedy & Ormrod, 2005:227) (table 6.2). On the basis of this experimental design, the participants of the study will be divided into an experimental and control group. Both the groups were tested before the intervention of the experimental group (pre-test) and after the intervention of the experimental group (post-test1). The groups were also tested after the intervention of the control group (post-test 2).

**Table 6.2: The quasi-experimental non-probability control group before and after design**

Group	Pre-test	Intervention 1	Post-test 1	Intervention 2	Post-test 2
Experimental group	X	X	X	_____	X
Control group	X	_____	X	X	X

Kent (2007:204) and (Welman *et al.*, 2005:8) indicate that all experimental designs have a similar characteristic, manipulation or intervention. The term intervention is used because of the fact that it includes treatment and various activities to solve problems and achieve goals (De Vos & Strydom, 2011:475). This means that the participants are exposed to actions they are not accustomed to. According to Maree (2007:149) the participants are submitted to the intervention to determine if the intervention has an effect on the participants. The intervention is also known as the independent variable of the research (Gelo *et al.*, 2008:272; Welman & Kruger, 2001:14). The dependent variables are the variables that the researcher observe and measure to determine the effect of the independent variable (intervention) on them (Gelo *et al.*, 2008:272). To determine the effect of an intervention, there has to be a group of participants that are exposed to the intervention (experimental group) and a group of participants not exposed to the intervention (control group) (Welman & Kruger, 2005:8). The reason for the use of an experimental and control group is to determine the differences between the groups due to their exposure or isolation to the intervention.

The experimental design that enables the researcher to perform quantitative and qualitative data collection and to determine the effect of the proposed framework is a quasi-experimental design. Leedy and Ormrod (2005:227-230) differentiate between different quasi experimental research designs. One of them, the quasi-experimental non-probability control group before and after design (Leedy & Ormrod, 2005:227) was used in this investigation.

On the basis of this experimental design (table 6.2) both the experimental and control group were exposed to a pre-test before the intervention of the experimental group. After the intervention of the experimental group, both groups were exposed to post-test 1. The control group was therefore exposed to post-test 1 before their intervention. After the intervention of the control group both groups were exposed to post-test 2. The three tests were used to measure the development of the experimental and control group of entrepreneurial competencies and to compare the results of the groups (Leedy & Ormrod, 2005:220). In addition to the quantitative data that was collected through the tests, further qualitative data were collected in different

intervals of the experimental design. The intervals and data collection methods will be discussed later in the chapter (par. 6.7).

While a quasi-experimental design is a typical pre-test-intervention-post-test design (table 6.2) (Trochim, 2006), randomness is lacking in a quasi-experimental design (Trochim, 2006; Leedy & Ormrod, 2005:227). In this investigation a random sample was not drawn because of the fact that the participants were purposefully selected (par. 6.3). The purposeful selection of participants means that the results of this investigation cannot be generalised to the total population of Business Studies learners. The results of the investigation can only be generalised to the learners that participated in the investigation.

According to Trochim (2006) a quasi-experimental design consists of pitfalls in terms of validity (especially internal validity). Maree (2007:151) is convinced that internal validity can be assured when the researcher, besides the intervention, can take control over the variables that contribute to a change in the dependent variable. The variables that the researcher did control to increase the validity thereof, were the selection of the participants (par. 6.3) and the measure of instruments (par. 6.4) (Maree, 2007:151).

The external validity of the investigation consists of the generalisation of the results (Leedy & Ormrod, 2005:99). Due to the fact that the results of the investigation could not be generalised, external validity of the results could not be achieved.

The quasi-experimental design that was used in this investigation made it possible for the researcher to increase the external validity of the teaching strategy for the enhancement of entrepreneurial competencies by creating a real-life situation (Leedy & Ormrod, 2005:99). According to Leedy and Ormrod (2005:99) a real-life situation increases the external validity of the investigation because the environmental variables that influence external validity is not controlled by a laboratory experiment.

#### **6.2.4 The intervention**

An intervention is a structured, planned interference in a study population to improve the functioning of the study population, to change or develop the actions of the study population, or to manipulate the environment for research purposes (De Vos *et al.*, 2002:396). In this investigation the intervention was the opportunity to apply the teaching framework to the enhancement of entrepreneurial competencies (chapter 5).

In this study the intervention was done in the context of action research. Action research, according to Maree (2007:74), McNiff and Whitehead (2006:8), and Mertler (2006:2,5) is

especially used in social sciences by educators to (1) understand their own teaching and assessment based on collected data, (2) to generate solutions for a practical problem, and (3) to improve the quality and efficiency of their teaching or to transform the teaching situation.

Merriam (2009:4) and Leedy and Ormrod (2005:108) classify action research as applied research that mostly tend to be a qualitative research design due to the fact that it not only wants to develop a better concept, but also an attempt to understand the order of thought of the participants. The argument of Maree (2007:74) does not mean that action research cannot provide quantitative data. Mertler (2006:2,5) has the view that action research can use both quantitative and qualitative research methods to collect data in a systematic way.

With this investigation, action research was used in a quasi-experimental research design to collect qualitative data (through method of observations, par. 6.4.2.1) during the application of the teaching framework for the enhancement of entrepreneurial competencies (chapter 5). In addition, it was also to improve the quality and efficiency of teaching of the enhancement of entrepreneurial competencies (McNiff & Whitehead, 2006:8; Mertler, 2006:2,5). Maree (2007:74) also has the view that due to the focus of action research to ask and answer why and how questions, it is usually used in mixed-methods research. The researcher used action research in this investigation based on the action research process of McNiff en Whitehead (2006:9), namely observation, reflecting, adjusting, evaluating and new direction (par. 7.4.1.2).

At the beginning of the investigation both the experimental and control group completed a pre-test. After the pre-test the experimental group was isolated from the normal school teaching (the Business Studies class) and exposed to the intervention. With the intervention on the experimental group, the teaching framework for the enhancement of entrepreneurial competencies was applied during contact sessions over a period of 24 days (28 sessions of 40 minutes). During the intervention on the experimental group, observations (par. 6.4.2.1) on the reactions of the participants were done to determine how to adjust the teaching framework to improve the functioning of the participants (action research). After the intervention both the experimental and control group completed post-test 1 to assist the researcher in comparing the groups and determine any differences in terms of their ability to demonstrate entrepreneurial competencies. After post-test 1 the intervention was also done on the control group, while the experimental group continued with their normal classes. The intervention on the control group was conducted in the same manner as on the experimental group. The length of the intervention on the control group was also 24 days (28 sessions of between 40 minutes). After this intervention both groups completed post-test 2. The control group was also exposed to the same teaching framework for enhancement of entrepreneurial competencies to assure that one

group did not benefit in the investigation (see par. 6.7 for a more extensive description of the procedures of the empirical investigation).

### 6.2.5 Research methods

Both quantitative and qualitative research designs use different research methods (table 6.3). Research methods are the techniques and procedures that are used to select participants of an investigation (sample)(par. 6.3), to collect data (par. 6.4), analyse data (par. 6.5) and to interpret data (chapter 7) (Gelo *et al.*, 2008:274). These techniques and procedures in terms of quantitative and qualitative approaches in this investigation applied are subsequently discussed.

**Table 6.3: Quantitative and qualitative research methods**

Quantitative research methods	Qualitative research methods
Participants (samples) Random samples Single random sample Systematic random sample Stratified random sample Grouped sample Purposeful sample Convenience sample	Participants (samples) Purposeful samples Convenience sample Homogeneous case sample Extreme and typical case sample
Data collection Primary data Tests or standardised questionnaire Structured interviews Closed observation protocol Census Secondary data Official documents	Data collection Primary data Interviews Focus groups Natural observation protocol Secondary data Official documents Personal documents
Data analyse Descriptive statistics Inferential statistics	Data analyse Descriptive/narrative Identifying of categories/themes Association between categories/themes
Data interpretation Generalising Forecasting (theory driven) Interpretation of a theory	Data interpretation Contextualisation Interpretation based (data driven) Personal interpretation

**Source:** (Gelo *et al.*, 2008:274).

## 6.3 PARTICIPANTS

The participants of the quantitative and qualitative research will be subsequently discussed.

### 6.3.1 Participants of quantitative research

In this study the participants were grade 11 learners in Business Studies in 2012 in a well-known school in Potchefstroom (n=55). These participants were selected based on a purposive sample to participate in this study because of the close proximity and the willingness of the teacher to participate. The researcher selected the sample by using the researcher's own experience and judgement (Kent, 2007:320). There were two groups of learners and they were divided according to the time-table of the school. The one group consisted of 24 learners (experimental group) and the other group (control group) of 31 learners. Since the intervention was done during the normal operations of the school some participants were absent on days that the test were executed and therefore only the tests of 47 learners (23 of experimental group and 24 of control group) could be used (Learners who wrote all three tests).

To be able to measure the experience of the learners in terms of the enhancement of their entrepreneurial competencies, the two groups were divided into an experimental and control group. A toss-up was made between the two groups to determine which group will be the experimental group and which group the control group.

The intervention took place from 26 July to 25 October 2012. The intervention on the experimental group took place from 26 July to 4 September and for the control experimental group from 10 September to 24 October. The duration of the intervention on each group was 24 days and consisted of 28 sessions of between 38 to 43 minutes.

Both groups had to complete the pre-test, post-test 1 and post-test 2. After this a comparison between the different tests could be made to determine if enhancement has taken place. The comparability of the groups was simplified by the fact that the groups had similarities. Each group consisted of grade 11 learners with learners of the same age and the ratio of male to female: 1 to 2.

The researcher has decided to confirm the comparability with statistical methods (Chamblis & Schutt, 2006:119-120; Leedy & Ormrod, 2005:220). According to Leedy and Ormrod (2005:220) the internal validity of an investigation increases if statistical methods are used to confirm the comparability of the groups. The comparability of the groups was determined after the completion of the pre-test. The results were statistically calculated to determine if there were any differences in the entrepreneurial competencies of the two groups before the intervention. The results indicated that there were no significant differences between the groups (par. 7.3).

According to Leedy en Ormrod (2005:220) the researcher has to make sure that he controls the research conditions and secure that it stays constant. The uniformity of the research conditions

will strengthen the internal validity of the investigation. Uniformity refers to conditions that stay the same or are unchanged for the participants. With this investigation uniformity was assured by the application of the intervention during the normal school program. The participants were thus not taken from their physical environment (they were in their classroom in school) and the intervention sessions were conducted during the designated school periods. Although the research environment was known to the participants and the feeling of research customary to laboratory circumstances were decreased, the researcher also employed uniformity as a mechanism to decrease the Hawthorne-effect. According to Leedy and Ormrod (2005:98) the Hawthorne-effect is the change of the behaviour in the participants because of their consciousness of being part of a research investigation and not necessarily of the intervention.

### **6.3.2 Participants of qualitative research**

With this investigation the participants who were interviewed were selected through a purposive sampling method (table 6.3). A purposeful sampling method is one of the most general and simple selection methods during qualitative research (Gall *et al.*, 1997:217-218; Lincoln & Guba, 1985:177-178). Gall *et al.* (1997:218) view that:

*“... purposeful sampling is not designed to achieve population validity”*. A purposeful selection is based on the assumption that the researcher selects participants that they can learn the most from because the researcher wants to understand participants such as they are (Aerts, 2001:157-206; Gall *et al.*, 1997:217-218). A purposeful homogeneous case sample is done, according to Tashakkori and Teddlie (2003:282), to select participants (homogenous in terms of demography, education, development, and more) from a sub group (in this investigation, the experimental and control group) to do intensive interviews.

On the basis of the guidelines for qualitative research, it is possible to interview only one participant depending on the research question (Gall *et al.*, 1997:217-218). With this investigation participants were randomly identified and asked to be interviewed. This action was done to collect as much as possible information on the subjective experiences of the intervention and to assist the researcher in understanding the actions and reactions of the participants on the teaching framework. Ten (10) participants agreed to participate in the interviews. There were four participants from the experimental group and six from the control group. The analysis of the data showed that data saturation had taken place after the fifth interview, therefore ten (10) participants were enough for the data collection. Data saturation is: *“a stage in the fieldwork where any further data collection will not provide any different information from that you already have, that is, you are not learning anything new”* (Gratton & Jones, 2004:153).

## 6.4 DATA COLLECTION

After the selection of participants for this investigation, the collection of data did take place. Data can be collected directly or indirectly (Gelo *et al.*, 2008:275). Direct data collection also refers as primary data is collected direct from the participants through questionnaires they complete (quantitative data collection) or interviews they perform (qualitative data collection). Indirect data collection also refers to secondary data and is the collection of data from personal documents, official documents and research archives (Gelo *et al.*, 2008:275). Primary data was collected in this investigation through three tests, observations and interviews.

With quantitative data collection primary data is collected through the use of tests and/or standardised questionnaires (table 6.3) that can measure attitude, personality, self-perception and more. According to Gelo *et al.* (2008:275) interviews and observations can also be used to collect quantitative data if numeric values can be allocated for statistical analysis (table 6.3).

Quantitative data collection thus requires the conversion of phenomena to numerical values for the purpose of statistical analysis, while the collection of qualitative data collections in non-numerical formats occur (pictures, photo's, video's, and more) (Kent , 2007:87). With qualitative data collection the primary data is collected through interviews and observations to develop an in-depth understanding of the participants (Gelo *et al.*, 2008:275). Howe (2003:18) states that the procedures of data collection with qualitative research is not so strictly formalised in comparison to quantitative research. The range is more boundless and results are provided in narrative and reported forms. Therefore, there is seldom the use of statistical representations, graphics or histograms, as in quantitative research. Qualitative research emphasises meanings, concepts, characteristics, metaphors, symbols and descriptions of phenomena (Berg, 2006:3).

With quantitative data collection the role of the researcher is an objective observer whose involvement is limited to the studied phenomenon in terms of the data collection needed to confirm or disprove the hypotheses (Hertlein *et al.*, 2004:548). The quantitative researcher focuses on the objectivity and the determination of the validity of that which was observed. Since objectivity is ideal for quantitative researchers, standardised measuring instruments are usually used to measure that which is observed (Johnson & Christensen, 2004:33).

Qualitative researchers focus on the flowing and dynamic dimensions of human behaviour (Johnson & Christensen, 2004:32). This means, for example, that qualitative data collection is conducted to understand the immediate behaviour and experiences of individuals on the framework of their own experience, rather than to expose causal relationships between phenomena in trying to explain the phenomena (Creswell, 2003:175-176; Byrne, 2001:830; Munhall, 2001:74; De Vos *et al.*, 1998:76-94). With qualitative research, researchers have to do

their own data collection, ask questions and interpret the data to be able to understand the participants (Johnson & Christensen, 2004:34); therefore, interviews (par. 6.4.2.2) are usually a main source of data collection.

### **6.4.1 Quantitative data collection**

In this investigation only one collection instrument was used to collect quantitative data. A pre-test, post-test 1 and a post-test 2 were used to measure the possible enhancement of selected entrepreneurial competencies of the learners. Both the groups wrote all three tests.

#### **6.4.1.1 Biographical data**

The only information requested from the learners on the tests, were their names. Although the tests were not anonymous, the participants were not in any instance directly implicated during the reporting of the data. The reason for the non-anonymity of the test was to ensure that participants could be measured against themselves. The participants were informed before the investigation that the data collection would not be anonymous (par. 6.8.2).

#### **6.4.1.2 The pre-test, post-test 1 and post-test 2**

It was decided to use scenarios for the pre-test, post-test 1 and post-test 2 (see appendix J). Scenarios were developed to test selected competencies of the learners. Each scenario consisted of six questions that the learners had to answer (see par. 6.4.1.2.1). The questions were structured to measure the level of entrepreneurial competency. The questions were in a format that the learners could answer in a paragraph format. The purpose of these types of questions was to give the learners the opportunity to show their level of competency.

The purpose of the pre-test was to measure the current level of entrepreneurial competency of the learners before the intervention. The results of all the tests were compared to measure the effect the intervention had on the entrepreneurial competencies of the learners. All the tests consisted of the same quantity of questions. The same entrepreneurial competencies were measured. The scenarios were adjusted to be able to measure the possible enhancement of entrepreneurial competency of the learners. The reason for using similar tests was to ensure consistency in the measuring items.

##### **6.4.1.2.1 Components of tests**

All three tests (pre-test, post-test 1 and post-test 2) consist of a scenario. The three tests consisted of different scenarios but the same six questions. The scenario includes (1) a case study consisting of three to four paragraphs and six questions based on the case study. These

six questions also consist of sub questions. Questions 1 - 6 measure the problem solving competency of the learner. Problem solving consists of five steps (see par. 3.3.1). In addition other competencies such as creativity (par. 3.3.2), flexibility (par. 3.3.3), goal orientation (par. 3.3.4), risk-taking (par. 3.3.5) and planning (par. 3.3.6) are also measured (See table 6.4).

**Table 6.4: Entrepreneurial competencies measured in tests**

Question	Problem solving	Additional competency
1 & 2	Recognise problems (Item 1)	
3	Analyse problems (Item 2)	
4	Generate solutions (Item 3)	Creativity (Item 6)
5	Choose the best solution (Item 4)	Flexibility, (Item 7) Risk-taking (Item 8)
6	Implement the best solution (Item 5)	Goal orientation (Item 9) Planning (Item 10)

#### 6.4.1.2.2 Assessment rubric for marking of tests

The tests were assessed by the researcher and moderated by an independent teaching adviser. To be able to make quantitative interpretations all the questions were marked by means of an assessment rubric. The scores from the assessment rubric were transferred to a four-point Likert scale (see appendix K). The scores were:

- Score 1: Cannot demonstrate competency
- Score 2: Demonstrate competency with gaps
- Score 3: Demonstrate competency
- Score 4: Outstanding demonstration of competency.

#### 6.4.1.2.3 Validity of the tests

Validity refers to the accuracy of the measurement (Thomas & Smith, 2003:7) and to the way that the measurement measures what it intends to measure (Gravetter & Forzano, 2004:16; Williams, 2003:95; Thyer, 2001:53). Various strategies can be used to determine the validity of measuring instruments such as construct validity, content validity and face validity. Construct validity (factor analysis) is statistically calculated and is a strategy that is used to determine: *“how well observable behaviours measured by the test represent underlying theoretical constructs”* (Mitrushina *et al.*, 2005:41). According to Newton and Rudestam (1999:121) the

construct validity of a measuring instrument will provide a true image of validity if the ratio of 10:1 (participants: quantity of questions) is apparent.

#### Content validity of the tests

Content validity refers to the evaluation of questions to determine if the questions are representative of the domain that is investigated (Thyer, 2001:57). This refers to the appropriateness of the questions to measure the concept (Williams, 2003:97). Although content validity of a measure instrument can cause the increasing of construct validity of a measuring instrument (Williams, 2003:97), both represent different strategies “*content validity is established if a test looks like a valid measure; construct validity is established if a test acts like a valid measure*” (Mitrushina *et al.*, 2005:41). With content validity a thorough analysis and evaluation of the items are performed to assure that the items are representative of the specific construct.

The content validity of the test was determined by the teaching advisor. His task was to evaluate each question in the case study. The researcher had to adjust some of the questions due to advice. The content validity ensures that all the questions in the tests measure the entrepreneurial competencies.

#### 6.4.1.2.4 Reliability of the tests

Reliability refers to the accuracy of the measure (Thyer, 2001:53). A measure method is reliable if it is stable and repeatedly measures the same results for the same individual under the same circumstances (Gravetter & Forzano, 2004:16; Thomas & Smith, 2003:7; Williams, 2003:98).

According to Kruger and Gericke (2004:44) and Poggenpoel and Myburgh (2004:421) the reliability of a measuring instrument will increase if there is more than one researcher involved in the data collection and analysis. One of the most important tests to use is Cronbach Alpha. Field (2005:640) defines Cronbach Alpha as a measure of reliability that ranges from 0 to 1. To increase the reliability of the tests the tests were marked by the researcher and teaching advisor. In view of the fact that the teaching advisor was involved with the drawing up of the tests, the advisor was familiar with the context of the research. Another reason was that the advisor could minimise possible bias and subjectivity of the researcher in terms of the data collect.

Exploratory factor analysis was done as a data reduction method, using items 1 to 5 of the 10 items on the test. Cronbach alpha values were calculated to then for the factors consisting of more than one item assure reliability of the constructs.

## 6.4.2 Qualitative data collection

Primary qualitative data (table 6.3) is collected in this investigation to provide the descriptions of the phenomena of this investigation (Gelo *et al.*, 2008:268). The objectives of the collection of qualitative data were to:

- determine the role of the lecturer in the execution of the teaching framework;
- understand the experience of the participants of the intervention;
- determine the reaction of the participants in terms of the teaching framework
- determine the aspects that are important in terms of the entrepreneurial competencies.

Two qualitative data collection methods were used, which included observations (par. 6.4.2.1) and semi-structured interviews (par. 6.4.2.2).

### 6.4.2.1 Observations

Qualitative data based on the observations was obtained in the following ways:

- By the teaching advisor who observed the teaching of the researcher during the intervention according to theme categories that include the experience of the learners in terms of the teaching and the experience of the learners in terms of assessment. In addition, another category was the experience of the learners in terms of competencies. The purpose of this action was to decrease the subjective reporting of the researcher of the role of the researcher in executing the teaching framework.
- By the researcher who made notes of the participants' actions and reactions on an observation sheet which focused on the experience of the learners in terms of the teaching, the experience of the learners in terms of assessment and the experience of the learners in terms of competencies (table 6.8). The purpose was to make recommendations on the execution of the teaching framework for entrepreneurial competencies.

The observations were done in the context of action research (par. 6.2.4) during the intervention on the experimental and control groups. The theme categories that were used by the teaching advisor to make notes in terms of the teaching of the researcher during the intervention included the learning environment (especially organising aspects), teaching strategies (use and integrating of strategies), the learning activities (type of learning activities), nature and characteristics of participants and assessment (types of assessment and execution thereof).

The processed notes of the observation of the intervention by the advisor are described in par. 7.4.1.1.

The observations which were done by the researcher personally were noted on an observation sheet (table 6.5). These aspects focused on the observation sheet included the reactions of the participants in terms of the learning environment, the learning strategies and methods, resources, the development and enhancement of entrepreneurial competencies, their experience on the type of teaching and activities. Recommendations in terms of the execution of the intervention are made based on the reactions of the participants. The processed notes of the observation of the researcher are described in par. 7.4.1.2.

**Table 6.5: Part of an observation sheet**

<b>NOTES: OBSERVATION OF LESSON 1 (SOLUTION OF A SCENARIO)</b>	
<b>Place</b>	ROOM K22 [High School in Potchefstroom].
<b>Observer</b>	AJ Meintjes
<b>Role of observer:</b>	Observation of the reactions of the experimental group on the solution of the scenario, the learning strategy, the group work and experience of the type of teaching and activities.
<b>Period of observation</b>	Week 1 (27 - 31 July 2012).
<b>Explanation:</b>	Observation notes during lesson 1 which focuses on the solution of a problem in a scenario.
<p><b>Theme:</b> - A scenario based on content</p> <p><b>Learning environment:</b> - Participants waste time to organise themselves in businesses (groups)</p> <p><b>Teamwork:</b> - Some of the participants do not give their cooperation in the business.</p>	

#### 6.4.2.1.1 Reliability of observations

Neuman (2007:294) states that the reliability of observations is determined through the internal and external consistency of the happening that is observed. Internal consistency refers to the credibility of the data while external consistency refers to the confirmation of the data (“*cross-checking*”) through other researchers (Neuman, 2007:294). In this study the internal consistency was obtained through the actual completion of the observation sheet that focussed on the same aspects of the different teaching sessions. The criteria of the observation did not change during

the research. External consistency was obtained through the involvement of the teaching advisor to observe the teaching of the researcher.

#### 6.4.2.1.2 Validity of observations

The validity of the observations in this investigation is strengthened through confidentiality, credibility and confirmation thereof. Although the three tests and interviews were not anonymous (see par. 6.8.2), there is confidence in the analysis and data of the researcher that it was an accurate representation of the social world of the participants (Neuman, 2007:294). Credibility in this study was obtained through a detailed description of the actions, assumptions and procedures of the evaluation of the researcher (par. 6.5.2.1, 7.4.1.2). Input of the participants was also obtained and that also confirms the accurate description of their social world.

#### **6.4.2.2 Semi-structured interviews**

Anderson and Arsenault (2000:167, 190) define an interview as a specialised form of communication between humans on an agreed subject for a specific purpose. The interview is a social relationship designed to exchange information between the participant (the person that is interviewed) and the researcher (interviewer) (Greeff, 2011:342). This is a dynamic process where the interviewer asks questions, usually according to guidelines, and the responses recorded mechanically or electronically. Greeff (2011:348) differentiates between unstructured one-to-one interviews, semi-structured interviews, ethnographic interviews, the e-mail, the telephone and convergent interviews.

In this investigation semi-structured interviews were used to collect data in terms of the experience of the participants of the teaching during the intervention process, to demonstrate their way of thinking on their entrepreneurial competencies and to further investigate issues identified during the observations. Semi-structured interviews consist of fixed questions that are drawn up in advance to be asked to participants. The interview will be guided rather than dictated by the predetermined questions (Greeff, 2011:352). Therefore the researcher can, based on the responses of the participants, expand questions to clarify certain aspects, to obtain own views and get more examples and aspects that the researcher did not think of.

With this investigation the interviews were performed with ten (10) participants from both the experimental group (4) as control group (6) on a random basis. The interviews were done by the researcher himself and were recorded by a transcription kit (electronically) for further transcriptions. Before any interview had taken place, certain steps were taken to develop the questions. Firstly the objectives of the interviews were specified. Specific information that was

needed from the interviews was fixed in advance (Litosseliti, 2003:28; Anderson & Arsenault, 2000:201; Kreuger & Casey, 2000:23). Secondly questions for the interviews were formulated. The researcher formulated questions from the foregoing literature study (chapters 2-4) and based it on the observations during the intervention that related directly to the research question or problem.

After all the questions were formulated, the questions were adjusted to focus on three themes, namely (1) the experience of the learners in terms of the teaching, (2) the experience of the learners in terms of assessment and (3) the experience of the learners in terms of competencies. The questions were developed to avoid dichotomous answers and to promote descriptive and comprehensive responses of the respondents (Kreuger & Casey, 2000:41).

The formulation and order of the questions were as follows:

**Theme 1: The experience of the learners in terms of the teaching**

- Why do you have the subject Business Studies?
- How do you enjoy taking Business Studies? Motivate.
- Did the researcher make a difference in your attitude towards Business Studies during the intervention process? Why?
- How did the method of teaching of the researcher during the intervention process differ from the teaching that you were accustomed to?
- Did you enjoy the group work that you have done in the class during the intervention process?
- Did you learn from the group work in class?
- Did the class activities during the intervention process help you to a better understanding of the functioning of a business?
- Will the class activities during the intervention process assist you to perform better in future in Business Studies?
- What did you value the most of the intervention process?
- What did you value the least of the intervention process?

**Theme 2: The experience of the learners in terms of assessment**

Did you find it valuable that your peer evaluated your work during the intervention process?

- Did you find it valuable that you evaluated the work of your peer during the intervention process?
- Did you find the method that money (play money) was used to make certain assessments during the intervention process enjoyable?

**Theme 3: The experience of the learners in terms of competencies**

Which of the following competencies did you enhance during the intervention process? [problem solving (par. 3.3.1), creativity (par. 3.3.2), flexibility (par. 3.3.3), risk-taking (par. 3.3.4), goal orientation (par. 3.3.5), planning (par. 3.3.6), teamwork (par. 3.3.7), communication (par. 3.3.8), self-confidence (par. 3.3.9), capacity to learn (par. 3.3.10)].

During the interview the researcher assured the participants that their responses and identity will be treated confidentially. Before every meeting and the recording of the interview the researcher gave the interview questions to the participants in order for them to read through the questions. This set the participants at ease and it helped them with the answering in the interview.

During the interviews the researcher found that the participants were very nervous at the beginning of the interview due to the fact that the interview is recorded and the strange characteristics of an interview. After a few questions the participants felt more comfortable and more spontaneous and open reactions on the questions followed. The discussions were productive and focused. One of the advantages of the interviews was the observation of non-verbal communication (O'Leary, 2004:164). The researcher could use these observations to ask more questions.

**6.4.2.2.1 Validity and reliability of interviews**

According to Morse *et al.* (2002:4, 5) the validity and reliability of interviews are determined through the trustworthiness thereof. To determine the trustworthiness of the data the credibility, transferability, consistency and confirmation of the data have to be described as mentioned by Bezuidenhout (2005:170-172), Morse *et al.* (2002:5) and Lincoln and Guba (1999).

- **Credibility**

The credibility of the research contributes to the content validity thereof (Tobin & Begley, 2004:391). Content validity in terms of qualitative research shows the truth value of the research (Poggenpoel & Myburg, 2004:421; Shenton, 2004:64). In this investigation the credibility is obtained through the following persons and actions:

- The extended and varied involvement of the researcher in the empirical field (Poggenpoel & Myburg, 2004:421; Shenton, 2004:65). The researcher has in total eighteen years' teaching experience and six years' research experience.
- The use of various researchers, data generation, contexts and data sources (Poggenpoel & Myburg, 2004:421; Shenton, 2004:65), that contributed to the completeness of the data to provide a more comprehensive image (Tobin & Begley, 2004:393). This investigation is executed by one researcher, while the input of colleagues, study leaders and teaching advisors were incorporated. Individual interviews were performed and data of questionnaires combined and verified.
- Peer evaluation, monitoring of progressing and evaluation of the research process (Poggenpoel & Myburg, 2004:421). Supervision was done by an experienced researcher (the teaching advisor) and advice was continuously collected.
- A thorough relevant literature study to confirm the purpose of the study was done (Kruger & Gericke, 2004:44), to formulate interview questions and verify data (Shenton, 2004:69). The motivation for the use of interviews as a qualitative research method was in advance investigated to determine the suitability thereof in the research context of the study.
- A comprehensive and thorough description of the phenomenon that has been studied (Shenton, 2004:69).
- The use of known research methods that were established in quantitative investigations (Shenton, 2004:64, 73).
- Methods to promote the honesty of the participants such as the voluntary participation of participants, the open attitude of the researcher, the indication to the participants that no answer is right or wrong and the independent status of the researcher (Shenton, 2004:65-66). The researcher was not known to the learners.
- The repeat of certain questions to confirm the answers of participants. Paraphrasing was done by the researcher to summarise the information from participants and repeat it to them to be able to confirm the correctness thereof (Shenton, 2004:67-68).

- **Transferability**

Transferability contributes to the external validity of research. Although external validity is about the generalisation of an investigation (O’Leary, 2004:58; Tobin & Begley, 2004:391), the generalisation of data is not the purpose in this investigation, but the application value of the research that promote transferability (Poggenpoel & Myburgh, 2004:421; Shenton, 2004:64). In this investigation the transferability was obtained through the following:

- A description on the method whereby participants were chosen for the interviews in a specific demographic context.
- The provision of a correct and rich description of the results so that the voices of the participants can be heard (Poggenpoel & Myburgh, 2004:421) and to determine the appropriateness in similar contexts (Shenton, 2004:71). Data from the interviews is discussed based on appropriate direct quotations to confirm results after an intensive data analysis was done.

Recurring themes confirm data saturation and appropriateness of the themes in similar contexts of the same study.

- **Dependability**

Dependability contributes to the reliability of research (O’Leary, 2004:58; Tobin & Begley, 2004:391) and emphasises the consistency thereof (Poggenpoel & Myburgh, 2004:421; Shenton, 2004:64). In this investigation the dependability was obtained through the following:

- A process of verifying. All decisions from literature were verified, especially sources on research methodology. Verifying has also taken place through colleagues and the teaching advisor (O’Leary, 2004:58; Poggenpoel & Myburgh, 2004:421; Shenton, 2004:72; Morse et al., 2002:9).
- Data reduction, a code-recode procedure and the participation of more than one researcher in the process (Kruger & Gericke, 2004:44; Poggenpoel & Myburgh, 2004:421). The transcription of the interviews is checked by colleagues. An independent researcher with experience in qualitative data analysis coded and analysed the transcriptions. Thereafter the transcriptions were compared to the coding and analysis of the researcher. The coding is discussed and consensus was achieved on the differences in the themes.

- The interview questions were evaluated by the teaching advisor and with the consensus of the researcher further refined to address the themes (Kruger & Gericke, 2004:44).

- **Confirmation**

Confirmation contributes to the objectivity and neutrality of the research (Poggenpoel & Myburgh, 2004:421; Shenton, 2004:64; Tobin & Begley, 2004:391). In this investigation the confirmation was obtained through the following:

- The data of the researcher was verified with the literature. A reflective analysis was applied through the awareness of the researcher in terms of his influence on the data (O'Leary, 2004:58). The verifying of the data (such as dependability) was also emphasised to reduce bias of the researcher (Poggenpoel & Myburgh, 2004:421; Shenton, 2004:72; Morse *et al.*, 2002:11).
- The confirmation of the originality of the qualitative results that were reported by the independent person that performed the coding and analysis. Direct quotations were used from the discussion of the results to confirm the themes to obtain recurring themes from different interviews. It is also possible for other researchers to check if they can make the same conclusions (Poggenpoel & Myburgh, 2004:421).
- The acknowledgement of limitations of the investigation and the potential effect thereof (Shenton, 2004:73).

## **6.5 DATA-ANALYSIS**

### **6.5.1 Quantitative data analysis**

The quantitative data analysis will be discussed through the statistical analysis of the tests data and the statistical procedures used in this study.

#### **6.5.1.1 Statistical analysis of the tests data**

The data of the three tests were processed statistically to (1) make statistical descriptions, (2) show comparisons between dependables (3) make forecasts (Anderson & Arsenault, 2000:100; Van der Merwe, 1996:290) (table 6.3). To assure validity of the tests, the tests were marked by the researcher and teaching advisor.

### 6.5.1.2 Statistical procedures used in the study

The following statistical procedures were conducted to test if there were statistical significant differences between the means of the pre-test, post-test 1 and post-test 2 scores for the two different groups, for all the constructs separately. A repeated measures analysis of variance (ANOVA) with factors tests and group tests were performed. The factor tests were the time factor used in the repeated measures design. Normal probability plots of the residuals were conducted in each analysis to assure that the errors were fairly normally distributed (Tabachnick & Fidell, 2001). In the analysis of each construct, it was found that the interaction between group and time (test) was statistically significant. Bonferroni post-hoc tests were done to determine pairwise differences between means of tests within each group. Cohen's d-values were calculated to determine whether the differences were of practical value; the LS-means and mean error sum of squares (MSE) resulting from the ANOVA table were used.

Cohen (1988:25) gives the following guidelines for interpretation of effect sizes:

- $d = 0.20$  is a moderate effect with no practical significance;
- $d = 0.50$  is a medium effect with moderate influence;
- $d = 0.80$  is a large effect that show practical significance.

These procedures were implemented using Statistica (StatSoft, Inc. 2007). All tests were conducted at a 0.05 significance level.

#### 6.5.1.2.1 T-tests with pre-test, post-test 1 and post-test 2

T-tests were performed to calculate the statistically significant differences between the three tests due to the intervention. Afterwards practical significant differences were also calculated to determine if the intervention actually made a difference in practice. Significance refer to a "p-value" smaller than 0,05. The significance or statistically significance means that the difference or connection is not coincidental, because the change for coincidence is small (5%). However, the "p-values" do not report the importance of the differences or connections. To be able to give judgement on the importance of differences or connections the effect size indexes are used (Steyn, 2005:1).

Effect size indexes are used because it assumes that the size of these indexes is directly proportional on the importance of a difference in averages or a connection of dependables. If an index is big enough, the result can be described as practically significant. This is a general term that can be used in different contexts (Steyn, 2005:2). With the t-test the effect size is

determined by dividing the difference between two averages by the maximum (biggest) standard deviation (Ellis & Steyn, 2003:51).

$$d = \frac{|\bar{x}_i - \bar{x}_j|}{\sqrt{MSE}}$$

with  $x_i$  and  $x_j$  are the corrected averages of the various groups and *MSE* the *mean square error show*.

## **6.5.2 Qualitative data analysis**

The quantitative data analysis will be discussed through the data analysis of the observations and interviews used in this study.

### **6.5.2.1 Data analysis of the observations**

The data analysis of the observations was executed by both the independent teaching advisor and the researcher according to the guidelines of Neuman (2007:335) as follows:

- All the notes that were recorded on the observation sheets were consolidated to give an overview of the precise happenings during the intervention.
- Hereafter the themes that recurred were identified and described to give feedback on all the happenings during the intervention.
- The themes that were identified were organised in a logical order for reporting purposes.
- Hereafter the organised themes were reported (par. 7.4.1) as qualitative data that were obtained from the observations.

### **6.5.2.2 Data analysis of the interviews**

Padgett (1998:75) advises that the transcription of recorded interviews have to be done as quickly as possible. The interviews were transcribed by an independent transcribe with six years' experience. The correctness of the transcriptions was validated by an independent expert in the field of qualitative research. Thereafter the transcriptions were given to an independent person to verify the correctness and completeness thereof. The notes that the researcher made during the interviews were used to improve the transcriptions and to describe it better. Thereafter the transcriptions were independently coded and analysed by the researcher and an independent expert with experience of qualitative data generation and analysis. Coding and

analysis of qualitative data is a process where a part of the information (significant units) is identified and linked to concepts that are associated with the purpose of the research (Padgett, 1998:76). The coding and analysis also provide a scientific method of evaluation of data that are generated with qualitative research (Kondracki *et al.*, 2002:224). Thereafter the two sets of information were compared, where after similarities and differences were highlighted and consensus thereof achieved. Patton (1990:383) describes this independent coding, analysis and comparing of data, analytical triangulation, and according to Kondracki *et al.* (2002:226) strengthens the validity of the data. The data analysis is executed according to the guidelines of Litosseliti (2003:85-94), Anderson and Arsenault (2000:207) and Creswell (1998:153-156) as follows:

- All the transcriptions were conveniently read to achieve a holistic concept of the content.
- Each transcription was individually analysed, broad themes or main categories were identified through the writing of similar concepts on tables, still in the own words of the participants. This formed a framework for the further procession of the information (Kruger & Gericke, 2004:40). The three themes or categories of the questions in the interview were used as main categories.
- General impressions were written down such as the recurring appearance of information in the transcriptions that indicate data saturation, patrons in conversations, similarities and differences between participants (Padgett, 1998:79).The transcriptions were analysed until saturation of the concepts was achieved. The researcher found that part of data saturation was achieved after the third or fourth participant.
- The broad themes that were identified from each transcription were brought in connection with each other and in table form given as categories (Padgett, 1998:83-84) (par. 7.4.2).

- A conversation with the teaching advisor indicated that similar themes were identified.
- A short summary of each theme was formulated. Real quotations to illustrate each theme were identified and edited and will be comprehensively discussed in par. 7.4.2.

## **6.6 TRIANGULATION**

The concept triangulation that is associated with mixed-methods research (Bergman, 2008:22), originated from trigonometry that indicate a method to determine the distance to a certain point from and to other points (Williams, 2003:183). With research it is the process where various approaches are used to investigate the same phenomenon with the purpose to provide more validity to a research effort (Thyer, 2001:477) and to validate research findings (Anderson & Arsenault, 2000:131). According to Williams (2003:183) mixed-methods research tended from a relative informal usage to a stronger application of triangulation of methods where qualitative and quantitative methods are used to strengthen and confirm each other.

With this investigation triangulation did not occur with the collected data. Because of the use of different research methods of quantitative and qualitative approaches, the conformation of data of each approach did happen. With the quantitative approach triangulation did take place in the results of the three tests. With the qualitative approach triangulation did take place between the data collected from the interviews and data from the observations. Triangulation is not separately discussed in the reporting of the data in chapter 7, but is integrated in the analysis of the quantitative and qualitative data.

## **6.7 PROCEDURE OF THE EMPIRICAL INVESTIGATION**

The grade 11 learners of the secondary school were as a result of their curriculum only available in the third quarter. Due to the abovementioned reason the researcher had to plan for the intervention.

### **6.7.1 Phase 1**

The participants who formed part of the study were divided in an experimental and control group. This was done through the toss of a coin. The participants did complete the pre-test.

### **6.7.2 Phase 2**

The experimental group was exposed to the intervention, while the control group was isolated from the intervention. During the intervention qualitative data was collected through observation that was done by the researcher himself and the teaching advisor. After the intervention both

groups did complete post-test 1 and interviews were performed with four participants from the experimental group.

### 6.7.3 Phase 3

Due to ethical reasons the control group was also exposed to the same intervention. After the intervention post-test 2 was completed by both groups. Interviews were performed with six participants from the control group.

The stadiums were executed in three and a half months (Middle July to end of October 2012). In figure 6.3 a description of the planning of the researcher will follow:

**Figure 6-1: Intervention process**

#### JULY 2012

DAY						
Monday		2	9	16	23	30   E
Tuesday		3	10	17	24	31   E
Wednesday		4	11	18	25	
Thursday		5	12	19	26   E	
Friday		6	13	20	27   E	
Saturday		7	14	21	28	
Sunday	1	8	15	22	29	

#### AUGUST 2012

DAY					
Monday		6	13   E	20   E	27   E
Tuesday		7	14   E	21   E	28   E
Wednesday	1   E	8	15   E	22   E	29   E
Thursday	2   E	9	16   E	23   E	30   E
Friday	3   E	10	17   E	24   E	31   E
Saturday	4	11	18	25	
Sunday	5	12	19	26	

**SEPTEMBER 2012**

DAY					
Monday		3   E	10   C	17   C	24
Tuesday		4   E	11   C	18   C	25   C
Wednesday		5	12   C	19   C	26   C
Thursday		6	13   C	20   C	27
Friday		7	14   C   I1	21	28
Saturday	1	8	15	22	29
Sunday	2	9	16	23	30

**OCTOBER 2012**

DAY					
Monday	1	8   C	15   C	22   C	29
Tuesday	2	9   C	16   C	23   C	30
Wednesday	3	10   C	17   C	24   C	31
Thursday	4	11   C	18   C	25   2	
Friday	5	12   C	19   C	26	
Saturday	6	13	20	27	
Sunday	7	14	21	28	

IE – Intervention experimental group

IC – Intervention control group

I1 – Interviews experimental group

I2 – Interviews control group.

**6.8 ETHICAL ASPECTS**

The researcher applied for an ethical number from the North-West-University through the ethical committee. The researcher was successful in obtaining the ethical number and that ensured the continuation of the study.

Ethical aspects that the researcher had to look at were the identification of participants, the intervention, the measurement of the aspects that the participants were exposed to and the handling of the research results (Burnes & Grove, 1997:195; Huysamen, 1993:184).

The researcher tried continuously during the execution of the investigation and especially the intervention to be objective and reporting the data (quantitative and qualitative) just as it is. Due to bias of the researcher and the influence thereof on the research results, it was decided to attract various persons to the research.

### **6.8.1 Intervention**

To contribute to the ethical acceptance of the study, it was decided to expose both the experimental and control group to the intervention. The influence of the intervention on both groups for data collection was used in this study.

### **6.8.2 Anonymity of participants**

It was not possible to assure the participants' anonymity in terms of the data collection.

- Tests: Not anonymous, because the identity of the participants is needed by the researcher to be able to compare the results of their 3 tests.
- Interviews: Not anonymous, because the researcher had personally executed the interviews.
- Observations: Anonymous in terms of reporting.

The participants were well informed on the anonymity before the beginning of the empirical investigation. The participants were also assured that the data from the investigation will be treated confidentially.

### **6.8.3 Permission for empirical investigation**

The process of permission consists of continuous information on the following: accurate and appropriate information on the purpose of the investigation, the procedure that will be followed, the possible advantages and disadvantages of the investigation and the credibility of the researcher (De Vos *et al.*, 1998:25). Permission from the parents of the participants was received. Written permission for the investigation was obtained from the Department of Basic Education, the principal of the school and Governing body of the school (Appendix G).

## **6.9 SUMMARY**

In this chapter the research methodology that was used in this study was discussed. Multi-methods research was used with qualitative and quantitative methods to answer the research questions. In this regard, several qualitative and quantitative methods were used. Linking to the

quantitative part of the research three tests were used to measure the entrepreneurial competencies of the learners. The quantitative data collected in this study was statistically analysed. With the qualitative study data was collected through observations and semi-structured interviews.

In this investigation a concurrent dominant status research design (QUANTITATIVE + qualitative) was used. This research design is a one-phase design, which means that with an experimental research design (quantitative approach) provision is made for the collection of qualitative data (qualitative approach).

The exploratory factor analysis was done to assure construct validity on the different items of the tests. Cronbach alpha coefficients were used to assess the internal consistency of the measurement of the instruments. Reliability of the observations was obtained through internal and external consistency. Internal consistency was obtained through the actual completion of the observation sheet that focuses on the same aspects of the different teaching sessions. External consistency was obtained through the involvement of the teaching advisor to observe the teaching of the researcher. The validity of the observations was strengthened through confidentiality, credibility and confirmation thereof. The validity and reliability of interviews are determined through the trustworthiness thereof. To determine the trustworthiness of the data the credibility, transferability, consistency and confirmation of the data were described. The discussion of the chapter was closed with an overview of the aspects that was recognised in terms of the ethical aspects of the investigation.

## **CHAPTER 7: PRESENTATION AND DISCUSSION OF THE FINDINGS AND RESULTS**

### **7.1 INTRODUCTION**

In the previous chapter the empirical process of the research was discussed and an outline provided of the method of data collection. In this chapter the statistical analysis of the quantitative data and the narrative description of the qualitative data are reported. The discussion in this chapter is conducted by firstly focusing on the participants (par. 7.2). Hereafter the results of the quantitative part of this research have been discussed (par. 7.3) on the basis of the pre-, post-test 1 and post-test 2.

The results of the qualitative part of this survey are discussed next (par. 7.4), with specific reference to the observations by the tutoring adviser (par. 7.4.1.1) and the researcher (par. 7.4.1.2). After this the results of the interviews (par. 7.4.2) are discussed. Triangulation takes place as far as possible within and between the quantitative and qualitative data during the discussions of the data. Conclusions regarding the collected data are done continuously while the results of the quantitative and qualitative parts of this study respectively, are summarised after each method has been completed (par. 7.3.7 - quantitative section; par. 7.4.1.2.8, and par. 7.4.2.5 - qualitative section).

### **7.2 PARTICIPANTS**

The participants in the quantitative and qualitative research will be subsequently discussed.

#### **7.2.1 Participants in the quantitative research**

The population for this study were grade 11 learners in the subject, Business Studies, at a well-known school in Potchefstroom (n=47) (par. 6.3.1). Since the participants voluntarily participated in this study, a number of participants withdrew during the course of the research, or did not take part in the survey on a sustained basis. Some of the research participants withdrew during the course of the survey due to illness or changing of classes, and some participants were absent during the tests. Although most of the participants (n=55) completed the pre-test, not all of them took part in post-test 1 and post-test 2. Consequently, only the results of 47 learners were used (see table 7.1).

**Table 7.1: Actual number of participants**

Groups	Number of participants (n)
Experimental group	24
Control group	23
Total study population	47

During the intervention with the experimental group and control group, an attendance list was kept to monitor the attendance of the participants.

### 7.2.2 Participants in the qualitative research

The population for this study were grade 11 learners in the subject, Business Studies, at a well-known school in Potchefstroom (n=10). These participants have been selected from the experimental group and a control group on the basis of their participation in the intervention (par. 6.3.2) (purposive homogeneous case sampling method). In this study, six participants from the experimental group have been identified and approached for interviews, of which four participants have agreed to the interview (par. 7.4.2). Twelve participants from the control group have been identified and approached for interviews, of which six have agreed to participate in the interviews.

## 7.3 DISCUSSION OF QUANTITATIVE DATA

In this study quantitative data was collected through three tests (par. 6.4.1.2). These tests consist of six questions and measure 10 elements (seven competencies). These competencies are problem solving (par. 7.3.1), creativity (par. 7.3.2), flexibility (par. 7.3.3), risk-taking (par. 7.3.4), goal orientation (par. 7.3.5) and planning (par. 7.3.6). These competencies will be subsequently discussed.

Before the discussion of the results the validity and reliability will be discussed by discussing exploratory factor analysis and Cronbach alpha.

### 7.3.1 Problem solving

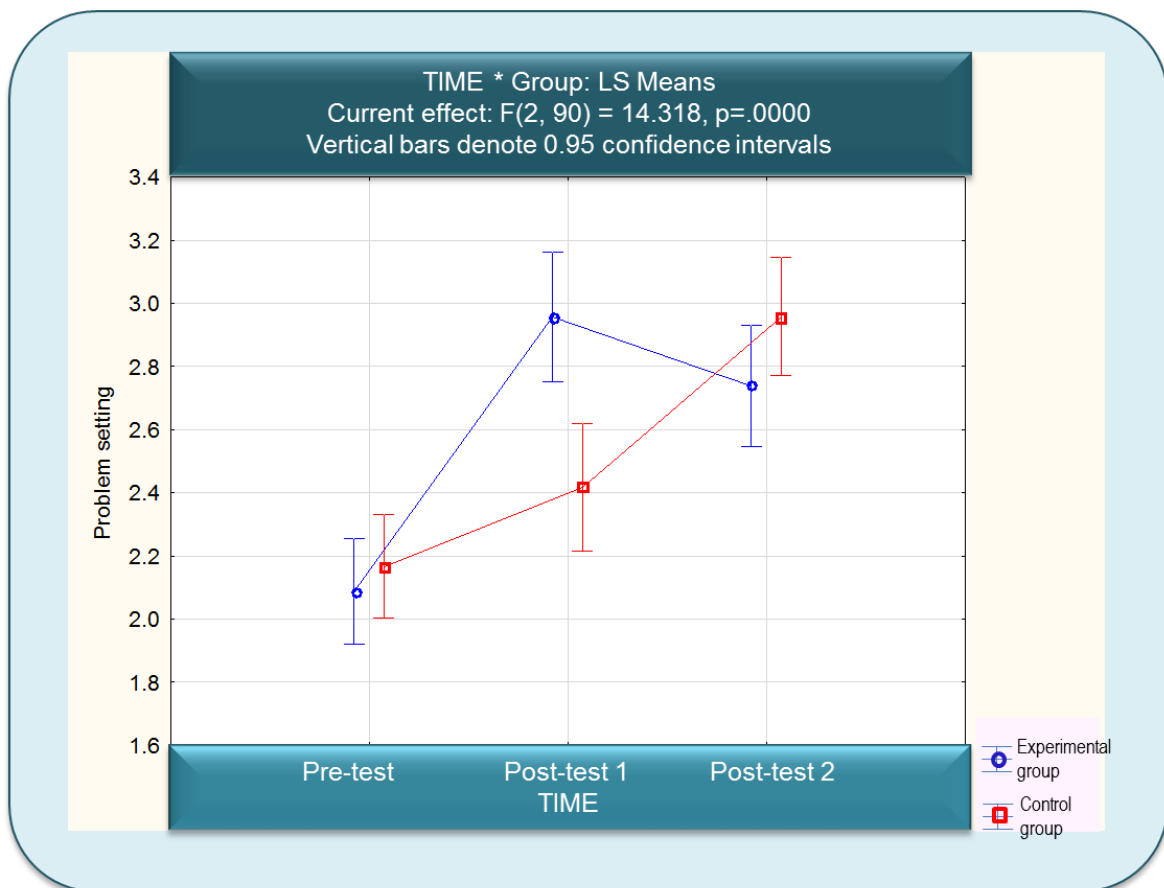
The first competency is problem solving. The first five elements measured in the tests consists of the five steps of problem solving (par. 3.3.1). The exploratory factor analysis on items 1 to 5 returned two factors explaining 63,90% of the variation in the data. Yielding items 2 to 5 as construct one and item 1 as a construct on its own. It clearly indicated that the construct problem solving consists of items 2 to 5 and problem setting consisting of item 1. Thus construct

validity of the abovementioned constructs were assured. From the above problem solving is divided into two components namely problem setting (construct 1) and problem solving (construct 2).

The Cronbach alpha coefficient for problem solving was calculated as 0.61. According to Field (2005:640) reliability of the construct problem solving was assured. For the construct, problem setting, a Cronbach alpha value could not be calculated since the construct consists only of 1 item. Similarly, Cronbach alpha values were also not calculated for items 6 to 10. Please note, it is only necessary to calculate Cronbach alpha coefficients (i.e. is internal consistency among items) in cases where constructs consist out of more than one item. In this study the constructs for problem setting (construct 1), creativity (construct 6), flexibility (construct 7), risk-taking (construct 8), goal orientation (construct 9) and planning (construct 10), consist only of one item. Reliability, in such cases, was assured by optimising experimental circumstances.

### 7.3.1.1 Problem setting

The results of the pre-test, post-test 1 and post-test 2 are presented graphically in graph 7.1.



**Graph 7.1: Problem setting**

The first intervention was done on the experimental group, between the pre-test and post-test 1. During this time the control group did not receive any intervention and continued with their normal school program. The second intervention was done only on the control group between post-test 1 and post-test 2. At this stage the experimental group did not receive any intervention and continued with their normal school program. From graph 7.1 it can be noted that the experimental group, which was submitted to the first intervention measured higher than the control group, who did not receive an intervention. After the second intervention the control group measured on par with the experimental group's measurement in post-test 1. However, in post-test 2 the experimental group measured not only lower than the control group, but also lower than their results in post-test 1. This is an indication that the intervention should be continuously implemented and integrated with the curriculum. It is noted that both groups yielded higher results at the end of the intervention of problem setting.

In table 7.2 and 7.3 the results of the statistical analysis of the first intervention are given and will be discussed to confirm the trend of graph 7.1 statistically. From graph 7.1 it is apparent that a highly significant group test (time) interaction effect was obtained (see  $F(2:90) = 14.32$ ,  $p < 0.00001$ ). This means that the performance of a specific group was dependent on a specific point in time. To bring this fact into perspective for this study, with the particular experimental design (see par. 6.2.1), the conclusion can be made that the groups performed differently depending if the group was exposed to the intervention at a certain stage or was busy with their normal school program.

#### 7.3.1.1.1 Problem setting for the intervention on the experimental group

Table 7.2 shows that the Bonferroni p-value is  $< 0.05$  ( $p = 0.00000$ ) and indicating a statistically significant difference between the pre-test and post-test 1 for problem setting scores of the experimental group. The LS Mean values for the pre-test on problem setting is 2.09 and for post-test 1 is 2.96, which means that for the experimental group there was a statistically significant improvement in problem setting after the implementation of the intervention. Furthermore a d-value of 2.6 indicates that the improvement was also practically significant.

Table 7.2 also shows that the Bonferroni p-value is 0.7 and indicating no statistically significant difference between post-test 1 and post-test 2 problem setting scores for the experimental group who were not submitted to the intervention at this stage of the research.

**Table 7.2: Repeated measures of variance (ANOVA) of problem setting of experimental group**

n	LS Mean Pre-test	LS Mean Post-test 1	LS Mean Post-test 2	MSE	Bonferroni p-value	d-value
23	2.09	2.96		0.34	< 0.05*	2.6▼
23		2.96	2.74	0.34	0.7	0.4

\* Statistically significant differences

▼ Large effect in practice

LS Mean values for post-test 1 on problem setting is 2.96 and for the post-test 2 is 2.74, meaning that there was no statistically significant deterioration in knowledge of problem setting from post-test 1 to post-test 2. The d-value of 0.4 assured that the decline was medium with a moderate effect.

#### 7.3.1.1.2 Problem setting for the intervention of the control group

Table 7.3 shows that the Bonferroni p-value is 0.3 and indicating no statistically significant difference between the pre-test and post-test 1 for problem setting scores of the control group who were not submitted to the intervention at this stage of the research. LS Mean values for the pre-test on problem setting is 2.17 and for the post-test 1 is 2.42, the d-value was 0.7 which means that for the control group there was an improvement in problem setting with a medium practical effect.

**Table 7.3: ANOVA of problem setting of the control group**

n	LS Mean Pre-test	LS Mean Post-test 1	LS Mean Post-test 2	MSE	Bonferroni p-value	d-value
24	2.17	2.42		0.13	0.3	0.7
24		2.42	2.96	0.13	< 0.05*	1.5▼

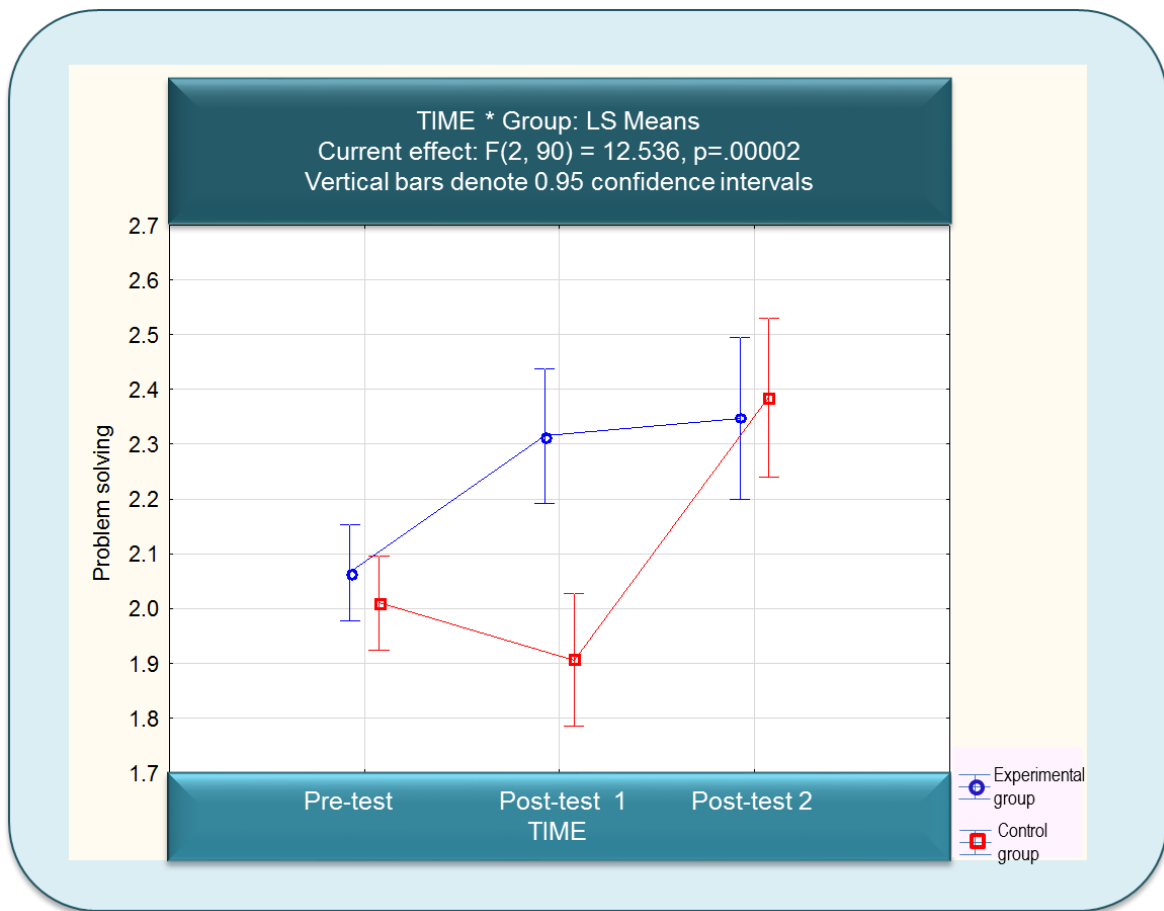
\* Statistically significant differences

▼ Large effect in practice

Table 7.3 also shows that the Bonferroni p-value is < 0.05 ( $p=0.00000$ ) and indicating a statistically significant difference between the post-test 1 and post-test 2 problem setting scores for the control group. LS Mean values for post-test 1 on problem setting is 2.42 and for post-test 2 is 2.96, which means that for the control group there was a statistically significant improvement in problem setting after implementation of the intervention. Furthermore, a d-value of 1.5 indicates that the improvement was also practically significant.

### 7.3.1.2 Problem solving

The results of the pre-test, post-test 1 and post-test 2 are presented graphically in graph 7.2.



**Graph 7.2: Problem solving**

The first intervention was done on the experimental group, between the pre-test and post-test 1. During this time the control group did not receive any intervention and continued with their normal school program. The second intervention was done only on the control group between post-test 1 and post-test 2. At this stage the experimental group did not receive any intervention and continued with their normal school program. From graph 7.2 it can be noted that the experimental group, which was submitted to the first intervention measured higher than the control group, who did not receive an intervention. After the second intervention the control group measured on par with the experimental group's measurement in post-test 1. However, in post-test 2 the experimental group measured not only lower than the control group, but also lower than their results in post-test 1. This is an indication that the intervention should be continuously implemented and integrated with the curriculum. It is noted that both groups yielded higher results at the end of the intervention of problem setting.

In table 7.4 and 7.5 the results of the statistical analysis of the first intervention are given and will be discussed to confirm the trend of graph 7.2 statistically. From graph 7.2 it is apparent that a highly significant group test (time) interaction effect was obtained (see  $F(2:90) = 14.32$ ,  $p < 0.00001$ ). This means that the performance of a specific group was dependent on a specific point in time. To bring this fact into perspective for this study, with the particular experimental design (see par. 6.2.1), the conclusion can be made that the groups performed differently depending if the group was exposed to the intervention at a certain stage or was busy with their normal school program.

#### 7.3.1.2.1 Problem solving for the intervention on the experimental group

Table 7.4 shows that the Bonferroni p-value is  $< 0.05$  ( $p = 0.00000$ ) and indicating a statistically significant difference between the pre-test and post-test 1 for problem solving scores of the experimental group. LS Mean values for the pre-test on problem solving is 2.07 and for post-test 1 is 2.31, which means that for the experimental group there was a statistically significant improvement in problem solving after implementation of the intervention. Furthermore a d-value of 0.6 indicates that the improvement was also medium significant.

**Table 7.4: ANOVA of problem solving of experimental group**

n	LS Mean Pre-test	LS Mean Post-test 1	LS Mean Post-test 2	MSE	Bonferroni p-value	d-value
23	2.07	2.31		0.15	$< 0.05^*$	0.6 $\blacktriangle$
23		2.31	2.35	0.15	1.0	0.1

\* Statistically significant differences

$\blacktriangle$  Medium effect in practice

Table 7.4 also shows that the Bonferroni p-value is 1.0 and indicating no statistically significant difference between post-test 1 and post-test 2 for problem solving scores for the experimental group. LS Mean values for post-test 1 on problem solving is 2.31 and for the post-test 2 is 2.35, meaning that there was no statistical significant deterioration in knowledge of problem solving from post-test 1 to post-test 2. The d-value of 0.1 assured that the decline had no effect.

#### 7.3.1.2.2 Problem solving for intervention of the control group

Table 7.5 also shows that the Bonferroni p-value is 1.0 and indicating no statistically significant difference between the pre-test and post-test 1 for problem solving scores of the control group. LS Mean values for the pre-test on problem solving is 2.01 and for post-test 1 is 1.91; the d-value was 0.5 which means that for the control group there was an improvement in problem solving with a medium practical effect.

**Table 7.5: ANOVA of problem solving of the control group**

n	LS Mean Pre-test	LS Mean Post-test 1	LS Mean Post-test 2	MSE	Bonferroni p-value	d-value
24	2.01	1.91		0.05	1.0	0.5▲
24		1.91	2.38	0.05	< 0.05*	2.2▼

\* Statistically significant differences

▼ Large effect in practice

▲ Medium effect in practice

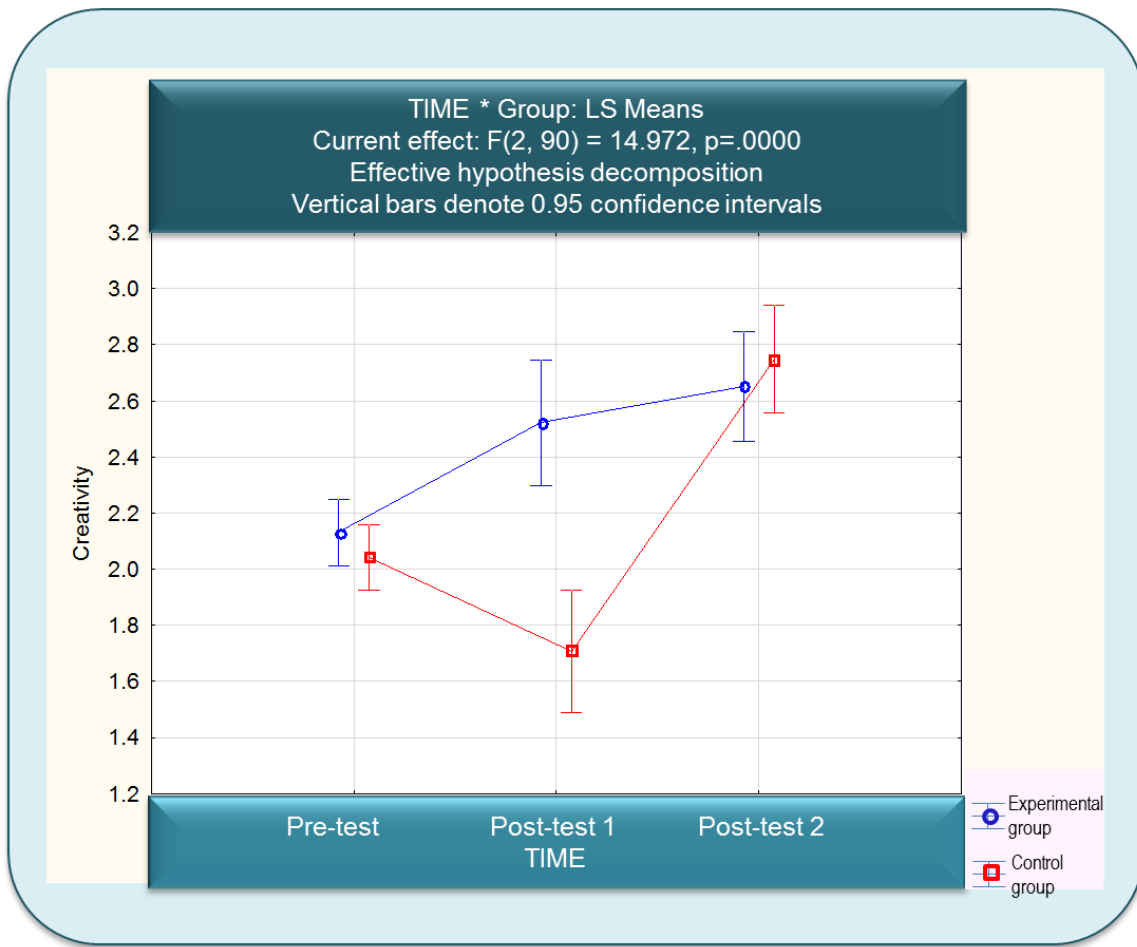
Table 7.5 shows that the Bonferroni p-value is < 0.05 ( $p=0.00000$ ) and indicating a statistically significant difference between the post-test 1 and post-test 2 for problem solving scores for the control group. LS Mean values for post-test 1 on problem solving is 1.91 and for post-test 2 is 2.38, which means that for the experimental group there was a statistically significant improvement in problem solving after implementation of the intervention. Furthermore a d-value of 2.2 indicates that the improvement was also practically significant.

### 7.3.2 Creativity

The results of the pre-test, post-test 1 and post-test 2 are presented graphically in graph 7.3.

The first intervention was done on the experimental group, between the pre-test and post-test 1. During this time the control group did not receive any intervention and continued with their normal school program. The second intervention was done only on the control group between post-test 1 and post-test 2. At this stage the experimental group did not receive any intervention and continued with their normal school program. From graph 7.3 it can be noted that the experimental group, which was submitted to the first intervention measured higher than the control group, who did not receive an intervention.

After the second intervention the control group measured on par with the experimental group's measurement in post-test 1. However, in post-test 2 the experimental group measured not only lower than the control group, but also lower than their results in post-test 1. This is an indication that the intervention should be continuously implemented and integrated with the curriculum. It is noted that both groups reached higher results at the end of the intervention of creativity.



**Graph 7.3: Creativity**

In table 7.6 and 7.7 the results of the statistical analysis of the first intervention are given and will be discussed to confirm the trend of graph 7.3 statistically. From graph 7.3 it is apparent that a highly significant group test (time) interaction effect was obtained (see  $F(2:90) = 14.972, p = 0.00000$ ). This means that the performance of a specific group was dependent on a specific point in time. To bring this fact into perspective for this study, with the particular experimental design (see par. 6.2.1), the conclusion can be made that the groups performed differently depending if the group was exposed to the intervention at a certain stage or was busy with their normal school program.

### 7.3.2.1 Creativity for intervention of the experimental group

Table 7.6 shows that the Bonferroni p-value is  $< 0.05$  ( $p = 0.03$ ) and indicating a statistically significant difference between the pre-test and post-test 1 for creativity scores of the experimental group. LS Mean values for the pre-test on creativity is 2.13 and for post-test 1 is 2.52, which means that for the experimental group there was a statistically significant

improvement in creativity after implementation of the intervention. Furthermore a d-value of 0.8 indicates that the improvement was also practically significant.

**Table 7.6: ANOVA of creativity of experimental group**

n	LS Mean Pre-test	LS Mean Post-test 1	LS Mean Post-test 2	MSE	Bonferroni p-value	d-value
23	2.13	2.52		0.21	< 0.05*	0.8▼
23		2.52	2.65	0.21	0.12	0.2

\* Statistically significant differences

▼ Large effect in practice

Table 7.6 also shows that the Bonferroni p-value is 0.12 and indicating no statistically significant difference between post-test 1 and post-test 2 for creativity scores of the experimental group. LS Mean values for the pre-test on creativity is 2.52 and for the post-test 1 is 2.65, the d-value was 0.2 which means that for the experimental group there was a small effect and no practical significance.

### 7.3.2.2 Creativity for intervention of the control group

Table 7.7 also shows that the Bonferroni p-value is 1.0 and indicating no statistically significant difference between the pre-test and post-test 1 for problem solving scores of the control group. LS Mean values for the pre-test on problem creativity is 2.04 and for the post-test 1 is 1.71, the d-value was 0.8 which means that for the control group there was a practically significant decline in creativity.

**Table 7.7: ANOVA of creativity of control group**

n	LS Mean Pre-test	LS Mean Post-test 1	LS Mean Post-test 2	MSE	Bonferroni p-value	d-value
24	2.04	1.71		0.18	1.0	0.8▼
24		1.71	2.75	0.18	< 0.05*	2.5▼

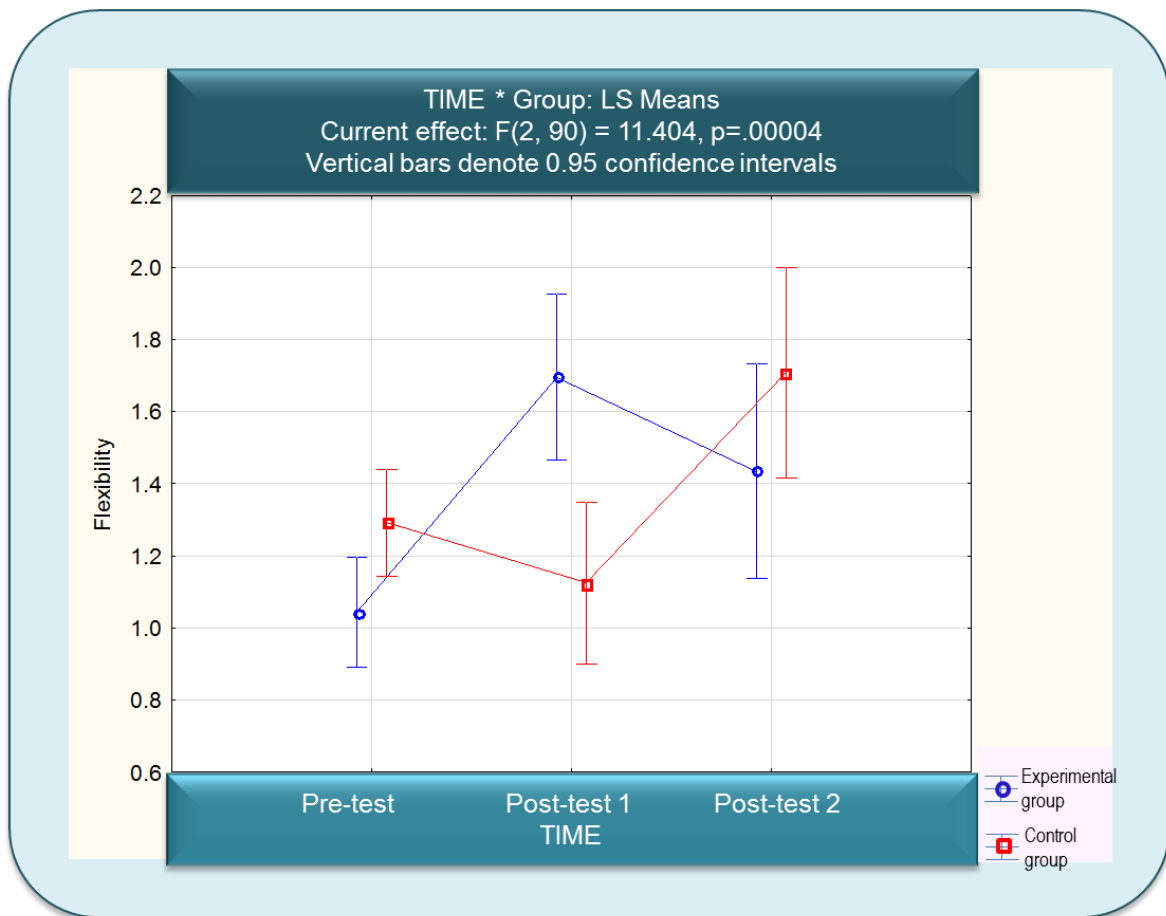
\* Statistically significant differences

▼ Large effect in practice

Table 7.7 shows that the Bonferroni p-value is < 0.05 ( $p=0.00000$ ) and indicating a statistically significant difference between post-test 1 and post-test 2 for creativity scores of the control group. LS Mean values for post-test 1 on creativity is 1.71 and for the post-test 2 is 2.75, which means that for the control group there was a statistically significant improvement in creativity after implementation of the intervention. Furthermore a d-value of 2.5 indicates that the improvement was also practically significant.

### 7.3.3 Flexibility

The results of the pre-test, post-test 1 and post-test 2 are presented graphically in graph 7.4.



**Graph 7.4: Flexibility**

The first intervention was done on the experimental group, between the pre-test and post-test 1. During this time the control group did not receive any intervention and continued with their normal school program. The second intervention was done only on the control group between post-test 1 and post-test 2. At this stage the experimental group did not receive any intervention and continued with their normal school program. From graph 7.4 it can be noted that the experimental group, which was submitted to the first intervention measured higher than the control group, who did not receive an intervention. After the second intervention the control group measured on par with the experimental group's measurement in post-test 1. However in post-test 2 the experimental group measured not only lower than the control group, but also lower than their results in post-test 1. This is an indication that the intervention should be continuously implemented and integrated with the curriculum. It is noted that both groups yielded higher results at the end of the intervention of flexibility.

In table 7.8 and 7.9 the results of the statistical analysis of the first intervention are given and will be discussed to confirm the trend of graph 7.4 statistically. From graph 7.4 it is apparent that a highly significant group test (time) interaction effect was obtained (see  $F(2:90) = 11,404$ ,  $p=0.00004$ ). This means that the performance of a specific group was dependent on a specific point in time. To bring this fact into perspective for this study, with the particular experimental design (see par. 6.2.1), the conclusion can be made that the groups performed differently depending if the group was exposed to the intervention at a certain stage or was busy with their normal school program.

### 7.3.3.1 Flexibility of intervention of experimental group

Table 7.8 shows that the Bonferroni p-value is  $< 0.05$  ( $p=0.0004$ ) and indicating a statistically significant difference between the pre-test and post-test 1 for flexibility scores for the experimental group. LS Mean values for the pre-test on flexibility is 1.04 and for post-test 1 is 1.70, which means that for the experimental group there was a statistically significant improvement in flexibility after implementation of the intervention. Furthermore a d-value of 1.0 indicates that the improvement was also practical significant.

**Table 7.8: ANOVA of flexibility of experimental group**

n	LS Mean Pre-test	LS Mean Post-test 1	LS Mean Post-test 2	MSE	Bonferroni p-value	d-value
23	1.04	1.70		0.46	$< 0.05^*$	1.0 <sup>▼</sup>
23		1.70	1.43	0.46	1.0	0.4

\* Statistically significant differences

▼ Large effect in practice

Table 7.8 also shows that the Bonferroni p-value is 1.0 and indicating no statistically significant difference between post-test 1 and post-test 2 for flexibility scores of the experimental group. LS Mean values for the pre-test on flexibility is 1.70 and for post-test 1 is 1.43, the d-value was 0.4 which means that for the control group there was a medium effect with moderate significance.

### 7.3.3.2 Flexibility in intervention of control group

Table 7.9 also shows that the Bonferroni p-value is 1.0 and indicating no statistically significant difference between post-test 1 and post-test 2 for flexibility scores of the control group. LS Mean values for the pre-test on flexibility is 1.29 and for post-test 1 is 1.13; the d-value was 0.2 which means that for the control group there was a small effect and no practical significance.

**Table 7.9: ANOVA of flexibility of control group**

n	LS Mean Pre-test	LS Mean Post-test 1	LS Mean Post-test 2	MSE	Bonferroni p-value	d-value
24	1.29	1.13		0.24	1.0	0.2
24		1.13	1.71	0.24	< 0.05*	1.2▼

\* Statistically significant differences

▼ Large effect in practice

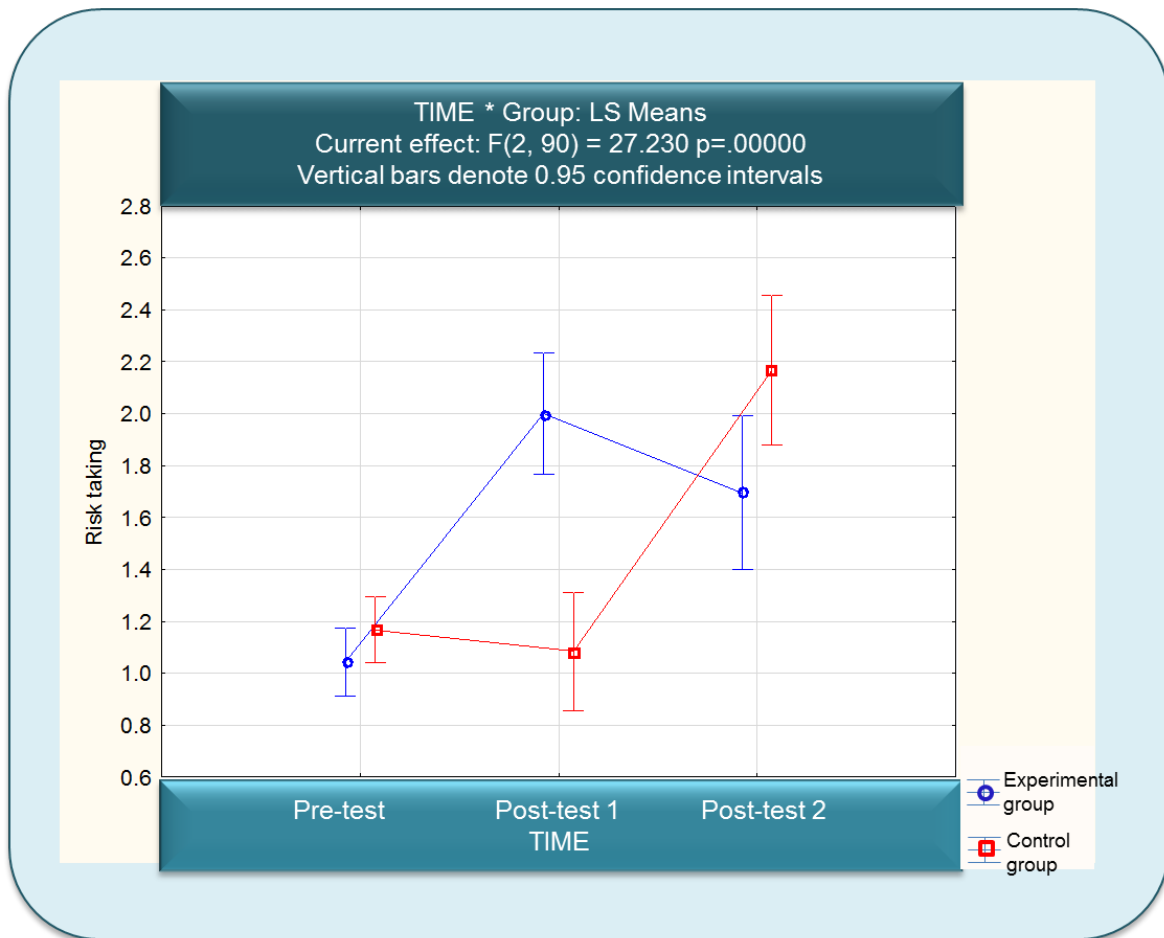
Table 7.9 shows that the Bonferroni p-value is < 0.05 ( $p=0.001$ ) and indicating a statistically significant difference between post-test 1 and post-test 2 for flexibility scores for the control group. LS Mean values for post-test 1 on flexibility is 1.13 and for post-test 2 is 1.71, which means that for the experimental group there was a statistically significant improvement in flexibility after implementation of the intervention. Furthermore a d-value of 1.2 indicates that the improvement was also practically significant.

#### 7.3.4 Risk-taking

The results of the pre-test, post-test 1 and post-test 2 are presented graphically in graph 7.5.

The first intervention was done on the experimental group, between the pre-test and post-test 1. During this time the control group did not receive any intervention and continued with their normal school program. The second intervention was done only on the control group between post-test 1 and post-test 2. At this stage the experimental group did not receive any intervention and continued with their normal school program. From graph 7.5 it can be noted that the experimental group, which was submitted to the first intervention measured higher than the control group, who did not receive an intervention. After the second intervention the control group measured on par with the experimental group's measurement in post-test 1. However, in post-test 2 the experimental group measured not only lower than the control group, but also lower than their results in post-test 1. This is an indication that the intervention should be continuously implemented and integrated with the curriculum. It is noted that both groups healed higher results at the end of the intervention of risk-taking.

In table 7.10 and 7.11 the results of the statistical analysis of the first intervention are given and will be discussed to confirm the trend of graph 7.5 statistically. From graph 7.5 it is apparent that a highly significant group test (time) interaction effect was obtained (see  $F(2:90) = 27.23$   $p=0.00000$ ).



**Graph 7.5: Risk-taking**

This means that the performance of a specific group was dependent on a specific point in time. To bring this fact into perspective for this study, with the particular experimental design (see par. 6.2.1), the conclusion can be made that the groups performed differently depending if the group was exposed to the intervention at a certain stage or was busy with their normal school program.

#### 7.3.4.1 Risk-taking in intervention of experimental group

Table 7.11 shows that the Bonferroni  $p$ -value is  $< 0.05$  ( $p = 0.00000$ ) and indicating a statistically significant difference between the pre-test and post-test for risk-taking scores of the experimental group. LS Mean values for the pre-test on risk-taking is 1.04 and for the post-test is 2.00, which means that for the experimental group there was a statistically significant improvement in risk-taking after implementation of the intervention. Furthermore a  $d$ -value of 1.4 indicates that the improvement was also practically significant.

**Table 7.10: ANOVA of risk-taking of experimental group**

n	LS Mean Pre-test	LS Mean Post-test 1	LS Mean Post-test 2	MSE	Bonferroni p-value	d-value
23	1.04	2.00		0.45	< 0.05*	1.4▼
23		2.00	1.70	0.45	0.48	0.4

\* Statistically significant differences

▼ Large effect in practice

Table 7.10 also shows that the Bonferroni p-value is 0.48 and indicating no statistically significant difference between post-test 1 and post-test 2 for risk-taking scores of the experimental group. LS Mean values for post-test 1 on risk-taking is 2.0 and for post-test 2 is 1.70; the d-value was 0.4 which means that for the control group there was a medium effect with moderate significance.

#### 7.3.4.2 Risk-taking in intervention of control group

Table 7.11 also shows that the Bonferroni p-value is 1.0 and indicating no statistically significant difference between the pre-test and post-test 1 for risk-taking scores of the control group. LS Mean values for the pre-test on risk-taking is 1.16 and for post-test 1 is 1.08; the d-value was 0.2 which means that for the control group there was a small effect and no practical significance.

**Table 7.11: ANOVA of risk-taking of control group**

n	LS Mean Pre-test	LS Mean Post-test 1	LS Mean Post-test 2	MSE	Bonferroni p-value	d-value
24	1.16	1.08		0.23	1.0	0.2
24		1.08	2.17	0.23	< 0.05*	2.3▼

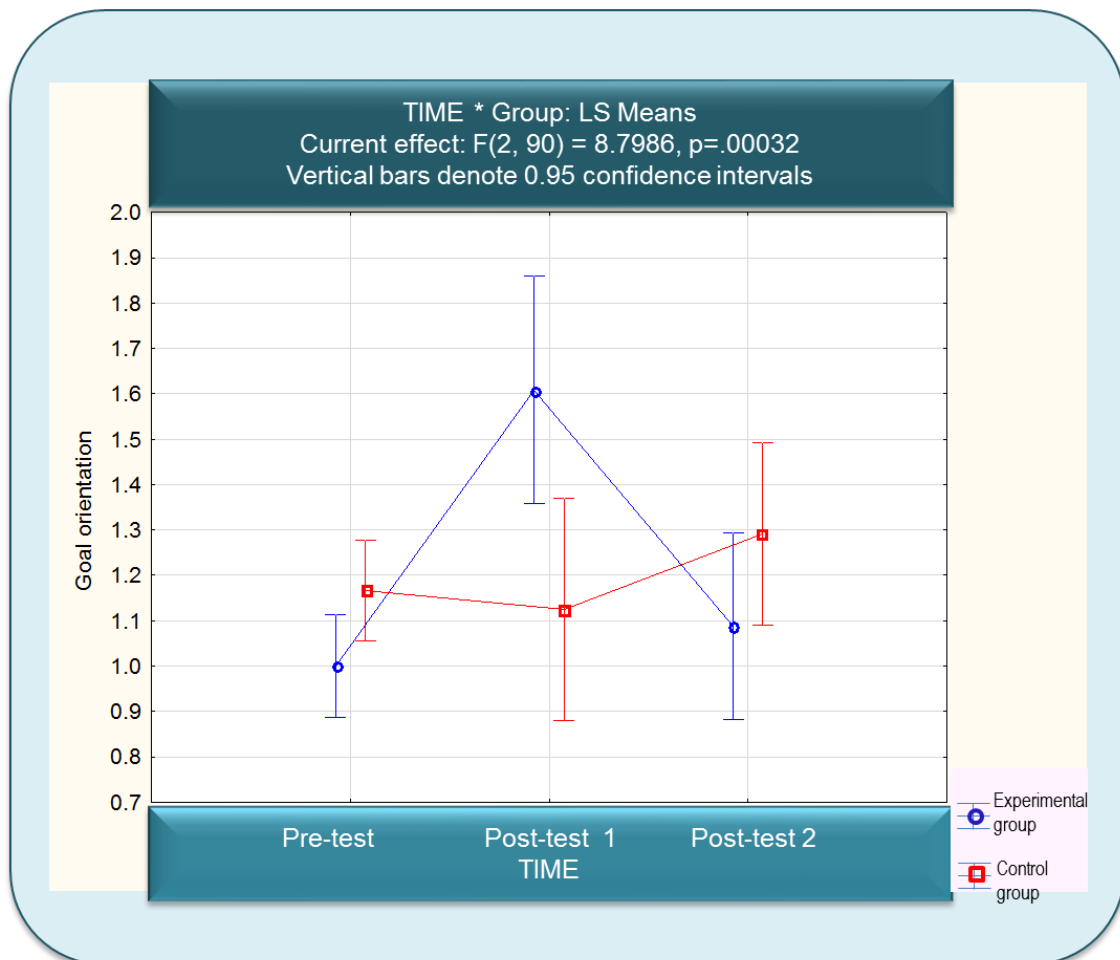
\* Statistically significant differences

▼ Large effect in practice

Table 7.11 shows that the Bonferroni p-value is < 0.05 (p=0.00000) and indicating a statistically significant difference between post-test 1 and post-test 2 for risk-taking scores of the control group. LS Mean values for post-test 1 on risk-taking is 1.08 and for post-test 2 is 2.17, which means that for the experimental group there was a statistically significant improvement in risk-taking after implementation of the intervention. Furthermore, a d-value of 2.3 indicates that the improvement was also practically significant.

### 7.3.5 Goal orientation

The results of the pre-test, post-test 1 and post-test 2 are presented graphically in graph 7.6.



**Graph 7.6: Goal orientation**

The first intervention was done on the experimental group, between the pre-test and post-test 1. During this time the control group did not receive any intervention and continued with their normal school program. The second intervention was done only on the control group between post-test 1 and post-test 2. At this stage the experimental group did not receive any intervention and continued with their normal school program. From graph 7.6 it can be noted that the experimental group, which was submitted to the first intervention measured higher than the control group, who did not receive an intervention. After the second intervention the control group measured on par with the experimental group's measurement in post-test 1. However, in post-test 2 the experimental group measured not only lower than the control group, but also lower than their results in post-test 1. This is an indication that the intervention should be

continuously implemented and integrated with the curriculum. It is noted that both groups yielded higher results at the end of the intervention of goal orientation.

In table 7.12 and 7.13 the results of the statistical analysis of the first intervention are given and will be discussed to confirm the trend of graph 7.6 statistically. From graph 7.6 it is apparent that a highly significant group test (time) interaction effect was obtained (see  $F(2:90) = 8.7985$   $p=0.00032$ ). This means that the performance of a specific group was dependent on a specific point in time. To bring this fact into perspective for this study, with the particular experimental design (see par. 6.2.1), the conclusion can be made that the groups performed differently depending if the group was exposed to the intervention at a certain stage or was busy with their normal school program.

### 7.3.5.1 Goal orientation in first intervention

Table 7.12 shows that the Bonferroni p-value is  $< 0.05$  ( $p=0.00032$ ) and indicating a statistically significant difference between the pre-test and post-test for goal orientation scores for the experimental group (E1). LS Mean values for the pre-test of goal orientation is 1.00 and post-test 1 is 1.61, which means that for the experimental group there was a statistically significant improvement in goal orientation after implementation of the intervention. Furthermore a d-value of 1.1 indicates that the improvement was also practically significant.

**Table 7.12: ANOVA of goal orientation of experimental group**

n	LS Mean Pre-test	LS Mean Post-test 1	LS Mean Post-test 2	MSE	Bonferroni p-value	d-value
23	1.00	1.61		0.27	$< 0.05^*$	1.1▼
23		1.61	1.09	0.27	0.002	1.0

\* Statistically significant differences

▼ Large effect in practice

Table 7.12 also shows that the Bonferroni p-value is 0.002 and indicating a statistically significant difference between post-test 1 and post-test 2 for goal orientation scores of the experimental group. LS Mean values for post-test 1 on goal orientation is 1.61 and for post-test 2 is 1.09, the d-value was 1.0 which means that for the experimental group there was a practically significant decline in goal orientation.

### 7.3.5.2 Goal orientation in intervention of control group

Table 7.13 also shows that the Bonferroni p-value is 1.0 and indicating no statistically significant difference between the pre-test and post-test 1 for risk-taking scores of the control group. LS

Mean values for the pre-test on risk-taking is 1.17 and for post-test 1 is 1.13, the d-value was 0.2 which means that for the control group there was a small effect and no practical significance.

**Table 7.13: ANOVA of goal orientation of control group**

n	LS Mean Pre-test	LS Mean Post-test 1	LS Mean Post-test 2	MSE	Bonferroni p-value	d-value
24	1.17	1.13		0.20	1.0	0.1
24		1.13	1.29	0.20	1.0	0.4♦

♦ Moderate effect in practice

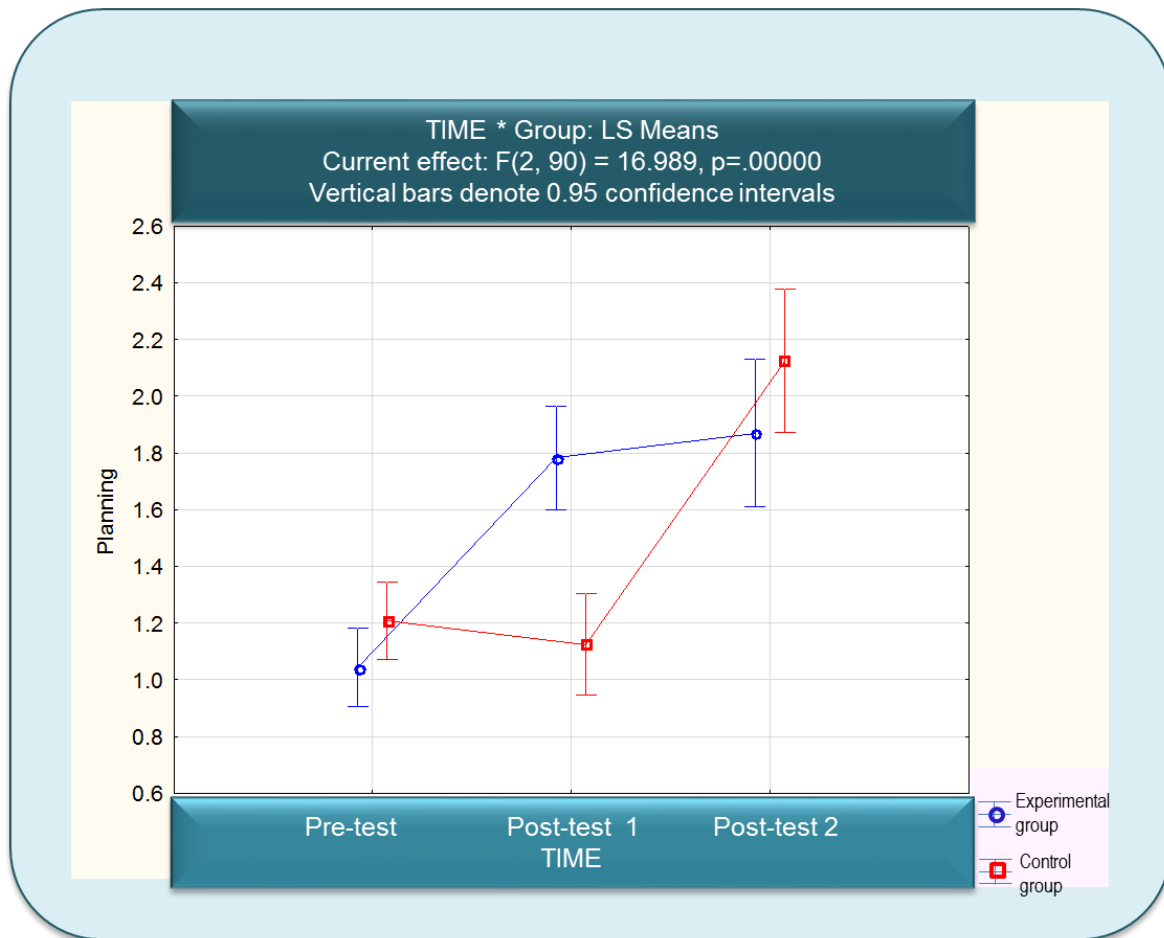
Table 7.13 shows that the Bonferroni p-value is 1.0 and indicating no statistically significant difference between post-test 1 and post-test 2 for goal orientation scores for the control group. LS Mean values for post-test 1 on goal orientation is 1.13 and for post-test 2 is 1.29, which means that for the experimental group there was an improvement in goal orientation after implementation of the intervention. The d-value of 0.4 indicates that the improvement was moderate significant.

### 7.3.6 Planning

The results of the pre-test, post-test 1 and post-test 2 are presented graphically in graph 7.7.

The first intervention was done on the experimental group, between the pre-test and post-test 1. During this time the control group did not receive any intervention and continued with their normal school program. The second intervention was done only on the control group between post-test 1 and post-test 2. At this stage the experimental group did not receive any intervention and continued with their normal school program. From graph 7.7 it can be noted that the experimental group, which was submitted to the first intervention measured higher than the control group, who did not receive an intervention. After the second intervention the control group measured on par with the experimental group's measurement in post-test 1. However, in post-test 2 the experimental group measured not only lower than the control group, but also lower than their results in post-test 1. This is an indication that the intervention should be continuously implemented and integrated with the curriculum. It is noted that both groups healed higher results at the end of the intervention of planning.

In table 7.14 and 7.15 the results of the statistical analysis of the first intervention are given and will be discussed to confirm the trend of graph 7.6 statistically. From graph 7.6 it is apparent that a highly significant group test (time) interaction effect was obtained (see  $F(2;90) = 16.989$   $p=0.00000$ ).



**Graph 7.7: Planning**

This means that the performance of a specific group was dependent on a specific point in time. To bring this fact into perspective for this study, with the particular experimental design (see par. 6.2.1), the conclusion can be made that the groups performed differently depending if the group was exposed to the intervention at a certain stage or was busy with their normal school program.

### 7.3.6.1 Planning in first intervention

Table 7.14 shows that the Bonferroni p-value is  $< 0.05$  ( $p = 0.00000$ ) and indicating a statistically significant difference between the pre-test and post-test for planning scores for the experimental group. LS Mean values for the pre-test on planning is 1.04 and for the post-test is 1.78, which means that for the experimental group there was a statistically significant improvement in planning after implementation of the intervention. Furthermore a d-value of 1.3 indicates that the improvement was also practically significant.

**Table 7.14: ANOVA of planning of experimental group**

n	LS Mean Pre-test	LS Mean Post-test 1	LS Mean Post-test 2	MSE	Bonferroni p-value	d-value
23	1.04	1.78		0.33	< 0.05*	1.3▼
23		1.78	1.87	0.33	1.0	0.2

\* Statistically significant differences

▼ Large effect in practice

Table 7.14 also shows that the Bonferroni p-value is 1.0 and indicating no statistically significant difference between post-test 1 and post-test 2 for planning scores of the experimental group. LS Mean values for post-test 1 on planning is 1.78 and for post-test 2 is 1.87, the d-value was 0.2 which means that for the control group there was a small effect and no practical significance.

### 7.3.6.2 Planning in intervention of control group

Table 7.15 also shows that the Bonferroni p-value is 1.0 and indicating no statistically significant difference between the pre-test and post-test 1 for planning scores of the control group . LS Mean values for the pre-test on planning is 1.21 and for post-test 1 is 1.13; the d-value was 0.2 which means that for the control group there was a small effect and no practical significance.

**Table 7.15: ANOVA of planning of control group**

n	LS Mean Pre-test	LS Mean Post-test 1	LS Mean Post-test 2	MSE	Bonferroni p-value	d-value
24	1.21	1.13		0.17	1.0	0.2
24		1.13	2.13	0.17	< 0.05*	2.4▼

\* Statistically significant differences

▼ Large effect in practice

Table 7.15 shows that the Bonferroni p-value is < 0.05 ( $p=0.00000$ ) and indicating a statistically significant difference between post-test 1 and post-test 2 for planning scores for the experimental group (E2). LS Mean values post-test 1 on planning is 1.13 and for post-test 2 is 2.13, which means that for the experimental group there was a statistically significant improvement in planning after implementation of the intervention. Furthermore, a d-value of 2.4 indicates that the improvement was also practical significant.

### 7.3.7 Summary of quantitative research

The influence of the intervention on the chosen competencies is clearly shown in the results. The improvement of the competencies of the experimental group is practically significant for

problem solving (par. 7.3.1), creativity (par. 7.3.2), flexibility (par. 7.3.3), risk-taking (par. 7.3.4), goal orientation (par. 7.3.5) and planning (par. 7.3.6).

The improvement of the competencies of the control group is practically significant for problem solving (par. 7.3.1), creativity (par. 7.3.2), flexibility (par. 7.3.3), risk-taking (par. 7.3.4) and planning (par. 7.3.6). However, for goal orientation the improvement is only moderately significant.

## **7.4 DISCUSSION OF QUALITATIVE RESEARCH**

In this study observations and interviews have been used to conduct qualitative research (par. 6.4). Observations are discussed first (see par. 7.4.1) and thereafter the interviews (see par. 7.4.2).

### **7.4.1 The analysis and discussion of the data of the observations**

Qualitative data based on observations have been obtained in the following ways:

- Through an independent tutoring adviser who has described his perception of the facilitation by means of thematic categories (par. 7.4.1.1).
- Through notes taken by the researcher of the participants' actions and reactions during the facilitation and recorded in an observation table (par. 7.4.1.2).

#### **7.4.1.1 Observation by tutoring adviser**

By using the tutoring adviser for observations, an independent expert who could provide objective descriptions of the events during the facilitation, has been involved in the research. The aim has been to reduce the subjectivity of the researcher with the reporting of the tutor's role in implementing the instructional framework (par. 6.4.2.1), to establish an objective understanding of the events during the facilitation, and to increase the reliability of observations (par. 6.4.2.1.1). With the description of the observation by the tutoring adviser direct quotes have consistently been used. References to the tutoring adviser's direct quotes (according to his notes) are indicated in the text in *italic* font and between quotation marks. Where it was necessary to add additional words to add to the sentence structure and meaning of the sentences in order to improve it, these additions have been indicated between brackets.

##### **7.4.1.1.1 The learning experience**

According to the tutoring adviser, all the participants have been divided into teams and the researcher *“facilitated the participants' learning [by] consistently moving between the teams*

*[and] by guiding the participants with input regarding possible gaps in their order of thought".* The researcher has given input to "**retain** the direction of the conversations in the businesses".

The businesses executed two types of activities. The first activity (Activity 1) is the completion of the scenario and the second activity (Activity 2) the business simulation.

### **Activity 1**

In addition to the researcher's comments on the feedback provided by the various businesses, the researcher has also encouraged the businesses to "*criticise and comment on each other's responses*". Businesses that have made no comments have been requested by the researcher to discuss feedback in the business context and provide "*comments in the form of either a recommendation or a remark*". The companies have received compensation, for their consultation, comprising money for the company. The fee depends on the quality of feedback and recommendations. The participants are thus guided to communicate with each other. The business that the comment has been directed to then had the opportunity to "*respond [to] the comment and [to] make adjustments, should they decide to accept the comment*". If the comment has not been accepted, the company has been encouraged by the researcher to "*justify [their] reasons*".

### **Activity 2**

The participation in the business game involved that the businesses competed against each other in order to determine who generated the most profit.

#### 7.4.1.1.2 Teaching Strategies

According to the tutoring adviser, teaching strategies, such as *active learning, simulation and corporative learning*, have been alternated as a *teaching strategy* by the researcher. Together with this, he also classifies the facilitation by the researcher as "*directional facilitation through the use of questions*".

### **Activity 1**

According to the tutoring adviser, the researcher fulfilled the role of "*facilitator and organiser of [the] learning experience*" during the facilitation and thus defined the teaching process that was performed during Activities 1 and 2, as follows:

- The contact sessions are started by "a brief introduction that created the context".
- "Businesses receive case studies".

- "Case studies are conducted [as well as] facilitation by the researcher".
- "Co-ordination of the work in the businesses: interaction between feedbacks, comments from other and the adjustment of responses."

### **Activity 2**

- The contact sessions are started by "a brief introduction that creates the context".
- "Businesses function."
- "Management tasks are carried out in businesses [and] facilitation by the researcher" has occurred.
- "Co-ordination of activities in the different businesses."
- "The operational activities in the different businesses".

Social interaction has consistently taken place among the participants (in the businesses) and the researcher, which enabled them to develop and improve their own entrepreneurial skills. Along with this, the social interaction between the participants inside the business has led to learning in order to develop and improve the entrepreneurial skills.

#### 7.4.1.1.3 Learning Activities

According to the tutoring adviser, the activities that have been developed by the researcher and conducted by the businesses could be characterised as *"interactive and learner-centred learning activities that encouraged active learning"*. The activities have thus led to discussions within and between businesses and encouraged the participants to discuss issues and to question and argue their own thoughts and answers. Together with this, the activities have improved the dynamics in the business as well as learning.

### **Activity 1**

During the execution of the tasks in Activity 1, the following characteristics have been identified in the participants:

- Responsibility: "Everyone realises that he/she has a role to play in the implementation of the activities."
- Communication: "...visible with input from the facilitator here and there".

- Reasoning: "...reason about the activities and the implementation thereof".
- Adaptability: "Participants show that they can adapt to comments".
- Problem solving: "...participants are engaged in solving problems in scenario".

### **Activity 2**

During the execution of the activities in Activity 2, the following characteristics have been identified in the participants:

- Planning: "Everyone realises his/her role in the planning of business activities."
- Communication: "...visible with input from the facilitator here and there".
- Reasoning: "...reason about the activities and the implementation thereof".
- Adaptability: "Participants show that they can adapt to changed circumstances."
- Control: "...no obvious conflict between business portfolios".

#### 7.4.1.1.4 Assessment

### **Activity 1**

According to the tutoring adviser, teacher assessment (assessment by the researcher) and peer-assessment (individual and in business context), have taken place continuously. The assessment conducted by the researcher is described by the tutoring adviser as "*informal formative and summative assessment*". According to his description of this type of assessment, the informal nature of the assessment means that the researcher has made use of feedback not evaluated or recorded yet. The tutoring adviser describes the formative nature of the assessment as that the "*feedback provided on the process and product of [the] work in the entrepreneurial environment*", that has forming value because it leads to "*adjustments*" of the process or product by the participants. The summative nature of the assessment has been considered by the tutoring adviser as the "*summaries that have helped the learners to adjust*" and that have been either given by the researcher, or developed by the participants themselves under guidance of the researcher, at the end of the sessions.

The peer-assessment (matching group assessment) that took place during the facilitation is described by the tutoring adviser as "*informal assessment*", where the businesses have

assessed each other with regard to the products of the activities, and have been corrected by the other participants in the businesses.

### **Activity 2**

According to the tutoring adviser, lecturer assessment (assessment by the researcher) occurred continuously.

The assessment as conducted by the researcher is described by the tutoring adviser as "*summative assessment*". The nature of the summative assessment is considered by the tutoring adviser as the "*amount of profit made by the learners*" as calculated by the researcher at the end of the sessions.

#### 7.4.1.1.5 Summary of the tutoring adviser's perception of the facilitation

According to the observation by the tutoring adviser, the facilitation contributed to a large extent to the development and improvement of the entrepreneurial skills of the learners: "*the nature of [the] presentation stimulates [the] learners to improved entrepreneurial skills.*"

### **Activity 1**

Although the tutoring adviser has delivered predominantly positive comments regarding the facilitation, the following points of concern have been raised:

- "Some students are still struggling with the problem solving".
- "Not all of the students have always worked together and given their input".
- "Some of the students did not want to make recommendations to others."

### **Activity 2**

Although the tutoring adviser has delivered predominantly positive comments regarding the facilitation, the following points of concern have been raised:

- "Some students are still reluctant."
- "Some students tend to forget about risk".
- "Not all the students in the intervention have given their full co-operation yet."

Although theoretical knowledge has played an important role during the facilitation, because there cannot be argued about issues without a good knowledge about it, the tutoring adviser comments that it is important that "the learners [should] come prepared to class".

#### **7.4.1.2 Observation by the researcher**

The purpose of the observation by the researcher (in the context of the action research, par. 6.2.4), has been to describe the events during the facilitation and the participants' reactions to it. Together with this, problems experienced with the implementation of the teaching framework for the development of entrepreneurial skills, are identified and resolved in order to improve the implementation of the teaching framework (par. 6.2.4). The observations have made it possible to understand the participants' immediate behaviour and experiences within the framework of their own experiences (par. 6.4). The observations by the researcher have been based on the action research process of McNiff and Whitehead (2006:9), as follows (par. 6.2.4):

- Step 1: The researcher has done observations of the participants' actions and their reactions to the teaching framework for the development of entrepreneurial skills, according to thematic categories, during the facilitation. Several variables that impacted negatively on the effectiveness of the implementation of the teaching framework, as the physical environment and the participants' participation, are also described.
- Step 2: The research has reflected on the implementation of the teaching framework (by the researcher) and the participants' actions and reactions, based on the data collected through observation.
- Step 3: In response to the reflection in step 2, adjustments have been made to the implementation of the teaching tool to improve its effectiveness with regard to the development of entrepreneurial skills.
- Step 4: The adjustments of step 3 have been executed while its effectiveness has been evaluated. The evaluation of the adjustments that have been implemented have been done by observing the participants' actions and reactions to the adjustments, and by determining through formative assessments, whether the participants' entrepreneurial skills have developed due to the adjustments.
- Step 5: If the adjustments performed in step 4 on the basis of the evaluation showed that it contributed to the development of the entrepreneurial skills, the adjustments have been used as a new direction for the implementation of the teaching framework. If the

adjustments did not show favourable results (according to the responses by the participants) steps 3 and 4 have been repeated until a new direction could be established.

The data obtained through observation has been interpreted by the researcher and recommendations made according to it. The observations have been recorded during each facilitation session by using an observation sheet (table 6.8).

#### 7.4.1.2.1 The learning environment

The only weakness that the researcher has experienced with the learning environment has been that the writing tables had to be moved for the group work of the different companies, because the class was used by other learners too. The result of this being that the writing tables should be moved for the group work of every facilitation session, which used valuable time available for facilitation.

*The size and layout of the classroom made it possible to do the group work there, with enough space for comfortable movement through the classroom and between the groups.*

#### 7.4.1.2.2 Grouping

The participants have been divided into groups randomly at the start of the facilitation. The division has been done by the researcher, while the tutor has only assisted with moving group members that were friends, into other teams, in order to promote heterogeneity in the groups. The recommendation is therefore made that the teachers divide the participants (learners) into groups (par. 4.3.2.2.1). The score sheet has been used to grade the participants according to their marks. Every sixth student has been chosen for a particular group in order to ensure that participants' marks differ and that participants with high marks not all ended up in one group. The participants were averse to communicate initially because they were unfamiliar with each other. Some of the participants have insisted to move to other groups, but the researcher did not allow it. The researcher has motivated these participants positively to cooperate in their classified groups. As the participants got to know each other, the communication in the groups improved. The interaction between the groups, affected the dynamics in the groups positively, especially with regard to the comments and criticism that the participants delivered.

#### 7.4.1.2.3 Facilitation (teaching method)

With the facilitation of the group work in the different businesses, the researcher has given the companies various activities, and during the execution thereof, moved amongst the groups, listening to the conversations in the groups and questioned the businesses targeted so that they could judge their own work, such as: "How sure are you that you have answered the question

asked? "; "What do you think will happen if [theme/proposal] would happen? "; "How will you motivate this solution?".

The researcher has required all businesses to complete the same activities. The businesses had to evaluate each other's answers to the different scenarios. In an effort to encourage the development of entrepreneurial skills through cooperative learning, the researcher has decided to use several performances of teamwork, on the basis of the recommendations (par. 4.3.2.2.4) of Willis (2007:8) and Cloete (2005:59) for the execution of team activities. The researcher has found, with certain adjustments to the performance of the teamwork that the one particular implementation of teamwork has better managed to encourage participants to argue and criticise within and between teams, namely the *rotation group work method*.

The *rotation group work method* involves the following steps:

- Step 1: Complete the activity
  - Each business receives the same scenario with questions to be completed.
  - During this step, the researcher moves between groups, listens to conversations and arguments, and ask "why" questions that force the participants to become aware of *what* they do, *why* they do it and *how* they do it.
  - After each business has completed the scenario, their written solution is exchanged with that of another business (group).
- Step 2: Evaluation
  - The businesses are now told to evaluate the solutions to the scenario that they received, on the basis of the solutions that they have developed (in step 1).
  - Based on this assessment, the participants are requested to make recommendations and write it down.
  - Each business now submits the solutions that they have received, together with the recommendations that they have made, to the next business.
  - A consultation fee is charged.
- Step 3: Creation
  - Each group now has a different business's solution of the scenario and another business's recommendations.

- The businesses are now requested to adapt the solutions that have been developed in step 1, by adding the recommendations made in step 2.
- A consultation fee is charged.
- After this, each group had to return the solutions, recommendations and modified version of the solutions, to the business that originally completed scenario.
- Each business has received two fees for the consultation work that has been done.

Every business has at this stage completed an activity that was assessed by a second company and adapted by a third company.

- Handling of uninvolved participants during the group work in the businesses

The researcher has observed that the participants, during the course of the facilitation, became more comfortable with the activities in the different businesses and that they began to actively participate in discussions in their respective businesses. Despite the involvement of many participants in the groups, the researcher has noted that some of the participants initially have not participated in the group discussions because they have not been in the group with their friends. These participants have been encouraged by the researcher to participate, by amongst others asking questions directly addressed to them and/or asking them to participate. The encouragement by the researcher has had a positive contribution to the participation of the most uninvolved participants. Two members, however, had to be allocated to other groups, as the number of members in their group was too small because of one student who, because of illness, could not complete the facilitation process, and another learner who moved to another class. However, there were still students who have not always given their full cooperation.

#### 7.4.1.2.4 Media

The researcher only utilised the blackboard, the business game and hand-outs. Every business received a file. The file contained all the guidelines of each team and all activities had to be filed in this file. Paper money and paper tickets are used in the business game.

#### 7.4.1.2.5 The teaching of entrepreneurial competencies

During the facilitation, the researcher noted that the participants had initially been unsure about what entrepreneurial competencies are, and whether they have these competencies at their disposal.

- **Problem solving**

The participants have struggled to solve problems from a scenario initially, because they could not identify enough problems from the scenario. The participants have also been unable to correctly analyse the chosen problems (see par. 3.3.1). Participants could generate ideas, but struggled to identify the best alternatives. The participants could not at all implement the chosen solutions. During the course of the intervention, the researcher encouraged the participants to identify and describe all the possible problems. By the end of the intervention participants were able to identify more problems, analyse these problems effectively, and managed to make better choices among alternatives. Their implementation of the chosen solutions has also improved. The quantitative research also indicated that there was an improvement in the problem solving competency of the learners (see par. 7.3.1.2).

- **Creativity**

The researcher used the simulation to enhance the participants' creativity. The activities focused on the participants' skills to design and market new products. The participants were encouraged to improve their creativity through this activity. The participants have generated several ideas by taking into account new developments and information. Their self-confidence in their ability to be creative has also improved (see par. 3.3.2). The participants' creativity as the group in the business was good. During the course of the intervention, the creativity in the groups improved slightly because participants had to develop new products. By the end of the intervention, the participants' creativity was good within their businesses. The quantitative research also indicated that there was an improvement in the creativity competency of the learners (see par. 7.3.2).

- **Flexibility**

The participants initially had no idea that flexibility is important for every business. During the course of the intervention, participants experienced how important flexibility is for each business. The participants could perform multiple tasks, could make adjustments to changing circumstances, could set up contingency plans and could function in a group or individually (see par. 3.3.3). By the end of the intervention, the participants' attention had already been so much focused on adaptability, that they could identify it. The quantitative research also indicated that there was an improvement in the flexibility competency of the learners (see par. 7.3.3)

- **Goal orientation**

The participants had no idea why goal setting is important in the implementation phase. During the course of the intervention, the researcher encouraged the participants to make use of goals in their implementation process. These goals should be challenging but attainable (see par. 3.3.4). During the course of the intervention, participants experienced that goals have helped a lot to increase their efficiency. The participants could compare their performance and feedback at the end of each cycle to the goals that they had drafted at the beginning of the cycle. By the end of the intervention participants could better utilise goals. The quantitative research also indicated that there was an improvement in the goal orientation competency of the learners (see par. 7.3.5).

- **Risk-taking**

The participants have initially been unable to identify risks from scenarios or the effect thereof on their businesses. When confronted about it, the learners indicated that they have never been encouraged to or taught to identify risks. During the course of the intervention, the participants started to take risks and apply risk management (see par. 3.3.5). By the end of the intervention, the participants' attention have already been so much focused on risk, that they could correctly identify it, manage it and describe the implications for the business. The quantitative research also indicated that there was an improvement in the risk-taking competency of the learners (see par. 7.3.4).

- **Planning**

The participants have initially struggled to effectively plan for the business game. The participants experienced trouble to identify goals, prioritise tasks and to keep to deadlines. They also had difficulty with identifying clearly defined steps. During the course of the intervention, the researcher required the participants to plan effectively through meetings. During these meetings the goals for a cycle, possible risks and contingency plans should be developed (see par. 3.3.6). A budget for the cycle should also be set. By the end of the intervention participants' planning skills have improved in that they could identify goals, prioritise tasks effectively, managed to keep to deadlines and better prepare budgets, and thus could see the influence of good planning on the effectiveness of their businesses. The quantitative research also indicated that there was an improvement in the planning competency of the learners (see par. 7.3.6).

- **Teamwork**

The participants could initially not at all function effectively as groups in the businesses. Some of the participants have argued about various matters in their businesses. During the course of the intervention, the collaboration in the businesses has improved. The groups used ideas of different group members (see par. 3.3.7). The support of each member in the group has improved, and better reasoning about issues minding the business took place. Each participant has taken responsibility for his/her duties, and started to understand his/her role in the group. By the end of the intervention participants could work together effectively in their groups.

- **Communication**

The participants could initially not at all function effectively as groups in their businesses and the communication was poor. Some participants have not at all communicated, and arguments also arose. During the course of the facilitation on communication in the businesses, it improved, through group members listening to other members in the group and thus enabling them to negotiate with each other (see par. 3.3.8). By the end of the facilitation, participants were pretty good at communicating in their groups. The group members could motivate and support each other and their performance skills also improved.

- **Self-confidence**

This activity focused on the participants' skills to speak in front of the other participants and to provide feedback. Initially participants were shy of and reluctant to do presentations in front of the other participants. When buying and selling products, the participants were shy and have not really negotiated, reasoned or argued. During the course of the business game many of the participants have done presentations with greater self-confidence and they could better cope with feedback (see par. 3.3.9). During the selling and purchasing of products, the participants also negotiated for better prices with much more self-confidence.

- **Capacity to learn**

This activity has focused on the participants' abilities to learn from the mistakes they have made. Initially participants were reluctant to admit that they have made mistakes. During the business game they have initially been cautious to swing deals and took little risk, because of their reluctance to make mistakes. During the course of the business game many of the participants started taking more risks (see par. 3.3.10). During the selling and purchasing of products, the participants also negotiated for better prices with much more self-confidence.

#### 7.4.1.2.6 Observation of the participants' experience of the teaching and activities

With the facilitation of the experimental group, the researcher already observed an excited anticipation at the participants after the first week, due to receiving comments like, "The class is different from what we are used to"; "I have never before enjoyed Business Studies so much"; and also a comment such as, "it is the highlight of the day". By the end of the first week participants already were familiar with the way of teaching, and they began to realise that they will be actively involved in their own learning. The researcher also observed that the participants were serious about the implementation of the activities and that they enjoyed the activities.

With the implementation of the first cycle of the business game the participants relied heavily on the guidance of the researcher. They made several attempts to provoke the researcher to in some cases give the answers to the activities. The researcher tried to avoid situations where he might provide the answers to the activities by rather using a technique to ask questions, such as:

- Example 1:

Participants: "How do we solve this scenario?"

Researcher: "Do you not maybe have to analyse the scenario? Remember to motivate your answer".

- Example 2:

Participants: "How should we deal with this risk?"

Researcher: "How do you think the risk should be managed? Reason about the risk and get consensus in your business of what you think you should do."

This technique was successful, as the researcher observed through the course of the facilitation that the participants in more and more cases tried to complete the activities themselves instead of approaching the researcher for support.

#### 7.4.1.2.7 Summary regarding the researcher's perception of the facilitation

Due to the observation by the researcher, ongoing adjustments have been made to the teaching mode. Those observations that has been made during the facilitation with the experimental group, has adjusted in the facilitation with the control group. It has also been found through observation that the level of the participants' arguments increased during the course of the facilitation.

#### 7.4.1.2.8 Summary of results of observations

At the end of the intervention there was improvement of the entrepreneurial competencies. These competencies are problem solving, creativity, flexibility, goal orientation, risk-taking, planning, group work, communication, self-confidence and capacity to learn.

### 7.4.2 The analysis and discussion of the data obtained from the interviews

The qualitative data collection method was semi-structured interviews (par. 6.4.2.2). The purpose of the interviews was to determine the participants' subjective experience of the facilitation and to understand their actions and reactions to the teaching framework for the development of entrepreneurial skills. A complete content analysis of the individual transcribed interviews has been done after the interviews have been completed. From these content analyses, four (4) categories were identified according to which the discussion of the information from the interviews had been done. The description of the data gathered from the interviews has been discussed under the four (4) categories identified in par. 7.4.2.1-7.4.2.4 below. Quotes of parts of the discussions from the interviews are provided under each category in the tables in support of the information. References to the participants' quotes are given between brackets in the text in the tables. In some cases, additional words were added to improve the structure and meaning of sentences. These reviews are also indicated between brackets in the tables below. The discussions are in the sequence of the four categories in which all the responses of the participants have been grouped. The original quotes were in Afrikaans (see appendix I).

#### 7.4.2.1 Theme 1: Rationale for taking Business Studies

Although some of the respondents are studying Business Studies as an alternative for subjects such as Physical Science and Life Sciences, most respondents are enrolled for the subject because of their interest in the subject area and because they intend to start their own businesses<sup>1(1)</sup>. After this, all the respondents have specified that they experience Business Studies positively: <sup>1(2)</sup>. Although some of the respondents have experienced the process during the facilitation differently, most of them have indicated that the facilitation positively influenced their attitudes towards Business Studies: <sup>1(3)</sup>.

**Table 7.16: Rationale for taking Business Studies**

Theme	Number	
Rationale	1(1)	...because I want to manage my own business some day ...to start a business
	1(2)	...because [Business Studies] is interesting
		...I enjoy [Business Studies] and I am where I want to be
		...because [Business Studies] is an interesting subject to study
	1(3)	...to look [differently] to a matter/issue
		...to learn in a pleasant way
		...I learned to see [aspects] in a better way
		...I [identify] problems more effectively now

#### 7.4.2.2 Theme 2: Teaching in Business Studies

Most of the respondents have indicated that the teaching during the facilitation differ from that what they are used to: 2(1). Although some of the respondents have indicated that they do not enjoy group work, most of them enjoyed it: 2(2). The majority of the respondents specified that they had learned from the teamwork: 2(3). Most of the respondents pointed out that the activities during the facilitation have helped them to improve their understanding of Business Studies: 2(4). The majority of them have indicated that the activities during the facilitation will help them to improve their understanding of Business Studies in the future: 2(5). Although some of them have not enjoyed the method of teaching during the facilitation, most respondents have enjoyed it: 2(6).

**Table 7.17: Teaching in Business Studies**

Theme	Number	
Teaching	2(1)	...this [teaching] is much better to me, [teaching] much more exciting
		...you make [Business Studies] interesting and pleasant, causing one to want to do something
		...yes, if you enjoy [Business Studies], you learn more
		...you taught in a pleasant way
	2(2)	...it is actually nice to work in a group
		...[group work] was really pleasant, one got to know different people

Theme	Number	
Teaching		...I rather enjoyed the [group work]
		...I really enjoyed it to work together with the others
	2(3)	...I definitely learned from the group work [because] the group of which I was a part definitely taught me things that I did not know
		...and then I have also learned from them how to do things differently
		...sometimes your [answer] is not the best and then one of the other [group members] are better
	2(4)	...the [contents] described by you is applicable to the business
		...the [contents] that we have done will help me with case studies
		...the practice helps you definitely much more than theory
	2(5)	...now I have more knowledge and I am able to express myself better about the [work]
		...I think my marks will [improve] because I have more insight
		...[the class activities] will definitely help me with Business Studies in the future
		...because I now understand how to prepare for...
		...I now know more than I did before
	2(6)	...what I enjoyed the most, was the way you've presented it
		...I enjoyed making products, for instance the creative part
		...that we could [argue] with you
		...what I really enjoyed, was that we really learned many new [aspects]
		...the best part was to get to know the other learners in the group and how they responded to the [activities]
		...the teamwork was pleasant to me, after I have become used to [the activities]
		...I think it is perhaps the fact that we learned something new from each cycle

### 7.4.2.3 Theme 3: Assessment

Although some of the respondents pointed out that they were not keen to evaluate their peers, most respondents indicated that they learned from it: 3(1). Although some of them have specified that they are not keen to be evaluated by their peers, the majority of them indicated

that they had learned from it: 3(2). The most of the respondents indicated that the activities and assessment during the facilitation by using paper money helped them to an improved understanding of the work: 3(3).

**Table 7.18: Assessment**

Theme	Number	
Assessment	3(1)	...like you have perhaps seen something, but they have seen something [else] maybe, that you have not noticed
		...yes, it is nice to see how, or interesting to see how the [other] groups handle the activities
		...how do they approach a [problem] and how do [the other groups] think about, for instance, a specific situation
		...you understand how other people think, and then you do not always give your own [personal point of view], [but] that you [also respect other people's viewpoints]
		...because it is nice to see what other people have in mind
		...it is better that [the other groups] know what their mistakes are in order to correct [these mistakes]
	3(2)	...and the next time I can rather...[look at both], or at least think a bit deeper as only what I have [thought] up till now
		...[the learners who evaluate me] teach me to do something better or to think about a matter more effectively
		...[the evaluation] must be done, in order for you to see what you did wrong
		...how do [the learners who evaluate me] think differently from [me] and where can I improve
		...yes, because I can also learn from myself in the process. I can learn what I do not notice in myself, for instance mistakes...and yes I learn something
	3(3)	...[this] money I should, I must [handle the money] correctly
		...yes, what I mean, is that in a business it does work like [that] you will work with money all the time...you know that you must write down and keep record of everything
		...it says to the brain that there is money available, and that [you] must think before [you] make decisions
		...it makes it interesting and it sort of brings in [that] business concept
		...mathematically, it helps you a lot, it teaches you how to prepare financially for that which you want to buy or sell, etc. And also to put away some money for risks or later use.

#### 7.4.2.4 Theme 4: Entrepreneurial competencies

The respondents indicated that the activities during the facilitation have helped them to improve the following entrepreneurial competencies:

##### Theme 4.1: Flexibility

Although some of the respondents pointed out that they are not compatible, most of the respondents have indicated that they learned to be flexible in business: 4(1). The quantitative research also indicated that there was an improvement in the flexibility competency of the learners (see par. 7.3.3).

**Table 7.19: Flexibility**

Theme	Number	
Flexibility	4(1)	...note what risks there are, and provide for it
		...it taught me to take out insurance on my products, because if there is a fire hazard...insurance can help you
		...the risks, the pros and cons and the vision and [mission], take everything into account

##### Theme 4.2: Planning

Although some of the respondents pointed out that they do not plan ahead, most of the respondents afterwards indicated that they realise that planning is important: 4(2). The quantitative research also indicated that there was an improvement in the planning competency of the learners (see par. 7.3.6).

**Table 7.20: Planning**

Theme	Number	
Planning	4(2)	...any problem can occur and you should have provided or planned for it
		...to plan in advance, to think really deep about it
		...we did not plan that well, and in the end we did not make as much profit as that we perhaps would have wanted to

**Theme 4.3 Goal orientation**

Although some of the respondents pointed out that they are not setting goals for themselves, most of the respondents indicated afterwards that they learned to use it: 4(3). The quantitative research also indicated that there was an improvement in the goal orientation competency of the learners (see par. 7.3.5).

**Table 7.21: Goal orientation**

Theme	Number	
Goal setting	4(3)	...our first goal was to make profit
		... you have to do everything step by step

**Theme 4.4 Teamwork**

Although some of the respondents pointed out that they do not enjoy it to work in groups, most of the respondents indicated afterwards that they learned from it: 4(4).

**Table 7.22: Teamwork**

Theme	Number	
Teamwork	4(4)	...I learned to accept my team mates' methods, and not to compel my own methods on them
		...I also enjoyed the teamwork after I have become used to everything
		...to [accept] other people's ideas and to put it [together]

**Theme 4.5 Communication**

Although some of the respondents pointed out that they do not enjoy communicating, most respondents indicated that they learned from it: 4(5).

**Table 7.23: Communication**

Theme	Number	
Communication	4(5)	...firstly, how to [communicate] with people
		...like to communicate to your group
		...my communication with people was improved

**Theme 4.6 Creativity**

Although some of the respondents indicated that they are not creative, most of the respondents indicated that they learned from it: 4(6). The quantitative research also indicated that there was an improvement in the creativity competency of the learners (see par. 7.3.2).

**Table 7.24: Creativity**

Theme	Number	
Creativity	4(6)	...[my] [creative] side [have] improved [a lot]
		...the solutions that you have written down the first time, may be two...now you know that there might be four or five
		...I learned to look at things differently, there is not just one way, one can read between the lines, try to look deeper

**Theme 4.7 Problem solving**

Although some of the respondents indicated that they struggled with problem solving, most of the respondents indicated that they learned to conquer problem solving: 4(7). The quantitative research also indicated that there was an improvement in the problem solving competency of the learners (see par. 7.3.1.2).

**Table 7.25: Problem solving**

Theme	Number	
Problem solving	4(7)	...to work in a group and sit there and sort out the problem
		...I learned a lot, I acquired skills, I do not like scenarios, but I acquired the skill to approach scenarios in a better way
		...because now I know how to do case studies correctly

**Theme 4.8 Risk-taking**

Although some of the respondents indicated that they find it difficult to take risks, most of the respondents indicated that they learned of risk-taking: 4(8). The quantitative research also indicated that there was an improvement in the risk-taking competency of the learners (see par. 7.3.4).

**Table 7.26: Risk-taking**

Theme	Number	
Risk-taking	4(8)	...we have really learned a lot of new [aspects] of risks
		...realise that there will always be risks to [take]
		...but I will also be able to identify the main risk

**Theme 4.9 Self-confidence**

Although some of the respondents indicated that they were not confident before the intervention, most of the respondents indicated that they improved their self-confidence from it: 4(9).

**Table 7.27: Self-confidence**

Theme	Number	
Self-confidence	4(9)	...I think my marks will improve and I [have] more insight now
		...improved, in that I feel that I can look at the [problem] in depth and that I can [provide] more solutions
		...I now understand how to prepare for risks, how to plan, etc.

**Theme 4.10 Capacity to learn**

Although some of the respondents indicated that they struggle to learn, most of the respondents indicated that they benefitted from it: 4(10).

**Table 7.28: Capacity to learn**

Theme	Number	
Learn from mistakes	4(10)	...they taught me to do something better or to think deeper about an issue
		...[evaluation] must be done, in order for you to see what you did wrong
		...according to how they evaluated me, it is interesting to me to sort of receive feedback from their side to see... how they think different from [myself] and where can I improve

#### **7.4.2.5 Summary of results of interviews**

The interviews indicate that there was improvement of the entrepreneurial competencies. These competencies are problem solving, creativity, flexibility, goal orientation, risk-taking, planning, group work, communication, self-confidence and capacity to learn.

## **CHAPTER 8: CONCLUSIONS AND RECOMMENDATIONS**

### **8.1 INTRODUCTION**

With this study reflection was done on how entrepreneurial competencies of grade 11 learners in Business Studies should be enhanced. The contribution of this study, namely a teaching framework for the enhancement of entrepreneurial competencies of grade 11 learners was developed. In this chapter a summary is given of the research and consequent results and recommendations.

This study consisted of a comprehensive literature study and empirical investigation and is summarised in the chapter (par. 8.2). The empirical investigation is discussed (par. 8.3) and the results of the study (par. 8.4) is given. Conclusions (par. 8.5), based on the results of the research are mentioned to determine in which way the problem questions were addressed. Limitations in terms of the study (par. 8.6) are shown and recommendations (par. 8.7) from the study are also mentioned and possible future research themes are highlighted (par. 8.8).

### **8.2 SUMMARY**

The problem addressed in this study has developed due to the recognising of the researcher (before the beginning of the study) that secondary school learners lacked entrepreneurial competencies as prescribed by the National Curriculum Statement. In addition, the practical exposure of learners, the linking of the theory and practice and answering of scenarios are also problems identified by teachers and people of the Department of Basic Education. Furthermore, various reports also indicate the abovementioned problems. Another aspect is that teachers also struggle to incorporate practical applications in their lecture sessions.

The abovementioned problems lead to the study and encourage the researcher to focus on the enhancement of entrepreneurial competencies. In the process of enhancing entrepreneurial competencies the problems such as lack of practical exposure, the ineffective linking of theory and practice and the poor answering of scenarios were also addressed. The solution for the problem that encouraged this study, thus the goal of this study, was to develop a teaching framework to enhance the entrepreneurial competencies of grade 11 learners in Business Studies. The framework is developed to be used by teachers for the enhancement of learners in grade 10 to 12 in Business Studies.

### **8.2.1 The goal of the study**

This study is performed with the goal to develop a teaching framework for the enhancement of entrepreneurial competencies and the effect thereof. This study focused on the following objectives:

- Describe the need for entrepreneurship education
- Identify the competencies entrepreneurs need to possess
- Describe the teaching and learning strategies for the enhancement of entrepreneurial competencies
- Develop a framework for the enhancement of entrepreneurial competencies for school learners.

### **8.2.2 Literature study**

Before the teaching framework was developed, the researcher performed a thorough literature study to assure that the entrepreneurial competencies are theoretically grounded. In addition, the literature study also assisted in identifying the applicable teaching, learning and assessment practices in the enhancement of entrepreneurial competencies.

In chapter 2 the focus was on the theories of entrepreneurship, especially the theory on entrepreneurial competencies. Current literature on entrepreneurship is characterised by a proliferation of theories, definitions and taxonomies which often conflict and overlap, resulting in confusion and disagreement among researchers and practitioners about what precisely entrepreneurship is. In addition, several theories to explain the field of entrepreneurship have been put forward by researchers. The need exists that research refocuses on the roots of entrepreneurship and the history thereof. Furthermore, individual characteristics of entrepreneurs as a focus point are evident in entrepreneurship research. Currently the General Entrepreneurship Monitor is investigating activities and characteristics of individuals involved in various phases and types of entrepreneurial activity.

In chapter 3 an analysis of the literature indicated the existence of many different entrepreneurial competencies. Coupled with the investigation of the curriculum of Business Studies to identify entrepreneurial competencies that can be developed, a need for the selection of competencies arises. The selected entrepreneurial competencies used in this study were: problem solving, creativity, flexibility, risk-taking, goal orientation, planning, teamwork,

communication, self-confidence and capacity to learn. Another focus of this investigation is the enhancement of the chosen entrepreneurial competencies.

In chapter 4 the creation of a framework applicable to this study, various teaching models and frameworks were analysed to identify relevant aspects which could benefit the proposed framework for the enhancement of entrepreneurial competencies. In this regard, seven models were identified that can be divided into teaching models and models for entrepreneurship education. The models were chosen because of the various entrepreneurship competencies that can be enhanced. In these models competencies such as creativity, innovation, problem solving, self-confidence, risk tolerance and management were enhanced.

In this study the focus is on the enhancement of entrepreneurial competencies within the context of Business Studies as school subject. A combination of a teacher-centered approach and student centered approach are the most effective for the enhancement of entrepreneurial competencies. Furthermore, assessment rubrics are highlighted as one of the most appropriate methods to assess entrepreneurial competencies. In the discussion of assessment rubrics it is shown that effective developed assessment rubrics can assess the performance level of learners and provide useful feedback on their performance (reflection).

In chapter 5 the proposed teaching framework, developed based on the literature study, was discussed. Various aspects from the literature are incorporated and focus on the enhancement of entrepreneurial competencies of grade 11 learners. A detailed description of all the activities of the framework that Business Studies teachers can use is also outlined in this chapter.

### **8.2.2.1 The need for entrepreneurship education (research objective 1)**

Education in entrepreneurship is important for the creation of an entrepreneurial mind-set and providing people the competencies to start their own business. The design of an entrepreneurship curriculum that focuses on competencies such as language, starting an own business, presenting skills, creativity and leadership will have a positive influence on entrepreneurship education. In addition, specific qualifications on business creation and case studies based on opportunity-orientated ideas and businesses will also enhance entrepreneurial education.

Many entrepreneurs lack basic business skills such as literacy and numeracy, which affect their ability to effectively manage a business. Training in entrepreneurship is therefore important for the creation of an entrepreneurial mind-set so that entrepreneurs are equipped with the right set of knowledge principles and practical skills to begin and operate a business (par.2.1)

Entrepreneurship education improves the skills and attitudes, therefore competencies associated with entrepreneurship.

Programmes aimed at developing and enhancing entrepreneurs should provide business exposure and experience in the form of business visits, work integrated learning, guest speakers from practice or simulated business exposure in the form of business games. Although the current curriculum of Business Studies in grade 11 focuses on entrepreneurial aspects such as developing business plans and presenting it, exposure to business and its operations are absent. Teachers that focus on the development of entrepreneurial skills should be passionate and encourage exposure to business in their learners, to enable learners to integrate the theory (textbooks and other sources) and practice (functioning of a business).

In order for entrepreneurship to be developed, the basic requirements that need to be adhered to, according to the GEM model, include institutions, infrastructure, macroeconomic stability and primary education. Each of these requirements is essential for entrepreneurial activity, since it provides a framework for possible entrepreneurial activity. Although social, cultural and politics influence innovation and entrepreneurship in South Africa, the different framework conditions also play an important role. Entrepreneurial framework conditions are defined as the necessary resources, incentives, markets and supporting institutions to the development and growth of new business. GEM distinguishes between two framework conditions namely national business conditions and entrepreneurial framework conditions. Both these framework conditions are dependent on the social, political and economic context in which they exist. The entrepreneurial framework conditions include entrepreneurial finance, government policies, government programmes, entrepreneurial education, research and development transfer, commercial and legal infrastructure for entrepreneurship, internal market openness and cultural and social norms.

From the abovementioned entrepreneurial framework conditions education is mentioned most as the biggest obstacle for entrepreneurship. In the period 2001 to 2012 education was ranked in the top three inhibitors of entrepreneurial activity. A need exists for dramatic improvement to the education system for the improvement of the human capital base for entrepreneurship. One of the areas where the environment for entrepreneurship in South Africa appears significantly worse than that in other developing countries is in the potential for entrepreneurship within the population. It seems highly likely that this is strongly related to weaknesses in South Africa's education system. And, although South Africa's school system does not appear to be worse at promoting entrepreneurship than those in other developing countries, there is strong evidence that our schools are underperforming in areas such as comprehension, mathematics and science. In addition, the situation in 2012, with the ranking of quality in mathematics and

science education (144<sup>th</sup> out of 145), deteriorates even further. The South African government set a goal to establish South Africa as an entrepreneurial nation and through a partnership with FNB Commercial banking enable, growth and accelerate entrepreneurship.

### **8.2.2.2 The competencies that entrepreneurs need to possess (research objective 2)**

An analysis of the literature indicates the existence of many different entrepreneurial competencies. Coupled with the investigation of the curriculum of Business Studies to identify entrepreneurial competencies that can be developed, a need for the selection of competencies arises. Various views on the concept entrepreneur and the traits of entrepreneurs exist, which have an enormous impact on the current understanding of the entrepreneur and entrepreneurial qualities. New characteristics pertaining to entrepreneurs are continuously added to the growing knowledge of entrepreneurship.

In spite of all various concepts it is the concept of competency that is most used to describe the qualities of entrepreneurs. A competency is the ability to meet complex demands, by drawing and mobilising psychosocial resources in a particular context. In addition, it is more than only a skill or knowledge; it is a combination of knowledge and skills within a specific context that is repeated over time until it becomes internalised. Therefore, in this study the term competency will be used.

In this investigation the focus was on selected entrepreneurial competencies of grade 11 learners in Business Studies. An analysis of the literature indicates the existence of many different entrepreneurial competencies. Coupled with the investigation of the curriculum of Business Studies to identify entrepreneurial competencies that can be developed, a need for the selection of competencies arises. The selected entrepreneurial competencies used in this study are: problem solving, creativity, flexibility, risk-taking, goal orientation, planning, teamwork, communication, self-confidence and capacity to learn. Another focus of this investigation was the development and enhancement of the chosen entrepreneurial competencies.

### **8.2.2.3 The teaching and learning strategies needed for the enhancement of entrepreneurial competencies (research objective 3)**

The relative position of education in South Africa is noted one of three most mentioned problems in South Africa as identified by entrepreneurship science experts in the period 2001 to 2012 that hinders entrepreneurial activity. In addition, an inadequate educated workforce can hinder effective business operations which could lead to major obstacles for economic growth, productivity and business efficiency.

From an analysis of the outcomes of different subjects currently presented in secondary schools in South Africa, it was derived that the subject Business Studies is best suited for the enhancement of school learners' entrepreneurial skills and attitude and was subsequently the focus subject for this research study. The main reasons for identifying Business Studies is the focus of the curriculum on the development and enhancement of learners' knowledge, skills, attitudes and values pertaining to the formal and informal South African economic sectors as well as the encouragement of the development of entrepreneurial initiatives.

Since entrepreneurship has a strong practical component, the teaching of entrepreneurial competencies does have an impact on entrepreneurship development. The Learning Program Guidelines for teaching of Business Studies, including entrepreneurship should focus on linking the outside world to the activities in the classroom. This will create opportunities for practical experience and the development of business-related skills and values. Business Studies provides opportunities for learners to consider numerous challenges within the enabling South African policy framework. Although skills such as decision-making, problem solving, creative thinking, systems thinking and effective communication in a competitive and constantly changing environment are critical to Business Studies, these skills are not enhanced enough.

A combination of a teacher-centered approach and student centered approach are the most effective for the enhancement of entrepreneurial competencies. The teacher-centered approach aims for the transferring of knowledge in the form of lecturing and demonstrating. The student-centered approach includes strategies such as group discussions (cooperative learning), simulation games (business simulation) and problem-based learning.

#### **8.2.2.4 A framework for the enhancement of entrepreneurial competencies (research objective 4)**

A framework was applied in conjunction with the National Curriculum Statement (Grade 10 -12) with the aim of enhancing entrepreneurial competencies of secondary school learners in Business Studies. The teaching framework consists of four phases which include the situation analysis, foundation phase, execution phase and evaluation phase. When applying the proposed teaching framework, teachers in Business Studies need to commence with a thorough situation analysis. Hereafter the focus shifts to the foundation phase which consists of the preparation for the scenario and simulation. The next phase is the execution phase and consists of the scenario and the simulation. The last phase of the framework is the evaluation of the framework. The teacher plays the role of facilitator and creates a learning environment where learners are encouraged to enhance their entrepreneurial competencies. The main role of the

learner is to participate in the scenario and simulation and enhance their entrepreneurial competencies in the context of the portfolios allocated to them.

### **8.3 Empirical investigation**

Important aspects of the empirical investigation included the research methodology (par. 8.3.1), collection of quantitative data (par. 8.3.2), collection of qualitative data (par. 8.3.3), and the procedure of the empirical investigation (par. 8.3.4).

#### **8.3.1 Research methodology**

The empirical part of this study was done to determine the effect of the teaching framework on the enhancement of entrepreneurial competencies. Both quantitative and qualitative data were collected. The investigation thus used a mixed method research. The multi-methods research design that was applied in this study is the concurrent dominant status research design (QUANTITATIVE + qualitative). This research design is a one-phase design, which means that with an experimental research design (quantitative approach) provision is made for the collection of qualitative data (qualitative approach). The experimental design whereby quantitative data collection took place and where qualitative data collection was embedded in, is a quasi-experimental non-probability control group before and after design. On the basis of this experimental design, the participants of the study were divided into an experimental and control group. Both the groups were tested before and after the intervention.

In this study the participants were grade 11 learners in Business Studies in 2012 in a well-known school in Potchefstroom (n=55). These participants were selected based on a purposive sample to participate in this study because of the close proximity and the willingness of the teacher to participate. The researcher selected the sample by using the researcher's own experience and judgement. There were two groups of learners and they were divided according to the timetable of the school. The one group consisted of 24 (experimental group) and the other group (control group) of 31. Because the intervention was done in the normal operations of the school some participants were absent on days that the test was executed, therefore 23 of the experimental group and 24 of the control group could be used.

To be able to measure the experience of the learners in terms of enhancement of their entrepreneurial competencies, the two groups were divided into an experimental and control group. A toss-up was made between the two groups to determine which group will be the experimental group and which group the control group. The toss up with a coin determined that group 2 would be the experimental group and group 6 the control group.

### **8.3.2 Collection of quantitative data**

Quantitative data was collected on the basis of the experimental design and both the experimental and control group was exposed to a pre-test before the intervention of the experimental group (pre-test). After the intervention of the experimental group both groups were exposed to post-test 1. The control group was therefore exposed to post-test 1 before their intervention. After the intervention of the control group both groups were exposed to post-test 2. The three tests were used to measure the enhancement of the experimental and control group of entrepreneurial competencies and to compare the results of the groups.

### **8.3.3 Collection of qualitative data**

Qualitative data was collected through observations and semi-structured interviews. Observations were done in the context of action research during the intervention by a teaching advisor and the researcher himself. The teaching advisor did perform observations on the way the teaching framework was applied for the enhancement of entrepreneurial competencies. The researcher performed observations on the reactions of the participants on the teaching they received.

Qualitative data was also collected with semi-structured interviews. With this investigation the participants who were interviewed (n=10) were selected through a purposeful sampling method. The goal of the interviews was to determine the experience on the teaching that the participants were exposed to during the intervention. This experience included their rationale to take Business Studies, the teaching method used in the intervention, and their view on the enhancement of their entrepreneurial competencies.

### **8.3.4 Procedure of the empirical investigation**

The grade 11 learners of the secondary school were as a result of their curriculum only available in the third quarter. Due to the abovementioned reason the researcher had to plan for the intervention. Three phases were executed in three and a half months (Middle July to end of October 2012) and are the following:

#### **8.3.4.1 Phase 1**

The participants that were part of the study were divided in an experimental and control group. This was done through the toss of a coin. All the participants completed the pre-test.

#### **8.3.4.2 Phase 2**

The experimental group was exposed to the intervention, while the control group was isolated from the intervention. During the intervention qualitative data was collected through observation that was done by the researcher himself and the teaching advisor. After the intervention both groups did complete post-test 1 and interviews were performed with four participants from the experimental group.

#### **8.3.4.3 Phase 3**

Due to ethical reasons the control group was also exposed to the same intervention. After the intervention post-test 2 was completed by both groups. Interviews were performed with six participants from the control group.

### **8.4 RESULTS**

The results of the quantitative research (par. 8.4.1), and results of qualitative research (par. 8.4.2) are subsequently discussed.

#### **8.4.1 Results of the quantitative research**

Quantitative research methods were used to determine statistically whether respondents showed any enhancement through the exposure of the teaching framework by measuring the entrepreneurial competencies through case studies (pre-test 1, post-test 1 and post-test 2).

The influence of the intervention on the chosen competencies is clearly shown in the results. The improvement of the competencies of the experimental group is practically significant for problem solving, creativity, flexibility, risk-taking, goal orientation and planning. The improvement of the competencies of the control group is practically significant for problem solving, creativity, flexibility, risk-taking and planning. However, for goal orientation the improvement is only moderately significant.

#### **8.4.2 Results of qualitative research**

Qualitative research methods were used to collect data on the effect of the teaching framework in terms of the learners' experience of the framework they were exposed to:

##### **8.4.2.1 The role of the teacher in executing the teaching framework**

The most of the respondents indicated that they enjoyed the method of teaching, therefore the executing of the teaching framework during the intervention. In addition, the observations also

showed that the learners enjoyed the role of the teacher in executing the teaching framework. However, the preparation of the teacher takes more time and the teacher needs to have specific competencies. In addition, the teacher also has to be familiar with the specific teaching strategies used in this teaching framework.

#### **8.4.2.2 The experience of the learners in terms of the teaching framework**

Most of the respondents have experienced that the intervention, therefore the teaching framework, influenced their attitudes towards Business Studies positively in terms of the teaching methods, the practical application and functioning of their businesses. In addition, the observations also showed that the learners had positive experiences in terms of the teaching framework. The learners participated well in their groups and enjoyed the practical operations of the business.

#### **8.4.2.3 The possible enhancement of entrepreneurial competencies**

Most respondents indicated that the activities during the intervention have helped them to improve their ability to solve problems, encouraged them to be more creative and flexible. Herewith they also realised they should be goal orientated and not afraid to take risks. In addition, they experienced that good planning and teamwork is essential to the success of a business. Furthermore, they realised that they have to communicate more effectively, do their presentations with more self-confidence and learn from mistakes they made.

#### **8.4.2.4 The enhancement of entrepreneurial competencies is important to the learners**

Most respondents indicated that it is of great importance to enhance their entrepreneurial competencies. The respondents indicated that they wanted to start up their own businesses and needed to enhance their entrepreneurial competencies. In addition, other respondents indicated that they wanted to improve their marks by better answering the scenarios in the examination, therefore their problem solving competency.

#### **8.4.2.5 To determine if the practical exposure will assist the learners with understanding the content**

Most of the respondents pointed out that the activities and practical exposure during the intervention enabled them to improve their understanding of Business Studies in terms of content, skills and remembering facts. They also indicated that they are more interested in Business Studies and wanted to improve their marks.

The observations showed that there was improvement of the entrepreneurial competencies during the intervention. These competencies are problem solving, creativity, flexibility, goal orientation, risk-taking, planning, group work, communication, self-confidence and capacity to learn (par. 7.4.1.2.8).

## **8.5 CONCLUSIONS**

The research results clearly indicate that the teaching framework can be successfully used to enhance the entrepreneurial competencies of grade 11 learners in Business Studies. The results showed that the learners had a positive experience through the teaching that they were exposed to and experienced the activities as challenging, useful and interesting. The teaching framework also promotes social interaction between the learners and therefore is guided to group work and not individuals during the learning process. In addition, ten entrepreneurial competencies were enhanced in the study. Although the teaching framework is applied to small groups of learners, it can also be possible in bigger groups.

The teaching framework was also developed to be incorporated in the current curriculum and therefore no need exists for additional teaching outside the current curriculum. In addition, the teaching framework can strengthen the current curriculum. The teaching framework also addresses the need in secondary education for more practical application of the theory in textbooks and other sources. Furthermore, this framework also assists learners to answer different scenarios.

## **8.6 LIMITATIONS OF THE RESEARCH**

The first limitation of this study is that due to financial factors only one school was used. The teaching framework has to be used by more than one school to test the generalisation of the results.

Although all the learners that have Business Studies in grade 11 of the school were involved in this study, it would have been more useful to use more participants in the research. The few participants (n=47) also causes that the validity of all the measuring instruments could not be calculated.

Thirdly, another limitation was the limited time for the application of the teaching framework for the development of entrepreneurial competencies. The ideal should have been to implement the teaching framework over a longer period of time. The school program did not make it possible to implement the framework for more than 28 days for each group.

The teaching framework was also not tested on all race and socio-economic groups in society. Although the study population only consisted of whites and only one black learner, variables such as race and socio-economic status were not tested scientifically. Therefore no assumptions can be made on validity of the results for all races and socio-economic groups.

The structure, nature and content of the teaching framework are developed based on the experience and knowledge of the researcher as well as the results of the literature study.

## **8.7 RECOMMENDATIONS**

### **8.7.1 Recommendations in terms of teachers**

Based on the results of this study it is recommended that current and future Business Studies teachers are better informed on the importance of the enhancement of entrepreneurial competencies of secondary school learners. Business Studies teachers also have to determine if there are gaps in terms of their modelling of entrepreneurial competencies. If gaps exist, teachers have to enhance their own competencies. Teachers also have to be familiar with the teaching strategies that have to be applied. Teachers that use the teaching framework for the first time have to do proper planning and introduce it systematically. The hurried and ill-judged implementation of this teaching framework can cause that teachers do not obtain the given objectives of the framework and it can have a negative influence on the learners.

### **8.7.2 Recommendations in terms of the use of the teaching framework**

Due to the exposure of the teaching framework to grade 11 learners, the study indicated that their entrepreneurial competencies can be enhanced. It is recommended that the framework can also be implemented in grade 10. This will ensure that the entrepreneurial competencies will be more enhanced and enough time spent on practical exposure. In grade 12 the learners will be able to address the gaps in terms of answering scenarios.

It is also recommended that the framework will be included in the curriculum through the whole academic year. The current allocation of periods to Business Studies is 7 periods per 6 day cycle, including one double period. This framework can be used through the year in the double period. This recommendation will ensure that the entrepreneurial competencies will be practised and this will enhance these competencies.

### **8.7.3 Recommendations to the Department of Education**

It is recommended that the Department of Education can investigate the use of the framework on grade 7 – 9.

## **8.8 ASPECTS THAT ENQUIRE FURTHER RESEARCH**

In terms of the teaching framework in this study, it will be useful to test the effect on learners from different provinces. In addition, the effect of the teaching framework can also be tested on learners in EMS grades 7-9.

Furthermore, the framework can be tested for a longer time and also on different socio-economic groups. A longitudinal study is recommended to include the abovementioned aspects.

## **8.9 END NOTE**

In this chapter the study was summarised and conclusions and recommendations based on the results were made. The limitations of the study were also outlined. With the use of this teaching framework in this study various aspects of teaching and learning are addressed with the goal to enhance the entrepreneurial competencies of secondary school learners. With this study the researcher thus attempts to establish the attention to the enhancement of entrepreneurial competencies. In addition, the researcher hopes that through this framework a contribution can be made to enhance entrepreneurial activity in South Africa and therefore assist teachers, principles, curriculum developers and Department of Education to also improve education.

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# **APPENDIX A**

## **1. BUSINESS STUDIES NATIONAL CURRICULUM STATEMENT**

According to the National Curriculum Statement (SA, 2003:1) the adoption of the Constitution of the Republic of South Africa (Act 108 of 1996) provided a basis for curriculum transformation and development in South Africa. In accordance with the Constitution of the Republic of South Africa the NCS is based on the following principles:

- social transformation;
- outcomes-based education;
- high knowledge and high skills;
- integration and applied competence;
- progression;
- articulation and portability;
- human rights, inclusivity, environmental and social justice;
- valuing indigenous knowledge systems;
- and credibility, quality and efficiency (SA, 2003:1).

To achieve the above mentioned principles, the NCS differentiate between critical, developmental outcomes, which lead to the more specific learning outcomes and assessment standards.

### **1.1 CRITICAL OUTCOMES**

Critical Outcomes require learners to be able to:

- identify and solve problems and make decisions using critical and creative thinking;
- work effectively with others as members of a team, group, organisation and community;
- organise and manage themselves and their activities responsibly and effectively;
- collect, analyse, organise and critically evaluate information;

- communicate effectively using visual, symbolic and/or language skills in various modes;
- use science and technology effectively and critically showing responsibility towards the environment and the health of others; and
- demonstrate an understanding of the world as a set of related systems by recognising that problem solving contexts do not exist in isolation. (SA, 2003:2).

## **1.2 DEVELOPMENTAL OUTCOMES**

The Developmental Outcomes require learners to be able to:

- reflect on and explore a variety of strategies to learn more effectively;
- participate as responsible citizens in the life of local, national and global communities;
- be culturally and aesthetically sensitive across a range of social contexts;
- explore education and career opportunities; and
- develop entrepreneurial opportunities (SA, 2003:2).

## **2. LEARNING OUTCOMES AND ASSESSMENT STANDARDS**

Operationalising the critical and developmental outcomes is based in the learning outcomes and assessment standards outlined in the NCS. The learning outcomes and assessment standards aim to develop the business knowledge and skills of learners by expecting them to achieve specified minimum standards of knowledge and skills at each grade as well as high level, but achievable standards (SA, 2008:9).

According to the NCS (SA, 2003:10) learners are expected to master the same four learning outcomes in each grade from grade 10-12, which include business environments, business ventures, business roles and business operations. The progression to higher levels of learning is also set by assessment standards from grades 10-12, for example in grade 10 an assessment standard would typically expect learners to define or discuss content, whereas in grade 11 this same content must be analysed and then in grade 12 it is expected to be evaluated. The following outline of the learning outcomes and assessment standards (par. 4.3.3.1-4.3.3.4) shows how the assessment standards are developed to ensure the achievement of the learn

## **2.1 LEARNING OUTCOME 1 - BUSINESS ENVIRONMENTS**

The learner has to be able to demonstrate knowledge and analyse the impact of changing and challenging environments on business practice in all sectors. The learner will understand and analyse the impact of the challenging and changing environments in which the business operates (SA, 2003:24). This will be achieved by:

- Comparing the control factors over the different business environments (e.g. more control over micro, less over market and even less over macro)
- Identifying and analysing the nature of power relationships, networking and lobbying;
- Investigating ways in which business can adapt to challenges\_in the macro environment, and analysing whether this is to the benefit of the business;
- Analysing and explaining the challenges of the micro environment (e.g. difficult employees, lack of vision and mission, strikes, unions);
- Analysing and explaining the challenges of the market environment (e.g. competition, shortages of supply, changes in consumer tastes and habits);
- Analysing and explaining the challenges of the macro environment (e.g. changes in income levels, political changes, contemporary legal legislation, labour restrictions, HIV/AIDS, micro-lending).
- Explaining socio-economic issues (e.g. poverty, HIV/AIDS, unemployment).
- Exploring and explaining how contemporary socio-economic issues impact on business operations and productivity (e.g. reduction of the labour force due to HIV/AIDS, piracy, crime, and loss of goods).
- Examining the links between tertiary, secondary and primary business enterprises (SA, 2003:25).

## **2.2 LEARNING OUTCOME 2 - BUSINESS VENTURES**

The learner has to be able to identify and research viable business opportunities and to explore these and related issues through the creation of achievable business ventures. The learner will understand the steps to be followed when identifying viable business opportunities and the creation of achievable business ventures (SA, 2003:26). This will be achieved by:

- Identifying entrepreneurial qualities for business practice and assessing an identified business against these qualities (e.g. risk-taking, perseverance, good management).
- Transforming a business plan into an action plan (e.g. timelines, Gantt charts, responsibilities, project planning).
- Initiating and setting up a business venture to generate income, basing this on an action plan and acquiring funding if needed.
- Presenting and supporting business information with tables, graphs, diagrams and illustrations.
- Responding in a non-aggressive and professional manner to questions about work
- and presentations.
- Acquiring business through franchising, outsourcing or leasing, the advantages and
- disadvantages of these, and the contractual implications involved (e.g. royalties,
- legalities).
- Discussing the forms of ownership (sole proprietor, partnership, close corporation,
- company).

### **2.3 LEARNING OUTCOME 3 - BUSINESS ROLES**

The learner has to be able to demonstrate and apply contemporary knowledge and skills to fulfil a variety of business roles (SA, 2003:28). The learner will acquire contemporary knowledge and skills to fulfil a variety of business roles. This will be achieved by:

- Acquiring problem-solving skills in a business context.
- Making use of more complex problem-solving techniques (e.g. Delphi technique and force-field analysis).
- Exploring the difference between good and bad decisions.
- Working with others to solve problems and generate ideas.
- Acquiring creative thinking skills and exploring conventional versus non-conventional solutions (include indigenous approaches and solutions).

- Exploring the concept of ethics and different perspectives on ethics, as well as ethical business ventures.
- Managing stress.
- Understanding theories of change management, dealing with and adapting to change (e.g. unemployment, retrenchment, globalisation, affirmative action).
- Acquiring skills on conflict management, team dynamics and dealing with grievances.
- Examining the role of citizens, business and individual business practitioners (SA, 2003:29).

#### **2.4 LEARNING OUTCOME 4 - BUSINESS OPERATIONS**

The learner has to be able to demonstrate and apply a range of management skills and specialized knowledge to perform business operations successfully (SA, 2003:30). The learner will acquire the management knowledge and skills to perform business operations successfully. This will be achieved by:

- Analysing marketing activities (e.g. product policy, pricing policies, marketing distribution, marketing communication).
- Examining marketing in the formal and informal sectors
- Examining foreign marketing and the production function (e.g. systems, planning, safety, quality and costing) (SA, 2003:31).

## **APPENDIX B**

Name of business

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Vision of business

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Mission of business

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## **APPENDIX C**

Name of business

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Chief executive officer

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Financial manager

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Marketing manager

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Administrative manager

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Human resource manager

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## **APPENDIX D**

### **Duty sheets**

#### **Chief executive officer**

The Chief executive officer does planning, organising, activating and control of the business. It is important to delegate duties.

#### **Financial manager**

The financial manager compiles the financial statements and assists the marketing manager with the selling of products. All the financial documents have to be filled.

#### **Marketing manager**

The marketing manager develops marketing activities and ensures that the products are sold. The marketing manager also assists the financial manager in selling products.

#### **Human resource manager**

The Human resource manager is taking roll call in each session and is also performing all the aspects of the members in the group.

#### **Administrative manager**

The administrative manager is responsible for the portfolio and has to update it. All documents have to be filled in the portfolio.

## APPENDIX E

### Rules and regulations

- (1) Chief executive officer holds meeting each beginning of the cycle
- (2) Keeps minutes of meetings
- (3) Objectives for each cycle.
- (4) Each business has to budget money for each cycle
- (5) personal expenses (R 30 per cycle)
- (6) purchase of raw material
- (7) Savings (R 10-R 30 per cycle).
- (8) Each business has to calculate the cash at the end of the cycle and compare it with the actual cash.
- (9) Each business will make regular presentations.
- (10) All the business functions have to receive attention.
- (11) Each cycle consists of the following:
  - Planning
  - Buying
  - Manufacturing
  - Selling
  - Controlling
- (12) Each group has to complete the financial statements of each cycle.
- (13) At the end of each cycle the learners have to rotate the business functions

## **APPENDIX F**

### **Meeting at the beginning of the cycle**

Objectives for the cycle

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Possible risks

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Contingency plans

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### **Meeting at the end of the cycle**

Performance

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Possible actions

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## APPENDIX G

### The financial statement for each cycle

#### Budget

<b>Business</b>	<b>Personal</b>	<b>Savings</b>

#### Income statement

Sales	
Cost of sales	
Gross profit	
Expenses	
Net profit	

#### Cash balance

Receipts	
Payments	
End balance	

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## APPENDIX H

### Examples of cards that represent risks

1	One of your products is brought back due to bad quality. Cost of repair is R 30
2	Fire has destroyed a part of your building. It will cost R 80
3	20% of your stock is stolen
4	30% of your stock is stolen
5	40% of your stock is stolen

## APPENDIX I

### 7.4.2 Die ontleding en bespreking van die data van die onderhoude

Die volgende kwalitatiewe data-insamelingsmetode was semi-gestruktureerde onderhoude (par. 6.4.2.2). Die doel van die onderhoude was om die deelnemers se subjektiewe beleving van die intervensie vas te stel en om hulle handeling en reaksies op die onderrigraamwerk vir die ontwikkeling van entrepreneuriese vaardighede te verstaan. Nadat die onderhoude gevoer is, is 'n volledige inhoudsanalise van die getranskribeerde individuele onderhoude gedoen. Uit die inhoudsanalise is vier (4) kategorieë geïdentifiseer waarvolgens die bespreking van die inligting wat uit die onderhoude verkry is, gedoen word. Die beskrywing van die data wat uit die onderhoude verkry is, word in par. 7.4.2.1 – 7.4.2.4 onder die vier (4) kategorieë wat geïdentifiseer is bespreek. Aanhalinge van dele van die gesprekke uit die onderhoude word met die bespreking van elke kategorie in tabelle verskaf ter staving van die inligting. Verwysings na die deelnemers se aanhalings in die tabelle word in die teks tussen (hakies) gegee. In sommige gevalle is addisionele woorde bygevoeg om die sinskonstruksie en betekenisvolheid van sinsnedes te verbeter. Hierdie byvoegings word deur [hakies] aangetoon. Die vier kategorieë waarbinne al die response van die deelnemers gegroepeer is, vorm die volgorde van die bespreking.

#### 7.4.2.1 Tema 1: Rasionaal vir neem van besigheidstudies

Alhoewel sommige van die respondente Besigheidstudies as vak geneem het as alternatief vir vakke soos Natuur en Skeikunde en Biologie, het die meeste respondente Besigheidstudies geneem weens hulle belangstelling in die vakterrein en omdat hulle as toekomstige entrepreneurs hulle eie ondernemings wil begin 1(1). Hierna het al die respondente aangedui dat hulle Besigheidstudies positief ervaar het 1(2). Alhoewel sommige respondente die proses tydens die intervensie anders gevind het, het die meeste respondente aangedui dat die intervensie hulle ingesteldheid oor Besigheidstudies positief beïnvloed het 1(3).

Tema	Nommer	
Rasionaal	1 (1)	.....omdat ek eendag 'n onderneming [wil] bestuur .....om 'n besigheid ['n] te stig
	1 (2)	.....want[Besigheidstudies] is interessant
		.....ek geniet [Besigheidstudies] en is waar ek wil wees
		.....want [Besigheidstudies] is vir my 'n interresante vak om te leer
	1 (3)	.....om [anders] na 'n saak te kyk
		.....op 'n lekker manier [is] geleer
		.....ek het geleer om [aspekte] beter raak te sien
		.....ek [identifiseer] nou die probleme beter

#### 7.4.2.2 Tema 2: Onderrig in besigheidstudies

Die meeste respondente het aangedui dat die onderrig tydens die intervensie verskil het 2(1). Alhoewel sommige van die respondente aangedui het dat hulle nie van groepwerk hou nie, het die meeste respondente daarvan gehou 2(2). Die meeste respondente het aangedui dat hulle uit spanwerk geleer het 2(3). Die meeste respondente het aangedui dat die aktiwiteite tydens die intervensie hulle gehelp het om Besigheidstudies beter te verstaan 2(4). Die meeste respondente het aangedui dat die aktiwiteite tydens die intervensie hulle gehelp het om Besigheidstudies beter in die toekoms te verstaan 2(5). Alhoewel sommige respondente nie van die manier van onderrig tydens die intervensie gehou het nie, het die meeste respondente daarvan gehou 2(6).

Tema	Nommer	
Onderrig	2(1)	.....so, [onderrig ] is vir my baie beter, [onderrig] baie meer opwindend
		.....oom maak [Besigheidstudies] interessant en lekker, dan wil jy iets doen
		.....ja as jy [Besigheidstudies] geniet leer jy meer
		.....op 'n lekker manier het jy geleer
	2(2)	..... dis eintlik lekker om in 'n groep te werk
		.....[groepwerk] was rereg lekker gewees, mens het verskillende mense leer ken
		.....ek het nogal van [groepwerk] gehou
		.....ek het dit rereg baie geniet, om saam met die ander te werk

Onderrig	2(3)	.....ek het definitief uit groepwerk geleer [omdat] die groep waarin ek was my definief dinge geleer het wat ek nie weet nie
		.....en dan het ek [ook] by hulle geleer hoe om dinge ook te doen anders as wat ek sou gedoen het
		.....partykeer is jou[antwoord] nie die beste nie en dan is een van die ander [groeplede s'n ] beter
	2(4)	..... die [inhoud] wat oom verduidelik het, is van toepassing op die [onderneming]
		.....die [inhoud] wat ons gedoen het, dit gaan my help met gevallestudies
		.....definitief, die prakties help jou baie beter as net die gewone teorie
	2(5)	.....nou kan ek meer uitbrei en meer vertel oor die [werk]
		.....Ek dink my punte gaan [verbeter] en ek [het] nou meer insig
		.....[die klasaktiwiteite ] gaan my definitief help met besigheidstudies in die toekoms
		.....want ek verstaan nou hoe om voor te berei vir....
		.....ek weet nou meer as wat ek geweet het
	2(6)	.....wat ek baie van gehou het, is hoe oom dit aangebied het
		.....dit was vir my lekker as ons produkte moes gemaak het, soos die kreatiewe deel
		.....dat ons met oom kon [redeneer] het
		.....Wat ek baie geniet het, was ons het rêrig baie nuwe [aspekte] geleer
		..... heel lekkerste was om aan die leerders in die groep te leer ken en hoe hulle die [aktiwiteite] doen
		..... die spanwerk was ook vir my baie lekker gewees, nadat ek gewoon geraak het aan [die aktiwiteite]
		.....ek dink die seker [maar] elke keer [maar] iets nuuts geleer het uit elke siklus

#### 7.4.2.3 TEMA 3: Assessering

Alhoewel sommige van die respondente aangedui het dat hulle nie daarvan om hulle maats te evalueer nie, het die meeste respondente aangedui dat hulle daaruit leer 3(1). Alhoewel sommige van die respondente aangedui het dat hulle nie daarvan hou om hulle deur hulle maats gevalueer te word nie, het die meeste respondente aangedui dat hulle daaruit leer 3(2). Die meeste respondente het aangedui dat die aktiwiteite en die assessering met behulp van speelgeld tydens die intervensie hulle gehelp het om die werk beter te verstaan 3(3).

Tema	Nommer	
Assessering	3(1)	.....soos jy wat dalk dit raakgesien het, maar hulle het dalk iets [anders] raak gesien, wat jy nie raak gesien het nie
		.....ja, dit is lekker om te sien hoe, of interessant om te sien hoe [die ander groepe] die aktiwiteite hanteer
		.....hoe benader hulle 'n [probleem] en hoe [die ander groepe] dink oor 'n, soos 'n spesifieke situasie
		.....jy verstaan hoe ander mense dink, en dan gee jy nie net altyd jou [persoonlike standpunt] nie,[ maar] dat jy ander [se standpunte ook repekter]
		.....want dis lekker om te sien wat ander mense in gedagte het
		.....dis beter dat [die ander groepe] wee twat is hulle foute en [die foute] kan regmaak
	3(2)	.....en die volgende keer dank an ek eerder.... Na al twee kyk, of, bietjie wyer dink as net dit [waaraan] ek gedink het
		.....[die maats wat my evalueer] leer myself om iets beter te doen of beter oor 'n saak te dink
		.....[die evaluering] moet gedoen word want anders kan jy nie sien wat jy verkeerd doen nie
		.....hoe dink [die maats wat my evalueer] ander as[ek] en waar kan ek verbeter
		.....Ja, want ek kan ook in die proses van myself leer. Ek kan leer wat ek nie raaksien in myself nie, soos foute....en ja
	3(3)	.....[hierdie] geld moet ek, ek moet [die geld] reg [hanteer]
		..... Ja, want ek bedoel in 'n besigheid werk dit tog [dat] jy die heelyd met geld gaan werk... te weet jy moet behoorlik alles neerskryf en boekhou van alles
		.....dit sê vir die brein dat daar fisies geld is, en dat [jy] moet dink voordat [jy] besluite neem.
		.....dit maak dit interessant en dit bring half[daardie] besigheidskonsep in
		.....wiskundig is, help dit jou baie, dit leer jou hoe om voor te berei finansiële vir wat jy wil aankoop en verkoop ens. En ook om geld weg te bere vir risiko's en latere gebruik

#### 7.4.2.4 Tema 4: Vaardighede

Die respondente het aangedui dat die aktiwiteite tydens die intervensie hulle gehelp het om die volgende vaardighede te verbeter:

**Tema 4.1: Aanpasbaarheid**

Alhoewel sommige van die respondente aangedui het dat hulle nie aanpasbaar is nie, het die meeste respondente aangedui dat hulle aanpasbaar moet wees 4(1)

Tema	Nommer	
<b>Aanpasbaarheid</b>	4 (1)	.....kyk wat se risiko's is daar, dan maak jy voorsiening vir dit
		.....my geleer dat ek versekering op die produkte moet uitneem want as daar 'n brandgevaar is, ..... kan die versekering jou help
		.....die risiko's , die voordele en die nadele en die visie en [missie] alles in ag te neem

**Tema 4.2: Beplanning**

Alhoewel sommige van die respondente aangedui het dat hulle nie beplan nie, het die meeste respondente aangedui dat hulle besef beplanning is belangrik 4(2)

Tema	Nommer	
<b>Beplanning</b>	4(2)	.....enige probleem kan opduik en jy moes voorsiening daarvoor gemaak het of jy moet beplan
		.....om vooruit te beplan, om rerig diep daaroor te dink
		....ons het nie so goed beplan nie, en toe het ons nie so baie wins gemaak soos wat ons... dalk so wou nie.

**Tema 4.3: Doelwitstelling**

Alhoewel sommige van die respondente aangedui het dat hulle nie daarvan om hulle maats te evalueer nie, het die meeste respondente aangedui dat hulle daaruit leer 4(3)

Tema	Nommer	
<b>Doelwitstelling</b>	4(3)	...ons eerste doelwit was mos gewees
		... jy gaan alles stap vir stap doen

**Tema 4.4: Spanwerk**

Alhoewel sommige van die respondente aangedui het dat hulle nie daarvan om hulle maats te evalueer nie, het die meeste respondente aangedui dat hulle daaruit leer 4(4)

Tema	Nommer	
Spanwerk	4(4)	.... Ek het geleer hoe om my spanmaats se metodes te aanvaar, en nie net om my eie metodes op hulle aft e dwing nie
		.... Die spanwerk was ook vir my lekker gewees nadat ek gewoon geraak het aan als
		.... Om ander mense se idees te [aanvaar] en so die ander [se] idees [bymekaar] te sit

#### Tema 4.5: Kommunikasie

Alhoewel sommige van die respondente aangedui het dat hulle nie daarvan om hulle maats te evalueer nie, het die meeste respondente aangedui dat hulle daaruit leer 4(5)

Tema	Nommer	
Kommunikasie	4(5)	.... Eerstens hoe om mense te [kommunikeer]
		.... Soos in jou groep te kommunikeer
		....ek het verbeter om met mense te kommunikeer

#### Tema 4.6: Kreatiwiteit

Alhoewel sommige van die respondente aangedui het dat hulle nie daarvan om hulle maats te evalueer nie, het die meeste respondente aangedui dat hulle daaruit leer 4(6)

Tema	Nommer	
Kreatiwiteit	4(6)	....[my] [kreatiewe] kant [het][baie] verbeter
		....die oplossings dat jy byvoorbeeld net die eerste keer geskryf het twee, nou weet jy ok, daar is dalk soos vier of vyf
		....ek het geleer om anders na die goed te kyk, nie net een manier, tussen die lyne kan mens se, kyk....probeer wyd te kyk

#### Tema 4.7 Probleemoplossing

Alhoewel sommige van die respondente aangedui het dat hulle nie daarvan om hulle maats te evalueer nie, het die meeste respondente aangedui dat hulle daaruit leer 4(7)

Tema	Nommer	
Probleem-oplossing	4(7)	... om in 'n groep te werk en daar te sit en die problem saam uit te sorteer
		...ek het baie, ek het aangeleer, ek hou nie baie van scenario's nie, maar het aangeleer om my scenario's beter te benader
		....want nou weet ek hoe om die gevallestudies reg te doen

#### Tema 4.8: Risikoneming

Alhoewel sommige van die respondente aangedui het dat hulle nie daarvan om hulle maats te evalueer nie, het die meeste respondente aangedui dat hulle daaruit leer 4(8)

Tema	Nommer	
Risikoneming	4(8)	.... Ons het rerig baie nuwe [aspekte] geleer van risiko
		.... Besef dat daar is altyd risiko's wat jy moet [neem]
		.....maar ek sal ook die hoof risiko kan identifiseer

#### Tema 4.9: Selfvertroue

Alhoewel sommige van die respondente aangedui het dat hulle nie daarvan om hulle maats te evalueer nie, het die meeste respondente aangedui dat hulle daaruit leer 4(9)

Tema	Nommer	
Selfvertroue	4(9)	.... Ek dink my punte gaan opgaan en ek [het] nou meer insig
		....verbeter, dat ek, voel ek kan al in diepte na die [probleem] kyk en ek kan meer oplossings [gee]
		....ek verstaan nou, hoe om voor te berei vir risiko's, hoe om te beplan ens.

#### Tema 4.10: Kapasiteit om te leer

Alhoewel sommige van die respondente aangedui het dat hulle nie daarvan om hulle maats te evalueer nie, het die meeste respondente aangedui dat hulle daaruit leer 4(10)

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Tema	Nommer	
Leer uit foute	4(10)	.... Hulle leer myself om iets beter te doen of beter oor 'n saak te dink
		.....[evaluering] moet gedoen word, want anders kan jy nie sien wat jy verkeerd doen nie
		.....volgens wat evalueer hulle my, dis vir my interessant om soos half terugvoering te kry van hulle kant af om te sien ....Hoe dink hulle anders as [ek] en waar kan ek verbeter

## APPENDIX J

### PRE-TEST

#### ABC MYNMAATSKAPPY

ABC Mynmaatskappy, in Secunda, myn asbes, wat 'n hoogs toksiese produk is. Hulle wil 'n tweede asbesmyn op Warmbad begin.

Die gebied is langs 'n broeiplek vir verskillende tipes voëls en varswatervis. Ten spyte van min winkels en geen ontspanningsfasiliteite is dit ook 'n gewilde toeriste-aantreklikheid, wat gereeld deur omgewingsbewustes en internasionale toeriste besoek word.

ABC Mynmaatskappy wil sover moontlik van plaaslike arbeid gebruik ongeag daarvan dat die meeste inwoners ongeskoold en werkloos is.

Die omgewingsbewuste groepe is gekant teen die mynbedrywighede op Warmbad. Hulle glo dat die afvalprodukte uit die myn die vleilande sal besoedel en dat lede van die plaaslike gemeenskap asbestose, 'n siekte geassosieer met asbesverwante mynboubedrywighede, kan opdoen.

Mnr Piet Swanepoel kry baie teenkating van die gemeenskap. Hy kontak jou om hom te adviseer oor die volgende:

1. Tot watter probleme sou jy sê kan die oprigting van die asbesmyn lei. Motiveer volledig waarom jy elkeen as 'n probleem beskou.
2. Jy lê die probleme wat jy in vraag 1 geïdentifiseer het aan Mnr Piet voor. Hy vra jou watter van die probleme jy as die grootste enkele probleem beskou en hoekom jy so sê.
3. Beskryf die probleem (die een wat jy gekies het in vraag 2) wat jy as die grootste ag aan Mnr Piet.
4. Mnr Piet is heeltemal in die duister en vra jou om vir hom:-
  - verskeie oplossings vir die probleem voor te stel,
  - te verduidelik hoekom jy elke oplossing voorstel, en
  - wat die implikasies of gevolge daarvan sal wees.

5. Mnr Piet vra jou om vir hom die oplossing te gee wat jy as die beste ag. Motiveer aan Mnr Piet.
6. Gee aan Mnr Piet 'n uiteensetting van hoe jy die oplossing gaan implementeer (uitvoer).

## POST-TEST 1

### DEF MEUBELFABRIEK

Dale is die eienaar van die DEF Meubelfabriek wat geleë is in Koster in die Noordwes-Provinsie.

Hierdie fabriek spesialiseer in die vervaardiging en verkoop van gehalte kantoortoerusting soos stoele en lessenaars. Dale het 'n graad in bemerking en het baie ervaring met die vervaardig van alle soorte meubels.

Dale beplan om uit te brei deur unieke spieëlkaste te begin vervaardig. Hy wil dit aan plaaslike en buitelandse markte verkoop.

In die fabriek het Dale te make met hoë afwesigheidsyfers van werknemers, swak spangees, 'n hoë indiensnemingomset en gebrek aan motivering. Dale verloor ook vaardige werknemers aan mededingers. Ingesluit hierby, is hoë vervoerkostes om grondstowwe te verkry en die verspreiding van die vervaardigde goedere landwyd na klante. Sy mededingers verkoop soortgelyke spieëlkaste teen laer pryse, en gebruik boonop moderne masjiene wat tegnologies gevorderd is.

Die plaaslike gemeenskap ondersteun wel Dale se meubelfabriek.

Dale kontak jou om hom te adviseer oor die volgende:

1. Watter probleme sou jy sê moet Dale aanspreek. Motiveer waarom jy elkeen as 'n probleem beskou volledig.
2. Lê die probleme wat jy in vraag 1 geïdentifiseer het, aan Dale voor. Hy vra jou watter een van die probleme jy as die grootste enkele probleem sien en hoekom sê jy so.
3. Beskryf hierdie probleem wat jy as die grootste ag aan Dale. (*gebruik die probleem wat jy gekies het in vraag 2*)
4. Dale is heeltemal in die duister en vra jou om vir hom:-
  - verskeie oplossings vir die probleem voor te stel,
  - te verduidelik hoekom jy elke oplossing voorstel, en
  - wat die implikasies of gevolge daarvan sal wees.
5. Dale vra jou om vir hom die oplossing te gee wat jy as die beste ag. Motiveer hierdie oplossing aan Dale.
6. Gee aan Dale 'n uiteensetting van hoe jy die oplossing gaan implementeer (*uitvoer*).

## POST-TEST 2

### GHI Onderneming

GHI Onderneming is in Kemptonpark in die Gauteng geleë met Ernie as eienaar.

GHI Onderneming is 'n uiters suksesvolle onderneming wat CD's en DVD's produseer vir Suid-Afrikaanse kunstenaars. GHI het die afgelope drie maande egter 'n ernstige daling in produksie en verkope van hulle produkte gehad. Klagtes is ontvang van klante oor swak kwaliteit produkte en diens.

Die werknemers van GHI is dikwels laat vir werk en neem ook baie verlof terwyl party ook van die werk af wegbly sonder geldige verskonings. Die werknemers se gesindheid is negatief en die produktiwiteit in die onderneming is baie laag. Daar is ook baie konflik onderling tussen die werknemers en tussen die werknemers en bestuur.

Die bestuur neem alleen besluite, hulle luister nie na enige idees van werknemers nie en inligting word swak oorgedra. Daar is ook 'n onwilligheid van die bestuur om werknemers gesag te gee om sekere pligte namens hulle uit te voer. Daar word ook jaarliks slegs bonusse toegeken aan sekere werknemers. Die kriteria waarvolgens bestuur bepaal wie bonusse ontvang is ook baie vaag.

Ernie kontak jou om hom te adviseer oor die volgende:

1. Watter probleme sou jy sê moet Ernie aanspreek? Motiveer volledig waarom jy elkeen as 'n probleem beskou.
2. Jy lê die probleme wat jy in vraag 1 geïdentifiseer het, aan Ernie voor. Hy vra jou watter probleem beskou jy as die grootste probleem en hoekom jy so sê.
3. Beskryf die probleem (*die een wat jy gekies het in vraag 2*) wat jy as die grootste ag aan Ernie.
4. Ernie is heeltemaal in die duister en vra jou om vir hom:-
  - verskeie oplossings vir die probleem voor te stel,
  - te verduidelik hoekom jy elke oplossing voorstel, en
  - wat die implikasies of gevolge daarvan sal wees.
5. Ernie vra jou om vir hom die oplossing wat jy die beste ag, te gee. Motiveer aan Ernie.
6. Gee aan Ernie 'n uiteensetting van hoe jy die oplossing gaan implementeer (uitvoer).

## APPENDIX K

Number of element		1	2	3	4
1.	PROBLEM SOLVING Step 1 Identify the problem.	Identification of less important problems and absence of important problems.	Identification of less important problems and of important problems.	Accurate identification of the most important problems (2-3).	Excellent identification of most important problems (more than 3).
2	PROBLEM SOLVING Step 2 Analyse the problem	An attempt to describe the problem but attempt is not suitable and is incomplete.	An attempt to describe the problem is suitable but incomplete.	An attempt to describe the problem is suitable and complete.	An attempt to describe the problem is suitable, complete and excellently presented. .
3	PROBLEM SOLVING Step 3 Generate solutions	Solutions that do not address the problem.	Solutions that address the problem but not all of them are relevant.	Solutions that are acceptable and that address the most aspects of the problem.	Solutions that are acceptable and that address the all the aspects of the problem.
4	PROBLEM SOLVING Step 4 Select best solution	The choice of the solution without any advantages or disadvantage.	The choice of the solution with advantages or disadvantage.	The choice of the solution with advantages and disadvantages	The choice of the solution with advantages, disadvantages and possible feasibility.
5	PROBLEM SOLVING Step 5 Implement chosen solution	No implementation and execution of chosen solution.	Implementation and execution of chosen solution but not suitable	Implementation and execution of chosen solution.	Excellent implementation and execution of chosen solution.
6	CREATIVITY	Generate few solutions that are not appropriate.	Generate few appropriate solutions but that differ not from previous ones.	Generate appropriate solutions that differ from previous ones.	Generate excellent appropriate solutions that differ from previous ones.

Number of element		1	2	3	4
7	FLEXIBILITY	No recognising of possible change	Low recognising of possible change	Recognising of possible change and planning thereof	Recognising of various possible change and planning thereof
8	RISK-TAKING	No identification of risk.	Risk can be identified	Risk can be identified and described	Excellent description of risk and possible avoidance thereof.
9	GOAL ORIENTATION	No goals are used.	Goals are used that are not relevant to solution.	Goals are used that are relevant to the solution.	Definite achievable goals are used.
10	PLANNING	No planning is used.	Planning is used that is not relevant to solution.	Planning that assists to the implementing of the solution.	Excellent planning that assists with the implementing of solution

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## APPENDIX L

TO: MR A.J. MEINTJES  
NORTH-WEST UNIVERSITY  
POTCHEFSTROOM CAMPUS

FROM: MS S.S. YSSEL  
AREA MANAGER  
TLOKWE AREA OFFICE

DATE: 14 MAY 2012

**SUBJECT: PERMISSION TO CONDUCT RESEARCH AT HOËR VOLKSKOOL  
POTCHEFSTROOM ON INADEQUITE COMPETENCIES OF LEARNERS LEAVING  
SCHOOL**

The above matter refers.

Permission is herewith granted to you to visit Hoër Volkskool Potchefstroom under the following provisions:

- You seek permission from the Principal. You can only proceed with his permission.
- Written permission from parents and learners taking part must be obtained.
- The activities you undertake at school should not tamper with the normal process of learning and teaching.
- You inform the principal of your identified school of your impending visit and activity;
- You provide my office with a report in respect of your visit;
- You will obtain prior permission from this office before availing your findings for public or media consumption.

Wishing you well in your endeavour.



MS S.S. YSSEL  
AREA MANAGER  
TLOKWE

AO1254/dp

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*"A vibrant, top achieving region offering accessible quality education"*  
*"Business unusual: All Hands on Deck to speed up Change"*

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**APPENDIX M**

Tuesday, April 22, 2014

**TO WHOM IT MAY CONCERN****Re: Letter of confirmation of language editing**

The PhD thesis "*The enhancement of selected entrepreneurial competencies of grade 11 learners in Business Studies*" by AJ Meintjes (10218122) was language, technically and typographically edited. The sources and referencing technique applied was checked to comply with the specific Harvard technique as per North-West University prescriptions. Final corrections as suggested remain the responsibility of the student.

**Antoinette Bisschoff**

Officially approved language editor of the NWU since 1998  
Member of SA Translators Institute (no. 100181)

## APPENDIX N



Private Bag X8001, Potchefstroom  
South Africa 2520

Tel: 018 299-1111/2222  
Web: <http://www.nwu.ac.za>

**Statistical Consultation Services**

Tel: 018 299-2018  
Fax: 018 299-2557  
Email: [wilma.breytenbach@nwu.ac.za](mailto:wilma.breytenbach@nwu.ac.za)

04 April 2014

To whom it may concern

**RE: THESIS OF MR AJ MEINTJES (STUDENT NUMBER: 10218122)**

We hereby confirm that the Statistical Consultation Services of the North-West University has analysed the data and assisted with the interpretation of the results of the thesis of Mr AJ Meintjes (student number: 10218122).

However, any opinion, findings or recommendations expressed in this document are those of the author and Statistical Consultation Services of NWU (Potchefstroom Campus) does not accept responsibility for the correctness of the reporting of results.

Yours sincerely

Wilma Breytenbach

MSc

Senior subject specialist

## APPENDIX O

### TO WHOM IT MAY CONCERN

Herewith the undersigned confirm that the thesis titled

*“The enhancement of selected entrepreneurial competencies  
of grade11 learners in Business Studies by AJ Meintjes”*

has been checked and corrected technically, which includes all figures, tables, graphs and the layout of the text as well as the aspects of the contents.



MR. E. F. DEUKES

May, 2014

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